2007
Wisconsin Research Report of

STUDIES ON CULTURAL PRACTICES AND MANAGEMENT SYSTEMS FOR CORN

Department of Agronomy
College of Agriculture and Life Sciences
University of Wisconsin - Madison

2007 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 2007. 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 This information is **NOT FOR PUBLICATION** unless prior approval is received.

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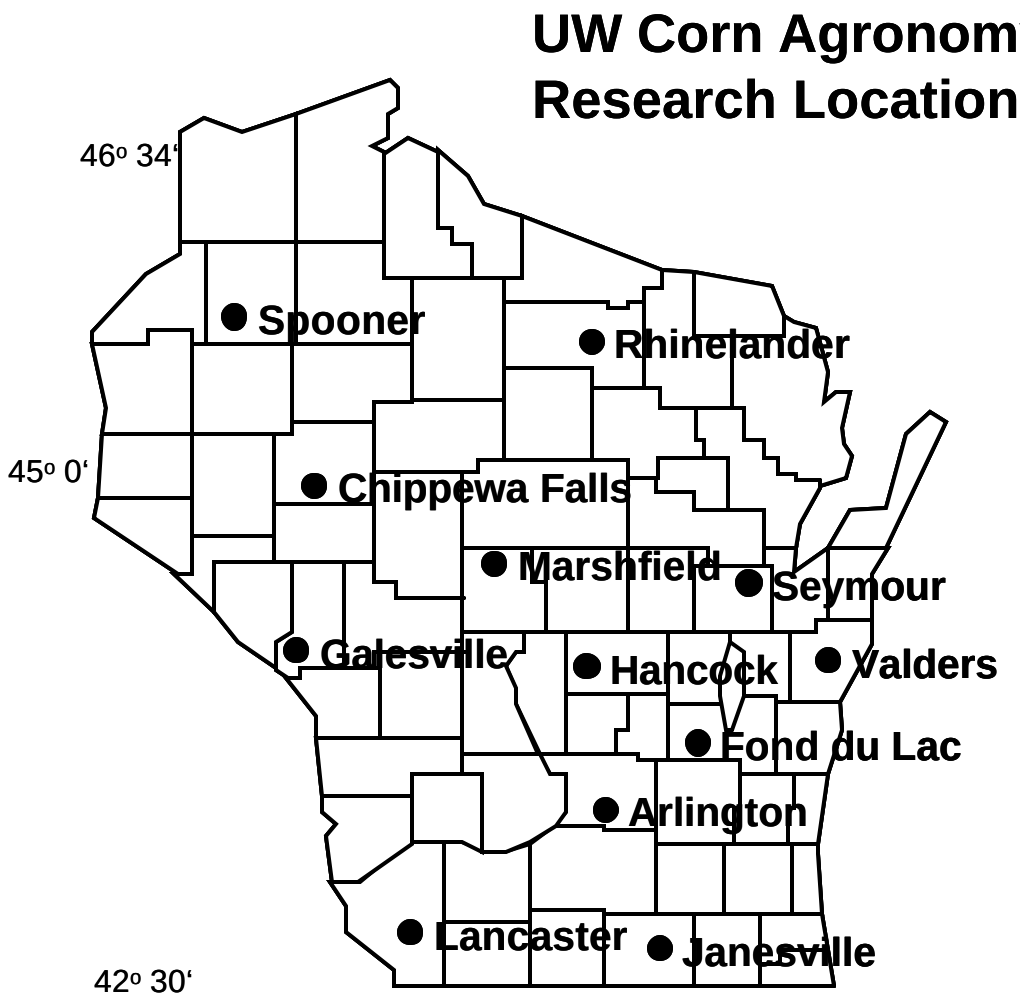

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UW College of Agriculture and Life Sciences – Hatch Program
Ag Reliant Genetics LLC
BASF Plant Sciences
Bayer Crop Science
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Brunner Seed Farm
Croplan Genetics
Dahlco Seeds
Dahlman Seed Company, LLC
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Dyna-Gro Seeds
Gold Country Seeds
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Kaltenberg Seeds
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Pioneer Hi-Bred International, Inc.
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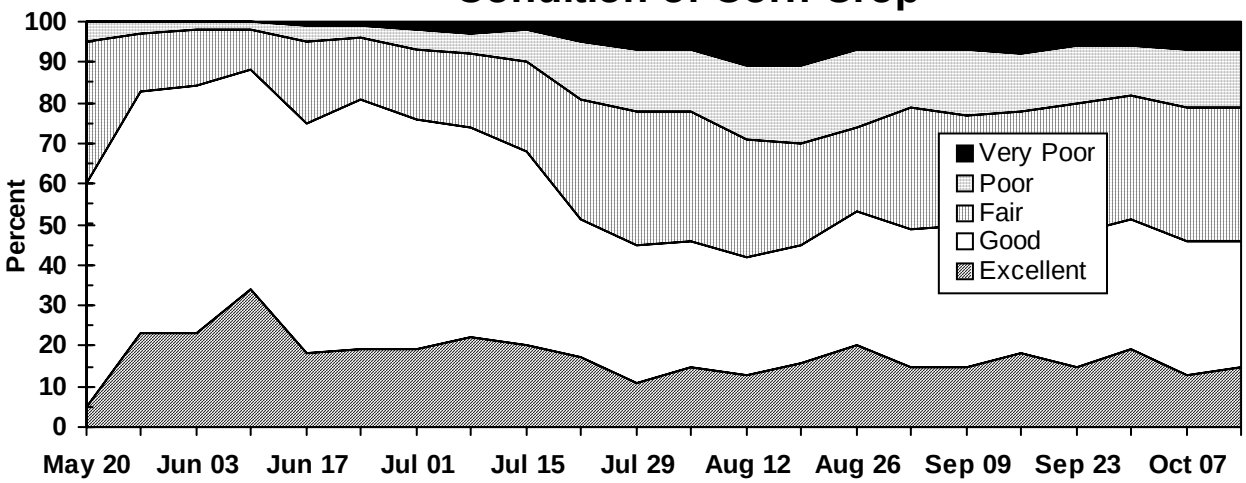
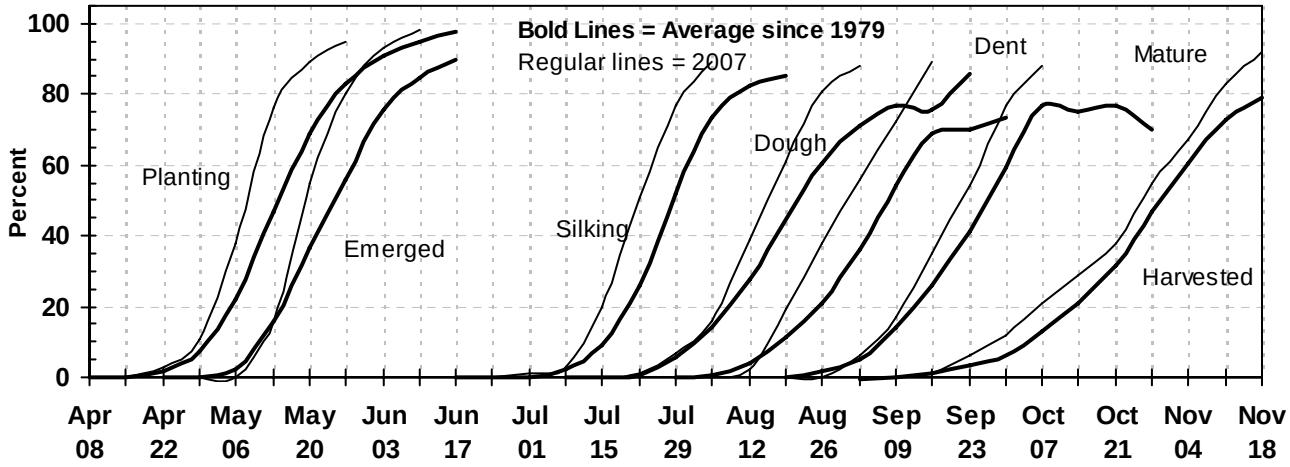
TABLE OF CONTENTS

2007 Crop Summary for Wisconsin

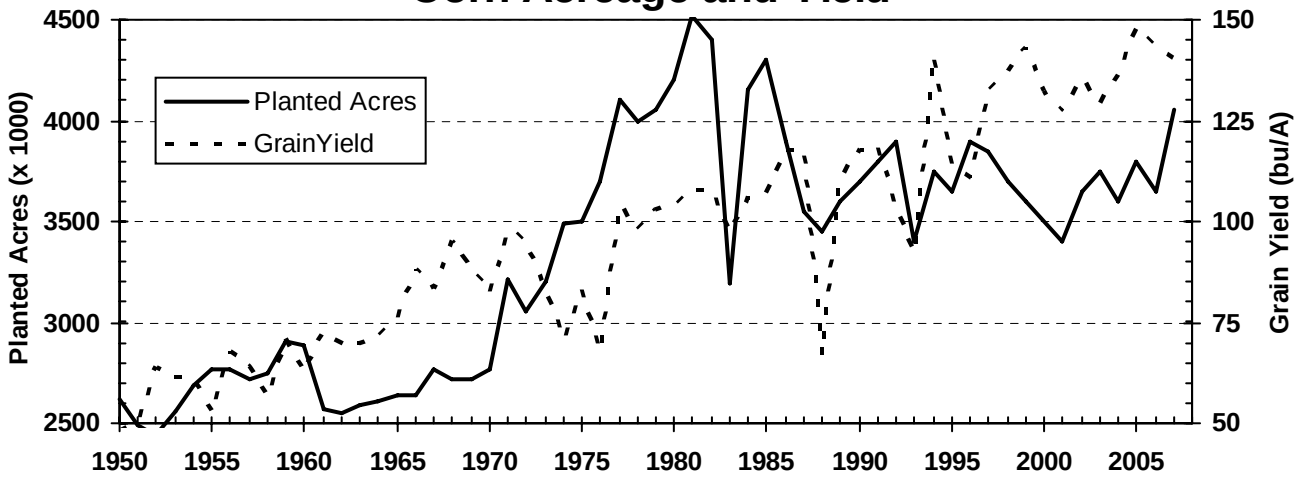
Condition of Corn Crop



Progress of Corn Crop



Corn Acreage and Yield



2007 Wisconsin Growing Season
(derived from USDA weekly reports)

2007 - Season of Extremes

The 2007 growing season was defined by extremes. Northern Wisconsin suffered from dry weather all summer, while the southern areas had August flooding.

Spring fieldwork was delayed by cold weather and a mid- April snowfall. Planting progress and crop development were behind 5-year averages for the entire month of April. Warm, dry weather in mid-May allowed for progress to pick up. Favorable weather at the end of May and the beginning of June improved soil moisture and kept crop and pasture conditions at optimal levels. Additionally, above normal growing degree-days helped crops to mature at a rapid pace. The entire state received below average rainfall for July. Crop conditions slowly began to decline, and pasture conditions deteriorated rapidly. By mid-August, farmers in the northern portion of the state were still trying to cope with low moisture levels, while some farmers in southern areas were dealing with flooded fields. Fall weather pushed crops to mature at above average rates, and rainfall made for muddy fields at harvest time.

Temperatures from June to September were 1.8 degrees above normal in 2007, making this the third straight growing season with above normal temperatures. September and October were significantly warmer at 3.0 degrees and 6.1 degrees above normal, respectively.

Precipitation and soil moisture varied greatly across the state in 2007. Total precipitation for April through September was 21.3 inches, 1.05 inches below normal. Rainfall in the northern third of the state was 5.5 inches below normal for April through September. The southern third of the state averaged 6.1 inches above normal for the same months.

Spring rains were timely, allowing planting to progress and crops to emerge ahead of schedule. Rainfall was short across the state in June and July, 1.1 and 1.0 inches below normal, respectively. Crops began to show signs of stress, and conditions declined during critical stages of crop development.

During the month of August, rainfall remained below average in northern areas. Southern areas received flash flood warnings during the third week of August and averaged 9.2 inches above normal rainfall. The excess rains continued to cause problems with crops later in the season, such as mold, disease, and weak stalks. Spotty northern rains and surplus rains in the south caused extremely variable yields at harvest time.

CORN

Despite getting off to a slow start, corn planting progress reached a record pace during the week ending May 20, 2007. At 89 percent, progress was significantly above the prior year's 81 percent and the 5-year average of 72 percent. Fast-paced planting was followed by earlier than normal emergence. By the beginning of June, 93 percent of the crop had emerged, 25 percentage points ahead of the 5-year average. Corn heights reached record highs on June 10 at 11 inches. Reported corn heights continued to set record highs until mid July. Dry conditions during July caused some corn to curl as early as the first week of the month. Corn condition declined throughout July, and only slightly improved by the end of August.

Silage chopping began early this year, as farmers were trying to salvage the crop in dry fields. By September 23, seventy eight percent of corn harvest for silage was complete, compared to the 5-year average of 56 percent. Many reporters indicated that small ear size was a problem during silage harvest. Lodging and stem rot were widespread issues in southern districts caused by excessive rainfall in August. Additional rain in October slowed the progress of grain harvest. Then a very dry November allowed for completion of the corn harvest.

Variable precipitation and growing conditions caused extremely diverse yields.

SOYBEANS

Favorable weather in May allowed soybean planting to begin on time. By May 27, farmers were significantly ahead of schedule and had 84 percent of the crop planted. This was well above the 2006 average of 69 percent and the 5-year average of 59 percent. Soybean emergence began in mid-May. Rains at the end of May and the beginning of June helped crop growth to progress quickly. On June 10, ninety-three percent of the crop had emerged, the highest recorded percentage in ten years. Soybean condition peaked during the week ending June 3, at 84 percent good to excellent and remained at or above 70 percent good to excellent until July 15.

The soybean crop sustained a lot of stress during the 2007 growing season. Aphids were a major cause for concern by the end of July. As it did for corn, the wet August weather in southern areas made disease more prevalent. Many reporters noted that fields matured unevenly prior to harvest. During harvest, mold and wet fields were widespread issues.

SMALL GRAINS

Oat planting began on lighter soils in southern and central areas of the state during the first week of April. Progress increased the last week of April when temperatures improved. The slow start to planting meant later emergence for the crop. As harvest began in mid July, soil moisture levels were low and several fields were in need of rainfall. Due to dry weather, farmers were able to harvest at a pace ahead of both last year's and the 5-year averages.

Cold weather the first two weeks of April set back winter wheat growth. However, the crop survived the winter in excellent condition. Freeze damage to winter wheat for 2007 was 78 percent none, 16 percent light, 5 percent moderate, and 1 percent severe. Winter wheat was also rated at or above 70 percent good to excellent for the entire 2007 growing season. Harvest was completed at a fast pace. Although straw production was short due to low moisture levels, the wheat crop was good to excellent in both quantity and quality.

HAY & PASTURES

The 2007 alfalfa crop survived the winter with minimal winterkill. Winter freeze damage was rated as 65 percent none, 26 percent light, 5 percent moderate and 4 percent severe.

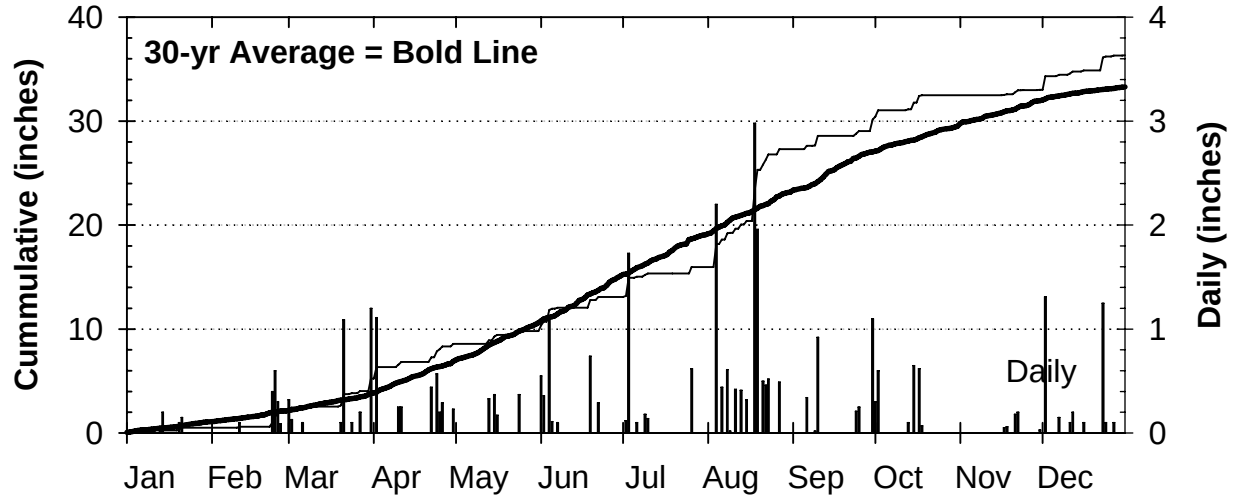
First cutting of alfalfa was short on quantity from the lack of moisture. Second and third crops suffered additionally, as regrowth was slow for both alfalfa and pastures in July, and insect pressure was high. Mid and late August rains improved the quality of fourth crop alfalfa. Pastures in northern areas especially suffered this year. During the first two weeks of August, pasture conditions were rated at 60 percent poor to very poor. Late August rains brought relief, and conditions slowly improved.

Source:

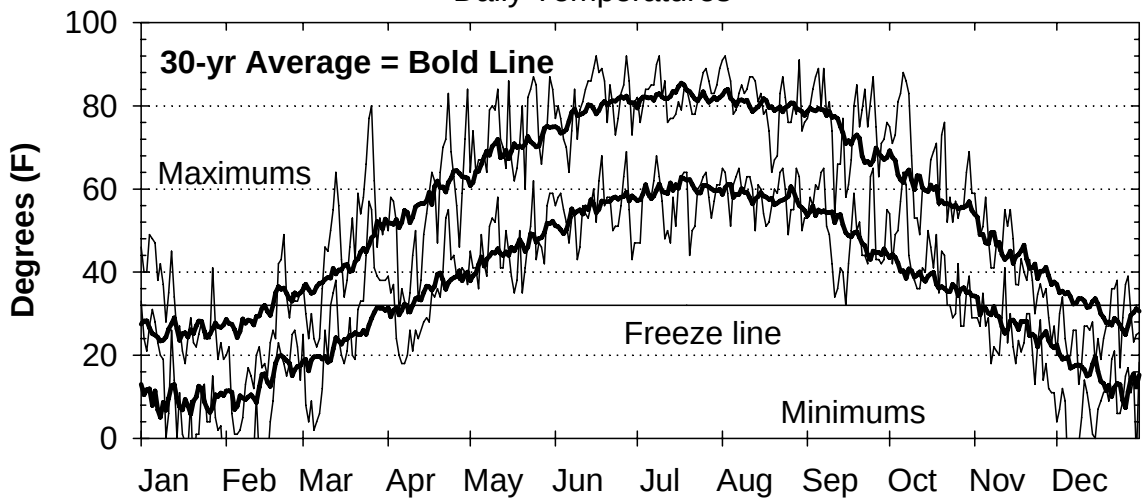
http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Crop_Progress_&_Condition

2007 Weather Summary for Arlington, WI

Precipitation



Daily Temperatures



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

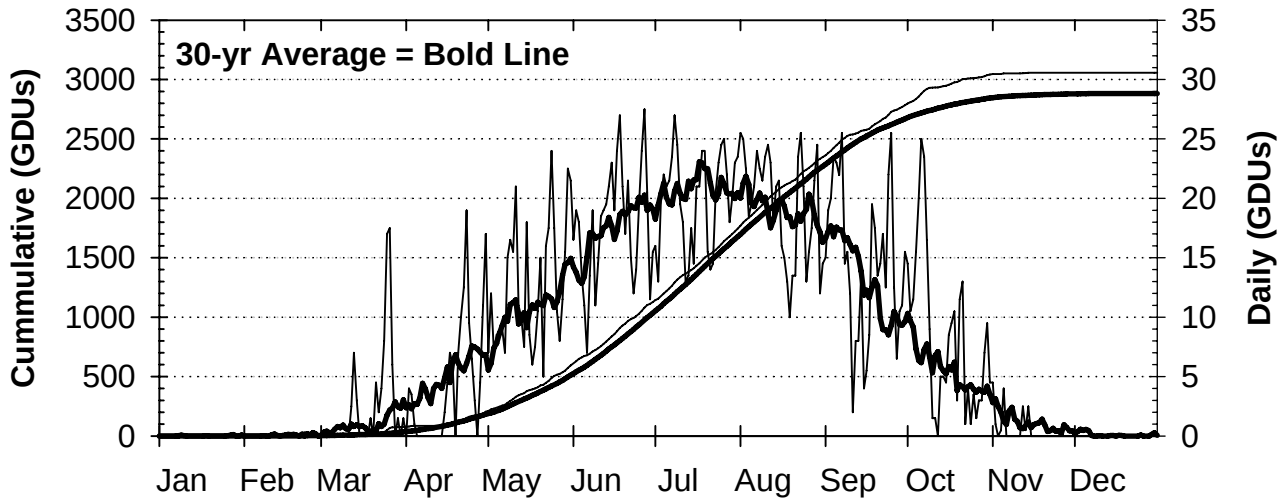


Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2007.

Day of year		Precipitation		Daily Solar	at 2 inches		Temperature		Units (86/50 F)	
		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
91	1-Apr	0.00	5.2	80	59	42	50	39	0	76
92	2-Apr	1.11	6.3	192	72	42	58	35	4	80
93	3-Apr	0.00	6.3	40	59	38	57	37	4	84
94	4-Apr	0.00	6.3	125	47	29	52	24	1	85
95	5-Apr	0.00	6.3	260	49	28	30	20	0	85
96	6-Apr	0.00	6.3	251	48	25	36	18	0	85
97	7-Apr	0.00	6.3	141	47	23	33	18	0	85
98	8-Apr	0.00	6.3	107	46	27	30	20	0	85
99	9-Apr	0.00	6.3	151	64	29	35	26	0	85
100	10-Apr	0.25	6.6	176	65	27	44	21	0	85
101	11-Apr	0.25	6.8	98	35	34	50	26	0	85
102	12-Apr	0.00	6.8	171	34	34	33	24	0	85
103	13-Apr	0.00	6.8	273	35	32	38	26	0	85
104	14-Apr	0.00	6.8	216	59	32	49	28	0	85
105	15-Apr	0.00	6.8	239	69	30	54	29	2	87
106	16-Apr	0.00	6.8	281	77	30	59	28	5	91
107	17-Apr	0.00	6.8	259	73	39	64	35	7	98
108	18-Apr	0.00	6.8	88	59	37	62	34	6	104
109	19-Apr	0.00	6.8	229	80	39	47	36	0	104
110	20-Apr	0.00	6.8	283	89	35	64	34	7	111
111	21-Apr	0.00	6.8	275	91	40	70	40	10	121
112	22-Apr	0.44	7.3	256	99	49	72	53	13	134
113	23-Apr	0.00	7.3	177	79	49	83	55	19	153
114	24-Apr	0.57	7.9	115	79	45	69	43	10	162
115	25-Apr	0.20	8.1	153	68	46	63	44	7	169
116	26-Apr	0.29	8.3	28	52	45	56	39	3	172
117	27-Apr	0.00	8.3	174	73	44	46	38	0	172
118	28-Apr	0.00	8.3	294	78	42	59	41	5	176
119	29-Apr	0.00	8.3	253	95	43	72	40	11	187
120	30-Apr	0.23	8.6	215	85	48	84	37	17	204
121	1-May	0.00	8.6	264	85	51	64	45	7	211
122	2-May	0.00	8.6	255	88	44	74	41	12	223
123	3-May	0.00	8.6	301	92	44	64	41	7	230
124	4-May	0.00	8.6	191	84	47	67	36	9	239
125	5-May	0.00	8.6	130	75	47	67	49	9	247
126	6-May	0.00	8.6	176	85	44	68	42	9	256
127	7-May	0.00	8.6	199	93	49	64	39	7	263
128	8-May	0.00	8.6	234	110	51	79	51	15	278
129	9-May	0.00	8.6	307	109	55	80	53	17	295
130	10-May	0.00	8.6	287	115	54	79	52	16	310
131	11-May	0.00	8.6	296	103	51	84	58	21	331
132	12-May	0.00	8.6	300	108	46	72	41	11	342
133	13-May	0.33	8.9	130	75	47	70	41	10	352
134	14-May	0.00	8.9	292	100	51	65	50	8	360
135	15-May	0.37	9.3	44	71	50	86	45	18	378
136	16-May	0.17	9.4	263	90	44	67	39	9	386
137	17-May	0.00	9.4	325	95	41	62	35	6	392
138	18-May	0.00	9.4	312	97	40	65	38	8	400
139	19-May	0.00	9.4	273	103	48	71	50	11	410
140	20-May	0.00	9.4	180	96	53	80	35	15	425
141	21-May	0.00	9.4	298	110	50	60	41	5	430
142	22-May	0.00	9.4	280	106	51	82	47	16	446
143	23-May	0.00	9.4	261	104	64	84	51	18	464
144	24-May	0.37	9.8	197	103	54	87	62	24	488

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2007.

Day of year		Precipitation		Daily Solar	at 2 inches		Temperature		Units (86/50 F)	
		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
145	25-May	0.00	9.8	314	106	48	85	43	18	505
146	26-May	0.00	9.8	103	79	56	71	47	11	516
147	27-May	0.00	9.8	319	105	49	66	46	8	524
148	28-May	0.00	9.8	235	101	48	73	42	12	535
149	29-May	0.00	9.8	234	111	59	75	56	16	551
150	30-May	0.00	9.8	210	112	59	87	59	23	573
151	31-May	0.00	9.8	158	113	61	84	59	22	595
152	1-Jun	0.55	10.4	196	113	57	77	56	17	611
153	2-Jun	0.36	10.7	160	90	60	80	58	19	630
154	3-Jun	0.00	10.7	173	97	62	77	59	18	648
155	4-Jun	1.12	11.8	112	84	62	72	55	14	662
156	5-Jun	0.11	12.0	202	89	52	70	52	11	673
157	6-Jun	0.00	12.0	202	85	50	64	47	7	680
158	7-Jun	0.10	12.1	190	84	61	74	53	14	693
159	8-Jun	0.00	12.1	286	90	53	84	54	19	712
160	9-Jun	0.00	12.1	285	103	49	72	43	11	723
161	10-Jun	0.00	12.1	288	103	54	79	46	15	738
162	11-Jun	0.00	12.1	272	109	58	81	56	19	756
163	12-Jun	0.00	12.1	293	117	58	84	54	19	775
164	13-Jun	0.00	12.1	293	117	58	86	53	20	795
165	14-Jun	0.00	12.1	340	123	60	86	56	21	816
166	15-Jun	0.00	12.1	309	128	63	89	60	23	839
167	16-Jun	0.00	12.1	227	112	66	92	52	19	858
168	17-Jun	0.00	12.1	242	115	65	88	62	24	882
169	18-Jun	0.00	12.1	215	113	67	89	68	27	909
170	19-Jun	0.74	12.8	345	97	57	86	56	21	930
171	20-Jun	0.00	12.8	336	107	54	76	58	17	947
172	21-Jun	0.00	12.8	230	111	63	85	58	22	968
173	22-Jun	0.29	13.1	182	88	58	80	50	15	983
174	23-Jun	0.00	13.1	302	105	57	73	51	12	995
175	24-Jun	0.00	13.1	293	116	58	77	51	14	1009
176	25-Jun	0.00	13.1	274	112	62	83	56	20	1029
177	26-Jun	0.00	13.1	292	122	64	85	63	24	1053
178	27-Jun	0.00	13.1	285	113	66	92	69	28	1080
179	28-Jun	0.00	13.1	261	116	59	86	55	21	1101
180	29-Jun	0.00	13.1	357	118	52	73	43	12	1112
181	30-Jun	0.00	13.1	341	121	54	81	47	16	1128
182	1-Jul	0.00	13.1	337	123	56	82	47	16	1144
183	2-Jul	0.12	13.2	271	125	55	76	47	13	1157
184	3-Jul	1.73	14.9	140	96	65	80	60	20	1177
185	4-Jul	0.00	14.9	289	106	65	84	60	22	1199
186	5-Jul	0.00	14.9	316	109	62	84	58	21	1220
187	6-Jul	0.10	15.0	320	117	59	85	58	22	1241
188	7-Jul	0.00	15.0	327	119	61	85	62	24	1265
189	8-Jul	0.00	15.0	322	122	69	90	68	27	1292
190	9-Jul	0.18	15.2	281	109	69	92	63	25	1316
191	10-Jul	0.14	15.4	292	115	61	82	57	20	1336
192	11-Jul	0.00	15.4	304	109	55	86	48	18	1354
193	12-Jul	0.00	15.4	327	112	56	76	50	13	1367
194	13-Jul	0.00	15.4	323	115	55	77	47	14	1380
195	14-Jul	0.00	15.4	288	103	57	77	58	18	1398
196	15-Jul	0.00	15.4	300	117	54	78	51	15	1412
197	16-Jul	0.00	15.4	192	117	59	81	61	21	1433
198	17-Jul	0.00	15.4	222	124	68	79	63	21	1454

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Day of year		Precipitation		Daily Solar	at 2 inches		Temperature		Units (86/50 F)	
		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
199	18-Jul	0.00	15.4	166	112	65	84	64	24	1478
200	19-Jul	0.00	15.4	321	113	58	84	64	24	1502
201	20-Jul	0.00	15.4	326	125	53	81	44	16	1518
202	21-Jul	0.00	15.4	328	124	53	78	50	14	1532
203	22-Jul	0.00	15.4	260	115	56	78	51	15	1546
204	23-Jul	0.00	15.4	314	121	55	81	60	21	1567
205	24-Jul	0.00	15.4	267	125	63	85	61	23	1590
206	25-Jul	0.00	15.4	254	126	65	88	63	25	1614
207	26-Jul	0.62	16.0	204	117	69	89	64	25	1639
208	27-Jul	0.00	16.0	234	99	66	86	58	22	1661
209	28-Jul	0.00	16.0	290	112	61	83	53	18	1679
210	29-Jul	0.00	16.0	317	121	58	83	57	20	1699
211	30-Jul	0.00	16.0	305	122	60	85	61	23	1722
212	31-Jul	0.00	16.0	305	125	64	89	61	24	1746
213	1-Aug	0.00	16.0	293	122	64	91	65	26	1771
214	2-Aug	0.00	16.0	275	115	62	92	64	25	1796
215	3-Aug	0.00	16.0	315	124	56	89	59	23	1819
216	4-Aug	2.20	18.2	74	83	57	86	51	19	1837
217	5-Aug	0.00	18.2	93	81	61	78	61	20	1857
218	6-Aug	0.44	18.6	164	96	67	79	63	21	1878
219	7-Aug	0.00	18.6	190	98	72	83	65	24	1902
220	8-Aug	0.61	19.2	240	93	68	85	60	23	1924
221	9-Aug	0.02	19.2	160	93	66	83	60	22	1946
222	10-Aug	0.00	19.2	295	95	66	84	63	24	1969
223	11-Aug	0.42	19.7	197	90	65	87	63	25	1994
224	12-Aug	0.00	19.7	281	90	66	87	60	23	2017
225	13-Aug	0.41	20.1	276	90	65	86	50	18	2035
226	14-Aug	0.00	20.1	189	89	63	81	61	21	2056
227	15-Aug	0.32	20.4	100	80	65	83	60	22	2077
228	16-Aug	0.00	20.4	211	85	63	78	54	16	2093
229	17-Aug	0.00	20.4	283	80	59	79	51	15	2108
230	18-Aug	2.98	23.4	43	64	57	74	52	13	2121
231	19-Aug	1.96	25.3	38	66	58	64	56	10	2131
232	20-Aug	0.00	25.3	59	70	63	67	60	14	2145
233	21-Aug	0.50	25.8	123	83	64	68	59	14	2158
234	22-Aug	0.46	26.3	158	87	66	83	64	24	2182
235	23-Aug	0.52	26.8	114	82	69	87	65	26	2207
236	24-Aug	0.00	26.8	85	79	68	82	60	21	2228
237	25-Aug	0.00	26.8	226	82	62	76	49	13	2241
238	26-Aug	0.00	26.8	277	84	57	76	55	16	2257
239	27-Aug	0.49	27.3	121	78	61	80	55	18	2274
240	28-Aug	0.00	27.3	255	90	65	78	65	22	2296
241	29-Aug	0.00	27.3	88	77	63	91	63	25	2320
242	30-Aug	0.00	27.3	267	84	59	74	50	12	2332
243	31-Aug	0.00	27.3	266	86	56	76	53	15	2347
244	1-Sep	0.00	27.3	255	84	58	77	53	15	2362
245	2-Sep	0.00	27.3	256	86	57	80	58	19	2381
246	3-Sep	0.00	27.3	238	92	61	84	56	20	2401
247	4-Sep	0.00	27.3	246	94	61	87	61	24	2424
248	5-Sep	0.00	27.3	226	89	63	89	60	23	2447
249	6-Sep	0.34	27.6	149	86	69	80	64	22	2469
250	7-Sep	0.00	27.6	159	83	62	89	65	26	2494
251	8-Sep	0.00	27.6	230	82	58	78	51	15	2509
252	9-Sep	0.02	27.7	191	78	58	81	49	16	2524

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2007.

Day of year		Precipitation		Daily Solar	at 2 inches		Temperature		Units (86/50 F)	
		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
253	10-Sep	0.92	28.6	22	63	52	74	42	12	2536
254	11-Sep	0.00	28.6	240	69	52	54	34	2	2538
255	12-Sep	0.00	28.6				66	36	8	2546
256	13-Sep	0.00	28.6				66	41	8	2554
257	14-Sep	0.00	28.6	163	62	47	77	40	14	2568
258	15-Sep	0.00	28.6	243	67	42	58	32	4	2572
259	16-Sep	0.00	28.6	124	63	47	61	42	6	2577
260	17-Sep	0.00	28.6	140	68	49	67	50	9	2586
261	18-Sep	0.00	28.6	198	77	61	80	59	20	2605
262	19-Sep	0.00	28.6	187	78	57	85	50	18	2623
263	20-Sep	0.00	28.6	213	75	53	75	52	14	2636
264	21-Sep	0.00	28.6	170	76	60	79	44	15	2651
265	22-Sep	0.00	28.6	224	75	54	84	44	17	2668
266	23-Sep	0.00	28.6	218	74	50	75	42	13	2680
267	24-Sep	0.21	28.8	166	78	60	81	63	22	2702
268	25-Sep	0.25	29.0	37	72	59	87	65	26	2728
269	26-Sep	0.00	29.0	156	67	53	75	43	13	2740
270	27-Sep	0.00	29.0	183	73	52	63	43	7	2747
271	28-Sep	0.00	29.0	208	72	49	71	42	11	2757
272	29-Sep	0.00	29.0	117	64	49	72	43	11	2768
273	30-Sep	1.10	30.1	160	71	54	76	55	16	2784
274	1-Oct	0.30	30.4	89	69	61	75	54	15	2798
275	2-Oct	0.60	31.0	80	66	59	71	42	11	2809
276	3-Oct	0.00	31.0				73	49	12	2820
277	4-Oct	0.00	31.0	189	71	52	81	50	16	2836
278	5-Oct	0.00	31.0	155	75	57	83	57	20	2856
279	6-Oct	0.00	31.0	167	79	63	88	64	25	2881
280	7-Oct	0.00	31.0	130	77	63	86	61	24	2904
281	8-Oct	0.00	31.0	108	74	58	83	44	17	2921
282	9-Oct	0.00	31.0	168	68	53	68	40	9	2930
283	10-Oct	0.00	31.0	80	57	51	53	38	2	2931
284	11-Oct	0.00	31.0	93	56	49	53	36	2	2933
285	12-Oct	0.00	31.0	62	55	47	49	36	0	2933
286	13-Oct	0.10	31.1	98	62	46	60	41	5	2938
287	14-Oct	0.00	31.1	19	54	50	60	40	5	2943
288	15-Oct	0.65	31.8	44	57	52	59	50	5	2947
289	16-Oct	0.00	31.8	66	63	55	67	46	9	2956
290	17-Oct	0.62	32.4	112	62	53	69	41	10	2965
291	18-Oct	0.07	32.5	80	65	57	71	49	11	2976
292	19-Oct	0.00	32.5	39	57	53	56	35	3	2979
293	20-Oct	0.00	32.5	156	64	48	73	45	12	2990
294	21-Oct	0.00	32.5	130	66	53	76	44	13	3003
295	22-Oct	0.00	32.5	31	58	50	52	32	1	3004
296	23-Oct	0.00	32.5	155	61	44	58	32	4	3008
297	24-Oct	0.00	32.5	151	59	43	52	29	1	3009
298	25-Oct	0.00	32.5	152	55	40	57	30	4	3013
299	26-Oct	0.00	32.5	24	52	44	53	42	2	3014
300	27-Oct	0.00	32.5	127	58	41	56	27	3	3017
301	28-Oct	0.00	32.5	144	58	38	56	27	3	3020
302	29-Oct	0.00	32.5	135	58	39	64	35	7	3027
303	30-Oct	0.00	32.5	125	59	41	69	39	10	3037
304	31-Oct	0.00	32.5	90	56	40	59	29	5	3041

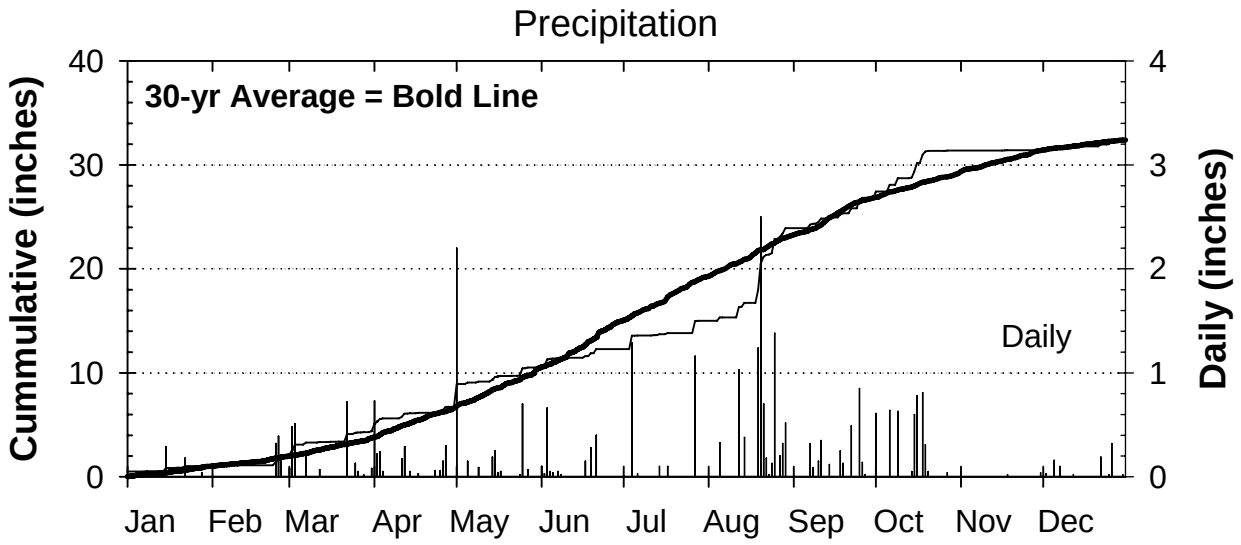
Table A-2. Monthly and total precipitation (inches) data for the Arlington Research Station.

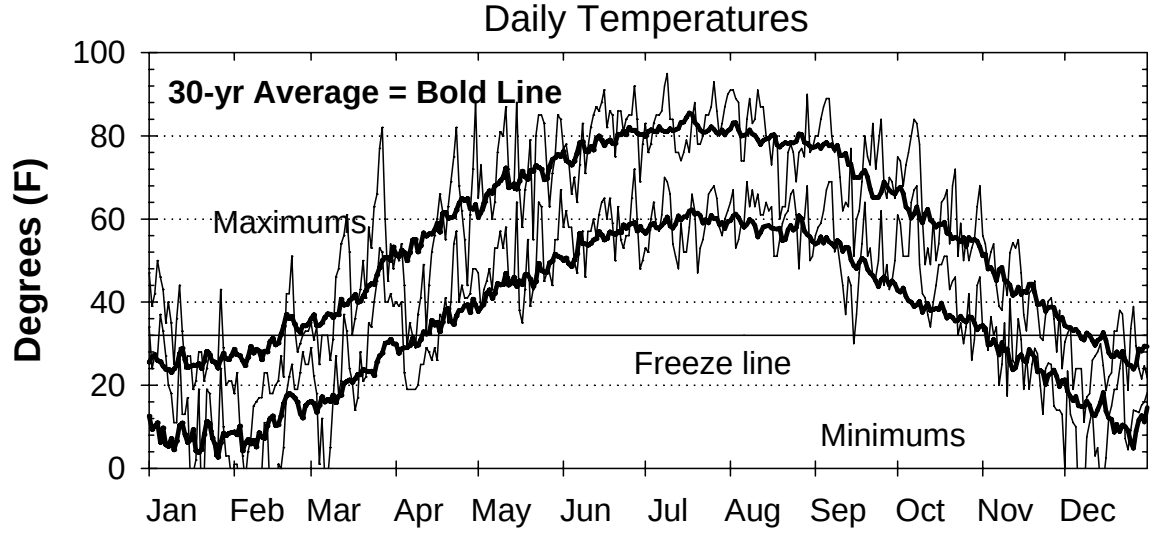
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1978	0.5	0.2	0.2	3.0	7.1	8.0	4.1	1.0	5.3	1.7	3.2	1.0	35.2
1979	1.2	0.7	3.1	1.7	2.7	3.8	2.7	7.7	0.2	2.9	1.8	1.5	29.8
1980	1.2	0.2	0.5	1.8	2.1	3.6	2.1	12.9	9.7	1.1	1.2	0.7	37.2
1981	0.1	2.7	0.6	3.7	0.3	3.6	7.0	4.5	3.4	3.1	1.1	0.9	31.0
1982	1.4	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	3.0	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
2007	0.5	1.5	3.2	3.3	1.2	3.3	2.9	11.3	2.8	2.3	0.5	3.3	36.3
30-year Average	1.1	1.1	1.7	3.1	3.7	4.3	3.9	4.4	3.8	2.4	2.4	1.4	33.4

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
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
2007	21	13	37	43	60	68	70	70	62	53	33	17	46
30-year Average	18	22	33	46	58	67	71	69	62	49	36	23	46

2007 Weather Summary for Hancock, WI





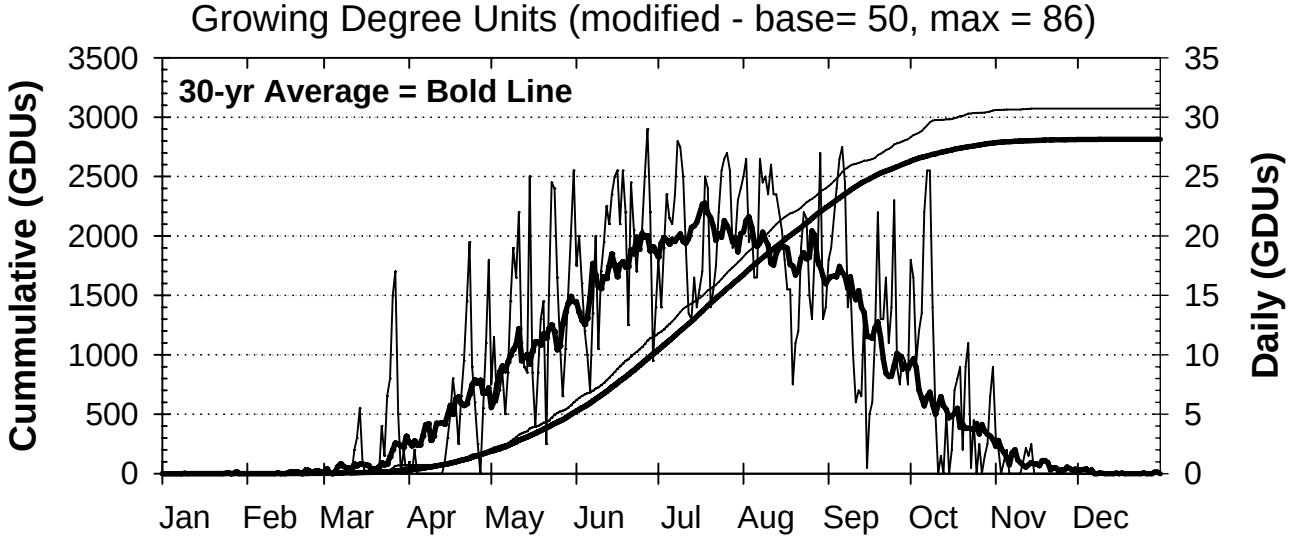


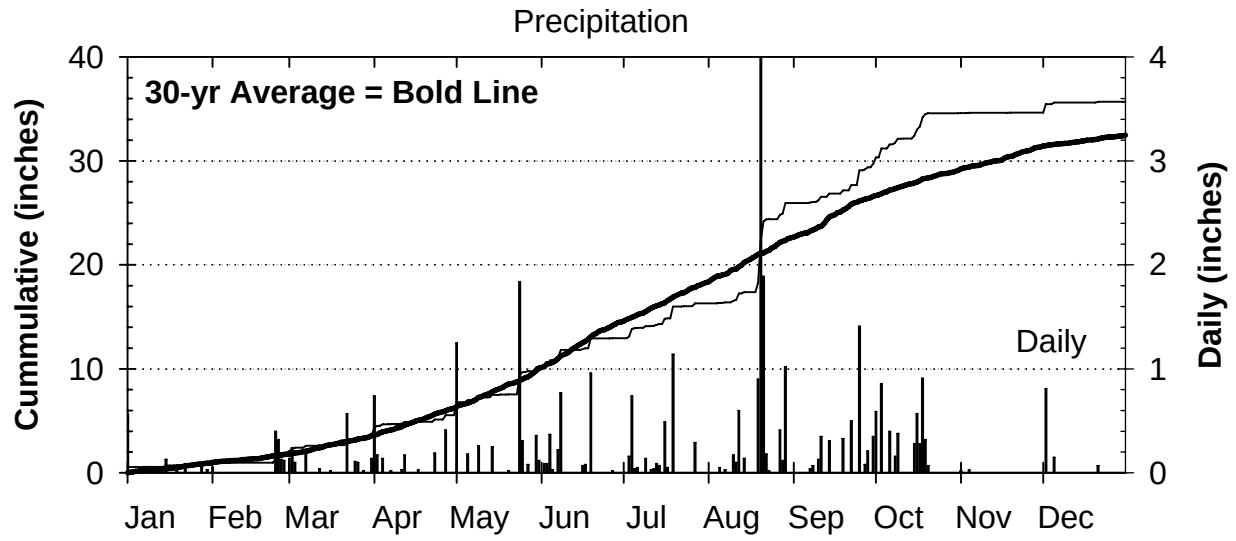
Table A-4. Monthly and total precipitation (inches) data for the Hancock Research Station.

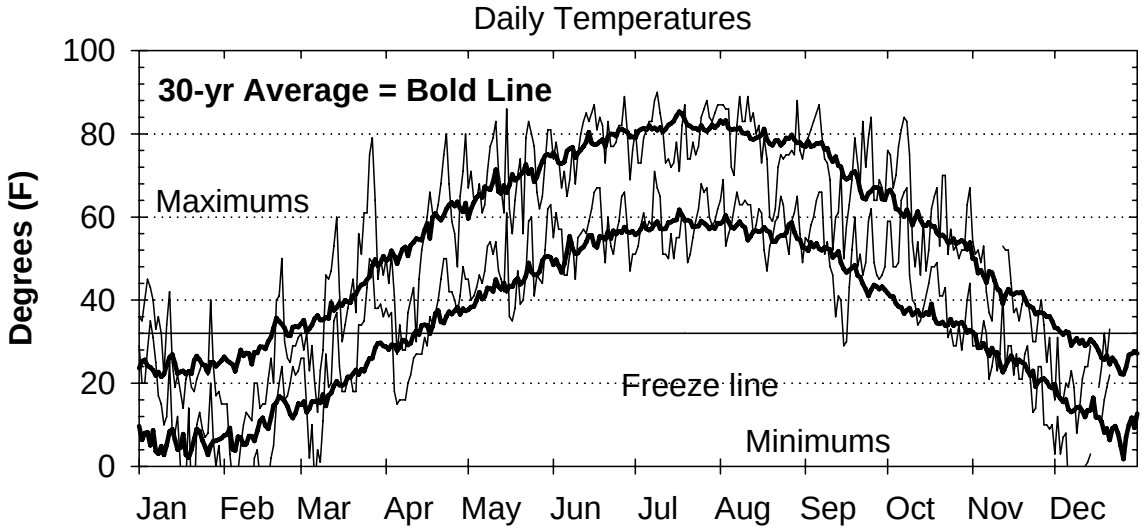
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1978	0.9	0.3	0.2	4.3	2.6	3.7	6.2	4.2	7.4	1.9	2.1	0.9	34.6
1979	1.4	1.1	3.8	1.4	4.3	2.8	3.8	6.5	0.6	2.8	2.7	0.7	32.0
1980	1.6	0.2	0.7	2.0	3.6	5.0	1.9	9.2	3.8	2.1	0.6	0.7	31.4
1981	0.1	2.6	0.6	5.1	0.7	2.4	2.7	2.8	2.5	3.1	0.4	0.7	23.6
1982	1.0	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	7.9	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	5.8	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	3.8	2.0	1.7	1.6	31.5
2007	2.2	1.8	4.7	4.7	5.4	3.6	4.0	8.9	2.9	4.6	0.1	0.9	43.7
30-year Average	1.1	1.0	1.9	3.0	3.9	4.4	4.3	4.1	3.6	2.4	2.2	1.0	32.9

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
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
2007	23	13	36	44	61	69	71	70	62	54	34	18	45
30-year Average	17	20	32	46	58	67	71	69	61	48	34	21	45

2007 Weather Summary for Marshfield, WI





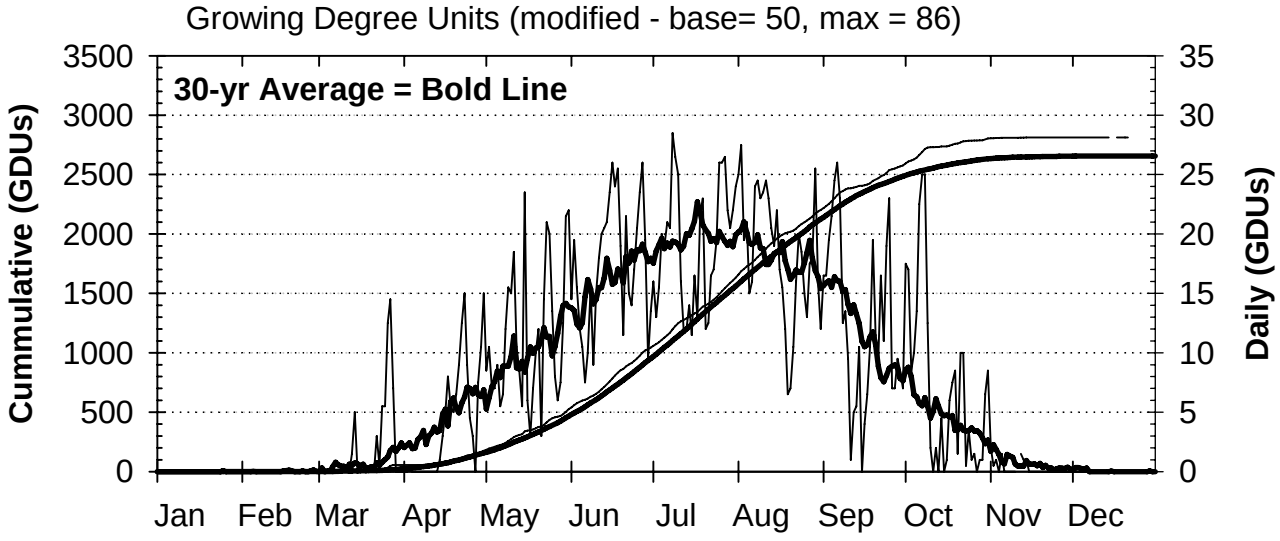


Table A-6. Monthly and total precipitation (inches) data for the Marshfield Research Station.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1978	0.5	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	2.9	6.1	1.9	3.5	2.6	36.9
1983	1.0	1.2	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	1.3	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	1.1	2.3	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	2.1	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	1.4	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
2007	0.9	1.0	1.7	1.9	4.7	2.7	3.3	9.7	3.8	4.8	0.1	1.0	35.7
30-year Average	0.9	0.8	1.8	2.7	3.8	4.4	3.8	4.5	4.0	2.6	2.2	1.1	32.6

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
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
2007	19	11	34	43	59	67	69	68	61	53	32	14	45
30-year Average	15	19	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 = $3.68 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)		upright leaves)
	Scale	0-5
Visual Moisture Rating (VMR)	Formula	KMR + SMR
	Scale	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	none
	Determination	visual average of 5 plants at V2-V4
	Scale	1=deterioration 2=no deterioration
Emergence	Units	%
	Formula	Early stand / late stand count x 100%
Residue cover	Units	%
	Determination	Point transects centered on row.
% Survival	Units	%
	Formula	Early stand / late stand count x 100%
Root Rating	Determination	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.
	Scale	0-3
Soybean Measurements		
Grower Return	Units	$/acre
	Formula	(weighted price per bushel x yield) - (yield x (handling + hauling + trucking)) -(storage x 0.02).
	Determination	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 = $9.95 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

Table B-1. Observations and Data Collected		
	Formula	(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	inches
	Determination	plant height from soil surface to tip of main stem
	Observations	average of several plants in each plot
Plant Lodging	Units	none
	Determination	based on average erectness of main stem of plant
	Observations	whole plot is assessed
	Scale	1=ALL PLANTS ERECT 2=SLIGHT LODGING 3=PLANTS LODGED AT 45 DEGREE ANGLE 4=PLANTS LODGED AT 60-80 DEGREE ANGLE
Seed Weight	Units	seeds/lb
	Determination	weight of 300 seeds converted to seeds/lb
Plant Density	Units	plants per acre
	Determination	early = plants at V3 to V5 stage late = just prior to harvest
	Observations	plants counts are taken from 5 linear feet of plot X the harvested area
% Survival	Units	%
	Formula	Early stand / late stand count x 100%
Wheat Measurements		
Grower Return	Units	$/acre
	Formula	(weighted price per bushel x yield) – (yield x (handling + hauling + trucking)) -(storage x 0.02).
	Determination	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 = $6.49 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)/(100-13.5{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 ^{o} 18 ’- 89^{o} 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 ^{o} 7 ‘ - 89 ^{o} 32 ‘	Plainfield loamy sand (Predominant soil)	Mixed, mesic	Typic Udipsamment
	Sparta loamy sand	Sandy, mixed, mesic	Entic Hapludoll
Lancaster ARS 42 ^{o} 50 ‘ - 90 ^{o} 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 ^{o} 39 ‘ - 90 ^{o} 8 ‘	Withee silt loam (Predominant soil)	Fine-loamy, mixed	Aquic Glossoboralf
	Marshfield silt loam	Fine-loamy, mixed, frigid	Typic Ochraqualf
Rhinelander ARS 45 ^{o} 39 ‘ - 89 ^{o} 22 ‘	Vilas loamy sand	Sandy, mixed, frigid	Entic Haplorthod
	Au Gres loamy sand	Sandy, mixed, frigid	Entic Haplaquod
Spooner ARS 45 ^{o} 49 ‘ - 91 ^{o} 53 ‘	Chetek sandy loam	Coarse-loamy, mixed	Eutric Glossaboralf
	Pence sandy loam	Sandy, mixed, frigid	Entic Haplorthod
	Omega loamy sand	Sandy, mixed, frigid	Typic Udipsamment
	Antigo silt loam	Well drained silt loam-sandy loam soils	

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01GD **Trial ID** 3066 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

Field: ARS408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /07 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 137 **K (ppm)** 43

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/8/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs	4 /23/07
	Starter :	9-23-30	150	4 /30/07
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/5/07 **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:** 29849 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S3704Bt
Croplan 591TS
Croplan 691BtLL
Dairyland Stealth 5204
Kruger K1500RR
Kruger K9496YG
Kussmaul
SB2983RRYGPlus
Lemke 3081Bt
Mycogen 2R174
NK Brand N16-M1
Pioneer 34N44
Pioneer 35A30
Pioneer 39D82
Renk RK438YGCB
Trelay 7454Bt
Trelay 8K339

Results: Table C-1 and C-2.

Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2007

Hybrid	Relative maturity	Grain yield	Grain mst	Test wt	lodging	Grower return	Silking Date	Early dent	Kernel Milk 75%	Kernel Milk 50%	Kernel Milk 25%	Black layer	Plant height	Oil	Starch	Protein	Ethanol per bu	Ethanol per A
		bu/A	%	lb/bu	%	$/A	doy						inches	%	%	%	gallons	gallons
NK Brand N16-M1	82	178	15.1	60.3	11	613	188	215	220	229	235	244	96	3.6	60.1	8.1	2.88	511
Kussmaul SB2983RRYGPlus	83	206	13.4	60.9	2	712	190	224	229	235	243	248	98	3.7	59.2	8.3	2.86	590
Mycogen 2R174	85	210	14.4	60.8	1	723	188	223	229	235	242	246	96	3.6	59.6	8.2	2.86	600
Pioneer 39D82	87	156	14.4	58.8	19	537	188	220	226	233	240	245	101	3.9	58.8	8.9	2.78	434
Lemke 3081Bt	90	213	13.6	58.8	2	735	190	224	232	239	246	252	102	3.5	60.1	7.7	2.91	619
Renk RK438YGCB	93	210	13.7	59.6	17	725	192	225	233	240	247	251	103	3.5	59.8	7.8	2.90	612
Kruger K9496YG	96	218	14.0	58.4	3	752	192	226	233	239	245	248	104	3.6	60.0	7.6	2.91	634
Brunner S3704Bt	97	208	13.4	57.9	15	717	192	225	233	239	244	247	102	3.6	59.9	7.8	2.91	605
Trelay 7454Bt	98	198	14.1	57.3	12	682	193	227	234	242	247	250	99	3.5	59.9	7.7	2.90	573
Kruger K1500RR	100	222	13.7	58.0	19	765	195	227	233	238	245	249	105	3.5	59.8	8.0	2.89	641
Pioneer 35A30	103	225	19.3	56.1	34	760	195	229	237	246	252	257	118	3.3	60.2	7.9	2.90	654
Dairyland Stealth 5204	104	210	20.1	55.9	14	706	198	234	242	247	255	264	109	3.7	59.4	8.4	2.84	598
Croplan 591TS	107	223	21.5	57.7	6	744	196	229	238	246	253	262	114	3.8	59.4	8.5	2.85	636
Pioneer 34N44	109	238	20.5	56.3	6	796	194	230	236	247	255	260	108	3.2	60.6	7.6	2.91	691
Croplan 691BtLL	112	238	23.7	51.1	37	783	198	235	239	245	254	264	113	3.4	60.1	7.5	2.90	690
Trelay 8K339	113	257	23.3	53.5	3	845	193	231	242	248	257	265	109	3.4	59.9	7.8	2.88	738
Mean		213	16.8	57.6	13	725	193	226	233	241	248	253	104	3.6	59.8	8.0	2.88	614
Probability(%)																		
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD(0.10)																		
Hybrid (H)		23	1.0	0.9	12	78	1	3	3	2	2	3	5	0.1	0.4	0.3	0.02	67
CV(%)		8	4	1	71	8	0	1	1	1	1	1	3	3	0	3	1	8

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids Arlington, WI - 2007

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
		149	3.8	5.9	6.6	7.1
		162	6.7	8.8	10.9	19.9
		177	11.2	13.8	15.8	62.5
		191	17.4	17.7	18.6	96.2
		204	19.6	19.6	19.6	104.8
NK Brand N16-M1	82		11.4	12.9	13.8	56.2
Kussmaul SB2983RRYGPlus	83		12.2	13.7	14.6	55.6
Mycogen 2R174	85		12.2	13.6	14.7	55.5
Pioneer 39D82	87		11.4	12.8	13.7	60.1
Lemke 3081Bt	90		12.3	13.8	15.1	58.5
Renk RK438YGCB	93		11.9	13.3	14.6	57.2
Kruger K9496YG	96		11.9	13.4	14.6	57.0
Brunner S3704Bt	97		11.9	13.2	14.5	56.3
Trelay 7454Bt	98		11.7	13.2	14.1	54.0
Kruger K1500RR	100		11.6	12.7	13.9	57.1
Pioneer 35A30	103		12.0	13.5	14.8	64.0
Dairyland Stealth 5204	104		11.8	13.4	14.5	58.4
Croplan 591TS	107		11.6	13.1	14.4	61.7
Pioneer 34N44	109		11.5	12.7	13.8	60.4
Croplan 691BtLL	112		11.4	12.6	13.9	57.5
Trelay 8K339	113		11.6	12.9	14.1	60.5
NK Brand N16-M1	82	149	3.7	6.0	6.5	6.6
NK Brand N16-M1	82	162	6.7	8.8	10.8	18.3
NK Brand N16-M1	82	177	10.3	13.0	15.2	64.3
NK Brand N16-M1	82	191	18.2	18.2	18.3	95.8
NK Brand N16-M1	82	204	18.3	18.3	18.3	96.0
Kussmaul SB2983RRYGPlus	83	149	4.0	6.0	7.0	7.2
Kussmaul SB2983RRYGPlus	83	162	7.0	9.3	11.2	19.0
Kussmaul SB2983RRYGPlus	83	177	12.2	15.2	16.7	60.2
Kussmaul SB2983RRYGPlus	83	191	18.7	18.7	19.0	93.2
Kussmaul SB2983RRYGPlus	83	204	19.3	19.3	19.3	98.3
Mycogen 2R174	85	149	4.3	6.5	7.3	7.7
Mycogen 2R174	85	162	7.2	9.3	11.7	20.8
Mycogen 2R174	85	177	11.3	13.8	16.0	64.8
Mycogen 2R174	85	191	18.7	18.8	19.2	88.7
Mycogen 2R174	85	204	19.3	19.3	19.3	95.5

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids (continued) Arlington, WI - 2007

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	149	3.8	6.0	6.8	8.1
Pioneer 39D82	87	162	6.2	8.7	10.8	21.7
Pioneer 39D82	87	177	11.5	13.8	15.5	68.7
Pioneer 39D82	87	191	17.7	17.7	17.7	98.8
Pioneer 39D82	87	204	17.7	17.7	17.7	103.0
Lemke 3081Bt	90	149	4.0	6.5	7.2	8.4
Lemke 3081Bt	90	162	7.0	9.2	11.7	22.3
Lemke 3081Bt	90	177	11.5	14.2	16.7	65.0
Lemke 3081Bt	90	191	19.0	19.3	19.8	95.0
Lemke 3081Bt	90	204	20.0	20.0	20.0	101.8
Renk RK438YGCB	93	149	4.0	5.8	6.8	6.8
Renk RK438YGCB	93	162	7.0	9.2	11.3	21.0
Renk RK438YGCB	93	177	11.0	14.0	16.0	62.8
Renk RK438YGCB	93	191	17.7	17.7	18.7	92.7
Renk RK438YGCB	93	204	20.0	20.0	20.0	102.5
Kruger K9496YG	96	149	4.0	6.2	6.8	6.6
Kruger K9496YG	96	162	6.8	9.0	11.3	20.7
Kruger K9496YG	96	177	11.3	14.5	16.3	60.0
Kruger K9496YG	96	191	17.2	17.5	18.3	93.7
Kruger K9496YG	96	204	20.0	20.0	20.0	104.0
Brunner S3704Bt	97	149	3.8	6.0	6.7	7.0
Brunner S3704Bt	97	162	6.8	8.7	11.0	18.0
Brunner S3704Bt	97	177	11.3	13.7	16.2	62.5
Brunner S3704Bt	97	191	17.3	17.7	18.7	92.5
Brunner S3704Bt	97	204	20.0	20.0	20.0	101.7
Trelay 7454Bt	98	149	3.3	5.7	6.2	5.9
Trelay 7454Bt	98	162	7.0	9.0	10.7	19.2
Trelay 7454Bt	98	177	11.8	14.5	16.0	55.2
Trelay 7454Bt	98	191	16.8	17.2	18.0	91.2
Trelay 7454Bt	98	204	19.7	19.7	19.7	98.8
Kruger K1500RR	100	149	3.5	5.3	6.2	6.4
Kruger K1500RR	100	162	6.5	8.5	10.3	19.7
Kruger K1500RR	100	177	11.5	12.8	15.2	61.3
Kruger K1500RR	100	191	16.8	16.8	18.2	92.8
Kruger K1500RR	100	204	19.8	19.8	19.8	105.2
Pioneer 35A30	103	149	4.0	6.2	7.0	7.6
Pioneer 35A30	103	162	7.0	9.0	11.3	22.2
Pioneer 35A30	103	177	11.0	14.2	15.8	67.5
Pioneer 35A30	103	191	17.0	17.5	18.8	104.8
Pioneer 35A30	103	204	20.8	20.8	20.8	117.7

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
(continued) **Arlington, WI - 2007**

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
Dairyland Stealth 5204	104	149	3.7	5.8	6.5	7.1
Dairyland Stealth 5204	104	162	6.7	8.8	10.8	18.8
Dairyland Stealth 5204	104	177	11.3	14.3	15.8	57.5
Dairyland Stealth 5204	104	191	17.2	17.7	19.2	99.7
Dairyland Stealth 5204	104	204	20.2	20.2	20.2	108.8
Croplan 591TS	107	149	3.3	5.8	6.2	6.8
Croplan 591TS	107	162	6.3	8.7	10.8	19.7
Croplan 591TS	107	177	11.0	13.2	15.8	63.7
Croplan 591TS	107	191	17.2	17.7	19.0	104.3
Croplan 591TS	107	204	20.2	20.2	20.2	114.2
Pioneer 34N44	109	149	4.0	6.0	6.2	8.0
Pioneer 34N44	109	162	6.7	8.3	10.3	19.0
Pioneer 34N44	109	177	10.8	12.5	15.2	67.8
Pioneer 34N44	109	191	16.3	17.0	18.0	99.8
Pioneer 34N44	109	204	19.5	19.5	19.5	107.5
Croplan 691BtLL	112	149	3.7	5.3	6.0	6.8
Croplan 691BtLL	112	162	6.3	8.3	10.2	18.7
Croplan 691BtLL	112	177	11.0	13.5	15.7	53.3
Croplan 691BtLL	112	191	16.0	16.2	17.7	95.3
Croplan 691BtLL	112	204	19.8	19.8	19.8	113.2
Trelay 8K339	113	149	4.0	6.0	6.5	7.4
Trelay 8K339	113	162	6.7	8.7	10.8	19.8
Trelay 8K339	113	177	10.8	13.3	15.2	65.7
Trelay 8K339	113	191	16.8	17.0	18.5	101.2
Trelay 8K339	113	204	19.7	19.7	19.7	108.5
Mean			11.8	13.2	14.3	58.1
Probability(%)						
Hybrid (H)			0.2	0.1	0.0	0.0
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)			0.4	0.5	0.5	2.7
Day Of Year (D)			0.1	0.2	0.1	0.7
H x D			0.5	0.6	0.5	2.9
CV(%)			3	3	2	4

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01GD **Trial ID** 3067 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/1 /07 **pH:** 6.4 **OM (%)** 3.3 **P (ppm)** 220 **K (ppm)** 75

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/19/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /10/07
	Post plant :	28-0-0	27 gal/A	6 /19/07
	Manure:	N/A	N/A	N/A

Herbicide: Hornet 2.4 oz/A
Atrazine 1.0 qt/A
Outlook 14 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/10/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/25/07 **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 S3704Bt
Croplan 591TS
Croplan 691BtLL
Dairyland Stealth 5204
Kruger K1500RR
Kruger K9496YG
Kussmaul
SB2983RRYGPlus
Lemke 3081Bt
Mycogen 2R174
NK Brand N16-M1
Pioneer 34N44
Pioneer 35A30
Pioneer 39D82
Renk RK438YGCB
Trelay 7454Bt
Trelay 8K339

Results: Table C-3.

Table C-3. Determining Corn Hybrid Maturity - Comparison of Hybrids
Marshfield, WI - 2007

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	165	16.7	58.1	2	564	3.5	60.2	8.1	2.88	475
Kussmaul SB2983RRYGPlus	83	167	16.6	57.4	9	573	3.7	59.6	7.9	2.88	482
Mycogen 2R174	85	174	17.9	58.3	5	593	3.6	59.1	8.5	2.85	497
Pioneer 39D82	87	166	19.1	55.4	9	562	3.6	59.4	8.6	2.81	467
Lemke 3081Bt	90	192	17.6	55.2	16	655	3.4	60.2	7.6	2.91	559
Renk RK438YGCB	93	178	18.2	54.4	22	605	3.4	60.1	7.5	2.91	518
Kruger K9496YG	96	177	18.1	53.4	14	602	3.5	60.3	7.4	2.91	515
Brunner S3704Bt	97	177	18.3	53.2	15	602	3.5	60.4	7.4	2.90	515
Trelay 7454Bt	98	165	18.6	53.8	16	558	3.7	60.2	7.6	2.89	476
Kruger K1500RR	100	167	18.3	52.5	8	568	3.6	60.1	7.9	2.88	483
Pioneer 35A30	103	171	20.8	53.9	22	572	3.2	60.0	7.9	2.90	497
Dairyland Stealth 5204	104	145	24.7	51.1	5	475	3.4	59.4	8.4	2.85	414
Croplan 591TS	107	157	25.9	51.9	14	510	3.5	59.3	8.3	2.86	449
Pioneer 34N44	109	164	23.9	50.9	27	539	3.1	60.2	7.7	2.90	476
Croplan 691BtLL	112	141	31.1	46.1	24	443	3.2	59.7	7.5	2.87	405
Trelay 8K339	113	151	28.0	48.7	14	482	3.2	59.7	8.3	2.86	431
Mean		166	20.9	53.4	14	556	3.5	59.9	7.9	2.88	479
Probability(%)											
Hybrid (H)		0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
LSD(0.10)											
Hybrid (H)		15	1.2	1.1	12	48	0	0.5	0.4	0.02	43
CV(%)		6	4	2	61	6	2	1	4	1	7

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01GD **Trial ID** 3068 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

Location: Seymour, WI **County:** Onieda

Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Clay Loam

Soil Test: **Date:** 10/1 /07 **pH:** 6.3 **OM (%)** 3.4 **P (ppm)** 246 **K (ppm)** 125

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/14/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /7 /07
	Post plant :	34-0-0	324	6 /14/07
	Manure:	N/A	N/A	N/A

Herbicide: Hornet 2.0 oz/A
Keystone LA 1.7 qt/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/7/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/12/07 **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 S3704Bt
Croplan 591TS
Croplan 691BtLL
Dairyland Stealth 5204
Kruger K1500RR
Kruger K9496YG
Kussmaul
SB2983RRYGPlus
Lemke 3081Bt
Mycogen 2R174
NK Brand N16-M1
Pioneer 34N44
Pioneer 35A30
Pioneer 39D82
Renk RK438YGCB
Trelay 7454Bt
Trelay 8K339

Results: Table C-4.

Table C-4. Determining Corn Hybrid Maturity - Comparison of Hybrids
Seymour, WI - 2007

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	131	13.4	59.9	0	451	3.3	60.3	8.3	2.87	375
Kussmaul SB2983RRYGPlus	83	156	14.7	61.0	1	537	3.7	60.1	7.8	2.88	449
Mycogen 2R174	85	163	15.2	61.6	0	563	3.3	61.0	7.8	2.89	471
Pioneer 39D82	87	152	14.1	59.1	2	524	3.5	60.4	8.0	2.86	435
Lemke 3081Bt	90	177	14.8	58.4	3	612	3.5	60.9	7.3	2.93	519
Renk RK438YGCB	93	164	15.7	59.5	7	564	3.4	60.9	7.3	2.92	478
Kruger K9496YG	96	180	15.7	58.4	6	621	3.5	61.0	7.0	2.92	527
Brunner S3704Bt	97	171	17.6	57.7	6	583	3.3	61.5	6.8	2.93	501
Trelay 7454Bt	98	179	17.8	56.7	9	608	3.5	61.1	6.8	2.93	523
Kruger K1500RR	100	181	15.4	58.8	6	623	3.4	60.9	7.4	2.91	527
Pioneer 35A30	103	178	21.6	56.8	6	593	3.4	60.7	7.3	2.91	520
Dairyland Stealth 5204	104	164	21.5	57.6	1	547	3.8	60.7	7.4	2.89	474
Croplan 591TS	107	165	24.6	57.3	3	541	3.9	60.1	7.8	2.86	473
Pioneer 34N44	109	203	24.9	54.9	0	664	3.1	61.5	6.9	2.96	627
Croplan 691BtLL	112	202	27.1	52.3	1	650	3.0	61.1	7.2	2.94	578
Trelay 8K339	113	194	25.3	55.0	0	631	3.5	60.5	7.4	2.87	558
Mean		173	18.7	57.8	3	582	3.5	60.8	7.4	2.90	498
Probability(%)											
Hybrid (H)		0.0	0.0	0.0	5.5	0.2	0.4	13.6	0.0	0.3	0.0
LSD(0.10)											
Hybrid (H)		20	1.7	1.4	5	71	0	NS	0.4	0.03	60
CV(%)		8	7	2	112	9	6	1	4	1	9

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3060 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 7.1 **OM (%)** 2.8 **P (ppm)** 38 **K (ppm)** 114

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/8/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs	4 /25/07
	Starter :	9-23-30	150	5 /30/07
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: Force 4.4 lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 5/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/6/07
G: 10/5/07

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: 28116 **plants per acre**

Factors/Treatments:

Hybrids:

Dyna-Gro 55B49
Hughes 4592
Kaltenberg K8105LFRR
Mycogen F2F566
Pioneer 35Y67
Renk RK669

Results: Table C-5.

Table C-5. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Arlington, WI - 2007

		Grain					Whole Plant													
																			Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Dyna-Gro 55B49	CB,CR,RR	232	20.4	56.5	18	778	10.0	64.3	33.3	1.7	0.6	2.2	7.2	26.0	47.6	77.3	52.4	31.5	2987	29750
Hughes 4592	CR,RR	252	21.2	56.1	9	840	10.5	65.6	51.7	2.6	0.7	3.3	7.1	25.4	47.5	78.4	54.5	31.6	3044	31926
Kaltenberg K8105LFRR	Leafy,RR	161	27.7	49.6	38	516	9.3	70.8	58.3	2.9	0.6	3.6	7.1	31.7	56.9	74.3	54.8	14.2	2613	24258
Mycogen F2F566	BMR	132	24.6	52.1	30	433	7.4	70.7	51.7	2.6	0.5	3.1	7.6	27.6	52.7	80.9	63.7	22.2	3120	23015
Pioneer 35Y67	CB,LL	258	21.4	55.6	22	859	10.2	64.9	43.3	2.2	0.8	3.0	6.9	27.1	48.3	77.3	53.0	30.2	2978	30639
Renk RK669		218	17.1	57.2	35	745	10.2	60.2	36.7	1.8	0.4	2.2	6.6	23.8	44.1	80.3	55.4	36.1	3188	32523
Mean		209	22.1	54.5	25	695	9.6	66.1	45.8	2.3	0.6	2.9	7.1	26.9	49.5	78.1	55.7	27.6	2989	28685
Probability(%)																				
Hybrid (H)		0.0	0.0	0.0	0.2	0.0	1.0	0.5	17.6	17.6	50.8	5.5	2.3	0.4	0.1	0.1	0.0	0.0	0.2	1.2
LSD(0.10)																				
Hybrid (H)		18	1	1.1	10	63	1.3	4.1	NS	NS	NS	0.8	0.4	2.1	3.6	2.0	2.1	4.9	177	4553
CV(%)		6	3	1	26	6	9	4	27	27	44	19	4	7	5	2	3	12	4	11

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3062 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 7.3 **OM (%)** 2.9 **P (ppm)** 19 **K (ppm)** 74

Plot Management

Tillage Operations: Field Cultivator Cultivated 6/18/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /8 /07
	Post plant :	28-0-0	40 gal/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Cinch 0.8 pt/A
Atrazine 0.5 lb/A
Accent Gold 3.5 oz/A
Callisto 1.5 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/8/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/12/07
G: 10/11/07

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: 30591 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S6508(RRBtCRW)
Dyna-Gro 55B49
Mycogen F2F566
NK Brand N49-E3
Pioneer 35Y67
Renk RK669

Results: Table C-6.

Table C-6. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Fond du Lac, WI - 2007

		Grain					Whole Plant												Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Brunner S6508(RRBtCRW)	CB,CR,RR	189	21.4	54.3	2	629	8.8	64.0	53.3	2.7	2.0	4.7	6.2	20.6	40.2	81.9	54.9	36.9	3330	29385
Dyna-Gro 55B49	CB,CR,RR	200	22.2	53.7	3	663	8.7	66.2	66.7	3.3	2.1	5.4	6.2	24.2	46.0	79.4	55.2	31.7	3140	27515
Mycogen F2F566	BMR	110	26.1	50.6	56	358	7.4	68.5	70.0	3.5	2.0	5.5	6.5	23.9	46.2	83.1	63.3	29.3	3336	24785
NK Brand N49-E3	Leafy	166	26.1	50.5	15	537	8.5	67.5	75.0	3.8	2.9	6.7	6.5	24.9	46.6	80.5	58.2	28.6	3192	27212
Pioneer 35Y67	CB,LL	210	23.8	53.7	2	688	9.3	65.1	75.0	3.8	1.8	5.6	5.8	24.4	45.1	81.0	57.9	31.0	3241	30093
Renk RK669		179	18.5	53.6	45	605	9.3	61.3	60.0	3.0	1.6	4.6	5.5	22.3	42.5	81.0	55.3	36.2	3262	30320
Mean		176	23.0	52.7	20	580	8.7	65.5	66.7	3.3	2.1	5.4	6.1	23.4	44.4	81.1	57.5	32.3	3250	28219
Probability(%)																				
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	5.3	1.5	7.7	7.7	0.0	0.1	2.6	8.3	4.9	11.2	0.1	3.5	18.5	14.9
LSD(0.10)																				
Hybrid (H)		14	1.7	0.9	13	42	1.0	3.0	13.3	0.7	0.2	0.6	0.5	2.6	3.7	NS	2.5	4.7	NS	NS
CV(%)		6	5	1	44	5	8	3	14	14	8	8	6	7	6	2	3	10	3	9

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3061 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 6.4 **OM (%)** 113 **P (ppm)** 31 **K (ppm)** 3

Plot Management

Tillage Operations: Zone Builder

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /2 /07
	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: 5/2/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/5/07
G: 10/10/07

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: 30294 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S6508(RRBtCRW)
Dyna-Gro 55B49
Mycogen F2F566
NK Brand N49-E3
Pioneer 35Y67
Renk RK669

Results: Table C-7.

Table C-7. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Galesville, WI - 2007

		Grain					Whole Plant													
																			Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Brunner S6508(RRBtCRW)	CB,CR,RR	240	18.4	59.2	2	813	10.0	69.5	60.0	3.0	2.6	5.6	7.5	26.7	49.1	77.2	53.8	29.5	2968	29895
Dyna-Gro 55B49	CB,CR,RR	250	18.2	58.8	4	850	11.2	66.7	51.7	2.6	2.8	5.4	7.2	23.8	45.6	79.2	54.2	33.9	3108	34800
Mycogen F2F566	BMR	84	21.2	54.7	73	281	8.4	61.3	48.3	2.4	0.4	2.9	7.8	24.8	48.7	81.5	61.9	30.2	3197	27026
NK Brand N49-E3	Leafy	168	20.2	54.2	44	562	9.9	67.9	50.0	2.5	1.8	4.3	7.3	27.2	49.5	77.8	55.2	28.8	2995	29598
Pioneer 35Y67	CB,LL	241	17.9	59.1	26	821	10.8	64.9	50.0	2.5	1.7	4.2	7.2	25.1	46.7	78.7	54.3	32.0	3071	33187
Renk RK669		138	16.3	58.2	89	475	10.0	63.0	51.7	2.6	1.1	3.7	6.6	22.7	43.7	80.5	55.4	36.5	3204	32103
Mean		187	18.7	57.4	39	634	10.1	65.5	51.9	2.6	1.7	4.3	7.3	25.0	47.2	79.1	55.8	31.8	3090	31101
Probability(%)																				
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	29.7	0.0	44.8	44.8	0.0	0.0	4.6	2.8	6.6	1.6	0.0	1.7	3.6	41.8
LSD(0.10)																				
Hybrid (H)		31	0.9	1.2	2	106	NS	2.2	NS	NS	0.4	0.7	0.5	2.2	3.5	1.9	1.8	3.5	133	NS
CV(%)		11	3	1	34	11	14	2	14	14	16	11	5	6	5	2	2	8	3	15

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3063 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 6.4 **OM (%)** 3.3 **P (ppm)** 220 **K (ppm)** 75

Plot Management

Tillage Operations: Chisel Plow Soil Finisher Cultivated 6/19/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /10/07
	Post plant :	28-0-0	27 gal/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Hornet 2.4 oz/A
Atrazine 1.0 qt/A
Outlook 14 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: 4.2"

Planting Date: 5/10/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/13/07
G: 10/25/07

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: 30690 **plants per acre**

Factors/Treatments:

Hybrids:

Crows 1684T
Dairyland Stealth 1600
Mycogen 2A517
Mycogen F2F485
NK Brand N33-H6
NuTech 3W-099ARR/YGRW

Results: Table C-8.

Table C-8. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Marshfield, WI - 2007

		Grain					Whole Plant													
																			Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Crows 1684T	CB,CR,RR	160	18.9	53.6	26	542	7.1	69.9	60.0	3.0	1.9	4.9	7.6	24.2	45.8	79.4	55.2	31.9	3133	22214
Dairyland Stealth 1600		153	20.5	48.8	18	512	7.3	71.4	68.3	3.4	2.0	5.4	7.7	28.5	51.0	76.1	53.1	25.8	2899	21039
Mycogen 2A517	CB,LL	155	19.2	49.0	55	525	7.7	72.7	73.3	3.7	2.0	5.7	7.8	28.1	50.3	77.3	54.9	26.0	2971	22726
Mycogen F2F485	BMR	102	23.6	52.4	42	336	5.8	75.8	70.0	3.5	2.0	5.5	9.3	27.7	52.7	82.2	66.2	20.8	3202	18515
NK Brand N33-H6	Leafy	118	20.4	47.1	37	394	7.0	73.6	65.0	3.3	2.0	5.3	8.4	29.5	53.3	76.5	55.8	19.1	2866	20225
NuTech 3W-099ARR/YGRW	CR,RR	168	20.6	51.6	9	563	6.8	74.4	66.7	3.3	1.8	5.1	7.6	28.1	51.9	77.6	56.8	23.4	2970	20316
Mean		143	20.5	50.4	31	479	6.9	73.0	67.2	3.4	2.0	5.3	8.1	27.7	50.8	78.2	57.0	24.5	3007	20839
Probability(%)																				
Hybrid (H)		0.0	0.1	0.0	1.0	0.0	5.1	0.1	27.7	27.7	57.8	21.3	0.5	1.1	5.2	0.2	0.0	3.3	1.4	40.9
LSD(0.10)																				
Hybrid (H)		15	1.3	1.4	18	51	0.9	1.6	NS	NS	NS	NS	0.7	2.0	3.8	2.0	1.8	6.0	153	NS
CV(%)		7	4	2	40	7	9	2	10	10	8	7	6	5	5	2	2	17	3	12

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3064 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 5.1 **OM (%)** 129 **P (ppm)** 280 **K (ppm)** 2.4

Plot Management

Tillage Operations: Offset Disk Field Cultivator

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /17/07
	Post plant :	46-0-0	235 lbs/A	N/A
	Manure:	N/A	N/A	N/A

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

Irrigation: None **Hybrid:** See Factors

Planting Date: 5/17/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/19/07
G: 10/23/07

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: 28314 **plants per acre**

Factors/Treatments:

Hybrids:

Dahlman D4523
Gold Country 96SLSRR
Johnson Seeds 4990BtLL
Kussmaul SB2983RRYGPL
Mycogen F2F485
Renk RK268RRYGRW

Results: Table C-9.

Table C-9. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Rhinelander, WI - 2007

		Grain					Whole Plant													
																			Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Dahlman D4523		131	27.1	46.3	5	423	7.6	70.8	58.3	2.9	2.2	5.1	8.2	27.5	50.2	78.2	56.7	24.4	3043	23089
Gold Country 96SLSRR	Leafy,RR	85	33.6	45.3	37	261	7.1	69.7	86.7	4.3	2.3	6.7	8.8	28.1	52.1	78.1	58.0	20.6	3018	21370
Johnson Seeds 4990BtLL	CB,LL	138	28.3	47.1	0	442	7.7	67.0	60.0	3.0	2.0	5.0	8.3	23.8	45.7	80.9	58.1	28.3	3228	24673
Kussmaul SB2983RRYGPL	CB,CR,RR	133	26.9	48.8	1	430	7.0	70.8	63.3	3.2	2.2	5.4	8.0	25.1	47.6	79.7	57.3	27.1	3146	22169
Mycogen F2F485	BMR	51	32.6	49.1	47	159	7.5	74.3	73.3	3.7	2.7	6.4	8.6	25.7	49.4	83.2	66.0	23.4	3315	24737
Renk RK268RRYGRW	CR,RR	133	28.5	47.6	4	423	7.1	68.8	75.0	3.8	2.4	6.2	8.2	25.1	48.3	78.8	56.1	27.0	3092	22102
Mean		112	29.5	47.4	16	356	7.3	70.3	69.4	3.5	2.3	5.8	8.3	25.9	48.9	79.8	58.7	25.1	3140	23023
Probability(%)																				
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	95.2	0.4	2.9	2.9	48.8	1.0	14.4	3.5	5.2	0.2	0.2	1.3	0.4	73.6
LSD(0.10)																				
Hybrid (H)		22	2.1	1.0	15	74	NS	2.4	14.1	0.7	NS	0.8	NS	2.2	3.2	1.7	3.2	3.3	112	NS
CV(%)		13	5	1	64	14	14	2	14	14	18	9	4	6	4	1	4	9	2	14

FIELD EXPERIMENT HISTORY

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

Experiment: 01GrainvsSilage **Trial ID:** 3065 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/15/07 **pH** 6.9 **OM (%)** 88 **P (ppm)** 38 **K (ppm)** 2.8

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/18/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /7 /07
	Post plant :	34-0-0	109 lbs/A	6 /18/07
	Manure:	Dairy	12400 gal/A	Fall

Herbicide: Acetochlor 0.75 pt/A
Stout 0.5 oz/A
Impact 0.5 oz/A
Atrazine 0.25 lbs/A

Insecticide: Force 4.4 lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 5/7/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/11/07
G: 10/17/07

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: 28904 **plants per acre**

Factors/Treatments:

Hybrids:

Crows 1684T
Dairyland Stealth 1600
Mycogen 2A517
Mycogen F2F485
NK Brand N33-H6
NuTech 3W-099ARR/YGRW

Results: Table C-10.

Table C-10. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Valders, WI - 2007

		Grain					Whole Plant													
																			Milk 2006	
		Grain		Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
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	%	lb/bu	%	$/A	T/A	%	%				%	%	%	%	%	%	lb/T	lb/A
Crows 1684T	CB,CR,RR	182	20.0	56.3	0	611	7.6	57.9	68.3	3.4	1.5	4.9	6.7	18.5	37.7	84.3	58.4	39.0	3524	26693
Dairyland Stealth 1600		140	23.6	52.2	2	461	5.9	62.7	65.0	3.3	2.0	5.3	6.9	21.4	42.8	83.3	61.1	31.3	3428	20079
Mycogen 2A517	CB,LL	132	27.7	49.9	5	423	5.8	67.8	75.0	3.8	2.3	6.1	7.6	21.5	43.0	83.6	61.8	29.8	3436	19806
Mycogen F2F485	BMR	99	24.9	53.4	6	323	5.0	67.6	60.0	3.0	2.1	5.1	8.4	21.0	44.3	86.6	69.8	25.8	3542	17735
NK Brand N33-H6	Leafy	116	29.4	49.0	5	367	6.3	65.0	63.3	3.2	2.0	5.2	7.5	20.1	40.3	84.1	60.4	31.5	3486	21808
NuTech 3W-099ARR/YGRW	CR,RR	195	21.2	52.9	2	649	8.0	64.6	56.7	2.8	1.9	4.7	6.3	20.2	40.9	83.7	60.2	34.1	3469	27622
Mean		144	24.5	52.3	3	472	6.4	64.3	64.7	3.2	2.0	5.2	7.2	20.5	41.5	84.3	61.9	31.9	3481	22290
Probability(%)																				
Hybrid (H)		0.0	0.0	0.0	7.3	0.0	0.0	0.1	30.6	30.6	5.5	20.6	0.1	24.0	5.0	0.6	0.0	0.4	47.0	0.0
LSD(0.10)																				
Hybrid (H)		10	1.9	1.6	3	31	0.7	3.1	NS	NS	0.4	NS	0.6	NS	3.4	1.3	1.2	4.3	NS	2704
CV(%)		5	5	2	70	4	7	3	15	15	14	12	5	7	6	1	1	9	2	8

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2988 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: AgReliant Genetics, LLC

Site Information

Field: 408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 43 **K (ppm)** 137

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	150	N/A
Starter	9-23-30	150	4 /30/07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/5/07 **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:** 0.24 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31720 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S610
S512	S611
S513	S708
S514	S709

Results: Table C-11.

Table C-11. AgReliant Hybrid Corn Silage Evaluation Study. Arlington, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	9.3	59.2	7.7	24.4	44.7	78.6	52.3	33.5	3050	28177
AgReliant S512	7.8	66.8	7.3	26.0	47.9	76.8	51.6	30.3	2914	22673
AgReliant S513	8.8	59.6	7.2	25.4	46.7	78.4	53.6	31.7	3014	26431
AgReliant S514	8.9	61.3	7.4	24.4	45.8	77.9	51.9	31.4	3000	26575
AgReliant S610	9.6	62.0	6.4	24.7	45.4	77.8	51.2	33.7	3002	28825
AgReliant S611	9.2	67.8	8.0	26.4	48.2	78.2	54.9	29.5	2986	27410
AgReliant S708	9.9	61.5	7.1	27.9	49.3	75.0	49.4	29.2	2802	27937
AgReliant S709	9.2	68.5	7.7	24.8	45.8	78.8	53.8	32.5	3046	28000
Mean	9.1	63.3	7.3	25.5	46.7	77.7	52.3	31.5	2977	27003
Probability (%)										
Hybrid	21.0	0.2	0.0	59.7	66.3	43.2	3.7	63.4	53.1	55.5
LSD (0.10)										
Hybrid	NS	3.8	0.4	NS	NS	NS	2.5	NS	NS	NS
CV (%)	10	4	4	9	7	3	3	11	5	13

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2989 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: AgReliant Genetics, LLC

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 2.0 **P (ppm)** 20 **K (ppm)** 75

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	9-23-30	150	5 /3 /07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Dual II 2.0 pt/A
Accent 0.67 oz/A
Callisto 6.0 oz/A
Aatrex 4L 0.7 qt./A

Insecticide: Force 3G 4.4 lbs/A

Irrigation: None

Planting Date: 5/3/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/4/07 **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:** 0.24 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30806 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S610
S512	S611
S513	S708
S514	S709

Results: Table C-12.

Table C-12. AgReliant Hybrid Corn Silage Evaluation Study. Lancaster, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	8.0	52.2	6.8	26.3	48.4	76.3	51.2	30.7	2867	23044
AgReliant S512	8.2	54.8	6.3	24.4	45.3	78.5	52.5	33.8	3019	24730
AgReliant S513	8.3	57.9	6.7	25.1	45.4	78.3	52.1	33.6	3005	25089
AgReliant S514	8.7	60.1	6.6	23.9	44.2	78.6	51.7	34.0	3041	26359
AgReliant S610	9.0	55.0	5.6	24.2	45.5	77.7	50.9	34.5	2978	26771
AgReliant S611	9.1	63.5	6.7	24.2	44.4	78.3	51.1	34.3	3017	27538
AgReliant S708	9.7	54.4	6.1	25.0	45.0	76.0	46.5	35.4	2886	28138
AgReliant S709	8.8	65.1	6.5	25.4	46.5	76.1	48.5	32.8	2875	25177
Mean	8.7	57.9	6.4	24.8	45.6	77.5	50.6	33.6	2961	25889
Probability (%)										
Hybrid	42.3	0.8	41.2	67.7	46.0	12.1	0.1	70.2	21.8	52.9
LSD (0.10)										
Hybrid	NS	5.4	NS	NS	NS	NS	2.0	NS	NS	NS
CV (%)	11	6	10	7	5	2	3	9	3	12

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2990 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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:** 11/01/07 **pH:** 7.3 **OM (%)** 2.9 **P (ppm)** 19 **K (ppm)** 74

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /8 /07
Post plant	28-0-0	120	N/A
Manure:		N/A	N/A

Herbicide: Cinch 0.8 oz/A
Atrazine 0.5 oz/A
Accent Gold 3.5 oz/A
Callisto 1.5 oz/A

Insecticide: None

Irrigation: None

Planting Date: 5/8/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/12/07 **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:** 0.17 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31303 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S706
S608	S707
S704	S719
S705	

Results: Table C-13.

Table C-13. AgReliant Hybrid Corn Silage Evaluation Study. Fond du Lac, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	9.0	62.8	5.9	23.4	43.1	78.9	50.9	36.4	3089	27898
AgReliant S608	9.5	58.7	6.2	21.7	41.6	79.5	50.7	38.4	3138	29878
AgReliant S704	9.3	63.0	5.7	24.3	45.0	78.8	52.9	34.4	3066	28382
AgReliant S705	9.7	63.5	6.0	24.3	44.6	78.7	52.4	34.4	3066	29674
AgReliant S706	9.8	66.0	5.9	24.0	44.4	79.4	53.6	35.6	3104	30324
AgReliant S707	9.3	66.6	5.9	25.4	46.1	78.5	53.4	33.2	3038	28335
AgReliant S719	8.5	64.0	5.7	23.6	43.8	80.0	54.4	36.1	3147	26845
Mean	9.3	63.5	5.9	23.8	44.1	79.1	52.6	35.5	3092	28762
Probability (%)										
Hybrid	43.9	0.2	80.6	33.6	42.2	88.6	4.0	18.9	86.1	80.7
LSD (0.10)										
Hybrid	NS	2.4	NS	NS	NS	NS	1.9	NS	NS	NS
CV (%)	8	3	7	7	5	2	3	6	4	11

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2991 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: AgReliant Genetics, LLC

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 6.4 **OM (%)** 3.0 **P (ppm)** 31 **K (ppm)** 113

Plot Management

Tillage Operations: Fall Zone

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /2 /07
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: 5/2/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/5/07 **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:** 0.17 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31259 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S706
S608	S707
S704	S719
S705	

Results: Table C-14.

Table C-14. AgReliant Hybrid Corn Silage Evaluation Study. Galesville, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	9.4	61.7	7.5	23.6	45.0	78.0	51.1	34.8	2983	27992
AgReliant S608	10.1	57.1	7.3	23.9	46.0	77.0	49.9	34.1	2920	29341
AgReliant S704	9.7	59.8	6.7	25.4	46.0	76.5	49.0	34.3	2898	28198
AgReliant S705	10.0	62.7	7.2	25.4	46.8	77.2	51.2	32.2	2919	29298
AgReliant S706	9.1	66.5	6.5	26.4	47.6	75.8	49.1	32.5	2837	25889
AgReliant S707	10.2	59.9	6.6	22.5	42.3	78.3	48.7	37.1	3038	30971
AgReliant S719	7.4	64.8	6.6	26.2	47.5	76.4	50.2	32.0	2872	21391
Mean	9.4	61.8	6.9	24.8	45.9	77.0	49.9	33.9	2924	27583
Probability (%)										
Hybrid	15.3	16.3	0.7	14.8	13.6	45.0	81.3	18.8	32.6	15.1
LSD (0.10)										
Hybrid	NS	NS	0.4	NS	NS	NS	NS	NS	NS	NS
CV (%)	13	6	4	7	5	2	5	7	4	14

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2992 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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:** 11/01/07 **pH:** 7.0 **OM (%)** 1.3 **P (ppm)** 14 **K (ppm)** 54

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /2 /07
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: 5/2/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 8/30/07 **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:** 0.06 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30635 **plants per acre**

Factors/Treatments:

Hybrid	
S601	S702
S602	S703
S603	S720
S701	

Results: Table C-15.

Table C-15. AgReliant Hybrid Corn Silage Evaluation Study. Chippewa Falls, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S601	2.1	74.2	9.8	28.8	56.4	73.5	53.0	6.8	2198	4681
AgReliant S602	2.5	70.9	10.4	28.3	54.1	74.0	51.7	10.1	2360	5747
AgReliant S603	2.5	73.5	10.6	27.3	51.6	74.2	49.9	18.7	2741	6738
AgReliant S701	2.0	73.2	10.6	28.2	56.1	75.4	56.1	10.2	2608	5169
AgReliant S702	1.8	74.4	11.9	28.1	56.3	76.6	58.3	0.7	2015	3536
AgReliant S703	2.0	76.2	11.5	27.7	56.9	75.4	56.7	7.1	2477	4882
AgReliant S720	2.2	72.6	10.9	26.3	52.5	74.7	51.9	12.5	2529	5600
Mean	2.1	73.6	10.8	27.8	54.8	74.8	53.9	9.4	2418	5193
Probability (%)										
Hybrid	17.1	12.6	29.0	69.5	17.6	27.1	7.3	0.9	3.7	2.3
LSD (0.10)										
Hybrid	NS	NS	NS	NS	NS	NS	4.8	6.3	344	1285
CV (%)	15	3	9	6	5	2	6	46	10	17

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2993 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: AgReliant Genetics, LLC

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 6.4 **OM (%)** 3.3 **P (ppm)** 75 **K (ppm)** 220

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 /10/07
Post plant	28-0-0	82	
Manure:		N/A	N/A

Herbicide: Hornet 2.4 oz/A
Atrazine 1.0 qt/A
Outlook 14 oz/A

Insecticide: None

Irrigation: None

Planting Date: 5/10/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/13/07 **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:** 0.06 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31185 **plants per acre**

Factors/Treatments:

Hybrid	
S601	S702
S602	S703
S603	S720
S701	

Results: Table C-16.

Table C-16. AgReliant Hybrid Corn Silage Evaluation Study. Marshfield, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S601	7.2	71.2	8.1	24.9	46.9	79.8	56.9	29.1	3128	22425
AgReliant S602	7.6	67.8	7.3	22.0	43.1	81.7	57.5	34.8	3272	25033
AgReliant S603	7.6	69.6	7.4	23.2	44.4	79.7	54.2	33.0	3148	24030
AgReliant S701	7.4	68.9	7.7	24.9	47.1	79.4	56.3	31.5	3108	23203
AgReliant S702	7.9	72.1	7.5	24.4	45.8	80.1	56.3	31.7	3156	25011
AgReliant S703	6.3	72.6	7.2	26.4	49.3	78.6	56.5	28.1	3040	19012
AgReliant S720	7.6	68.7	7.2	24.4	46.1	78.8	54.1	31.5	3087	23588
Mean	7.4	70.1	7.5	24.3	46.1	79.7	56.0	31.4	3134	23186
Probability (%)										
Hybrid	13.9	0.2	5.8	15.6	16.2	31.9	47.4	12.0	25.9	18.5
LSD (0.10) Hybrid	NS	1.7	0.5	NS	NS	NS	NS	NS	NS	NS
CV (%)	9	2	4	7	5	2	4	9	3	12

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2994 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: AgReliant Genetics, LLC

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 6.9 **OM (%)** 2.8 **P (ppm)** 38 **K (ppm)** 88

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 /7 /07
Post plant	34-0-0	150	6 /18/07
Manure:	Dairy	12400 gal/A	

Herbicide: Acetochlor 0.75 pt/A
Stout 0.5 oz/A
Impact 0.5 oz/A
Atrazine 0.25 lb/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/7/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/11/07 **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:** 0.06 A

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31523 **plants per acre**

Factors/Treatments:

Hybrid

S601
S602
S603
S701
S702
S703
S720

Results: Table C-17.

Table C-17. AgReliant Hybrid Corn Silage Evaluation Study. Valders, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S601	5.4	57.6	6.9	19.5	39.9	83.1	57.6	37.6	3396	18441
AgReliant S602	5.8	59.5	6.5	19.6	39.5	83.4	57.8	38.0	3418	19684
AgReliant S603	7.2	64.1	7.0	20.3	40.8	82.8	57.9	36.9	3371	24315
AgReliant S701	5.6	62.5	7.3	19.9	40.0	82.6	56.6	37.7	3367	18988
AgReliant S702	6.4	65.7	6.8	20.7	40.7	82.7	57.6	36.6	3371	21572
AgReliant S703	5.4	62.6	6.6	19.9	40.9	83.0	58.4	36.7	3384	18324
AgReliant S720	8.1	63.3	6.6	21.5	43.1	81.3	56.5	34.5	3267	26322
Mean	6.3	62.2	6.8	20.2	40.7	82.7	57.5	36.9	3368	21092
Probability (%)										
Hybrid	0.0	9.7	34.9	61.4	56.1	56.2	69.2	68.2	54.8	0.0
LSD (0.10)										
Hybrid	0.5	4.5	NS	NS	NS	NS	NS	NS	NS	2040
CV (%)	5	5	6	7	6	2	3	7	3	7

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2995 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: BASF Plant Science

Site Information

Field: 408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 43 **K (ppm)** 137

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	150	N/A
Starter	9-23-30	150	4 /30/07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/5/07 **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:** 0.24

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31720 **plants per acre**

Factors/Treatments:

Hybrid		
780943	827317	866221
806148	832707	875980
827268	865232	875981
827271	865460	875995
827278	865462	875996

Results: Table C-18.

Table C-18. BASF Hybrid Corn Silage Evaluation Study. Arlington, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 780943	9.8	65.8	7.3	28.6	52.6	76.1	54.6	22.7	2851	27915
BASF 806148	8.3	66.6	8.2	27.1	50.2	77.1	54.2	26.8	2922	24181
BASF 827268	9.3	56.3	8.2	26.4	48.0	77.6	53.3	29.9	2976	27688
BASF 827271	9.2	65.3	8.1	25.5	47.3	77.9	53.2	30.9	2998	27589
BASF 827278	8.8	56.4	8.1	25.8	47.3	77.9	53.4	30.7	3002	26399
BASF 827317	8.6	70.5	7.5	31.5	54.9	71.3	47.7	22.2	2566	21735
BASF 832707	7.7	69.4	8.4	26.2	50.1	77.6	55.3	26.2	2953	22647
BASF 865232	9.4	59.8	7.7	24.0	44.7	79.5	54.2	33.3	3118	29618
BASF 865460	8.4	54.0	7.7	23.7	45.7	79.0	54.0	34.3	3076	25835
BASF 865462	9.9	66.2	7.3	26.6	50.6	77.5	55.5	25.0	2944	29140
BASF 866221	7.0	72.9	7.8	27.9	53.7	81.0	64.6	19.0	3049	21371
BASF 875980	10.0	70.4	7.4	27.9	51.8	76.8	55.3	25.6	2897	29026
BASF 875981	9.0	59.6	7.9	27.3	49.2	76.3	51.8	29.0	2893	26006
BASF 875995	9.4	63.0	7.6	26.0	48.8	77.5	53.9	27.9	2963	27789
BASF 875996	9.7	61.0	7.0	26.6	49.0	76.2	51.4	29.0	2894	28042
Mean	9.0	63.8	7.7	26.7	49.6	77.3	54.1	27.5	2940	26382
Probability (%)										
Hybrid	0.2	0.0	2.0	0.4	0.6	0.0	0.0	0.0	0.0	1.3
LSD (0.10)										
Hybrid	1.0	3.0	0.6	2.5	3.9	2.0	7.4	4.4	144	3691
CV (%)	8	3	6	7	6	2	3	12	4	10

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2996 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 2.0 **P (ppm)** 20 **K (ppm)** 75

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	9-23-30	150	5 /3 /07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Dual II 2.0 pt/A
Accent 0.67 oz/A
Callisto 6.0 oz/A
Aatrex 4L 0.7 qt./A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/3/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/4/07 **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:** 0.24

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30806 **plants per acre**

Factors/Treatments:

Hybrid		
780943	827317	866221
806148	832707	875980
827268	865232	875981
827271	865460	875995
827278	865462	875996

Results: Table C-19.

Table C-19. BASF Hybrid Corn Silage Evaluation Study. Lancaster, WI 2007.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 780943	9.9	61.6	5.7	26.7	49.5	77.4	54.5	27.0	2942	29212
BASF 806148	8.6	64.3	5.9	25.3	47.3	77.7	52.8	31.9	2982	25623
BASF 827268	8.6	59.4	7.5	24.7	46.3	77.6	51.5	31.7	2977	25559
BASF 827271	9.1	63.8	6.6	23.9	44.9	78.7	52.4	34.9	3055	27858
BASF 827278	9.1	61.0	7.0	23.7	44.8	79.0	52.9	34.6	3072	27937
BASF 827317	10.6	66.1	6.3	26.8	48.3	75.9	50.1	29.1	2872	30479
BASF 832707	9.8	66.1	7.6	23.2	43.7	79.2	52.4	32.5	3095	30470
BASF 865232	9.1	63.3	6.7	23.7	44.0	79.3	53.1	34.6	3103	28353
BASF 865460	8.8	60.3	7.0	22.6	43.6	79.7	53.3	35.1	3123	27543
BASF 865462	9.1	64.9	7.0	27.3	50.3	76.6	53.5	27.0	2882	26334
BASF 866221	7.0	65.1	7.2	24.7	47.0	80.7	59.0	30.9	3143	21918
BASF 875980	10.1	65.2	5.1	27.4	49.9	76.5	52.9	27.1	2888	29208
BASF 875981	9.3	62.1	6.9	23.2	43.1	79.3	51.8	35.9	3107	28840
BASF 875995	10.1	56.1	5.8	23.1	42.6	78.0	48.4	36.8	3044	30619
BASF 875996	9.3	59.8	6.4	25.8	46.9	76.9	50.7	31.5	2939	27276
Mean	9.2	62.6	6.6	24.8	46.1	78.2	52.6	32.0	3015	27815
Probability (%)										
Hybrid	0.0	0.1	0.1	6.0	2.1	1.6	0.0	0.4	2.9	1.2
LSD (0.10)										
Hybrid	0.8	3.4	0.8	2.8	3.9	2.1	2.6	4.5	149	3377
CV (%)	7	4	9	8	6	2	4	10	4	9

FIELD EXPERIMENT HISTORY

Title: **Brown Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2997 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: Brown Seed

Site Information

Field: ARS408 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 43 **K (ppm)** 137

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	150	N/A
Starter	9-23-30	150	4 /30/07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/5/07 **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:** 0.24

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31720 **plants per acre**

Factors/Treatments:

Hybrid
66-62NP
71-45
76-54NPRR
83-26

Results: Table C-20.

Table C-20. Brown Hybrid Corn Silage Evaluation Study. Arlington, WI 2007.

	Dry Matter								Milk Per	
Hybrid	Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
Brown 66-62NP	8.1	68.0	7.5	30.9	56.1	73.7	53.1	14.7	2544	20737
Brown 71-45	8.8	72.8	7.0	30.7	56.0	74.6	54.6	14.3	2597	22757
Brown 76-54NPRR	7.7	67.2	7.4	31.2	55.6	73.9	53.1	23.7	2692	20766
Brown 83-26	10.3	64.7	7.7	27.4	50.7	76.9	54.3	26.3	2904	29896
Mean	8.7	68.2	7.4	30.0	54.6	74.8	53.8	19.7	2684	23539
Probability (%)										
Hybrid	10.7	2.8	60.1	9.3	21.2	9.3	82.6	3.3	5.8	4.4
LSD (0.10)										
Hybrid	NS	3.7	NS	2.6	NS	3.4	NS	7.1	207	5309
CV (%)	13	3	8	6	6	2	5	23	5	14

FIELD EXPERIMENT HISTORY

Title: **Brown Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID** 2998 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: Brown Seed

Site Information

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

Soil Test: **Date:** 11/01/07 **pH:** 7.0 **OM (%)** 2.0 **P (ppm)** 20 **K (ppm)** 75

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	9-23-30	150	5 /3 /07
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Dual II 2.0 pt/A
Accent 0.67 oz/A
Callisto 6.0 oz/A
Aatrex 4L 0.7 qt./A

Insecticide: Force 3G 4.4 lb/A

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: 9/4/07 **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:** 0.24

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30806 **plants per acre**

Factors/Treatments:

Hybrid

66-62NP
71-45
76-54NPRR
83-26

Results: Table C-21.

Table C-21. Brown Hybrid Corn Silage Evaluation Study. Lancaster, WI 2007.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
Brown 66-62NP	6.7	57.7	6.5	29.2	52.4	74.7	51.7	25.7	2755	18493
Brown 71-45	7.6	67.8	5.9	28.3	51.4	76.2	53.7	24.5	2849	21737
Brown 76-54NPRR	7.8	61.5	5.8	28.8	52.2	74.3	50.7	26.8	2736	21211
Brown 83-26	10.4	58.1	6.2	25.3	46.9	78.0	53.0	32.0	2994	31219
Mean	8.1	61.3	6.1	27.9	50.7	75.8	52.3	27.3	2833	23165
Probability (%)										
Hybrid	0.1	1.1	57.6	6.5	9.4	2.4	3.8	11.6	3.5	0.1
LSD (0.10)										
Hybrid	0.9	4.2	NS	2.4	3.8	1.8	1.6	NS	136	3010
CV (%)	7	4	10	5	5	1	2	12	3	8

FIELD EXPERIMENT HISTORY

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

Experiment: 02PD **Trial ID:** 3054 **Year:** 2007

Personnel: J. G. Lauer, K. D. Kohn and T. H. Diallo

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

Supported By: HATCH

Site Information

Field: ARS 408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/5 /07 **pH** 7.0 **OM (%)** 3.3 **P (ppm)** 43 **K (ppm)** 137

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/8/07

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs/A	4 /28/07
	Starter :	9-23-30	150 lbs/A	4 /30/07
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3 oz/ A

Insecticide: Force 3G 4.4 lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/14/07
G: 10/5/06

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)	Hybrid:
14000 20000 26000 32000 38000 44000 50000 56000	Dekalb DKC50-20 Renk 772Y

Results: Tables C-22.

Table C-22. Plant Density and Hybrid Influence on Corn Grain. Arlington, WI -2007.

Target Density	Hybrid	Grain Yield	Grain Moisture	Test Weight	Lodged Total	Lodged Stalk	Lodged Root	Grower Return	Harvest plants	Harvest ears	Seeds planted	Plants emerged	Silk Date	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
plants/A		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	ears/A	seeds/A	plants/A	doy	%	%	%	gallons	gallons
	Dekalb DKC50-20(RRYGCB)	224	14.8	58	17	10	7	773	33297	34848	47619	45796	162	3.5	60.2	7.7	2.89	649
	Renk 772YGPLRR	198	14.2	57	2	1	0	685	32769	32967	47619	43940	162	4.1	58.4	8.5	2.83	562
14000		169	14.9	58	1	1	0	582	15972	20724	19008	18018	160	3.8	59.1	8.4	2.85	480
20000		203	14.8	58	0	0	0	699	20064	21384	26928	26004	161	3.8	59.4	8.2	2.85	579
26000		221	14.4	58	1	1	0	761	26532	27060	35640	33594	161	3.9	59.4	8.0	2.86	632
32000		221	14.2	58	1	0	1	762	29172	29304	43560	39138	162	3.8	59.5	7.9	2.88	636
38000		224	14.1	58	9	3	6	773	34980	35244	51480	48807	163	3.8	59.5	7.9	2.87	644
44000		227	14.4	57	15	15	0	784	41976	41976	60192	57288	163	3.8	59.5	7.9	2.87	652
50000		216	14.7	57	17	10	7	745	46860	46860	68112	64449	163	3.8	59.1	8.1	2.86	619
56000		210	14.7	57	30	14	16	724	48708	48708	76032	71643	163	3.6	59.3	8.2	2.87	603
14000	Dekalb DKC50-20(RRYGCB)	180	15.3	59	0	0	0	620	15840	24816	19008	18150	159	3.5	59.7	8.2	2.87	516
14000	Renk 772YGPLRR	158	14.4	57	2	2	0	545	16104	16632	19008	17886	161	4.1	58.4	8.7	2.82	445
20000	Dekalb DKC50-20(RRYGCB)	213	15.2	58	0	0	0	735	20064	21912	26928	27324	160	3.4	60.2	7.9	2.88	614
20000	Renk 772YGPLRR	192	14.4	58	0	0	0	663	20064	20856	26928	24684	162	4.2	58.5	8.5	2.83	543
26000	Dekalb DKC50-20(RRYGCB)	231	15.0	59	2	2	0	798	26664	27456	35640	34914	161	3.5	60.3	7.6	2.90	670
26000	Renk 772YGPLRR	210	13.7	58	0	0	0	725	26400	26664	35640	32274	162	4.2	58.4	8.4	2.83	595
32000	Dekalb DKC50-20(RRYGCB)	239	14.5	59	3	1	2	825	30888	31152	43560	41844	162	3.5	60.6	7.4	2.91	696
32000	Renk 772YGPLRR	203	13.9	57	0	0	0	700	27456	27456	43560	36432	163	4.2	58.5	8.4	2.84	577
38000	Dekalb DKC50-20(RRYGCB)	238	14.6	58	18	6	12	822	35376	35904	51480	49500	162	3.5	60.4	7.5	2.90	692
38000	Renk 772YGPLRR	210	13.6	58	0	0	0	724	34584	34584	51480	48114	164	4.1	58.5	8.4	2.84	596
44000	Dekalb DKC50-20(RRYGCB)	241	14.4	58	27	27	1	831	41712	41712	60192	57420	163	3.5	60.5	7.5	2.90	698
44000	Renk 772YGPLRR	213	14.3	57	3	3	0	737	42240	42240	60192	57156	162	4.1	58.5	8.4	2.84	607
50000	Dekalb DKC50-20(RRYGCB)	230	14.5	58	31	17	14	795	46464	46464	68112	65208	163	3.5	60.1	7.7	2.90	667
50000	Renk 772YGPLRR	201	14.8	57	3	3	0	695	47256	47256	68112	63690	163	4.1	58.2	8.5	2.83	570
56000	Dekalb DKC50-20(RRYGCB)	220	14.5	57	54	24	30	759	49368	49368	76032	72006	163	3.4	60.1	7.7	2.90	639
56000	Renk 772YGPLRR	200	14.8	57	6	3	3	689	48048	48048	76032	71280	162	3.9	58.5	8.7	2.84	567
Mean		211	14.5	58	9	5	4	729	33033	33908	47619	44868	162	3.8	59.3	8.1	2.86	606
Probability(%)																		
Plant Density (D)		0.0	8.1	0.0	0.0	17.8	18.5	0.0	0.0	0.0	-	0.0	0.2	7.4	11.4	0.0	2.0	0.0
Hybrid (H)		1.4	3.7	1.2	5.8	0.7	34.4	1.4	55.6	15.6	-	0.8	6.3	0.0	0.0	0.0	0.0	0.8
D x H		93.4	5.1	0.1	5.6	44.3	36.8	93.3	93.8	23.6	-	0.7	32.1	27.6	50.3	17.6	91.8	89.7
LSD (0.10)																		
Plant Density (D)		12	0.3	0	11	NS	NS	40	2886	2915	-	1091	1	0.0	NS	0.2	0.00	33
Hybrid (H)		13	0.4	0	12	3	NS	45	NS	NS	-	818	1	0.0	0.2	0.1	0.00	38
D x H		NS	0.7	1	16	NS	NS	NS	NS	NS	-	1543	NS	NS	NS	NS	NS	NS
CV(%)		6	3	1	121	224	298	6	9	9	-	2	1	3	1	2	0	6

continued

Table C-22. Plant Density and Hybrid Influence on Silage Preformance.
(continued) **Arlington, WI -2007.**

		Whole Plant																
Target		Harvest		Dry Matter		Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Density	Hybrid	plants	ears	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
plants/A		plants/A	ears/A	T/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
	Dekalb DKC50-20(RRYGCB)	33396	35310	9.1	53.8	1	0.1	0.3	0.4	6.9	20.8	40.2	81.0	52.8	37.2	3230	29520
	Renk 772YGPLRR	33132	33726	8.7	52.1	1	0.0	0.3	0.4	7.1	21.9	41.3	80.1	51.8	35.5	3166	27579
14000		16632	22044	8.1	58.1	1	0.0	0.7	0.7	7.4	21.4	41.0	80.5	52.3	33.4	3191	25928
20000		20328	22836	8.8	55.2	3	0.2	0.8	1.0	7.3	20.3	39.0	81.5	52.5	37.9	3268	28847
26000		25740	26928	8.6	49.5	1	0.0	0.3	0.4	7.0	20.8	40.1	80.7	51.9	37.7	3212	27872
32000		30756	31152	9.5	52.4	1	0.0	0.2	0.3	6.9	20.4	39.9	81.5	53.6	38.3	3261	30884
38000		37224	37620	8.7	52.9	0	0.0	0.2	0.2	7.1	22.5	42.2	79.4	51.2	35.8	3122	27135
44000		41052	41052	9.2	53.5	0	0.0	0.2	0.2	6.7	21.7	41.3	80.3	52.3	35.6	3179	29326
50000		45804	45936	9.8	46.6	1	0.0	0.2	0.2	6.9	21.5	40.9	80.4	52.1	35.9	3191	31251
56000		48576	48576	8.6	55.2	1	0.0	0.2	0.2	6.8	22.1	41.7	80.0	52.2	35.9	3161	27157
14000	Dekalb DKC50-20(RRYGCB)	16368	23760	8.7	58.1	2	0.1	0.6	0.7	7.2	20.7	40.1	81.2	53.1	34.9	3239	28254
14000	Renk 772YGPLRR	16896	20328	7.5	58.2	0	0.0	0.7	0.7	7.6	22.1	41.8	79.8	51.6	31.9	3144	23602
20000	Dekalb DKC50-20(RRYGCB)	20856	25344	9.0	55.7	5	0.3	0.9	1.2	7.5	20.8	40.4	81.7	54.8	35.5	3267	29650
20000	Renk 772YGPLRR	19800	20328	8.6	54.8	2	0.1	0.7	0.8	7.1	19.9	37.6	81.2	50.2	40.3	3269	28044
26000	Dekalb DKC50-20(RRYGCB)	25872	27456	9.7	50.5	2	0.1	0.4	0.5	7.1	19.7	39.4	81.2	52.4	37.8	3251	31724
26000	Renk 772YGPLRR	25608	26400	7.5	48.6	0	0.0	0.3	0.3	6.9	22.0	40.8	80.1	51.4	37.6	3173	24019
32000	Dekalb DKC50-20(RRYGCB)	31944	32736	9.3	53.7	0	0.0	0.3	0.3	6.6	19.8	39.6	81.8	54.0	39.1	3283	30545
32000	Renk 772YGPLRR	29568	29568	9.7	51.1	2	0.1	0.2	0.3	7.1	21.0	40.3	81.2	53.3	37.4	3239	31224
38000	Dekalb DKC50-20(RRYGCB)	38544	39336	8.8	54.1	0	0.0	0.2	0.2	7.0	21.9	41.4	80.1	51.8	36.8	3165	27910
38000	Renk 772YGPLRR	35904	35904	8.6	51.8	0	0.0	0.2	0.2	7.2	23.1	43.0	78.8	50.6	34.7	3079	26361
44000	Dekalb DKC50-20(RRYGCB)	40392	40392	9.6	54.9	0	0.0	0.2	0.2	6.5	20.5	39.7	81.2	52.8	38.7	3248	30982
44000	Renk 772YGPLRR	41712	41712	8.9	52.1	0	0.0	0.2	0.2	6.9	23.0	42.8	79.3	51.7	32.5	3110	27669
50000	Dekalb DKC50-20(RRYGCB)	44880	45144	8.4	52.5	0	0.0	0.1	0.1	6.7	21.6	40.3	80.2	50.6	36.7	3182	26981
50000	Renk 772YGPLRR	46728	46728	9.0	50.7	2	0.1	0.3	0.4	7.0	21.5	41.4	80.7	53.5	35.1	3199	29401
56000	Dekalb DKC50-20(RRYGCB)	48312	48312	9.4	50.8	2	0.1	0.1	0.2	6.7	21.5	40.8	80.7	52.7	37.6	3208	30118
56000	Renk 772YGPLRR	48840	48840	7.8	59.6	0	0.0	0.2	0.2	7.0	22.8	42.7	79.4	51.7	34.2	3114	24196
Mean		33264	34518	8.8	53.6	1	0.0	0.3	0.4	7.0	21.4	40.7	80.5	52.3	36.3	3198	28141
Probability(%)																	
Plant Density (D)		0.0	0.0	81.2	60.2	8.1	8.1	0.0	0.0	43.4	70.2	67.9	73.8	93.9	55.5	70.9	76.4
Hybrid (H)		77.1	17.0	26.5	91.9	28.8	28.8	100.0	65.8	14.2	22.0	31.2	15.6	39.4	12.8	15.6	16.6
D x H		34.3	4.2	82.6	86.6	20.8	20.8	27.2	14.6	87.0	93.0	84.8	98.9	67.3	56.5	98.5	79.2
LSD (0.10)																	
Plant Density (D)		1819	1927	NS	NS	2	0.1	0.1	0.5	NS	NS	NS	NS	NS	NS	NS	NS
Hybrid (H)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
D x H		NS	2726	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		6	6	17	13	189	189	40	43	8	11	8	3	6	12	5	18

FIELD EXPERIMENT HISTORY

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

Experiment: 03DOP **Trial ID:** 3059 **Year:** 2007

Personnel: J.G. Lauer and K.D. Kohn, Greg Roth (Penn State), Mark Zarnstorff (NCIS)

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

Supported By: NCIS

Site Information

Field: ARS358 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /07 **pH** 6.7 **OM (%)** 2.5 **P (ppm)** 19 **K (ppm)** 105

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 /14/07
	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: 8/28, 9/6, 9/14, & 10/15
G: 10/18

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: 30591 **plants per acre**
G: 31086

Factors/Treatments:

Date of Planting:	Hybrids:	Silage Harvest Timing:
April 19, April 30, May 14, June 01 & June 15	NK Brand N58-D1 Pioneer 37R71	25% Milk 50% Milk 75% Milk

Results: Tables C-23, 24 and 25.

Table C- 23. Planting Date And Hybrid Influence On Corn Grain And Silage Performance Arlington, WI - 2007.

		Grain																								
Planting				Test	Lodged			Grower	Harvest	Plants	Seeds	Silking	Plant	Early	Kernel Milk			Black	Grain Composition			Ethanol		MPCI	
Date	Hybrid	Yield	Moisture	weight	Total	Stalk	Root	return	plants	emerged	planted	Date	height	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	inches	doy	doy	doy	doy	doy	%	%	%	gallons	gallons	bu/A	%
	NK Brand N58-D1	170	26.5	48.2	9	6	3	561	30928	40610	44352	205	105	242	250	258	265	272	3.0	60.8	6.9	2.93	608	180	24.9
	Pioneer 37R71	185	22.2	48.6	19	4	16	616	31244	41461	44352	201	101	236	244	250	257	265	3.5	59.7	7.8	2.86	530	182	22.6
April 19		212	16.8	53.1	9	3	5	725	31383	41852	44352	189	99	224	231	237	243	252	3.4	60.4	7.2	2.91	617		
April 30		210	17.5	50.8	7	4	3	716	31482	40615	44352	193	106	229	235	241	248	256	3.3	60.2	7.3	2.90	609	192	18.9
May 14		190	19.7	48.7	34	13	21	640	30690	38981	44352	201	105	238	246	253	259	265	3.3	60.3	7.3	2.90	552		
June 01		182	28.8	46.1	16	4	12	581	30690	41456	44352	212	103	249	256	265	273	281	3.3	60.1	7.7	2.87	537	171	28.6
June 15		93	38.9	43.3	5	0	5	281	31185	42273	44352	220	103	255	266	276	282	287	3.3	59.3	8.2	2.82	398		
April 19	NK Brand N58-D1	216	17.5	53.2	7	6	2	735	31482	41036	44352	191	102	228	237	242	248	257	3.1	60.6	6.9	2.94	633		
April 19	Pioneer 37R71	208	16.2	53.0	10	1	8	715	31284	42669	44352	187	95	220	225	231	238	248	3.6	60.1	7.5	2.88	600		
April 30	NK Brand N58-D1	216	18.4	51.3	3	3	0	733	30888	41135	44352	196	112	234	240	245	252	258	3.0	60.8	6.9	2.93	633	188	19.3
April 30	Pioneer 37R71	204	16.5	50.4	11	5	6	699	32076	40095	44352	191	99	224	230	238	244	254	3.6	59.7	7.7	2.87	585	196	18.5
May 14	NK Brand N58-D1	198	21.5	47.7	20	13	7	658	30690	38808	44352	203	105	242	250	257	262	268	3.0	60.9	6.8	2.93	578		
May 14	Pioneer 37R71	183	17.8	49.7	48	12	36	622	30690	39155	44352	200	105	235	242	248	256	262	3.6	59.6	7.8	2.87	525		
June 01	NK Brand N58-D1	176	31.5	47.3	11	7	4	550	30690	40739	44352	214	105	251	259	270	277	285	2.6	60.9	7.0	2.91	521	172	30.6
June 01	Pioneer 37R71	189	26.1	45.0	20	1	20	612	30690	42174	44352	210	101	246	253	261	268	277	3.4	59.9	7.8	2.86	541	169	26.7
June 15	NK Brand N58-D1	45	43.6	41.4	2	0	2	128	30888	41333	44352	223	102	257	264	278	285	290	-	-	-	-	-		
June 15	Pioneer 37R71	141	34.3	45.2	8	1	8	433	31482	43214	44352	218	103	254	268	274	279	284	3.3	59.3	8.2	2.82	398		
Mean		177	24.3	48.4	14	5	9	589	31086	41036	44352	203	103	239	247	254	261	268	3.3	60.2	7.5	2.89	560	181	23.8
Probability(%)																										
Date of Planting (D)		0.0	0.0	0.0	0.8	24.6	3.3	0.0	51.3	0.1	-	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.4	24.6	23.8	0.4	0.0	11.2	0.1
Hybrid (H)		0.0	0.0	4.8	0.1	11.5	0.1	0.0	37.1	0.8	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	83.6	0.3
D x H		0.0	0.0	0.0	7.4	18.8	14.2	0.0	70.1	2.7	-	0.1	0.3	0.2	0.3	2.8	23.8	40.9	8.4	2.1	33.5	91.5	8.7	58.5	1.8
LSD (0.10)																										
Date of Planting (D)		13	0.9	0.9	12	NS	10	44	NS	1022	-	1	NS	2	4	2	4	4	0.1	NS	NS	0.02	3	NS	1.8
Hybrid (H)		4	0.6	0.4	5	NS	5	14	NS	490	-	0	2	1	2	1	1	1	0.0	0.1	0.1	0.01	12	NS	0.6
D x H		10	1.4	0.9	10	NS	NS	31	NS	1096	-	1	4	2	4	2	NS	NS	0.1	0.3	NS	NS	27	NS	1.3
CV(%)		4	5	1	60	75	107	4	3	2	-	3	0	1	1	1	1	1	2	0	2	1	4	10	4

continued

Table C- 23. Planting Date And Hybrid Influence On Corn Grain And Silage Performance
(continued) **Arlington, WI - 2007.**

		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	8.5	66.1	54.0	2.7	2.3	5.0	30571	30967	6.8	26.5	49.3	76.8	53.0	26.5	2876	24728
	Pioneer 37R71	8.4	60.7	39.8	2.0	1.7	3.7	30611	31838	6.9	22.8	44.2	79.2	52.9	33.1	3097	26053
April 19		9.0	54.4	13.1	0.7	0.9	1.5	30294	31284	6.1	21.9	43.4	79.2	52.0	34.2	3106	27842
April 30		9.8	60.2	45.6	2.3	2.0	4.2	30789	31581	7.1	22.6	44.1	79.0	52.5	33.6	3085	30227
May 14		9.6	65.1	56.3	2.8	2.1	4.9	31086	32175	6.4	24.6	46.4	78.1	52.8	31.2	3013	28858
June 01		7.2	72.3	93.8	4.7	3.4	8.1	30393	30987	7.1	27.0	49.5	77.3	54.2	28.0	2935	21073
June 15		6.7	64.9	25.6	1.3	1.8	3.1	30393	30987	7.5	27.1	50.3	76.5	53.2	21.8	2791	18952
April 19	NK Brand N58-D1	9.5	56.5	23.8	1.2	1.1	2.3	30888	31680	6.0	23.1	44.8	78.4	51.7	32.8	3047	28917
April 19	Pioneer 37R71	8.5	52.3	2.5	0.1	0.6	0.7	29700	30888	6.2	20.8	42.0	80.0	52.4	35.6	3165	26766
April 30	NK Brand N58-D1	10.0	63.9	56.3	2.8	2.3	5.1	30492	30888	7.1	24.6	47.1	77.6	52.5	30.7	2979	29859
April 30	Pioneer 37R71	9.6	56.5	35.0	1.8	1.6	3.4	31086	32274	7.1	20.5	41.2	80.4	52.5	36.5	3192	30595
May 14	NK Brand N58-D1	9.5	68.0	61.3	3.1	2.3	5.3	31284	31680	6.0	26.3	48.3	77.1	52.7	29.4	2942	28096
May 14	Pioneer 37R71	9.6	62.3	51.3	2.6	1.8	4.4	30888	32670	6.8	22.9	44.4	79.0	52.8	33.0	3085	29619
June 01	NK Brand N58-D1	7.3	73.7	100.0	5.0	3.4	8.4	29502	29502	7.2	27.5	50.1	77.0	54.1	26.6	2911	21124
June 01	Pioneer 37R71	7.1	70.9	87.5	4.4	3.4	7.8	31284	32472	6.9	26.5	48.9	77.7	54.3	29.4	2959	21023
June 15	NK Brand N58-D1	6.2	68.4	28.8	1.4	2.5	3.9	30690	31086	7.5	31.0	56.4	74.0	53.8	12.7	2500	15645
June 15	Pioneer 37R71	7.2	61.5	22.5	1.1	1.2	2.3	30096	30888	7.5	23.3	44.3	79.0	52.6	30.9	3082	22259
Mean		8.4	63.4	46.9	2.3	2.0	4.4	30591	31403	6.8	24.6	46.7	78.0	52.9	29.8	2986	25390
Probability(%)																	
Date of Planting (D)		0.0	0.0	0.0	0.0	0.0	0.0	93.1	86.7	0.8	0.0	0.0	1.0	23.6	0.0	0.0	0.0
Hybrid (H)		45.1	0.0	0.3	0.3	0.0	0.0	92.0	5.7	30.6	0.0	0.0	0.0	94.2	0.0	0.0	5.3
D x H		0.6	4.1	69.7	69.7	5.1	21.4	18.1	9.4	19.7	2.0	1.1	7.9	86.6	0.1	0.7	0.7
LSD (0.10)																	
Date of Planting (D)		0.6	3.3	15.0	0.7	0.6	1.0	NS	NS	0.6	1.7	2.3	1.2	NS	2.5	87	1916
Hybrid (H)		NS	0.8	7.1	0.4	0.2	0.3	NS	739	NS	1.0	1.5	0.8	NS	1.9	71	1106
D x H		0.6	1.9	NS	NS	0.5	NS	NS	1653	NS	2.2	3.4	1.8	NS	4.2	160	2473
CV(%)		5	2	27	28	19	12	4	4	6	7	6	2	3	11	4	8

Table C-24. Planting Date And Hybrid Influence On Corn Grain And Silage Performance

Arlington, WI - 2007.

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	Crude protein	ADF	NDF	In Vitro Digest	NDFD	Starch	Milk per Ton	Milk per Acre
			bu/A	tons/A	%	%				plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A
		75% Milk	107	7.6	71.9	81	4.0	3.3	7.3	30542	31037	7.8	26.3	49.5	77.8	55.1	26.5	2976	22928
		50% Milk	128	8.5	66.3	70	3.5	2.7	6.2	30591	31284	7.1	24.8	46.8	78.2	53.4	30.8	3026	25783
		25% Milk	167	8.8	62.5	40	2.0	1.8	3.8	30987	31631	7.0	22.7	44.2	80.0	54.5	31.4	3151	27731
	NK Brand N58-D1		127	8.3	69.6	68	3.4	2.7	6.1	30327	30657	7.2	26.1	48.9	77.7	54.2	27.1	2976	25002
	Pioneer 37R71		141	8.2	64.2	59	3.0	2.5	5.4	31086	31977	7.4	23.1	44.8	79.6	54.5	32.0	3126	25959
	NK Brand N58-D1	75% Milk	82	7.5	74.4	84	4.2	3.2	7.4	29997	30195	7.7	27.9	51.6	77.0	55.1	23.7	2905	22069
	NK Brand N58-D1	50% Milk	128	8.6	68.8	78	3.9	2.9	6.8	29997	30195	7.2	26.1	48.6	77.3	53.3	28.7	2962	25635
	NK Brand N58-D1	25% Milk	171	8.8	65.6	42	2.1	2.1	4.1	30987	31581	6.7	24.4	46.5	78.7	54.1	28.9	3061	27303
	Pioneer 37R71	75% Milk	131	7.7	69.5	78	3.9	3.3	7.2	31086	31878	8.0	24.8	47.4	78.7	55.1	29.3	3047	23788
	Pioneer 37R71	50% Milk	129	8.3	63.7	61	3.1	2.5	5.6	31185	32373	7.0	23.5	45.0	79.0	53.4	32.9	3090	25930
	Pioneer 37R71	25% Milk	163	8.7	59.4	38	1.9	1.6	3.5	30987	31680	7.2	21.0	41.9	81.2	55.0	33.8	3241	28160
April 30			170	9.6	60.6	36	1.8	1.8	3.6	31053	31845	7.1	22.0	43.0	79.8	53.1	34.1	3154	30160
June 01			98	7.0	73.1	91	4.6	3.4	7.9	30360	30789	7.5	27.2	50.6	77.5	55.6	25.0	2948	20802
April 30		75% Milk	157	9.3	65.6	62	3.1	2.7	5.8	30987	31779	7.4	23.0	44.3	79.5	53.9	33.2	3125	29009
April 30		50% Milk	156	9.8	60.2	46	2.3	2.0	4.2	30789	31581	7.1	22.6	44.1	79.0	52.5	33.6	3099	30368
April 30		25% Milk	197	9.6	56.1	0	0.0	0.8	0.8	31383	32175	6.7	20.4	40.6	80.8	52.9	35.6	3237	31102
June 01		75% Milk	56	6.0	78.2	100	5.0	3.8	8.8	30096	30294	8.2	29.7	54.7	76.1	56.3	19.8	2826	16847
June 01		50% Milk	101	7.2	72.3	94	4.7	3.4	8.1	30393	30987	7.1	27.0	49.5	77.3	54.2	28.0	2953	21197
June 01		25% Milk	137	7.9	68.9	80	4.0	2.9	6.9	30591	31086	7.3	25.0	47.7	79.1	56.2	27.1	3065	24360
April 30	NK Brand N58-D1		174	9.9	64.4	41	2.1	1.8	3.9	31152	31680	6.9	23.7	45.2	78.6	52.6	32.2	3065	30350
April 30	Pioneer 37R71		166	9.2	56.9	30	1.5	1.8	3.3	30954	32010	7.3	20.3	40.9	81.0	53.6	36.0	3242	29969
June 01	NK Brand N58-D1		80	6.8	74.8	95	4.7	3.6	8.3	29502	29634	7.5	28.6	52.5	76.8	55.7	22.0	2886	19654
June 01	Pioneer 37R71		116	7.3	71.5	88	4.4	3.1	7.5	31218	31944	7.5	25.9	48.7	78.3	55.4	28.0	3009	21950
April 30	NK Brand N58-D1	75% Milk	165	9.5	69.3	68	3.4	2.4	5.7	31086	31482	7.2	24.4	46.1	78.4	53.2	31.9	3047	28854
April 30	NK Brand N58-D1	50% Milk	158	10.0	63.9	56	2.8	2.3	5.1	30492	30888	7.1	24.6	47.1	77.6	52.5	30.7	2995	30018
April 30	NK Brand N58-D1	25% Milk	199	10.2	60.0	0	0.0	0.8	0.8	31878	32670	6.3	21.9	42.5	79.7	52.2	34.1	3155	32179
April 30	Pioneer 37R71	75% Milk	149	9.1	62.0	56	2.8	3.1	5.9	30888	32076	7.7	21.6	42.6	80.7	54.6	34.5	3204	29164
April 30	Pioneer 37R71	50% Milk	154	9.6	56.5	35	1.8	1.6	3.4	31086	32274	7.1	20.5	41.2	80.4	52.5	36.5	3204	30717
April 30	Pioneer 37R71	25% Milk	194	9.1	52.2	0	0.0	0.8	0.8	30888	31680	7.0	18.9	38.8	82.0	53.6	37.1	3319	30026
June 01	NK Brand N58-D1	75% Milk	0	5.5	79.5	100	5.0	4.1	9.1	28908	28908	8.2	31.3	57.1	75.5	57.1	15.5	2763	15283
June 01	NK Brand N58-D1	50% Milk	97	7.3	73.7	100	5.0	3.4	8.4	29502	29502	7.2	27.5	50.1	77.0	54.1	26.6	2929	21251
June 01	NK Brand N58-D1	25% Milk	142	7.5	71.2	84	4.2	3.3	7.5	30096	30492	7.1	26.9	50.5	77.8	56.1	23.8	2967	22427
June 01	Pioneer 37R71	75% Milk	112	6.4	77.0	100	5.0	3.6	8.6	31284	31680	8.3	28.0	52.2	76.8	55.6	24.2	2889	18412
June 01	Pioneer 37R71	50% Milk	105	7.1	70.9	88	4.4	3.4	7.8	31284	32472	6.9	26.5	48.9	77.7	54.3	29.4	2976	21143
June 01	Pioneer 37R71	25% Milk	131	8.3	66.7	76	3.8	2.4	6.2	31086	31680	7.4	23.2	45.0	80.3	56.4	30.5	3162	26294
Mean			134	8.3	66.9	64	3.2	2.6	5.8	30707	31317	7.3	24.6	46.8	78.7	54.3	29.6	3051	25481
Probability(%)																			
Date of Planting (D)			0.0	0.5	0.3	0.1	0.1	1.6	0.2	19.9	7.3	5.5	1.1	0.9	3.0	1.0	0.9	2.0	0.7
Hybrid (H)			0.2	71.8	0.0	2.5	2.5	13.0	0.5	3.3	0.4	27.4	0.0	0.0	0.0	57.6	0.0	0.0	25.3
D x H			0.0	1.8	0.0	57.8	57.8	16.0	62.7	0.9	2.5	30.3	56.8	72.6	30.9	22.9	20.2	40.2	11.4
Havest Timing (T)			0.0	0.1	0.0	0.0	0.0	0.0	0.0	51.0	51.5	0.2	0.0	0.0	0.2	2.6	0.0	0.0	0.0
D x T			0.0	2.6	81.7	0.0	0.0	3.7	0.0	82.1	68.7	22.2	16.4	2.4	24.2	42.5	0.3	12.7	3.9
H x T			0.0	61.1	52.1	30.9	30.9	24.1	17.6	30.0	12.3	41.1	80.9	82.3	77.3	75.4	79.7	79.4	77.8
D x H x T			0.0	36.5	79.3	54.0	54.0	3.5	9.8	70.8	94.6	99.1	27.0	13.2	60.7	46.0	9.4	45.8	25.3
LSD (0.10)																			
Date of Planting (D)			7	0.8	3.4	11	0.6	0.7	0.9	NS	914	0.4	0.7	3.0	1.4	1.0	3.6	106	3363
Hybrid (H)			7	NS	0.8	6	0.3	NS	0.4	577	710	NS	0.9	1.2	0.8	NS	1.4	54	NS
D x H			10	0.5	0.7	NS	NS	NS	NS	816	1004	NS	NS	NS	NS	NS	NS	NS	NS
Havest Timing (T)			8	0.5	1.0	8	0.4	0.3	0.5	NS	NS	0.4	1.1	1.5	1.0	0.7	1.8	66	1708
D x T			12	0.7	NS	11	0.5	0.4	0.6	NS	NS	NS	NS	2.1	NS	NS	2.5	NS	2416
H x T			12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
D x H x T			17	NS	NS	NS	NS	0.6	0.9	NS	NS	NS	NS	NS	NS	NS	3.5	NS	NS
CV(%)			10	10	2	20	20	20	13	4	5	9	7	5	2	3	10	4	11

Table C-25. Planting Date And Hybrid Influence On Corn Leaf Development Arlington, WI - 2007.

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
		149	3.0	5.2	5.9	6.4
		162	5.6	8.1	9.1	17.3
		177	7.0	9.6	11.0	33.2
		191	12.0	13.7	14.8	68.4
		204	15.1	16.1	16.9	87.0
		220	17.8	17.9	18.2	102.9
	NK Brand N58-D1		11.0	12.7	13.6	58.5
	Pioneer 37R71		11.0	12.4	13.3	59.1
	NK Brand N58-D1	149	2.9	5.3	5.8	5.7
	NK Brand N58-D1	162	5.5	8.0	9.0	16.6
	NK Brand N58-D1	177	7.0	9.8	11.0	30.8
	NK Brand N58-D1	191	11.8	13.8	14.9	66.7
	NK Brand N58-D1	204	15.3	16.4	17.3	87.8
	NK Brand N58-D1	220	18.0	18.2	18.8	105.4
	Pioneer 37R71	149	3.0	5.2	6.0	7.2
	Pioneer 37R71	162	5.6	8.3	9.3	17.9
	Pioneer 37R71	177	7.1	9.4	11.0	35.5
	Pioneer 37R71	191	12.3	13.7	14.8	70.2
	Pioneer 37R71	204	15.0	15.8	16.5	86.2
	Pioneer 37R71	220	17.6	17.6	17.6	100.5
April 19			13.0	14.4	15.2	65.2
April 30			12.0	13.4	14.1	63.7
May 14			9.7	11.3	12.3	55.9
June 01			10.7	12.6	13.5	58.3
June 15			8.6	10.3	11.4	46.5
April 19		149	4.5	7.3	8.1	10.1
April 19		162	6.9	10.0	11.1	23.5
April 19		177	11.5	14.2	16.1	60.2
April 19		191	17.6	17.7	18.3	100.4
April 19		204	18.8	18.8	18.8	98.6
April 19		220	18.8	18.8	18.8	98.6
April 30		149	3.1	5.2	5.9	5.6
April 30		162	5.9	8.6	9.6	18.2
April 30		177	10.3	13.6	15.2	50.9
April 30		191	16.0	16.6	17.6	97.1
April 30		204	18.3	18.3	18.3	105.3
April 30		220	18.3	18.3	18.3	105.3

continued

Table C-25. Planting Date And Hybrid Influence On Corn Leaf Development
(continued) **Arlington, WI - 2007.**

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 14		149	1.3	3.2	3.7	3.7
May 14		162	3.9	5.8	6.8	10.1
May 14		177	6.9	10.1	11.8	34.9
May 14		191	12.3	14.6	15.8	78.0
May 14		204	16.9	17.1	17.8	104.4
May 14		220	16.9	17.1	17.8	104.4
June 01		149	-	-	-	-
June 01		162	-	-	-	-
June 01		177	4.2	6.4	7.5	13.8
June 01		191	7.8	11.1	12.5	41.1
June 01		204	12.7	14.5	15.9	75.1
June 01		220	18.3	18.3	18.3	103.3
June 15		149	-	-	-	-
June 15		162	-	-	-	-
June 15		177	2.3	3.6	4.3	6.1
June 15		191	6.4	8.7	9.9	25.4
June 15		204	8.9	11.8	13.6	51.6
June 15		220	16.9	17.2	17.9	103.1
April 19	NK Brand N58-D1		13.2	14.7	15.5	66.6
April 19	Pioneer 37R71		12.8	14.2	14.9	63.8
April 30	NK Brand N58-D1		12.2	13.7	14.4	64.8
April 30	Pioneer 37R71		11.7	13.1	13.8	62.7
May 14	NK Brand N58-D1		9.4	11.2	12.4	54.0
May 14	Pioneer 37R71		10.0	11.4	12.2	57.8
June 01	NK Brand N58-D1		11.0	13.1	13.9	57.3
June 01	Pioneer 37R71		10.5	12.0	13.1	59.4
June 15	NK Brand N58-D1		8.3	10.0	11.1	44.7
June 15	Pioneer 37R71		9.0	10.6	11.8	48.4
April 19	NK Brand N58-D1	149	4.3	7.1	7.9	8.6
April 19	NK Brand N58-D1	162	6.9	9.8	10.8	22.0
April 19	NK Brand N58-D1	177	11.8	14.8	16.8	57.6
April 19	NK Brand N58-D1	191	17.4	17.6	18.8	103.3
April 19	NK Brand N58-D1	204	19.4	19.4	19.4	104.0
April 19	NK Brand N58-D1	220	19.4	19.4	19.4	104.0
April 19	Pioneer 37R71	149	4.8	7.5	8.4	11.5
April 19	Pioneer 37R71	162	7.0	10.3	11.4	25.0
April 19	Pioneer 37R71	177	11.3	13.6	15.5	62.8
April 19	Pioneer 37R71	191	17.8	17.8	17.8	97.5
April 19	Pioneer 37R71	204	18.1	18.1	18.1	93.1
April 19	Pioneer 37R71	220	18.1	18.1	18.1	93.1

continued

Table C-25. Planting Date And Hybrid Influence On Corn Leaf Development (continued) Arlington, WI - 2007.

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 30	NK Brand N58-D1	149	2.9	5.0	5.5	4.9
April 30	NK Brand N58-D1	162	6.0	8.6	9.5	18.8
April 30	NK Brand N58-D1	177	10.3	13.9	15.5	47.1
April 30	NK Brand N58-D1	191	15.8	16.6	17.9	97.3
April 30	NK Brand N58-D1	204	19.1	19.1	19.1	110.4
April 30	NK Brand N58-D1	220	19.1	19.1	19.1	110.4
April 30	Pioneer 37R71	149	3.4	5.4	6.3	6.4
April 30	Pioneer 37R71	162	5.8	8.6	9.6	17.6
April 30	Pioneer 37R71	177	10.3	13.3	14.9	54.6
April 30	Pioneer 37R71	191	16.3	16.6	17.4	97.0
April 30	Pioneer 37R71	204	17.4	17.4	17.4	100.1
April 30	Pioneer 37R71	220	17.4	17.4	17.4	100.1
May 14	NK Brand N58-D1	149	1.5	3.6	4.0	3.5
May 14	NK Brand N58-D1	162	3.8	5.6	6.6	9.0
May 14	NK Brand N58-D1	177	6.8	9.9	11.3	32.3
May 14	NK Brand N58-D1	191	11.4	14.8	16.0	71.4
May 14	NK Brand N58-D1	204	16.4	16.8	18.1	103.9
May 14	NK Brand N58-D1	220	16.4	16.8	18.1	103.9
May 14	Pioneer 37R71	149	1.0	2.8	3.4	3.8
May 14	Pioneer 37R71	162	4.0	5.9	7.0	11.1
May 14	Pioneer 37R71	177	7.1	10.3	12.3	37.6
May 14	Pioneer 37R71	191	13.1	14.4	15.6	84.6
May 14	Pioneer 37R71	204	17.5	17.5	17.5	104.9
May 14	Pioneer 37R71	220	17.5	17.5	17.5	104.9
June 01	NK Brand N58-D1	149	-	-	-	-
June 01	NK Brand N58-D1	162	-	-	-	-
June 01	NK Brand N58-D1	177	4.4	6.9	7.8	12.9
June 01	NK Brand N58-D1	191	8.0	11.5	12.6	39.1
June 01	NK Brand N58-D1	204	12.5	14.9	16.3	71.5
June 01	NK Brand N58-D1	220	19.1	19.1	19.1	105.5
June 01	Pioneer 37R71	149	-	-	-	-
June 01	Pioneer 37R71	162	-	-	-	-
June 01	Pioneer 37R71	177	4.0	6.0	7.3	14.6
June 01	Pioneer 37R71	191	7.6	10.6	12.4	43.1
June 01	Pioneer 37R71	204	12.9	14.1	15.5	78.6
June 01	Pioneer 37R71	220	17.4	17.4	17.4	101.1

continued

Table C-25. Planting Date And Hybrid Influence On Corn Leaf Development
(continued) **Arlington, WI - 2007.**

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	149	-	-	-	-
June 15	NK Brand N58-D1	162	-	-	-	-
June 15	NK Brand N58-D1	177	1.9	3.4	3.8	4.3
June 15	NK Brand N58-D1	191	6.3	8.4	9.1	22.3
June 15	NK Brand N58-D1	204	8.9	11.8	13.5	49.0
June 15	NK Brand N58-D1	220	16.0	16.6	18.0	103.1
June 15	Pioneer 37R71	149	-	-	-	-
June 15	Pioneer 37R71	162	-	-	-	-
June 15	Pioneer 37R71	177	2.6	3.9	4.9	8.0
June 15	Pioneer 37R71	191	6.5	9.0	10.6	28.5
June 15	Pioneer 37R71	204	9.0	11.9	13.8	54.1
June 15	Pioneer 37R71	220	17.8	17.8	17.8	103.0
Mean			11.0	12.6	13.4	58.8
Probability(%)						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			73.8	4.8	6.2	4.9
D x H			0.0	0.0	0.0	0.0
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			6.3	15.5	0.0	0.0
D x H x S			0.0	2.8	33.3	0.0
LSD(0.10)						
Date of Planting (D)			0.5	0.6	0.6	3.6
Hybrid (H)			NS	0.2	0.2	0.8
D x H			0.3	0.4	0.4	1.9
Sample DOY (S)			0.3	0.3	0.3	1.5
D x S			0.6	0.6	0.6	3.3
H x S			0.4	NS	0.4	2.1
D x H x S			0.8	0.9	NS	4.6
CV(%)			6	6	6	7

FIELD EXPERIMENT HISTORY

Title: **Bayer CropScience Fungicide/Rootworm Study.**

Experiment: 08 Bayer **Trial ID:** 3000 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: Bayer Crop Science

Site Information

Field: ARS 428 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH** 7.0 **OM (%)** 2.8 **P (ppm)** 38 **K (ppm)** 114

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/8/07

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:**	325	**Date:** N/A
Starter Analysis:	9-23-30	**Rate lbs/A:**	150	**Date:** 4 /30/07
Post plant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:** N/A
Manure:	N/A			

Herbicide: Hornet 4.0 oz/A
Harness 24 oz/A
Banvel 2.0 oz/A

Insecticide: Aztec 2.1G 7.3 lbs/A

Hybrid: Pioneer 36B01

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 33454 **plants per acre** **Planting Method:** Kinze Plot Planter

Harvest Date: 9/28/07 **Harvest Method:** Massey Ferguson 8XP

Notes: Trial ID: SD07NARMZGUHM5

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 72' x 10' **Experiment Size:** 0.31 A

Harvest Plot Size: 72' x 5' **Harvest Plant Density:** 27924 **plants per acre**

Factors/Treatments:

Treatment

1) Maxim XL+ Apron XL
2) Maxim XL+ Apron XL+ Trilex
3) Maxim XL+ Apron XL+ Trilex+ Poncho FS
4) Maxim XL+ Apron XL+ Trilex+ Exp4a+ L1463-B
5) Maxim XL+ Apron XL+ Trilex+ Exp5a+ L1463-B+ L1273-B
6) Vortex FL+ Allegiance FL+ Trilex+ Exp4a+ L1463-B

Results: Table C-26.

Table C-26. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Arlington, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	V2 vigor	Seeds planted	Grower return
	bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	1-9	seeds/A	$/A
Maxim XL+ Apron XL	191	26.5	52	27507	4	1	28542	8	32525	8	33454	616
Maxim XL+ Apron XL+ Trilex	201	25.9	53	28637	4	0	27215	8	32193	8	33454	651
Maxim XL+ Apron XL+ Trilex+ Poncho FS	203	25.4	52	28395	4	1	31529	8	32193	8	33454	661
Maxim XL+ Apron XL+ Trilex+ Exp4a+ L1463-B	194	27.2	52	28475	0	1	32525	8	34516	8	33454	625
Maxim XL+ Apron XL+ Trilex+ Exp5a+ L1463-B+ L1273-B	194	26.7	52	25813	1	1	32193	8	30865	8	33454	626
Vortex FL+ Allegiance FL+ Trilex+ Exp4a+ L1463-B	199	25.6	53	28717	2	1	32193	8	31861	8	33454	647
Mean	197	26.2	52	27924	2	1	30699	8	32359	8	33454	638
Probability(%)												
Treatment (T)	28.7	36.6	23.9	0.1	37.5	79.1	18.6	-	91.3	61.9	-	26.7
LSD(0.10)												
Treatment (T)	NS	NS	NS	883	NS	NS	NS	-	NS	NS	-	NS
CV(%)	3	4	1	2	119	112	9	-	12	4	-	4

FIELD EXPERIMENT HISTORY

Title: **Bayer CropScience Fungicide/Rootworm Study.**

Experiment: 08 Bayer **Trial ID:** 2999 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: Bayer Crop Science

Site Information

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

Soil Test: **Date:** 11/01/07 **pH** 7.1 **OM (%)** 4.4 **P (ppm)** 12 **K (ppm)** 81

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/18/07

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /8 /07
Post plant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	6 /18/07
Manure:	N/A			

Herbicide: Atrazine 0.5 lbs/A
Accent 0.67 oz/A
Callisto 3.0 oz/A

Insecticide: Aztec 2.1G 7.3 lbs/A

Hybrid: Pioneer 36B01

Irrigation: None

Planting Date: 5/8/07 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 36363 **plants per acre** **Planting Method:** Kinze Plot Planter

Harvest Date: 10/11/07 **Harvest Method:** Massey Ferguson 8XP

Notes: Trial ID: SD07NARMZGUHM5

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 22' x 10' **Experiment Size:** 0.10 A

Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 32274 **plants per acre**

Factors/Treatments:

Treatment

1) Maxim XL+ Apron XL
2) Maxim XL+ Apron XL+ Trilex
3) Maxim XL+ Apron XL+ Trilex+ Poncho FS
4) Maxim XL+ Apron XL+ Trilex+ Exp4a+ L1463-B
5) Maxim XL+ Apron XL+ Trilex+ Exp5a+ L1463-B+ L1273-B
6) Vortex FL+ Allegiance FL+ Trilex+ Exp4a+ L1463-B

Results: Table C-27.

Table C-27. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Fond du Lac, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	Seeds population	Grower vigor
	bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	seeds/A	$/A
Maxim XL+ Apron XL	184	22.3	54	31944	0	12	35244	8	36363	609
Maxim XL+ Apron XL+ Trilex	187	21.3	54	33528	0	15	35244	8	36363	622
Maxim XL+ Apron XL+ Trilex+ Poncho FS	183	21.0	55	33000	0	14	35244	8	36363	611
Maxim XL+ Apron XL+ Trilex+ Exp4a+ L1463-B	187	21.4	54	32472	1	12	35772	8	36363	624
Maxim XL+ Apron XL+ Trilex+ Exp5a+ L1463-B+ L1273-B	172	21.4	54	32208	0	14	35508	8	36363	574
Vortex FL+ Allegiance FL+ Trilex+ Exp4a+ L1463-B	179	22.1	55	30492	0	18	34320	8	36363	596
Mean	182	21.6	54	32274	0	14	35222	8	36363	606
Probability(%)										
Treatment (T)	24.2	22.1	28.5	79.3	59.0	25.4	57.6	46.5	-	25.7
LSD(0.10)										
Treatment (T)	NS	NS	NS	NS	NS	NS	NS	NS	-	NS
CV(%)	4	3	1	8	327	21	3	3	-	4

FIELD EXPERIMENT HISTORY

Title: **NuFarm Corn Rootworm Study.**

Experiment: 08 NuFarm **Trial ID:** 3001 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: NuFarm Americas

Site Information

Field: ARS428 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH** 6.9 **OM (%)** 3.0 **P (ppm)** 32 **K (ppm)** 127

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/8/07

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	4 /30/07
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Hornet 4.0 oz/A
Harness 24 oz/A
Banvel 2.0 oz/A

Insecticide: None

Hybrid: Kaltenberg K4265RRBt

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 33454 **plants per acre** **Planting Method:** Kinze Plot Planter

Harvest Date: 9/28/07 **Harvest Method:** Massey Ferguson 8XP

Notes: NuFarm Study No. S 2007 079.
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: RCB **Replications:** 4

Plot Size Seeded: 72' x 10' **Experiment Size:** 0.36 A

Harvest Plot Size: 72' x 5' **Harvest Plant Density:** 28992 **plants per acre**

Factors/Treatments:

Treatment	Rate
1) NUP 05071	1.34 mg ai/seed
2) NUP 07066	1.34 mg ai/seed
3) Poncho	1.25 mg ai/seed
4) Cruiser	1.25 mg ai/seed
5) UTC	

Results: Table C-28.

Table C-28. NuFarm Corn Rootworm Study.

Arlington, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	V2 vigor	Seeds planted	Nodual Injury rating	Grower return
	bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	1-9	seeds/A	0 to 3	$/A
NUP 05071	193	23.6	53	28617	6	0	34599	8.0	30368	8.0	34848	1.5	634
NUP 07066	194	23.9	53	29222	6	0	32359	8.0	34599	8.3	34848	1.6	637
Poncho	209	23.8	53	29887	9	0	31114	8.0	31363	8.3	34848	0.8	685
Cruiser	201	24.3	53	29040	12	0	29870	8.0	33355	8.0	34848	1.4	659
UTC	179	23.9	53	28193	20	0	30616	8.0	33106	8.0	34848	2.4	586
Mean	195	23.9	53	28992	10	0	31712	8.0	32558	8.1	34848	1.6	640
Probability(%)													
Treatment (T)	0.1	46.4	95.7	7.5	3.6	-	29.9	-	38.6	61.1	-	0.6	0.1
LSD(0.10)													
Treatment (T)	9	NS	NS	964	8	-	NS	-	NS	NS	-	0.6	31
CV(%)	4	2	1	3	59	-	10	-	10	4	-	29	4

FIELD EXPERIMENT HISTORY

Title: **NuFarm Corn Rootworm Study.**

Experiment: 08 NuFarm **Trial ID:** 3002 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: NuFarm Americas

Site Information

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

Soil Test: **Date:** 11/01/07 **pH** 7.1 **OM (%)** 4.4 **P (ppm)** 12 **K (ppm)** 81

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/18/07

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /8 /07
Post plant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	6 /18/07
Manure:	N/A			

Herbicide: Atrazine 0.5 lbs/A
Accent 0.67 oz/A
Callisto 3.0 oz/A

Insecticide: None

Hybrid: Kaltenberg K4265RRBt

Irrigation: None

Planting Date: 5/8/07 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 36363 **plants per acre** **Planting Method:** Kinze Plot Planter

Harvest Date: 10/11/07 **Harvest Method:** Massey Ferguson 8XP

Notes: NuFarm Study No. S 2007 079.
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: RCB **Replications:** 4

Plot Size Seeded: 22' x 10' **Experiment Size:** 0.12 A

Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 31799 **plants per acre**

Factors/Treatments:

Treatment	Rate
1) NUP 05071	1.34 mg ai/seed
2) NUP 07066	1.34 mg ai/seed
3) Poncho	1.25 mg ai/seed
4) Cruiser	1.25 mg ai/seed
5) UTC	

Results: Table C-29.

Table C-29. NuFarm Corn Rootworm Study.

Fond du Lac, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 Vigor	Seeds planted	Nodual Injury rating	Grower return
	bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	seeds/A	0 to 3	$/A
NUP 05071	173	20.6	55	32076	1	15	35145	8.0	36363	0.3	579
NUP 07066	163	19.5	55	31680	1	18	35739	8.0	36363	0.8	550
Poncho	170	19.8	56	32670	4	16	36036	7.5	36363	0.5	572
Cruiser	183	20.1	55	31086	1	12	35343	7.5	36363	1.5	614
UTC	173	20.0	55	31482	5	18	36531	7.5	36363	1.4	580
Mean	172	20.0	55	31799	3	16	35759	7.7	36363	0.9	579
Probability(%)											
Treatment (T)	45.7	19.3	48.2	85.5	48.1	37.8	25.8	44.5	-	5.6	51.0
LSD(0.10)											
Treatment (T)	NS	NS	NS	NS	NS	NS	NS	NS	-	0.8	NS
CV(%)	8	3	2	7	148	30	3	7	-	66	8

FIELD EXPERIMENT HISTORY

Title: **Corn Response to Seed Treatment - Syngenta -TFD.**

Experiment: 08Syngenta-TFD **Trial ID:** 2952 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, and T.H. Diallo

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

Supported By: Syngenta Crop Protection

Site Information

Field: ARS428 **Previous Crop:** Corn **Soil Type:** Plano silt loam

Soil Test: **Date:** 10/15/07 **pH** 6.9 **OM (%)** 3.0 **P (ppm)** 32 **K (ppm)** 127

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/8/07

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	4 /30/07
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A

Manure: N/A

Herbicide: Hornet 4.0 oz/A
Harness 24 oz/A
Banvel 2.0 oz/A

Insecticide: Force 3G 4.4 lbs/A

Hybrid: H-8012GTCBLL

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width** 30"

Harvest Date: 10/1/07

Planting Method: Kinze Plot Planter

Harvest Method: Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 72' x 10' **Experiment Size:** 0.50

Harvest Plot Size: 72' x 5'

Factors/Treatments:

Seed treatments:	Product/AI Rate
1) Maxim XL 2.7 FS+ Apron XL 3 LS	1). 0.0089, 0.0025
2) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS	2). 0.0089, 0.0025, 0.0025
3) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Cruiser 5 FS	3). 0.0089, 0.0025, 0.0025, 0.25
4) A14918	4). 0.0652
5) A14918+ Cruiser 5 FS	5). 0.0652, 0.25
6) A14918+ A10466	6). 0.0652, 0.05
7) A14918+ A10466+ Cruiser 5 FS	7). 0.0652, 0.05, 0.25
8) A14115+ Cruiser 5 FS	8). 0.138, 0.125
9) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP27332+ Cruiser 5 FS	9). 0.0089, 0.0025, 0.0025, 260.0, 0.25
10) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Actigard 50 Wg+ Cruiser 5 FS	10). 0.0089, 0.0025, 0.0025, 0.0025, 0.25
11) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP27301+ Cruiser 5 FS	11). 0.0089, 0.0025, 0.0025, 0.032, 0.25
12) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP27301+ STP27332+ Cruiser 5 FS	12). 0.0089, 0.0025, 0.0025, 0.032, 260.0, 0.25
13) STP15142+ STP15199+ STP15101	13). 4.0, 5.0, 2.5
14) STP15142+ STP15199+ STP15101+ STP15201	14). 4.0, 5.0, 2.5, 0.25
15) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199	15). 0.0089, 0.0025, 5.0
16) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199+ STP15201	16). 0.0089, 0.0025, 5.0, 0.25
17) Check Noninoculated	17).
18) Check Inoculated	18).

Results: Table C-30.

Table C-30 Corn Response to Seed Treatment - Syngenta - TFD.

Arlington, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Plant lodging	Grower return	Harvest population	Seeds planted	Observation on day after planting: 7 pop	7 vigor	14 pop	14 vigor	28 pop	28 vigor
	bu/A	%	lb/bu	%	$/A	plants/A	seeds/A	plants/A	rating	plants/A	rating	plants/A	rating
Maxim XL 2.7 FS +Apron XL 3LS	175	25.9	51	1	567	29563	34848	0	0.0	31363	7.0	34599	7.8
Maxim XL 2.7 FS +Apron XL 3LS +Dynasty .83 FS	186	25.5	51	1	605	30840	34848	0	0.0	29123	7.3	32110	7.8
Maxim XL 2.7 FS +Apron XL 3LS +Dynasty .83 FS+Cruiser 5FS	187	25.5	52	2	608	32351	34848	0	0.0	32857	7.3	35097	7.8
A14918	179	25.9	52	1	579	29795	34848	0	0.0	32608	7.8	35844	8.0
A14918+Cruiser 5FS	181	25.3	51	3	588	30957	34848	0	0.0	31612	7.3	33106	7.8
A14918+A10466	184	25.3	52	4	599	30899	34848	0	0.0	30119	7.5	33603	7.8
A14918+A10466+Cruiser 5FS	181	25.1	51	6	589	32002	34848	0	0.0	32608	7.0	33852	7.8
A14115+Cruiser 5FS	181	26.2	52	6	585	30027	34848	0	0.0	33106	7.5	34848	8.0
Maxim XL 2.7 FS +Apron XL 3LS+Dynasty .83 FS+STP27332+Cruiser 5FS	195	25.2	50	2	635	30260	34848	0	0.0	32359	7.5	34848	7.8
Maxim XL 2.7 FS +Apron XL 3LS+Dynasty .83 FS+Actigard 50Wg+Cruiser 5FS	187	25.5	52	4	609	30260	34848	0	0.0	32608	7.8	35097	8.0
Maxim XL 2.7 FS +Apron XL 3LS+Dynasty .83 FS+STP27301+Cruiser 5FS	178	25.3	52	5	578	30492	34848	0	0.0	31612	7.0	33106	8.0
Maxim XL 2.7 FS +Apron XL 3LS+Dynasty .83 FS+STP27301+STP27332+Cruis	181	25.2	51	2	588	31305	34848	0	0.0	34350	7.3	35346	8.0
STP15142+STP15199+STP15101	186	26.0	51	4	604	30318	34848	0	0.0	36341	7.3	35097	7.8
STP15142+STP15199+STP15101+STP15201	177	25.0	51	4	579	30550	34848	0	0.0	33106	7.3	36590	8.0
Maxim XL 2.7 FS +Apron XL 3LS++STP15199	189	25.5	52	2	613	30144	34848	0	0.0	27878	7.3	32110	8.0
Maxim XL 2.7 FS +Apron XL 3LS++STP15199+STP15201	181	25.7	51	2	588	30144	34848	0	0.0	30368	7.0	32608	8.0
Check Noninoculated	186	25.3	52	1	606	29853	34848	0	0.0	32857	7.3	31363	7.8
Check Inoculated	172	25.5	52	1	559	29156	34848	0	0.0	33603	7.8	32359	8.0
Mean	182	25.5	51	3	593	30495	34848	0	0.0	32138	7.3	33977	7.9
Probability(%)													
Treatment (T)	27.9	97.6	33	44	24.9	15.4	-	-	-	73	5.4	86	87.4
LSD(0.10)													
Treatment (T)	NS	NS	NS	NS	NS	NS	-	-	-	NS	0.4	NS	NS
CV(%)	5	4	2	121	5	4	-	-	-	14	5	11	4

FIELD EXPERIMENT HISTORY

Title: **Corn Response to Seed Treatment - Syngenta - UTH.**

Experiment: 08 Syngenta UTH **Trial ID:** 2945 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: Syngenta Crop Protection

Site Information

Field: ARS428 **Previous Crop:** Corn **Soil Type:** Plano silt loam

Soil Test: **Date:** 10/15/07 **pH** 7.0 **OM (%)** 2.8 **P (ppm)** 38 **K (ppm)** 114

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/8/07

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:**	325	**Date:** N/A
Starter Analysis:	9-23-30	**Rate lbs/A:**	150	**Date:** 4 /30/07
Post plant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:** N/A
Manure:	N/A			

Herbicide: Hornet 4.0 oz/A
Harness 24 oz/A
Banvel 2.0 oz/A

Insecticide: Force 3G 4.4 lbs/A

Hybrid: H-8012GTCBLL

Irrigation: None

Planting Date: 4/30/07 **Planting Depth:** 1.5" **Row Width** 30"

Harvest Date: 10/1/07

Planting Method: Kinze Plot Planter

Harvest Method: Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 72' x 10' **Experiment Size:** 0.50

Harvest Plot Size: 72' x 5'

Factors/Treatments:

Seed treatments:	Product/AI Rate
1) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS	1). 0.0089,0.0025,0.0025
2) A14918+ Cruiser 5 FS	2). 0.0652,0.25
3) A14918+ Cruiser 5 FS	3). 0.0652,1.25
4) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Cruiser 5 FS	4). 0.0089,0.0025,0.0025,0.25
5) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Cruiser 5 FS	5) . 0.0089,0.0025,0.0025,1.25
6) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP15201	6). 0.0089,0.0025,0.0025,0.25
7) Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP15201	7) . 0.0089,0.0025,0.0025,1.25
8) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199	8) . 0.0089,0.0025,5.0
9) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199+ STP15201	9). 0.0089,0.0025,5.0,0.25
10) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199+ STP15201	10). 0.0089,0.0025,5.0,1.25
11) Maxim XL 2.7 FS+ Apron XL 3 LS+ Cruiser 5 FS	11). 0.0089,0.0025,0.25
12) STP15142+ STP15199+ STP15101+ STP15201	12). 4.0,5.0,2.5,0.25
13) STP15142+ STP15199+ STP15101+ STP15201	13). 4.0,5.0,2.5,1.25
14) Maxim XL 2.7 FS+ Apron XL 3 LS+ STP17170	14). 0.0089,0.0025,0.0025,0.25
15) Check Noninoculated	15).
16) Check Inoculated	16).

Results: Table C-31.

Table C-31. Corn Response to Seed Treatment - Syngenta - UTH.
Arlington, WI - 2007

Treatment	Grain yield	Grain moisture	Test weight	Plant lodging	Grower return	Harvest population	Seeds planted	V3 pop	V3 vigor	V6 pop	V6 vigor
	bu/A	%	lb/bu	%	$/A	plants/A	seeds/A	plants/A	rating	plants/A	rating
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS	175	24.5	50	2	573	30144	34848	36093	8.0	35595	8.0
A14918+ Cruiser 5 FS @ 0.25	182	24.8	51	1	595	29621	34848	33355	8.0	34848	8.0
A14918+ Cruiser 5 FS @ 1.25	183	26.5	51	2	592	29911	34848	36590	8.0	36341	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Cruiser 5 FS @ 0.25	175	26.1	50	0	568	28750	34848	34599	8.0	38582	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ Cruiser 5 FS @ 1.25	179	26.0	51	3	578	29969	34848	33106	8.0	37337	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP15201 @ 0.25	185	25.9	51	2	599	29911	34848	29123	7.8	31861	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP15201 @ 1.25	188	25.2	51	0	614	29969	34848	34101	8.0	34599	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199	178	25.3	51	1	578	30318	34848	34101	8.0	37088	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199+ STP15201 @ 0.25	174	24.9	51	1	569	29737	34848	34101	8.0	35097	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ STP15199+ STP15201 @ 1.25	183	25.6	50	2	594	29679	34848	30865	7.8	33355	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Cruiser 5 FS	175	25.2	51	1	570	30202	34848	36093	7.8	35097	8.0
STP15142+ STP15199+ STP15101+ STP15201 @ 0.25	174	25.3	51	0	565	29156	34848	32359	8.0	35097	8.0
STP15142+ STP15199+ STP15101+ STP15201 @ 1.25	174	25.5	51	0	565	30434	34848	37586	8.0	36093	8.0
Maxim XL 2.7 FS+ Apron XL 3 LS+ Dynasty .83 FS+ STP17170	176	25.0	51	2	573	28575	34848	33603	8.0	33355	8.0
Check Noninoculated	177	25.5	50	1	575	28285	34848	31861	8.0	34599	8.0
Check Inoculated	175	25.5	50	0	569	29679	34848	31363	8.0	36093	8.0
Mean	178	25.4	51	1	580	29646	34848	33681	8.0	35315	8.0
Probability(%)											
Treatment (T)	11.8	39.8	85.3	39	16.7	21.3	-	6.5	59.0	46.0	-
LSD(0.10)											
Treatment (T)	NS	NS	NS	NS	NS	NS	-	3988	NS	NS	-
CV(%)	4	4	2	146	4	4	-	10	2.7	9	-

FIELD EXPERIMENT HISTORY

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

Experiment: 09CS **Trial ID:** 3056 **Year:** 2007

Personnel: J. G. Lauer, J.M. Gaska, K. D. Kohn, J.T. 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 /27/07 **pH** 6.7 **OM (%)** 2.8 **P (ppm)** 13 **K (ppm)** 91

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	210	5 /7 /07
	Manure:	N/A	N/A	

Herbicide: Credit Systemic Extra 32 oz/a 6/11/07
Dual II Mag 24 oz/a 5/7/07
Gramoxone Iteon 32 oz/a 5/7/07

Insecticide: Force 3G 4.4 lbs/A 5/4/07
Prozap 10 lb/a 5/4/07

Irrigation: None

Hybrid: See Factors

Planting Date: Corn: 5/4/07
Soybean: 5/7/07

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: 10/8/07
Soybean: 10/8/07

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

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: 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: DekalbDKC5139
Dekalb DKC5020
Pioneer P38B87
S: Latham L2412RX
Pioneer 91M90
Asgrow AG2107

Results: Table C-32 and C-33.

Table C-32. Corn/Soybean Rotation and Tillage Study - Corn.
Arlington, WI - 2007.

Tillage	Rotation	CRW Control	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Root	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Rating	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A		%	%	%	gallons	gallons
		DKC5020	218	17.2	56.3	745	2.7	1.0	1.7	33070	0.03	3.3	61.2	6.9	2.93	639
		DKC5139	227	17.7	56.3	770	2.7	0.0	2.7	33080	0.02	3.3	61.2	7.0	2.93	662
		P38B87	213	19.1	58.1	721	1.3	0.1	1.2	32700	0.01	3.3	60.7	7.5	2.93	625
	1st Year Corn		239	17.4	57.3	814	1.9	0.6	1.3	33864	-	3.3	60.9	7.3	2.92	697
	2nd Year Corn		220	17.5	57.6	751	1.8	1.1	0.7	32764	-	3.3	61.0	7.1	2.93	645
	3rd Year Corn		205	17.9	56.9	697	6.3	0.2	6.1	32412	-	3.3	61.2	6.9	2.94	602
	4th Year Corn		217	18.3	56.7	736	1.5	0.0	1.5	32600	-	3.3	61.1	7.0	2.93	635
	5th Year Corn		218	18.3	56.8	741	2.2	0.2	2.0	33045	-	3.3	61.1	7.1	2.94	641
	Continuous Corn		198	19.0	56.0	670	1.8	0.5	1.2	32906	0.02	3.3	61.0	7.2	2.93	580
	Rotated Corn		237	17.6	57.1	807	0.1	0.0	0.1	33045	-	3.3	60.9	7.3	2.92	692
	1st Year Corn	DKC5020	241	16.7	56.4	827	1.8	1.6	0.2	34567	-	3.2	61.0	7.2	2.92	705
	1st Year Corn	DKC5139	243	17.0	56.7	830	1.8	0.0	1.8	33935	-	3.3	61.2	7.0	2.92	708
	1st Year Corn	P38B87	232	18.7	58.8	786	2.0	0.2	1.8	33092	-	3.3	60.6	7.7	2.92	678
	2nd Year Corn	DKC5020	213	16.8	56.7	729	4.3	3.4	0.9	32178	-	3.3	61.1	7.0	2.93	623
	2nd Year Corn	DKC5139	226	17.0	57.2	774	0.2	0.0	0.2	33373	-	3.3	61.2	6.9	2.93	663
	2nd Year Corn	P38B87	222	18.9	58.8	750	0.9	0.0	0.9	32740	-	3.3	60.7	7.5	2.93	650
	3rd Year Corn	DKC5020	200	17.1	56.4	684	7.5	0.4	7.0	32811	-	3.3	61.4	6.6	2.95	589
	3rd Year Corn	DKC5139	212	17.9	56.5	721	8.4	0.0	8.4	31757	-	3.3	61.3	6.6	2.94	623
	3rd Year Corn	P38B87	203	18.7	57.7	686	3.0	0.2	2.8	32670	-	3.3	60.7	7.4	2.94	594
	4th Year Corn	DKC5020	214	17.4	56.2	731	0.8	0.0	0.8	32600	-	3.3	61.4	6.7	2.93	627
	4th Year Corn	DKC5139	226	18.3	55.7	767	3.3	0.0	3.3	33162	-	3.3	61.2	6.9	2.93	660
	4th Year Corn	P38B87	210	19.3	58.0	710	0.4	0.0	0.4	32038	-	3.3	60.8	7.4	2.93	617
	5th Year Corn	DKC5020	223	17.5	56.3	760	1.2	0.4	0.8	32951	-	3.3	61.3	6.8	2.94	656
	5th Year Corn	DKC5139	221	17.8	56.4	753	2.9	0.2	2.7	32881	-	3.3	61.3	6.9	2.93	649
	5th Year Corn	P38B87	210	19.5	57.6	709	2.5	0.0	2.5	33302	-	3.3	60.7	7.5	2.94	618
	Continuous Corn	DKC5020	191	18.5	55.7	648	3.0	1.2	1.7	33001	0.03	3.3	61.2	6.9	2.92	558
	Continuous Corn	DKC5139	215	19.0	54.8	722	1.9	0.0	1.9	33563	0.02	3.3	61.1	7.2	2.92	624
	Continuous Corn	P38B87	190	19.6	57.4	641	0.7	0.4	0.2	32248	0.01	3.3	60.7	7.5	2.93	557

(continued)

Table C-32. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2007.**

Tillage	Rotation	Insecticide	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Root	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Rating	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A		%	%	%	gallons	gallons
	Rotated Corn	DKC5020	244	16.8	56.3	835	0.0	0.0	0.0	33373	-	3.3	61.1	7.0	2.92	712
	Rotated Corn	DKC5139	242	17.2	56.6	826	0.2	0.0	0.2	32951	-	3.3	61.0	7.2	2.93	707
	Rotated Corn	P38B87	225	18.9	58.3	761	0.0	0.0	0.0	32811	-	3.3	60.6	7.6	2.92	658
Conv			233	17.9	57.6	792	2.9	0.1	2.8	33744		3.3	61.0	7.2	2.93	681
No-Till			206	18.2	56.2	698	1.5	0.6	0.9	32134	0.02	3.3	61.1	7.0	2.93	603
Conv		DKC5020	229	17.0	57.1	784	2.3	0.3	2.0	33804	-	3.3	61.1	7.0	2.93	671
Conv		DKC5139	243	17.5	57.1	828	4.3	0.0	4.3	34065	-	3.3	61.1	7.1	2.92	710
Conv		P38B87	226	19.0	58.6	764	2.1	0.1	2.0	33363	-	3.3	60.6	7.6	2.93	661
No-Till		DKC5020	207	17.4	55.4	705	3.0	1.8	1.2	32308	0.03	3.3	61.3	6.8	2.94	606
No-Till		DKC5139	210	17.9	55.5	713	1.0	0.1	1.0	32058	0.02	3.3	61.3	6.8	2.93	614
No-Till		P38B87	200	19.1	57.5	677	0.6	0.1	0.5	32038	0.01	3.3	60.7	7.5	2.93	588
Conv	1st Year Corn		252	17.4	58.1	861	2.6	0.4	2.2	34520	-	3.3	60.8	7.4	2.92	738
Conv	2nd Year Corn		241	17.4	58.3	823	0.4	0.0	0.4	34005	-	3.3	61.0	7.3	2.92	705
Conv	3rd Year Corn		212	17.5	57.9	724	10.2	0.4	9.7	32834	-	3.3	61.2	6.8	2.95	624
Conv	4th Year Corn		244	18.0	57.7	831	2.1	0.0	2.1	33771	-	3.3	61.0	7.2	2.92	713
Conv	5th Year Corn		230	17.9	57.8	782	3.6	0.1	3.4	33537	-	3.3	61.0	7.2	2.93	675
Conv	Continuous Corn		200	19.1	56.1	677	1.3	0.0	1.3	33818	-	3.3	60.8	7.4	2.91	583
Conv	Rotated Corn		248	17.7	57.6	846	0.1	0.0	0.1	33724	-	3.3	60.8	7.3	2.92	726
No-Till	1st Year Corn		225	17.5	56.6	767	1.1	0.8	0.3	33209	-	3.3	61.0	7.3	2.92	657
No-Till	2nd Year Corn		199	17.7	56.9	680	3.1	2.2	0.9	31522	-	3.3	61.0	7.0	2.93	585
No-Till	3rd Year Corn		197	18.3	55.8	670	2.4	0.0	2.4	31991	-	3.3	61.1	7.0	2.94	580
No-Till	4th Year Corn		189	18.7	55.6	640	0.9	0.0	0.9	31429	-	3.3	61.3	6.9	2.94	556
No-Till	5th Year Corn		206	18.7	55.8	699	0.8	0.3	0.5	32553	-	3.3	61.2	6.9	2.94	607
No-Till	Continuous Corn		196	18.9	56.0	663	2.4	1.2	1.2	31813	0.02	3.3	61.2	7.0	2.94	576
No-Till	Rotated Corn		225	17.5	56.6	768	0.0	0.0	0.0	32366	-	3.3	61.0	7.2	2.92	659
Conv	1st Year Corn	DKC5020	248	16.5	57.3	851	1.1	0.8	0.4	34989	-	3.2	60.8	7.4	2.93	729

(continued)

Table C-32. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2007.**

Tillage	Rotation	Insecticide	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Root	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Rating	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A		%	%	%	gallons	gallons
Conv	1st Year Corn	DKC5139	257	17.0	57.8	881	3.6	0.0	3.6	34426	-	3.3	61.0	7.2	2.92	751
Conv	1st Year Corn	P38B87	251	18.7	59.2	851	3.2	0.4	2.8	34145	-	3.3	60.6	7.6	2.92	734
Conv	2nd Year Corn	DKC5020	235	16.4	57.7	806	0.0	0.0	0.0	33864	-	3.3	61.2	7.1	2.93	687
Conv	2nd Year Corn	DKC5139	248	17.0	57.8	848	0.0	0.0	0.0	34286	-	3.3	61.2	7.1	2.92	724
Conv	2nd Year Corn	P38B87	241	18.9	59.4	815	1.3	0.0	1.3	33864	-	3.3	60.7	7.6	2.93	705
Conv	3rd Year Corn	DKC5020	204	16.7	57.3	700	10.6	0.9	9.7	33443	-	3.4	61.5	6.5	2.95	602
Conv	3rd Year Corn	DKC5139	221	17.4	57.7	754	14.0	0.0	14.0	31897	-	3.4	61.3	6.6	2.94	649
Conv	3rd Year Corn	P38B87	211	18.4	58.7	716	6.0	0.4	5.6	33162	-	3.3	60.8	7.2	2.95	621
Conv	4th Year Corn	DKC5020	240	16.9	57.4	822	1.7	0.0	1.7	33162	-	3.3	61.1	6.9	2.92	700
Conv	4th Year Corn	DKC5139	260	17.7	57.1	885	4.3	0.0	4.3	34848	-	3.3	61.2	7.0	2.92	757
Conv	4th Year Corn	P38B87	234	19.3	58.8	788	0.4	0.0	0.4	33302	-	3.3	60.7	7.5	2.92	682
Conv	5th Year Corn	DKC5020	231	17.0	57.4	790	2.0	0.4	1.6	32740	-	3.3	61.3	6.9	2.93	678
Conv	5th Year Corn	DKC5139	236	17.4	57.4	805	5.0	0.0	5.0	34145	-	3.3	61.1	7.1	2.93	692
Conv	5th Year Corn	P38B87	223	19.3	58.5	752	3.7	0.0	3.7	33724	-	3.3	60.7	7.6	2.93	654
Conv	Continuous Corn	DKC5020	192	18.9	56.2	648	0.9	0.0	0.9	34145	-	3.3	60.9	7.1	2.91	557
Conv	Continuous Corn	DKC5139	224	19.0	55.0	756	2.9	0.0	2.9	34426	-	3.3	60.9	7.4	2.91	651
Conv	Continuous Corn	P38B87	186	19.6	57.0	626	0.0	0.0	0.0	32881	-	3.3	60.6	7.7	2.92	542
Conv	Rotated Corn	DKC5020	254	17.0	56.8	871	0.0	0.0	0.0	34286	-	3.4	61.0	7.1	2.91	741
Conv	Rotated Corn	DKC5139	253	17.1	57.0	866	0.4	0.0	0.4	34426	-	3.2	61.0	7.2	2.93	744
Conv	Rotated Corn	P38B87	237	19.0	58.9	802	0.0	0.0	0.0	32459	-	3.3	60.5	7.6	2.92	693
No-Till	1st Year Corn	DKC5020	234	16.9	55.6	802	2.5	2.5	0.0	34145	-	3.3	61.1	7.1	2.91	682
No-Till	1st Year Corn	DKC5139	228	17.0	55.7	778	0.0	0.0	0.0	33443	-	3.3	61.3	6.9	2.92	665
No-Till	1st Year Corn	P38B87	213	18.7	58.5	721	0.9	0.0	0.9	32038	-	3.3	60.5	7.8	2.93	623
No-Till	2nd Year Corn	DKC5020	191	17.1	55.7	652	8.6	6.7	1.9	30492	-	3.3	61.1	6.9	2.93	559
No-Till	2nd Year Corn	DKC5139	205	17.0	56.7	700	0.4	0.0	0.4	32459	-	3.3	61.2	6.7	2.94	602
No-Till	2nd Year Corn	P38B87	203	18.9	58.2	686	0.5	0.0	0.5	31616	-	3.3	60.7	7.4	2.93	595
No-Till	3rd Year Corn	DKC5020	196	17.5	55.5	667	4.4	0.0	4.4	32178	-	3.3	61.3	6.7	2.94	575
No-Till	3rd Year Corn	DKC5139	203	18.3	55.4	688	2.9	0.0	2.9	31616	-	3.3	61.4	6.6	2.94	596
No-Till	3rd Year Corn	P38B87	194	19.0	56.7	656	0.0	0.0	0.0	32178	-	3.3	60.5	7.6	2.93	568
No-Till	4th Year Corn	DKC5020	188	17.9	55.1	639	0.0	0.0	0.0	32038	-	3.3	61.7	6.6	2.95	554

(continued)

Table C-32. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2007.**

Tillage	Rotation	Insecticide	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Root	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Rating	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A		%	%	%	gallons	gallons
No-Till	4th Year Corn	DKC5139	192	18.9	54.4	649	2.3	0.0	2.3	31476	-	3.3	61.3	6.8	2.94	563
No-Till	4th Year Corn	P38B87	187	19.2	57.2	633	0.5	0.0	0.5	30773	-	3.3	61.0	7.2	2.95	552
No-Till	5th Year Corn	DKC5020	214	18.1	55.3	729	0.4	0.4	0.0	33162	-	3.2	61.4	6.7	2.96	634
No-Till	5th Year Corn	DKC5139	206	18.2	55.4	701	0.9	0.4	0.4	31616	-	3.3	61.6	6.7	2.93	606
No-Till	5th Year Corn	P38B87	198	19.8	56.7	667	1.2	0.0	1.2	32881	-	3.3	60.8	7.4	2.94	582
No-Till	Continuous Corn	DKC5020	190	18.0	55.0	647	5.7	2.9	2.9	31476	0.03	3.3	61.4	6.7	2.94	559
No-Till	Continuous Corn	DKC5139	204	19.0	54.5	688	0.6	0.0	0.6	32412	0.02	3.3	61.4	6.9	2.94	598
No-Till	Continuous Corn	P38B87	195	19.6	57.8	655	1.3	0.9	0.4	31616	0.01	3.3	60.9	7.4	2.94	572
No-Till	Rotated Corn	DKC5020	233	16.6	55.9	800	0.0	0.0	0.0	32459	-	3.3	61.2	7.0	2.93	683
No-Till	Rotated Corn	DKC5139	230	17.2	56.1	785	0.0	0.0	0.0	31476	-	3.3	61.1	7.1	2.92	670
No-Till	Rotated Corn	P38B87	213	18.7	57.7	720	0.0	0.0	0.0	33162	-	3.3	60.8	7.6	2.93	623
Probability(%)																
Tillage (T)			0.2	40.4	0.3	0.0	3.1	14.6	0.6	3.2	-	10.5	0.6	0.4	1.0	0.0
Rotation (R)			0.6	0.0	0.0	0.0	0.2	31.7	0.1	68.4	-	37.1	4.7	0.2	1.6	0.0
T x R			36.5	24.8	5.8	1.1	0.9	19.5	5.1	92.6	-	95.5	12.0	9.5	2.7	1.3
CRW (C)			0.0	0.0	0.0	1.9	9.4	0.8	7.3	50.1	29.9	60.4	0.0	0.0	81.8	2.0
T x C			13.7	19.9	6.6	49.3	1.9	5.9	9.3	64.6	-	21.3	61.8	36.2	99.3	49.0
R x C			21.2	2.7	10.2	92.5	18.8	32.8	19.8	78.4	-	29.1	92.4	82.1	99.6	92.1
T x R x C			83.0	38.8	66.1	99.8	77.0	21.9	98.1	69.4	-	29.7	92.7	99.7	63.5	99.8
LSD(0.05)																
Tillage (T)			10.2	NS	0.6	25	0.9	NS	0.9	1089.2	-	NS	0.1	0.1	0.01	21.5
Rotation (R)			18.0	0.4	0.5	47	2.1	NS	2.1	NS	-	NS	0.2	0.2	0.01	40.2
T x R			NS	NS	0.7	66	3.0	NS	2.9	NS	-	NS	NS	NS	0.02	56.9
CRW (C)			4.5	0.2	0.2	31	1.2	0.6	1.0	NS	NS	NS	0.1	0.1	NS	26.3
T x C			NS	NS	0.3	NS	1.6	0.8	1.4	NS	-	NS	NS	NS	NS	NS
R x C			NS	0.4	NS	NS	NS	NS	NS	NS	-	NS	NS	NS	NS	NS
T x R x C			NS	NS	NS	NS	NS	NS	NS	NS	-	NS	NS	NS	NS	NS

Table C-33 Corn/Soybean Rotation Study - Soybean
Expt. 2790 Arlington, WI

Tillage	Rotation	Variety	Grain Yield	BSR	Lodg.	Seed Composition Protein	Seed Composition Oil	Total Protein	Total Oil	Total Pro+oil	Spring Fall SCN
			bu/a	1 to 11	1-5	---- % ----		---- lbs/acre ----			eggs/100cc
Notill			51.8	4.3	1.1	35.6	19.0	1107	591	1698	254
Conventional			53.3	4.4	2.3	35.7	19.1	1143	611	1754	319
	5th year SB		52.4	5.2	1.8	35.8	19.0	1126	598	1724	
	4th year SB		46.4	4.7	1.4	35.6	19.3	991	535	1526	
	3rd year SB		50.6	5.7	1.7	35.5	19.1	1079	580	1659	263
	2nd year SB		53.7	4.5	1.6	35.7	19.0	1150	613	1763	103
	1st year SB		60.5	2.9	2.2	35.5	18.9	1288	687	1975	72
	S/C rotation		56.0	3.3	2.0	35.4	19.0	1189	640	1828	415
	Continuous SB		48.7	4.1	1.6	36.0	19.0	1051	556	1607	578
Notill	5th year SB		52.4	5.4	1.3	35.7	19.0	1124	598	1722	
Notill	4th year SB		42.3	4.4	1.0	35.5	19.3	903	488	1391	
Notill	3rd year SB		51.1	5.9	1.2	35.4	19.2	1085	588	1673	198
Notill	2nd year SB		55.1	4.4	1.3	35.5	19.1	1173	631	1804	72
Notill	1st year SB		62.3	2.3	1.1	35.5	18.8	1326	702	2029	89
Notill	S/C rotation		55.1	3.3	1.2	35.1	19.0	1160	630	1790	249
Notill	Continuous SB		44.5	4.2	1.0	36.5	18.7	977	500	1477	659
Conventional	5th year SB		52.4	5.0	2.3	35.9	19.0	1129	597	1726	
Conventional	4th year SB		50.4	5.0	1.8	35.6	19.2	1079	581	1660	
Conventional	3rd year SB		50.0	5.5	2.2	35.7	19.1	1073	573	1646	327
Conventional	2nd year SB		52.3	4.5	1.8	35.8	19.0	1127	595	1722	133
Conventional	1st year SB		58.7	3.6	3.3	35.5	19.1	1250	672	1922	54
Conventional	S/C rotation		56.8	3.3	2.8	35.7	19.0	1218	649	1867	581
Conventional	Continuous SB		52.8	4.0	2.2	35.5	19.3	1125	612	1738	498
		Latham L2412RX	53.1	3.2	1.8	36.5	18.2	1161	578	1739	270
		Pioneer 91M90	48.9	4.4	2.1	34.8	19.4	1022	569	1590	355
		Asgrow AG2107	55.8	5.4	1.4	35.6	19.6	1192	657	1849	234
Notill		Latham L2412RX	52.0	2.8	1.3	36.4	18.0	1134	563	1697	191
Notill		Pioneer 91M90	48.7	4.4	1.2	34.9	19.3	1018	563	1581	356
Notill		Asgrow AG2107	54.8	5.6	1.0	35.6	19.7	1169	647	1815	214
Conventional		Latham L2412RX	54.1	3.6	2.3	36.6	18.3	1188	593	1781	349
Conventional		Pioneer 91M90	49.2	4.5	3.0	34.8	19.5	1026	574	1600	354
Conventional		Asgrow AG2107	56.8	5.2	1.8	35.7	19.6	1215	668	1883	253
	5th year SB	Latham L2412RX	53.2	3.9	1.9	36.6	18.2	1170	581	1751	
	5th year SB	Pioneer 91M90	48.6	5.0	2.0	35.3	19.3	1029	562	1591	
	5th year SB	Asgrow AG2107	55.3	6.8	1.4	35.5	19.6	1180	651	1830	
	4th year SB	Latham L2412RX	48.4	4.8	1.4	36.6	18.2	1062	529	1591	
	4th year SB	Pioneer 91M90	41.3	3.9	1.8	34.5	19.8	856	490	1346	
	4th year SB	Asgrow AG2107	49.3	5.5	1.1	35.7	19.8	1055	585	1640	
	3rd year SB	Latham L2412RX	52.0	4.4	1.8	36.4	18.1	1135	565	1700	288
	3rd year SB	Pioneer 91M90	46.5	5.1	2.0	34.8	19.5	971	543	1514	350
	3rd year SB	Asgrow AG2107	53.1	7.6	1.3	35.5	19.9	1130	633	1763	150
	2nd year SB	Latham L2412RX	53.6	3.5	1.8	36.5	18.2	1174	584	1759	86
	2nd year SB	Pioneer 91M90	49.6	4.8	2.0	34.7	19.4	1034	577	1612	100
	2nd year SB	Asgrow AG2107	57.9	5.1	1.0	35.8	19.5	1242	677	1919	123
	1st year SB	Latham L2412RX	58.8	1.6	1.9	36.0	18.3	1269	643	1913	94
	1st year SB	Pioneer 91M90	57.8	3.3	2.6	35.0	19.0	1214	658	1872	21
	1st year SB	Asgrow AG2107	65.0	3.9	2.0	35.4	19.5	1380	761	2142	101
	S/C rotation	Latham L2412RX	54.8	1.5	2.1	36.1	18.1	1188	595	1783	556
	S/C rotation	Pioneer 91M90	55.7	4.1	2.3	34.5	19.4	1154	650	1804	464
	S/C rotation	Asgrow AG2107	57.3	4.4	1.6	35.6	19.6	1224	673	1897	226
	Continuous SB	Latham L2412RX	50.6	2.6	1.6	37.2	18.0	1128	548	1675	327
	Continuous SB	Pioneer 91M90	42.8	5.0	1.9	35.0	19.4	895	500	1394	839
	Continuous SB	Asgrow AG2107	52.6	4.6	1.3	35.9	19.7	1131	621	1752	569

Continued

Table C-33 Corn/Soybean Rotation Study - Soybean
Expt. 2790 Arlington, WI

Tillage	Rotation	Variety	Grain Yield	BSR	Lodg.	Seed Composition Protein	Seed Composition Oil	Total Protein	Total Oil	Total Pro+oil	Spring SCN	Fall SCN
			bu/a	1 to 11	1-5	---- % ----		---- lbs/acre ----			eggs/100cc	
Notill	5th year SB	Latham L2412RX	52.5	3.8	1.5	36.4	18.2	1146	574	1721		
Notill	5th year SB	Pioneer 91M90	49.6	5.0	1.3	35.1	19.3	1045	575	1620		
Notill	5th year SB	Asgrow AG2107	55.2	7.5	1.0	35.7	19.5	1180	646	1826		
Notill	4th year SB	Latham L2412RX	45.2	4.0	1.0	36.5	18.2	989	495	1483		
Notill	4th year SB	Pioneer 91M90	37.4	3.8	1.0	34.3	19.9	769	447	1216		
Notill	4th year SB	Asgrow AG2107	44.3	5.5	1.0	35.8	19.7	951	524	1475		
Notill	3rd year SB	Latham L2412RX	50.6	4.3	1.5	36.1	18.2	1098	552	1650	253	
Notill	3rd year SB	Pioneer 91M90	48.4	5.5	1.0	34.8	19.3	1013	562	1574	322	
Notill	3rd year SB	Asgrow AG2107	54.1	8.0	1.0	35.3	20.0	1146	649	1794	19	
Notill	2nd year SB	Latham L2412RX	53.4	2.8	1.3	36.3	18.2	1164	584	1747	24	
Notill	2nd year SB	Pioneer 91M90	52.7	5.0	1.8	34.9	19.4	1102	612	1715	11	
Notill	2nd year SB	Asgrow AG2107	59.1	5.5	1.0	35.3	19.7	1252	698	1950	182	
Notill	1st year SB	Latham L2412RX	60.5	1.0	1.0	36.0	18.0	1304	652	1956	108	
Notill	1st year SB	Pioneer 91M90	59.8	2.5	1.3	35.2	18.8	1264	673	1936	34	
Notill	1st year SB	Asgrow AG2107	66.6	3.3	1.0	35.3	19.6	1411	783	2194	126	
Notill	S/C rotation	Latham L2412RX	52.8	1.5	1.5	35.9	17.9	1137	568	1705	326	
Notill	S/C rotation	Pioneer 91M90	56.3	4.0	1.0	34.2	19.5	1155	658	1812	258	
Notill	S/C rotation	Asgrow AG2107	56.2	4.5	1.0	35.2	19.7	1188	664	1852	164	
Notill	Continuous SB	Latham L2412RX	48.9	2.0	1.0	37.5	17.6	1101	517	1618	243	
Notill	Continuous SB	Pioneer 91M90	36.4	5.3	1.0	35.6	19.1	778	417	1195	1153	
Notill	Continuous SB	Asgrow AG2107	48.3	5.3	1.0	36.3	19.5	1052	566	1617	580	
Conventional	5th year SB	Latham L2412RX	53.9	4.0	2.3	36.9	18.2	1194	588	1781		
Conventional	5th year SB	Pioneer 91M90	47.6	5.0	2.8	35.5	19.3	1013	550	1563		
Conventional	5th year SB	Asgrow AG2107	55.5	6.0	1.8	35.4	19.7	1179	655	1834		
Conventional	4th year SB	Latham L2412RX	51.6	5.5	1.8	36.7	18.2	1135	564	1699		
Conventional	4th year SB	Pioneer 91M90	45.3	4.0	2.5	34.7	19.7	943	534	1477		
Conventional	4th year SB	Asgrow AG2107	54.3	5.5	1.3	35.6	19.8	1159	645	1805		
Conventional	3rd year SB	Latham L2412RX	53.3	4.5	2.0	36.7	18.1	1172	578	1750	323	
Conventional	3rd year SB	Pioneer 91M90	44.6	4.8	3.0	34.8	19.6	930	524	1455	378	
Conventional	3rd year SB	Asgrow AG2107	52.1	7.3	1.5	35.7	19.7	1115	618	1733	280	
Conventional	2nd year SB	Latham L2412RX	53.7	4.3	2.3	36.8	18.2	1185	585	1770	147	
Conventional	2nd year SB	Pioneer 91M90	46.5	4.5	2.3	34.6	19.5	966	543	1509	189	
Conventional	2nd year SB	Asgrow AG2107	56.7	4.8	1.0	36.2	19.3	1231	657	1889	64	
Conventional	1st year SB	Latham L2412RX	57.0	2.3	2.8	36.1	18.6	1234	635	1869	79	
Conventional	1st year SB	Pioneer 91M90	55.8	4.0	4.0	34.8	19.2	1165	642	1807	7	
Conventional	1st year SB	Asgrow AG2107	63.4	4.5	3.0	35.5	19.5	1350	740	2089	76	
Conventional	S/C rotation	Latham L2412RX	56.9	1.5	2.8	36.3	18.2	1240	623	1862	786	
Conventional	S/C rotation	Pioneer 91M90	55.1	4.3	3.5	34.9	19.4	1153	643	1796	670	
Conventional	S/C rotation	Asgrow AG2107	58.4	4.3	2.3	36.0	19.5	1261	682	1943	287	
Conventional	Continuous SB	Latham L2412RX	52.3	3.3	2.3	36.8	18.4	1155	578	1733	410	
Conventional	Continuous SB	Pioneer 91M90	49.2	4.8	2.8	34.3	19.7	1011	582	1593	525	
Conventional	Continuous SB	Asgrow AG2107	56.9	4.0	1.5	35.5	19.8	1210	677	1887	558	
Means			52.6	4.3	1.7	35.6	19.1	1125	601	1726	286	
Probability %												
Tillage (T)			23.6	22.3	0.2	35.8	14.9	<0.1	<0.1	<0.1	>50	
Rotation (R)			<0.1	<0.1	6.0	15.8	18.8	<0.1	<0.1	<0.1	<0.1	
T x R			0.2	>50	3.6	3.5	7.7	<0.1	<0.1	<0.1	25.0	
Variety (V)			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	32.4	
T x V			26.4	4.9	<0.1	32.2	21.9	12.1	38.8	17.4	>50	
R x V			<0.1	2.7	>50	14.2	36.6	<0.1	0.5	<0.1	25.5	
T x R x V			2.3	>50	43.5	>50	>50	4.1	6.5	3.4	>50	
LSD 10%												
Tillage (T)			NS	NS	0.3	NS	NS	58	24	81	NS	
Rotation (R)			2.8	0.8	0.4	NS	NS	58	32	89	186	
T x R			4.3	NS	0.6	0.5	0.2	94	48	141	NS	
Variety (V)			0.9	0.4	0.2	0.2	0.1	20	11	30	NS	
T x V			NS	0.6	0.3	NS	NS	NS	NS	NS	NS	
R x V			3.4	1.3	NS	NS	NS	72	41	110	NS	
CV %			5	33	29	2	2	6	6	5	128	

FIELD EXPERIMENT HISTORY

Year:	**2007**
Title:	**Corn/Soybean/Wheat Rotation Study**
Experiment:	**2791**
Personnel:	**Shawn Conley, Joe Lauer, John Gaska, Kent Kohn, and Justin Hopf**
Organization:	**UW Madison, Dept. of Agronomy**
Location:	**Arlington Agricultural Research Station, Arlington, WI**

FIELD INFORMATION

Field:	ARS 335				
Soil Type:	Plano Silt Loam				
Soil Test Results:	pH: 6.6	O.M.(%): 2.7	P(ppm): 11	K(ppm): 96	4/17/2007
Fertilizer Applied:	Soybean: None				
	Wheat: 70 lb/a as 46-0-0				
	Corn: 70 gal/a of 28-0-0				
Tillage Operations:	No-till				
Previous Crop:	Corn/Soybean/Wheat				
Previous Herbicide:	Roundup				
Irrigation:	None				

EXPERIMENTAL PROCEDURE

Exp. Design:	RCB Split plot	
Replicates:	3	
Variables:	Factors/Treatments:	
	System	Rotation
	Continuous	Corn, Soybean or Winter Wheat
	Alternating	Corn/Soybean
	Grain system I	Corn/Soybean(early)/Winter Wheat(red clover)
	Grain system II	Corn(early)/Winter Wheat(red clover)/Soybean
	Livestock system	Corn(silage)/Winter Wheat(straw removed)/Soybean

	Corn	Soybean	Wheat
Area Planted:	10' x 60'	10' x 60'	10' x 60'
Area Harvested:	5' x 56'	5' x 56'	5' x 26'
Row Spacing:	30"	30"	7.5"
Seeding Rate (spa):	32,500 seeds/acre	150,000 seeds/acre	150 lb/acre
Hybrid/Variety:	Pioneer 38B87	NK S21-N6	Kaskaskia Pioneer 25R78
Planting Date:	4-May-07	7-May-07	13-Oct-06
Planting Equip:	Kinze 2000 Interplant	Kinze 2000 Interplant	JD 750 No-Till Drill
Harvesting Date:	9/28/2007 8/31/07-silage	4-Oct-07	17-Jul-07
Harvesting Equip:	707 silage harvester Kincaid plot combine	Almaco plot combine	Almaco plot combine
Foliar Fungicide Treatments	UTC Headline SBR Quadris Quilt	UTC Headline SBR Quadris Quilt	UTC Proline GS7.5 Proline GS 8 Proline GS 10.51

	Date	**Material**	**Rate**
Herbicides:	15-Jun-07	Credit Systemic Extra	32 oz/ acre
	11-Jun-07	Credit Systemic Extra	32 oz/ acre
	7-May-07	Dual I I - Magnum	24 oz/ acre
	7-May	Gramox one Inteon	32 oz/ acre

Insecticides:	Poncho 250, Force 3G 4oz./100 ft.row
	Prozap

Results: Table C-34, C-35, C-36, & C-37.

Table C-34. Corn, Soybean, and Wheat Rotation-Corn Arlington, WI - 2007.

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
	UTC	205	22.4	54.8	681	0.2	0.0	0.2	32774	3.3	60.3	7.7	2.92	600
	Headline SBR 7.8 fl oz/A @ VT	218	23.0	54.5	718	0.2	0.0	0.2	32514	3.4	60.4	7.8	2.91	633
	Quadris 6.0 fl oz/A @ VT	212	23.2	54.5	697	0.1	0.1	0.1	32437	3.3	60.4	7.7	2.91	617
	Quilt 14.0 fl oz/A @VT	218	23.0	54.7	718	0.1	0.0	0.1	32592	3.4	60.2	7.8	2.91	633
Continous Corn		220	24.4	54.0	719	0.4	0.1	0.3	31892	3.3	60.3	7.7	2.92	642
Corn/Soybean		218	21.5	55.2	726	0.0	0.0	0.0	34018	3.3	60.3	7.9	2.91	634
Grain System I		206	23.9	53.9	675	0.0	0.0	0.0	30648	3.3	60.7	7.4	2.93	602
Grain System II		209	21.7	55.4	694	0.2	0.0	0.2	33759	3.4	60.0	8.0	2.90	604
Continous Corn	UTC	216	23.6	54.3	710	0.5	0.0	0.5	32151	3.3	60.5	7.6	2.94	634
Continous Corn	Headline SBR 7.8 fl oz/A @ VT	222	24.5	53.5	727	0.5	0.0	0.5	32359	3.3	60.3	7.6	2.91	648
Continous Corn	Quadris 6.0 fl oz/A @ VT	211	25.1	53.8	688	0.4	0.2	0.2	30803	3.3	60.2	7.8	2.91	615
Continous Corn	Quilt 14.0 fl oz/A @VT	229	24.4	54.2	751	0.3	0.2	0.2	32255	3.3	60.0	7.7	2.92	669
Corn/Soybean	UTC	203	21.0	55.2	679	0.0	0.0	0.0	33500	3.3	60.0	7.9	2.91	592
Corn/Soybean	Headline SBR 7.8 fl oz/A @ VT	230	22.1	55.1	764	0.0	0.0	0.0	33396	3.3	60.4	7.8	2.90	667
Corn/Soybean	Quadris 6.0 fl oz/A @ VT	218	21.6	55.1	725	0.0	0.0	0.0	34226	3.3	60.5	7.8	2.91	635
Corn/Soybean	Quilt 14.0 fl oz/A @VT	221	21.4	55.2	737	0.0	0.0	0.0	34952	3.4	60.2	7.9	2.90	643
Grain System I	UTC	197	23.7	53.7	648	0.0	0.0	0.0	31425	3.3	60.5	7.4	2.93	577
Grain System I	Headline SBR 7.8 fl oz/A @ VT	210	23.5	54.2	690	0.2	0.0	0.2	30907	3.3	60.7	7.5	2.93	614
Grain System I	Quadris 6.0 fl oz/A @ VT	208	24.2	54.0	681	0.0	0.0	0.0	30803	3.3	60.7	7.3	2.93	609
Grain System I	Quilt 14.0 fl oz/A @VT	208	24.4	53.9	682	0.0	0.0	0.0	29455	3.3	60.6	7.5	2.92	609
Grain System II	UTC	206	21.3	55.7	686	0.3	0.0	0.3	34018	3.4	60.1	7.9	2.90	597
Grain System II	Headline SBR 7.8 fl oz/A @ VT	208	21.8	55.0	692	0.2	0.0	0.2	33396	3.5	60.0	8.1	2.89	602
Grain System II	Quadris 6.0 fl oz/A @ VT	210	22.0	55.0	696	0.1	0.0	0.1	33915	3.4	60.2	7.8	2.90	608
Grain System II	Quilt 14.0 fl oz/A @VT	211	21.9	55.6	701	0.2	0.0	0.2	33707	3.4	59.9	8.1	2.89	610
Mean		213	22.9	54.6	704	0.2	0.0	0.1	32579	3.3	60.3	7.7	2.91	621
Probability(%)														
Rotation (R)		60.1	0.5	2.3	57.0	44.1	45.5	43.8	1.8	4.7	1.6	0.3	1.1	58.3
Fungicide (F)		4.7	0.8	57.0	6.1	84.6	41.0	53.2	96.7	60.0	33.9	83.5	36.2	8.0
R x F		68.3	39.8	83.6	65.8	99.6	46.6	94.4	77.8	68.6	60.0	95.7	91.1	67.0
LSD (0.10)														
Rotation (R)		NS	1.1	0.8	NS	NS	NS	NS	1597	0.1	0.2	0.2	0.01	NS
Fungicide (F)		8	0.4	NS	26	NS	NS	NS	NS	NS	NS	NS	NS	24
R x F		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		11	2	1	5	167	407	189	5	3	0	4	1	5

Table C-35. Corn, Soybean, and Wheat Rotation-Silage
Arlington, WI - 2007.

		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
UTC	33852	7.2	59.4	66.7	6.7	21.5	42.1	81.3	55.9	36.1	3264	23432
Headline SBR 7.8 fl oz/A @ VT	34184	7.9	58.4	66.7	6.5	20.6	41.0	81.7	55.6	37.2	3298	26148
Quadris 6.0 fl oz/A @ VT	33189	7.5	59.0	58.3	6.8	20.3	40.1	81.9	54.7	38.2	3312	24710
Quilt 14.0 fl oz/A @VT	34848	7.9	57.1	66.7	6.4	20.4	40.7	82.6	57.2	38.3	3349	26614
Mean	34018	7.6	58.5	64.6	6.6	20.7	41.0	81.9	55.9	37.4	3306	25226
Probability(%)												
Fungicide	1.9	24.5	78.8	45.5	42.4	81.5	59.4	89.7	82.5	70.9	88.7	36.4
LSD (0.10)												
Fungicide	697	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)	1	6	5	11	5	8	4	3	6	7	4	9

Table C-36. Corn, Soybean, and Wheat Rotation-Soybean
Arlington, WI - 2007.

Rotation	Fungicide	Yield	Moisture	Grower return	Height	Lodging	BRS	Seed Composition		Total		Protein + Oil
								Protein	Oil	Protein	Oil	
		bu/A	%	$/A	inches	1 to 5	1 to 11	%	%	lbs/A	lbs/A	lbs/A
	UTC	64.9	13.1	631	28.3	1	3	33.1	20.1	1290	781	2071
	Headline SBR 7.8 fl oz/A @ R3	65.5	13.2	637	28.2	1	3	33.2	20.1	1305	787	2092
	Quadris 6 fl oz/A @ R3	63.4	13.2	616	27.2	1	2	33.0	20.1	1255	765	2020
	Quilt 14 fl oz/A @ R3	64.4	13.2	626	27.8	1	3	33.3	20.0	1288	774	2062
Continous		49.8	13.3	484	27.3	1	4	33.8	20.5	1010	611	1621
Alternating		68.0	13.2	661	27.7	1	3	33.3	20.1	1359	819	2178
Grain System I		71.7	13.2	697	28.7	1	2	33.1	20.2	1425	867	2292
Grain System II		65.7	13.2	639	28.4	1	2	32.9	19.9	1298	783	2081
Livestock System		67.6	13.2	658	27.3	1	2	32.7	19.8	1329	805	2134
Continous	UTC	50.2	13.1	488	28.0	1	4	34.0	20.4	1027	613	1640
Continous	Headline SBR 7.8 fl oz/A @ R3	50.8	13.4	494	27.3	1	4	33.8	20.6	1031	627	1657
Continous	Quadris 6 fl oz/A @ R3	49.0	13.5	476	26.7	1	5	33.6	20.5	987	601	1588
Continous	Quilt 14 fl oz/A @ R3	49.0	13.0	477	27.3	1	5	33.8	20.5	996	602	1598
Alternating	UTC	68.7	13.2	668	28.0	1	3	33.4	20.1	1378	830	2208
Alternating	Headline SBR 7.8 fl oz/A @ R3	68.7	13.1	668	28.3	1	3	33.0	20.1	1360	830	2190
Alternating	Quadris 6 fl oz/A @ R3	66.0	13.2	642	27.0	1	3	33.5	19.9	1327	790	2116
Alternating	Quilt 14 fl oz/A @ R3	68.5	13.2	666	27.3	1	3	33.4	20.1	1371	828	2198
Grain System I	UTC	71.0	13.2	690	29.3	1	1	33.0	20.1	1406	857	2263
Grain System I	Headline SBR 7.8 fl oz/A @ R3	73.5	13.2	714	29.0	1	2	33.4	20.1	1471	884	2356
Grain System I	Quadris 6 fl oz/A @ R3	71.1	13.1	691	27.3	1	2	32.7	20.3	1394	865	2259
Grain System I	Quilt 14 fl oz/A @ R3	71.2	13.2	693	29.0	1	2	33.4	20.1	1429	860	2289
Grain System II	UTC	67.7	13.2	658	28.3	1	2	33.0	19.9	1341	810	2151
Grain System II	Headline SBR 7.8 fl oz/A @ R3	66.0	13.2	642	29.0	1	2	32.7	19.7	1295	781	2076
Grain System II	Quadris 6 fl oz/A @ R3	65.2	13.2	634	27.7	1	1	32.8	19.9	1285	780	2065
Grain System II	Quilt 14 fl oz/A @ R3	63.9	13.3	621	28.7	1	2	33.2	19.8	1272	761	2033
Livestock System	UTC	66.9	13.0	650	27.7	1	3	32.3	19.8	1297	795	2092
Livestock System	Headline SBR 7.8 fl oz/A @ R3	68.6	13.1	667	27.3	1	2	33.2	19.8	1367	815	2182
Livestock System	Quadris 6 fl oz/A @ R3	65.6	13.2	638	27.3	1	2	32.5	20.0	1280	789	2070
Livestock System	Quilt 14 fl oz/A @ R3	69.4	13.4	675	26.7	1	2	32.9	19.7	1373	819	2192
Mean		64.6	13.2	628	27.9	1	3	33.2	20.1	1284	777	2061
Probability(%)												
Rotation (R)		0.1	99.3	0.1	74.2	-	0.1	28.9	6.2	0.4	0.1	0.2
Fungicide (F)		15.6	75.9	15.6	20.8	-	66.4	37.9	74.7	12.4	24.9	14.2
R x F		80.8	51.5	80.8	99.1	-	26.3	51.3	63.5	73.3	77.2	74.8
LSD (0.10)												
Rotation (R)		6.2	NS	6	NS	-	1	NS	0.4	137	69	203
Fungicide (F)		NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
R x F		NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
CV(%)		4	2	4	5	-	28	2	1	4	4	4

Table C-37. Corn, Soybean, and Wheat Rotation-Wheat Arlington, WI - 2007.

Rotation	Variety	Fungicide	Yield	Moisture	Test Weight	Grower return	Height	Lodging
			bu/A	%	lbs/bu	$/A	inches	1 to 5
		UTC	58.6	14.7	61	366.5	28	1.0
		Proline @ GS 7.5	59.4	14.8	61	371.6	28	1.0
		Proline @ GS 8	59.7	14.8	61	374.0	28	1.0
		Proline @ GS 10.51	58.4	14.8	61	365.4	28	1.0
	Kaskaskia		54.8	14.8	61	343.2	31	1.0
	Pioneer 25R78		63.2	14.7	61	395.6	25	1.0
	Kaskaskia	UTC	53.5	14.7	61	334.8	31	1.0
	Kaskaskia	Proline @ GS 7.5	55.5	14.9	61	347.2	31	1.0
	Kaskaskia	Proline @ GS 8	56.0	14.8	61	350.8	31	1.0
	Kaskaskia	Proline @ GS 10.51	54.3	14.8	61	339.9	31	1.0
	Pioneer 25R78	UTC	63.6	14.6	61	398.3	25	1.0
	Pioneer 25R78	Proline @ GS 7.5	63.3	14.7	61	395.9	25	1.0
	Pioneer 25R78	Proline @ GS 8	63.4	14.7	61	397.1	25	1.0
	Pioneer 25R78	Proline @ GS 10.51	62.4	14.7	61	390.9	25	1.0
Continuous			42.5	14.7	60	266.1	27	1.0
Grain Systems I			62.9	14.8	61	393.9	28	1.0
Grain Systems II			62.5	14.9	62	391.5	29	1.0
Livestock System			68.0	14.7	62	426.0	28	1.0
Continuous		UTC	41.2	14.7	60	257.7	28	1.0
Continuous		Proline @ GS 7.5	42.2	14.7	59	263.9	27	1.0
Continuous		Proline @ GS 8	42.4	14.7	59	265.3	27	1.0
Continuous		Proline @ GS 10.51	44.3	14.8	60	277.4	28	1.0
Grain Systems I		UTC	61.2	14.8	61	383.1	29	1.0
Grain Systems I		Proline @ GS 7.5	61.9	14.7	61	387.7	28	1.0
Grain Systems I		Proline @ GS 8	65.7	14.8	62	411.4	28	1.0
Grain Systems I		Proline @ GS 10.51	62.9	14.8	61	393.5	28	1.0
Grain Systems II		UTC	64.1	14.8	62	401.2	28	1.0
Grain Systems II		Proline @ GS 7.5	66.0	15.0	62	413.0	28	1.0
Grain Systems II		Proline @ GS 8	62.4	15.0	61	390.8	29	1.0
Grain Systems II		Proline @ GS 10.51	57.7	14.8	62	360.9	29	1.0
Livestock System		UTC	67.7	14.5	61	424.1	28	1.0
Livestock System		Proline @ GS 7.5	67.4	14.8	62	421.8	28	1.0
Livestock System		Proline @ GS 8	68.4	14.7	62	428.3	29	1.0
Livestock System		Proline @ GS 10.51	68.7	14.7	62	429.8	28	1.0
Continuous	Kaskaskia		44.4	14.9	60	278.2	31	1.0
Continuous	Pioneer 25R78		40.6	14.6	60	254.0	24	1.0
Grain Systems I	Kaskaskia		53.3	14.8	61	333.5	31	1.0
Grain Systems I	Pioneer 25R78		72.6	14.7	61	454.4	26	1.0
Grain Systems II	Kaskaskia		58.1	14.8	61	363.4	31	1.0
Grain Systems II	Pioneer 25R78		67.0	14.9	62	419.5	26	1.0
Livestock System	Kaskaskia		63.5	14.8	62	397.6	31	1.0
Livestock System	Pioneer 25R78		72.6	14.6	62	454.4	26	1.0

continued

Table C-37. Corn, Soybean, and Wheat Rotation-Wheat

(continued) **Arlington, WI - 2007.**

Rotation	Variety	Fungicide	Yield	Moisture	Test Weight	Grower return	Height	Lodging
			bu/A	%	lbs/bu	$/A	inches	1 to 5
Continuous	Kaskaskia		45	14.8	60	282	31	1.0
Continuous	Kaskaskia	Proline @ GS 7.5	40	15.0	59	251	31	1.0
Continuous	Kaskaskia	Proline @ GS 8	45	14.9	60	279	31	1.0
Continuous	Kaskaskia	Proline @ GS 10.51	48	14.8	60	301	31	1.0
Continuous	Pioneer 25R78	UTC	37	14.5	60	233	24	1.0
Continuous	Pioneer 25R78	Proline @ GS 7.5	44	14.5	60	277	24	1.0
Continuous	Pioneer 25R78	Proline @ GS 8	40	14.5	59	252	23	1.0
Continuous	Pioneer 25R78	Proline @ GS 10.51	41	14.8	60	254	24	1.0
Grain Systems I	Kaskaskia	UTC	52	14.8	61	324	32	1.0
Grain Systems I	Kaskaskia	Proline @ GS 7.5	54	14.8	61	339	31	1.0
Grain Systems I	Kaskaskia	Proline @ GS 8	59	14.9	61	368	31	1.0
Grain Systems I	Kaskaskia	Proline @ GS 10.51	48	14.9	61	302	31	1.0
Grain Systems I	Pioneer 25R78	UTC	71	14.7	62	442	26	1.0
Grain Systems I	Pioneer 25R78	Proline @ GS 7.5	70	14.6	61	436	26	1.0
Grain Systems I	Pioneer 25R78	Proline @ GS 8	73	14.8	62	455	26	1.0
Grain Systems I	Pioneer 25R78	Proline @ GS 10.51	77	14.7	61	485	25	1.0
Grain Systems II	Kaskaskia	UTC	57	14.8	62	359	31	1.0
Grain Systems II	Kaskaskia	Proline @ GS 7.5	63	15.0	62	397	32	1.0
Grain Systems II	Kaskaskia	Proline @ GS 8	59	14.8	61	368	31	1.0
Grain Systems II	Kaskaskia	Proline @ GS 10.51	53	14.7	62	329	32	1.0
Grain Systems II	Pioneer 25R78	UTC	71	14.8	62	443	26	1.0
Grain Systems II	Pioneer 25R78	Proline @ GS 7.5	68	15.0	62	429	25	1.0
Grain Systems II	Pioneer 25R78	Proline @ GS 8	66	15.1	61	414	26	1.0
Grain Systems II	Pioneer 25R78	Proline @ GS 10.51	63	14.8	62	393	26	1.0
Livestock System	Kaskaskia	UTC	60	14.6	61	373	31	1.0
Livestock System	Kaskaskia	Proline @ GS 7.5	64	14.9	62	402	31	1.0
Livestock System	Kaskaskia	Proline @ GS 8	62	14.8	62	388	32	1.0
Livestock System	Kaskaskia	Proline @ GS 10.51	68	14.8	62	428	31	1.0
Livestock System	Pioneer 25R78	UTC	76	14.5	61	475	25	1.0
Livestock System	Pioneer 25R78	Proline @ GS 7.5	71	14.6	61	442	26	1.0
Livestock System	Pioneer 25R78	Proline @ GS 8	75	14.5	62	469	26	1.0
Livestock System	Pioneer 25R78	Proline @ GS 10.51	69	14.6	62	432	26	1.0
Mean			59	14.8	61	369	28	1.0
Probability(%)								
Rotation (R)			6.7	39.6	3.4	6.7	75.6	-
Variety (V)			0.4	2.2	80.4	0.4	0.0	-
R x V			2.8	7.2	84.2	2.8	68.3	-
Fungicide (F)			72.4	26.2	79.5	72.4	61.3	-
R x V			18.1	79.3	11.5	18.1	62.4	-
V x F			75.9	58.5	77.9	75.9	95.9	-
R x F x V			0.7	86.4	47.8	0.7	6.8	-
LSD (0.10)								
Rotation (R)			15.3	NS	1	96	NS	-
Variety (V)			3.9	0.1	NS	24	1	-
R x V			16.3	0.2	NS	49	NS	-
Fungicide (F)			NS	NS	NS	NS	NS	-
R x V			NS	NS	NS	NS	NS	-
V x F			NS	NS	NS	NS	NS	-
R x F x V			6.6	NS	NS	41	1	-
CV(%)			8	2	1	8	3	-

FIELD EXPERIMENT HISTORY

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

Experiment: 09 Corn/Soybean/Wheat Rotation **Trial ID:** 07R90 **Year:** 2007

Personnel: M.G. Bertram

Location: Stratford, WI **County:** Marathon

Supported by: Marshfield Ag. Research Station

Site Information

Field: 405 **Previous Crop:** Corn/Soybean/Wheat **Soil Type:** Withee silt loam

Soil Test : **Date:** 11/1/07 **pH** 6.6 **SOM (%)** 3.4 **P (ppm)** 60 **K (ppm)** 174

Plot Management

Tillage Operations: C,S: Fall Chisel plow, Disk; Spring Field cultivator C: Cultivated
W: Fall chisel plow, Disk, Field cultivator

Fertilizer:

	Analysis	Rate	Date	Crop
Preplant	9-11-30	150 lb/A	N/A	Soybean and Wheat
Starter	9-11-30	150 lb/A	Planting	Corn
Post plant	28-0-0	27 gal/A	6/8/2007	Corn- Alternating
Post plant	28-0-0	40 gal/A	6/8/2007	Corn- Continuous & GSI
Post plant	46-0-0	100 lb/A	4/16/2007	Wheat- GSI
Post plant	46-0-0	165 lb/A	4/16/2007	Wheat- Continuous
Manure	none	N/A	N/A	

Herbicide:
C,S Dual II Magnum 1.33 pt
C,S Roundup WeatherMax 32 oz
W 2,4-D Amine 1 pt

Insecticide: None

Irrigation: None

Hybrid: Corn: Pioneer 38B84 (97 RR)
Soybean: Dahlco 6070RR (0.7)
Wheat: Pioneer 25R47

Planting Date: C,S: 4/30/2007 W: 10/6/2006 **Planting Depth:** C: 1.5" S,W: 1" **Row Width:** C: 30" S,W: 6"

Target Plant Density: C: 35,000 S: 200,000 W: 1,000,000 **Planting Method:** C: John Deere 1750 planter S,W: John Deere 450 Drill

Harvest Date: C: 10/17/2007 CS: 9/19/2007 S: 9/28/2007 W: 7/25/2007 **Harvest Method:** C,CS: hand harvested S,W: John Deere plot combine

Notes: Second year of establishing Rotation Study

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 60' x 60' **Experiment Size:** 1.98 A

Harvest Plot size: C: 60' x 2.5'; S: 60' x 13'; W: 60' x 13'; CS: 10' x 2.5'

Factors/Treatments:

Rotation
Continuous- Corn, Soybean, or Winter Wheat
Rotation- Corn/Soybean
Grain System I- Corn/Soybean/Winter Wheat

Results: Table C-38, C-39, C-40, & C-41.

Table C-38. Corn, Soybean, and Wheat Rotation- Corn Marshfield, WI - 2007.

Rotation	Yield	Moisture	Test Weight	Harvest Population	Stalk Lodging
	bu/A	%	in.	ppa	%
Continuous	136.1	28.0	51.9	33364	1.2
Alternating	154.2	25.2	52.4	32622	1.1
Grain System I	145.4	26.7	51.9	33428	1.9
Mean	145.2	26.6	52.1	33138	1.4
Probability (%)					
Treatment	44.2	1.7	8.0	12.4	>50
LSD 10%					
Treatment	NS	1.5	0.4	718	NS
CV (%)	20	7	1	3	24

Table C-39. Corn, Soybean, and Wheat Rotation- Corn Silage Marshfield, WI - 2007.

Rotation	Yield	Moisture	Kernel milk	Harvest Population	CP	ADF	NDF	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
	T DM/A	%	%	ppa	%	%	%	%	%	%	%	lb	lb
Continuous	8.3	65.9	59	34945	8.5	20.7	41.6	60.5	45.8	34.9	73.4	3705	30855
Alternating	8.4	68.1	63	36009	9.1	20.4	41.6	60.0	45.0	33.3	73.3	3691	31048
Grain System I	8.6	63.9	57	33977	8.1	20.7	41.3	61.2	46.7	36.2	73.8	3738	32124
Mean	8.0	65.9	58	34848	8.3	20.9	41.9	60.2	45.7	35.2	73.2	3687	29391
Probability (%)													
Treatment	>50	11.9	>50	14.9	14.3	>50	>50	43.9	>50	>50	>50	49.3	>50
LSD 10%													
Treatment	NS	3.3	NS	1715	0.9	NS	NS	NS	NS	NS	NS	NS	NS
CV (%)	18	5	21	5	6	5	5	2	6	12	1	1	21

Table C-40. Corn, Soybean, and Wheat Rotation- Soybean Marshfield, WI - 2007.

Rotation	Yield	Moisture	Test Weight	Height	Lodging
	bu/A	%	lb/bu	in.	1 to 5
Continuous	26.9	17.3	55.3	24	1.0
Alternating	33.1	17.0	55.0	30	1.3
Grain System I	34.2	16.8	55.6	30	1.2
Mean	34.2	16.8	55.6	30	1.2
Probability (%)					
Treatment	0.3	12.9	18.5	0.9	19.7
LSD 10%					
Treatment	3.3	0.4	0.5	4	0.3
CV (%)	13	3	1	17	32

Table C-41. Corn, Soybean, and Wheat Rotation- Wheat Marshfield, WI - 2007.

Rotation	Yield	Moisture	Test Weight	Height	Lodging
	bu/A	%	lb/bu	in.	1 to 5
Continuous	26.8	17.7	.	.	.
Grain System I	52.3	13.0	.	.	.
Mean	39.5	15.3	.	.	.
Probability (%)					
Treatment	<0.1	0.1			
LSD 10%					
Treatment	2.8	1.9			
CV (%)	8.4	15.1			

FIELD EXPERIMENT HISTORY

Title: **BiAgro Photosynthetic Enhancer Study.**

Experiment: 11 BiAgro **Trial ID:** 3003 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo

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

Supported By: BiAgro Western

Site Information

Field: ARS408 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/07 **pH** 7.0 **OM (%)** 3.1 **P (ppm)** 43 **K (ppm)** 128

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivated 6/8/07

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:**	325	**Date:**	N/A
Starter Analysis:	N/A	**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: Hornet 4.0 oz/A
Harness 24 oz/A
Banvel 2.0 oz/A

Insecticide: None

Hybrid: Pioneer 38B87

Irrigation: None

Planting Date: 5/2/07 **Planting Depth:** 1.5" **Row Width** 30"

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

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

Experimental Design

Design: RCB **Replications:** 6

Plot Size Seeded: 47' x 10' **Experiment Size:** 0.62 A

Harvest Plot Size: 47' x 5' **Harvest Plant Density:** 31017 **plants per acre**

Factors/Treatments:

Treatment	Application Dates
1) TakeOff @ 1.0 l/a on V5-V6	V5/V6 - June 11
2) TakeOff @ 2.0 l/a on V5-V6	V9/V10 - June 25
3) TakeOff+Nutri-phiteMZ @ 1.0 l/a+1.0 l/a on V5-V6	R1 - July 13
4) Nutri-phite MZ @ 1.0 l/a on V5	
5) TakeOff @1.0 l/a and 1.0 l/a on V5-6 and V9-10	
6) TakeOff @1.0 l/a on V5-6 and TakeOff +Nutri-phite MZ @1.0 l/a + 1.0 l/a on 9-10	
7) TakeOff @1.0 l/a on V5-6 and V9-10 and R1	
8) Untreated Check	

Results: Table C-42.

Table C-42. BiAgro Photosynthetic Enhancer Study.

Arlington, WI - 2007

	Treatment	Grain yield	Grain moisture	Test weight	Root lodging	Stalk lodging	Grower return
		bu/A	%	lb/bu	%	%	$/A
1	TakeOff @ 1.0 l/a on V5-V6	196	15.6	59.5	7	3	674
2	TakeOff @ 2.0 l/a on V5-V6	199	15.6	59.0	12	4	683
3	TakeOff+Nutri-phiteMZ @ 1.0 l/a+1.0 l/a on V5-V6	199	15.6	59.7	8	4	686
4	Nutri-phite MZ @ 1.0 l/a on V5	199	15.9	59.7	5	2	683
5	TakeOff @1.0 l/a and 1.0 l/a on V5-6 and V9-10	196	15.5	59.1	5	2	674
6	TakeOff @1.0 l/a on V5-6 and TakeOff +Nutri-phite MZ @1.0 l/a + 1.0 l/a on 9-10	196	15.8	59.5	9	3	674
7	TakeOff @1.0 l/a on V5-6 and V9-10 and R1	199	15.9	59.5	4	4	685
8	Untreated Check	198	15.5	59.3	8	4	681
	Mean	197	15.7	59.4	7	3	680
Probability(%)							
Treatment (T)		74.4	42.3	9.8	52.8	94.3	79.0
LSD(0.10)							
Treatment (T)		NS	NS	0.4	NS	NS	NS
CV(%)		3	2	1	97	105	3

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Evaluation**

Experiment: 11 Low Starch Study **Trial ID:** 07C66 **Year:** 2007

Personnel: M.G. Bertram, J.G. Lauer, K.D. Kohn, T.H. Diallo

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

Supported by: Marshfield Ag. Research Station

Site Information

Field: ARS408 **Previous Crop:** **Soil Type:** Plano silt loam

Soil Test : **Date:** 10/15/07 **pH** 7.0 **SOM (%)** 3.1 **P (ppm)** 43 **K (ppm)** 128

Plot Management

Tillage Operations: Fall Chisel plow Field Cultivator Cultivate 6/15/07

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	325 lb/A	4/20/2007
Starter	9-23-30	150 lb/A	5/21/2007
Post plant	none	N/A	N/A
Manure	none	N/A	N/A

Herbicide: Harness 29 oz/A
Callisto 3.0 oz/A

Insecticide: None

Irrigation: None **Hybrid:** varies

Planting Date: 5/21/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Kinze plot planter

Harvest Date: 10/22/2007 **Harvest Method:** New Holland 707 Plot Chopper

Notes:

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 25' x 10' **Experiment Size:** 0.50 A

Harvest Plot size: 22' x 2.5'

Factors/Treatments:

Treatment	Source/Type	Target Density
Dekalb DKB393	Brazil- Tropical	35,000 ppa
Dekalb DKB499	Brazil- Tropical	35,000 ppa
Dekalb DKB789	Brazil- Tropical	35,000 ppa
Agroceres AG1051	Brazil- Tropical	35,000 ppa
Agroceres AG2060	Brazil- Tropical	35,000 ppa
Pioneer 30F34	Southern US- 132 RM	35,000 ppa
Hytest HT92-90W	Mexican- 135 RM	35,000 ppa
Kaltenberg KB105LF	Leafy (105 RM)	45,000 ppa
Kaltenberg LH227	Male Sterile	35,000 ppa
Croplan Greentreat A+	BMR Sorghum-Sudangrass	10 lb/a=130K

Results: Table C-43 & C45.

Table C-43 Low Starch Corn Silage Evaluation.
Arlington, WI 2007.

Treatment		Yield DM	Yield 68% Wet	Moist	Plant height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
		tn/A	tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Dekalb	DKB393	8.5	26.6	74.7	12.9	4	6.4	37.6	65.1	5.7	53.8	24.0	0.7	48.2	1836	15632
Dekalb	DKB499	6.8	21.3	72.3	12.8	44	5.8	38.9	66.8	5.1	54.6	23.4	1.3	49.3	1922	13102
Dekalb	DKB789	7.7	24.0	74.3	13.0	10	6.2	37.5	64.4	5.7	54.5	24.7	1.7	49.1	1909	14657
Agroceres	AG1051	4.8	14.9	76.8	12.8	51	6.9	40.1	67.9	6.2	52.2	20.8	0.9	49.1	1887	8955
Agroceres	AG2060	6.8	21.1	73.6	12.8	8	5.5	37.1	64.9	6.1	55.7	25.3	1.8	49.4	1938	13104
Pioneer	30F34	7.7	24.1	71.4	11.1	9	7.4	30.0	55.4	4.7	57.4	32.0	4.2	50.4	2027	15629
Hytest	HT92-90W	8.0	25.1	73.1	12.5	6	6.3	37.0	64.5	5.9	54.9	24.6	1.4	49.3	1922	15441
Kaltenberg	KB105LF (Leafy)	8.1	25.3	56.0	10.4	17	7.7	25.8	47.1	4.8	53.1	41.0	24.6	61.9	2812	22830
Kaltenberg	Male Sterile	4.0	12.6	62.6	8.1	1	9.1	33.3	58.3	4.9	53.8	28.8	1.8	49.1	1898	7655
Croplan	Greentreat A+	5.7	17.7	78.4	11.0	.	8.2	33.6	59.7	4.2	60.5	24.5	1.0	54.1	2320	13057
Mean		6.8	21.3	71.3	11.7	17	7.0	35.1	61.4	5.3	55.1	26.9	3.9	51.0	2047	14006
Probability (%)																
Treatment		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LSD 10%																
Treatment		1.3	3.9	1.9	0.9	15	0.9	1.9	2.5	1.1	1.5	2.1	1.7	1.5	113	2663
CV (%)		15	15	2	7	76	10	5	3	18	2	7	36	2	5	16

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Evaluation**

Experiment: 11 Low Starch Study **Trial ID:** 07C56 **Year:** 2007

Personnel: M.G. Bertram

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

Supported by: Marshfield Ag. Research Station

Site Information

Field: W3 **Previous Crop:** Corn **Soil Type:** Withee silt loam

Soil Test : **Date:** 10/30/06 **pH** 6.6 **SOM (%)** 3.4 **P (ppm)** 59 **K (ppm)** 167

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivate 6/13/07

Fertilizer:

	Analysis	Rate	Date
Preplant	none	N/A	N/A
Starter	9-11-30	150 lb/A	Planting
Post plant	28-0-0	40 gal/A	6/13/2007
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:** varies

Planting Date: 5/16/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Research plot planter

Harvest Date: varies **Harvest Method:** hand harvested

Notes:

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 25' x 10' **Experiment Size:** 0.25 A

Harvest Plot size: 22' x 2.5'

Factors/Treatments:

Treatment	Source/Type	Target Density	Harvest Date
Dekalb DKB393	Brazil- Tropical	35,000 ppa	11/5/2007
Dekalb DKB499	Brazil- Tropical	35,000 ppa	11/5/2007
Dekalb DKB789	Brazil- Tropical	35,000 ppa	11/13/2007
Agroceres AG1051	Brazil- Tropical	35,000 ppa	11/13/2007
Agroceres AG2060	Brazil- Tropical	35,000 ppa	11/2/2007
Pioneer 30F34	Southern US- 132 RM	35,000 ppa	11/5/2007
Hytest HT92-90W	Mexican- 135 RM	35,000 ppa	11/2/2007
Kaltenberg KB105LF	Leafy (105 RM)	45,000 ppa	11/2/2007
Kaltenberg LH227	Male Sterile	35,000 ppa	10/1/2007
Croplan Greentreat A+	BMR Sorghum-Sudangrass	10 lb/a=130K	11/13/2007
Garst 8922YG	Check (90 RM)	35,000 ppa	10/1/2007

Results: Table C-44 & C-45.

Table C-44. Low Starch Corn Silage Evaluation. Marshfield, WI 2007.

Treatment		Yield DM	Yield 68% Wet	Moist	Plant height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
		tn/A	tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Dekalb	DKB393	6.2	19.3	73.5	10.0	25	6.8	39.5	67.6	5.5	55.5	21.0	0.0	51.3	2076	12844
Dekalb	DKB499	6.5	20.3	69.5	10.6	20	6.4	39.9	68.3	6.1	54.9	21.5	0.0	50.6	2016	13098
Dekalb	DKB789	5.1	15.9	72.4	11.0	11	6.0	42.4	71.0	6.7	55.1	18.9	0.3	51.7	2101	10657
Agroceres	AG1051	4.2	13.0	73.3	10.5	26	5.7	44.9	75.1	7.2	54.9	15.8	0.0	52.2	2133	8856
Agroceres	AG2060	5.6	17.4	72.4	11.1	9	5.2	40.0	69.3	6.5	54.0	22.2	0.1	48.8	1883	10492
Pioneer	30F34	5.8	18.1	72.4	9.8	6	7.9	32.6	58.4	4.8	55.7	28.9	4.0	51.6	2096	12148
Hytest	HT92-90W	5.1	16.0	71.5	10.8	7	5.9	42.1	71.5	6.9	54.7	19.5	0.0	51.9	2109	10809
Kaltenberg	KB105LF (Leafy)	5.4	17.0	67.6	8.8	3	7.3	31.9	58.2	5.0	55.2	30.9	0.4	46.6	1732	9391
Kaltenberg	Male Sterile	3.2	10.1	73.3	6.8	0	8.7	29.9	54.6	4.1	55.7	32.1	1.9	48.1	1846	5975
Croplan	Greentreat A+	4.3	13.3	73.6	9.1	17	5.8	35.2	63.8	5.5	69.3	24.6	1.3	58.4	2697	11517
Garst	8922YG (Check)	7.3	22.7	61.1	8.0	1	7.8	24.1	42.2	3.7	54.1	45.0	30.2	68.0	3259	23633
Mean		5.3	16.6	71.0	9.7	11	6.7	36.6	63.6	5.7	56.3	25.5	3.5	52.6	2177	11765
Probability (%)																
Treatment		<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LSD 10%																
Treatment		0.7	2.2	1.4	0.7	12	0.8	2.1	2.8	0.5	1.5	2.5	1.7	2.3	164	1627
CV (%)		11	11	2	6	88	9	5	4	7	2	8	41	4	6	12

Table C-45. Low Starch Corn Silage Evaluation. Marshfield and Arlington, WI - Combined locations 2007.

Location	Treatment		Yield			Plant										Milk per	
			DM	68% Wet	Moist	height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Ton	Acre
			tn/A	tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Marshfield			5.1	16.0	72.0	9.8	12	6.6	37.8	65.8	5.8	56.5	23.5	0.8	51.1	2069	10578
Arlington			6.8	21.3	71.3	11.7	17	7.0	35.1	61.4	5.3	55.1	26.9	3.9	51.0	2047	14006
	Dekalb	DKB393	7.4	23.0	74.1	11.4	15	6.6	38.5	66.4	5.6	54.7	22.5	0.3	49.7	1956	14238
	Dekalb	DKB499	6.7	20.8	70.9	11.7	32	6.1	39.4	67.6	5.6	54.7	22.4	0.6	49.9	1969	13100
	Dekalb	DKB789	6.4	19.9	73.3	12.0	11	6.1	39.9	67.7	6.2	54.8	21.8	1.0	50.4	2005	12657
	Agroceres	AG1051	4.5	13.9	75.1	11.6	38	6.3	42.5	71.5	6.7	53.5	18.3	0.5	50.7	2010	8905
	Agroceres	AG2060	6.2	19.3	73.0	11.9	8	5.4	38.6	67.1	6.3	54.9	23.7	1.0	49.1	1910	11798
	Pioneer	30F34	6.7	21.1	71.9	10.4	7	7.6	31.3	56.9	4.8	56.6	30.5	4.1	51.0	2061	13888
	Hytest	HT92-90W	6.6	20.6	72.3	11.6	6	6.1	39.5	68.0	6.4	54.8	22.1	0.7	50.6	2016	13125
	Kaltenberg	KB105LF (Leafy)	6.8	21.2	61.8	9.6	10	7.5	28.9	52.7	4.9	54.2	35.9	12.5	54.2	2272	16110
	Kaltenberg	Male Sterile	3.6	11.3	68.0	7.4	1	8.9	31.6	56.4	4.5	54.8	30.4	1.8	48.6	1872	6815
	Croplan	Greentreat A+	5.0	15.5	76.0	10.1	17	7.0	34.4	61.8	4.8	64.9	24.6	1.2	56.2	2508	12287
Marshfield	Dekalb	DKB393	6.2	19.3	73.5	10.0	25	6.8	39.5	67.6	5.5	55.5	21.0	0.0	51.3	2076	12844
Marshfield	Dekalb	DKB499	6.5	20.3	69.5	10.6	20	6.4	39.9	68.3	6.1	54.9	21.5	0.0	50.6	2016	13098
Marshfield	Dekalb	DKB789	5.1	15.9	72.4	11.0	11	6.0	42.4	71.0	6.7	55.1	18.9	0.3	51.7	2101	10657
Marshfield	Agroceres	AG1051	4.2	13.0	73.3	10.5	26	5.7	44.9	75.1	7.2	54.9	15.8	0.0	52.2	2133	8856
Marshfield	Agroceres	AG2060	5.6	17.4	72.4	11.1	9	5.2	40.0	69.3	6.5	54.0	22.2	0.1	48.8	1883	10492
Marshfield	Pioneer	30F34	5.8	18.1	72.4	9.8	6	7.9	32.6	58.4	4.8	55.7	28.9	4.0	51.6	2096	12148
Marshfield	Hytest	HT92-90W	5.1	16.0	71.5	10.8	7	5.9	42.1	71.5	6.9	54.7	19.5	0.0	51.9	2109	10809
Marshfield	Kaltenberg	KB105LF (Leafy)	5.4	17.0	67.6	8.8	3	7.3	31.9	58.2	5.0	55.2	30.9	0.4	46.6	1732	9391
Marshfield	Kaltenberg	Male Sterile	3.2	10.1	73.3	6.8	0	8.7	29.9	54.6	4.1	55.7	32.1	1.9	48.1	1846	5975
Marshfield	Croplan	Greentreat A+	4.3	13.3	73.6	9.1	17	5.8	35.2	63.8	5.5	69.3	24.6	1.3	58.4	2697	11517
Arlington	Dekalb	DKB393	8.5	26.6	74.7	12.9	4	6.4	37.6	65.1	5.7	53.8	24.0	0.7	48.2	1836	15632
Arlington	Dekalb	DKB499	6.8	21.3	72.3	12.8	44	5.8	38.9	66.8	5.1	54.6	23.4	1.3	49.3	1922	13102
Arlington	Dekalb	DKB789	7.7	24.0	74.3	13.0	10	6.2	37.5	64.4	5.7	54.5	24.7	1.7	49.1	1909	14657
Arlington	Agroceres	AG1051	4.8	14.9	76.8	12.8	51	6.9	40.1	67.9	6.2	52.2	20.8	0.9	49.1	1887	8955
Arlington	Agroceres	AG2060	6.8	21.1	73.6	12.8	8	5.5	37.1	64.9	6.1	55.7	25.3	1.8	49.4	1938	13104
Arlington	Pioneer	30F34	7.7	24.1	71.4	11.1	9	7.4	30.0	55.4	4.7	57.4	32.0	4.2	50.4	2027	15629
Arlington	Hytest	HT92-90W	8.0	25.1	73.1	12.5	6	6.3	37.0	64.5	5.9	54.9	24.6	1.4	49.3	1922	15441
Arlington	Kaltenberg	KB105LF (Leafy)	8.1	25.3	56.0	10.4	17	7.7	25.8	47.1	4.8	53.1	41.0	24.6	61.9	2812	22830
Arlington	Kaltenberg	Male Sterile	4.0	12.6	62.6	8.1	1	9.1	33.3	58.3	4.9	53.8	28.8	1.8	49.1	1898	7655
Arlington	Croplan	Greentreat A+	5.7	17.7	78.4	11.0	.	8.2	33.6	59.7	4.2	60.5	24.5	1.0	54.1	2320	13057
Mean			6.0	18.7	71.6	10.8	14	6.8	36.5	63.6	5.6	55.8	25.2	2.4	51.0	2058	12292
Probability (%)																	
Location (L)			<0.1	<0.1	38.1	<0.0	6.0	1.1	0.3	0.1	9.7	0.1	0.2	<0.1	<0.1	8.2	<0.1
Treatment (T)			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
L x T			2.3	2.3	<0.1	>50	0.6	0.3	<0.1	<0.1	10.0	<0.1	<0.1	<0.1	46.9	<0.1	<0.1
LSD 10%																	
Location (L)			0.4	1.2	NS	0.3	4	0.2	1.1	1.3	0.5	0.4	1.2	0.7	0.3	20	785
Treatment (T)			0.7	2.2	1.2	0.6	10	0.6	1.4	1.8	0.6	1.0	1.6	1.1	1.4	99	1554
L x T			1.0	3.2	2.0	NS	14	0.8	2.1	2.8	1.0	1.5	2.4	1.6	NS	135	2225
CV (%)			14	14	2	6	80	10	5	3	13	2	7	56	3	6	15

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Demos**

Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007

Personnel: Z.W. Miller, M.G. Bertram

Location: De Pere, WI **County:** Outagamie

Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Hortonville silt loam

Soil Test : **Date:** N/A **pH** 7.4 **SOM (%)** 3.9 **P (ppm)** 105 **K (ppm)** 200+

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator 3X

Fertilizer:

	Analysis	Rate	Date
Preplant	None	N/A	N/A
Starter	None	N/A	N/A
Post plant	None	N/A	N/A
Manure	Liquid Dairy	N/A	Fall
Manure	Solid Pen	N/A	Winter

Herbicide: Marksman 3.5 pt/A **Insecticide:** None

Irrigation: None **Hybrid:** varies

Planting Date: 5/14/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32,000 **plants per acre** **Planting Method:** John Deere 7000 planter

Harvest Date: 11/5/2007 **Harvest Method:** JD 5370 Self-propelled chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 1

Plot Size Seeded: 370' x 30' **Experiment Size:** 2.04 A

Harvest Plot size: 370' x 30'

Factors/Treatments:

Hybrid	Source/Type
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agroceres AG1051	Brazil- Tropical
Agroceres AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hytest HT92-90W	Mexican- 135 RM
Dekalb DKC54-46	Check- 104 RM

Results: Table C-46.

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Demos**

Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007

Personnel: M.C. Rankin, Z.W. Miller, M.G. Bertram

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

Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: A **Previous Crop:** Oats **Soil Type:** Palms Mucky Peat

Soil Test : **Date:** 11/20/2002 **pH** 7.0 **SOM (%)** 14.6 **P (ppm)** 43 **K (ppm)** 88

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivated

Fertilizer:

	Analysis	Rate	Date
Preplant	0-0-60	150 lb/A	N/A
Starter	10-34-0	5 gal/A	Planting
Starter	28-0-0	10 gal/A	Planting
Post plant	28-0-0	15 gal/A	N/A
Manure	Solid Beef	20 tn/A	Fall

Herbicide: Calisto 2.0 oz/A
Accent 0.67 oz/A
Atrazine 0.5 lb/A

Insecticide: None

Irrigation: None **Hybrid:** varies

Planting Date: 5/5/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32,000 **plants per acre** **Planting Method:** John Deere 7200 planter

Harvest Date: 10/29/2007 **Harvest Method:** Gehl forage chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 1

Plot Size Seeded: 465' x 30' **Experiment Size:** 2.56 A

Harvest Plot size: 465' x 30'

Factors/Treatments:

Hybrid	Source/Type
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agroceres AG1051	Brazil- Tropical
Agroceres AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hytest HT92-90W	Mexican- 135 RM
Pioneer 38B83	Check- 96 RM

Results: Table C-46.

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Demos**

Experiment: 11 Low Starch Study **Trial ID:** 07C68 **Year:** 2007

Personnel: M.G. Bertram, Z.W. Miller

Location: Stratford, WI **County:** Marathon

Supported by: Marshfield Ag. Research Station, District Resource Mgmt. Grant

Site Information

Field: 202 **Previous Crop:** Oats **Soil Type:** Withee silt loam

Soil Test : **Date:** 4/1/04 **pH** 5.4 **SOM (%)** 3.0 **P (ppm)** 33 **K (ppm)** 89

Plot Management

Tillage Operations: Fall Chisel plow Spring Field Cultivator Cultivated

Fertilizer:

	Analysis	Rate	Date
Preplant	none	N/A	N/A
Starter	9-11-30	160 lb/A	Planting
Post plant	28-0-0	27 gal/A	6/25/2007
Manure	Solid Heifer	30.2 tn/A	8/30/2006
Manure	Solid Heifer	22.8 tn/A	1/12/2007

Herbicide: Outlook 14 oz/A
Hornet 2.4 oz/A
Atrazine 1 qt/A

Insecticide: None

Irrigation: None **Hybrid:** varies

Planting Date: 5/21/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 35,000 **plants per acre** **Planting Method:** John Deere 1750 planter

Harvest Date: 11/12/2007 **Harvest Method:** John Deere forage chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 1

Plot Size Seeded: 900' x 20' **Experiment Size:** 2.89 A

Harvest Plot size: 898' x 20'

Factors/Treatments:

Hybrid	Source/Type
Dekalb DKB393	Brazil- Tropical
Dekalb DKB499	Brazil- Tropical
Dekalb DKB789	Brazil- Tropical
Agroceres AG1051	Brazil- Tropical
Agroceres AG2060	Brazil- Tropical
Pioneer 30F34	Southern US- 132 RM
Hytest HT92-90W	Mexican- 135 RM

Results: Table C-46.

Table C-46. Low Starch Corn Silage Evaluation.
Marshfield, Malone, De Pere, WI 2007.

			Yield												Milk per	
Location	Hybrid		DM	68% Wet	Moist	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Ton	Acre
			tn/A	tn/A	%	%	%	%	%	%	%	%	%	%	lb	lb
Marshfield			3.1	9.8	71.8	11	7.5	45.7	73.9	7.2	53.1	14.6	0.2	51.3	2050	6440
Malone			7.2	22.6	69.1	4	6.0	38.0	66.0	5.9	53.1	23.7	3.6	50.9	2023	14633
De Pere			4.6	14.4	71.4	12	8.8	36.3	62.2	5.5	52.6	23.4	3.7	52.0	2101	9698
	Dekalb	DKB393	5.2	16.2	71.8	10	7.6	39.8	66.4	6.1	52.7	21.0	3.7	52.5	2133	10849
	Dekalb	DKB499	5.4	16.8	68.1	8	7.2	41.3	68.7	6.5	52.0	19.6	2.5	51.2	2037	11032
	Dekalb	DKB789	5.4	16.9	71.9	8	7.6	40.7	68.4	6.2	52.7	19.4	0.4	49.7	1931	10437
	Agroceres	AG1051	4.2	13.1	75.1	25	7.4	43.3	71.6	6.7	52.7	16.4	0.4	50.0	1958	8088
	Agroceres	AG2060	4.7	14.6	70.8	6	6.5	40.1	68.1	6.2	53.1	21.2	1.9	50.5	1996	9166
	Pioneer	30F34	5.0	15.7	69.9	3	8.0	34.4	60.3	5.2	52.4	26.4	6.0	53.2	2178	11081
	Hytest	HT92-90W	5.1	16.0	67.7	4	7.3	40.3	68.3	6.3	55.0	20.0	2.4	52.7	2172	11146
Marshfield	Dekalb	DKB393	3.5	10.9	72.8	17	7.8	45.1	72.0	6.6	53.9	15.4	1.1	52.8	2169	7563
Marshfield	Dekalb	DKB499	3.3	10.3	70.1	8	6.6	47.4	75.1	7.8	52.3	14.2	0.0	50.4	1981	6513
Marshfield	Dekalb	DKB789	3.2	9.8	71.6	10	7.7	46.4	74.2	7.2	51.8	14.1	0.0	50.6	1989	6258
Marshfield	Agroceres	AG1051	2.6	8.3	74.7	28	8.5	47.3	76.0	7.5	52.8	11.2	0.0	50.3	1981	5232
Marshfield	Agroceres	AG2060	3.1	9.6	71.5	6	6.8	45.9	75.1	7.2	52.7	14.6	0.0	51.5	2061	6351
Marshfield	Pioneer	30F34	3.1	9.8	72.9	3	7.4	40.6	69.1	6.2	53.8	19.3	0.0	51.3	2059	6453
Marshfield	Hytest	HT92-90W	3.2	9.9	68.7	5	7.3	47.1	76.0	7.6	54.1	13.2	0.0	52.0	2110	6711
Malone	Dekalb	DKB393	7.3	22.8	72.0	2	5.9	40.1	68.6	6.8	50.5	21.0	2.4	49.3	1884	13755
Malone	Dekalb	DKB499	7.3	22.8	68.7	9	5.8	38.8	67.2	5.8	52.7	22.9	4.4	51.8	2084	15186
Malone	Dekalb	DKB789	7.8	24.3	70.9	5	6.1	38.2	67.3	5.5	55.3	22.4	0.5	49.8	1963	15252
Malone	Agroceres	AG1051	6.8	21.2	73.8	6	5.1	42.0	71.1	6.5	52.4	19.9	0.7	48.6	1851	12528
Malone	Agroceres	AG2060	7.5	23.5	68.5	2	5.7	37.4	65.4	5.8	53.0	25.1	2.3	48.9	1882	14162
Malone	Pioneer	30F34	6.4	20.1	66.9	3	7.2	32.2	57.0	4.7	51.9	30.6	10.7	55.2	2323	14947
Malone	Hytest	HT92-90W	7.6	23.9	63.0	2	6.0	37.3	65.8	5.9	55.7	24.0	3.9	52.6	2172	16602
Malone	*check*		*6.8*	*21.1*	*21.3*	*3*	*6.9*	*20.9*	*42.2*	*4.1*	*61.5*	*47.4*	*37.6*	*66.4*	*3213*	*21718*
De Pere	Dekalb	DKB393	4.8	15.0	70.8	11	9.1	34.3	58.6	4.8	53.7	26.7	7.6	55.3	2347	11229
De Pere	Dekalb	DKB499	5.6	17.4	65.5	8	9.2	37.8	63.8	5.9	50.9	21.5	3.3	51.5	2046	11396
De Pere	Dekalb	DKB789	5.3	16.6	73.2	8	9.0	37.5	63.6	5.9	50.9	21.9	0.8	48.7	1841	9802
De Pere	Agroceres	AG1051	3.2	10.0	76.7	40	8.8	40.7	67.7	6.1	53.0	18.0	0.5	51.2	2042	6504
De Pere	Agroceres	AG2060	3.4	10.7	72.5	9	7.1	37.0	63.8	5.7	53.6	23.9	3.4	51.1	2045	6986
De Pere	Pioneer	30F34	5.5	17.2	69.9	4	9.4	30.3	54.7	4.6	51.4	29.4	7.4	52.9	2151	11844
De Pere	Hytest	HT92-90W	4.5	14.2	71.3	5	8.6	36.5	63.1	5.5	55.2	22.7	3.3	53.5	2233	10124
De Pere	*check*		*4.9*	*15.4*	*48.7*	*4*	*7.7*	*23.8*	*44.0*	*4.2*	*55.4*	*43.5*	*29.3*	*63.4*	*2941*	*14503*
Mean			5.0	15.6	70.8	9	7.4	40.0	67.4	6.2	52.9	20.6	2.5	51.4	2058	10257
Probability (%)																
Location (Rep)			<0.1	<0.2	7.2	8.7	<0.1	<0.1	<0.1	<0.1	>50	<0.1	1.1	44.3	>50	<0.1
Hybrid			22.9	23.9	1.5	2.3	21.1	<0.1	<0.1	3.3	27.3	<0.1	7.2	12.5	14	4
LSD 10%																
Hybrid			NS	NS	3.1	9	NS	1.8	2.7	0.7	NS	2.2	3.0	2.4	182	1652
CV (%)			12	11	3	71	8	3	3	7	2	7	84	3	6	11

FIELD EXPERIMENT HISTORY

Title: **Tillage in Corn and Soybean Production Systems**

Experiment: 17Tillage **Trial ID:** 3055 **Year:** 2007

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

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

Supported By: HATCH

Site Information

Field: 396 **Previous Crop:** Corn / Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 4 /27/07 **pH** 6.7 **OM (%)** 2.7 **P (ppm)** 10 **K (ppm)** 88

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/7 /06
	Starter :	9-23-30	200	5/2/2007
	Post plant :	28-0-0	210	5/9/2007
	Manure:	N/A	N/A	N/A

Herbicide: Gramoxone Inteon 1 qts/a 5/9/07
Dual II Mag 16 oz/a 5/9/07
Credit Systemic Extra 32 oz/a 6/11/07

Insecticide: Force 3G 4.4 lbs/A 5/2/07

Irrigation: None

Hybrid/Variety: Corn: Dekalb DKC5020
Soybean: Kaltenberg KB248

Planting Date: Corn: 5/2/07
Soybean: 5/3/07

Row Width: 30"

Planting Method: Kinze 2000 Interplant planter

Planting Depth: Corn: 1.5"
Soybean: 1"

Harvest Date: Corn: 10/2/07
Soybean: 10/24/07

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

Experimental Design

Design: RCB split split plot

Replications: 4

Plot Size Seeded: 10' x 55'

Experiment Size: 4.5 Acres

Harvest Plot Size: 5' x 50'

Factors/Treatments:

Rotation:	Tillage For All Rotation:	Fertilizer Timing
Continuous Corn	CP: Fall chisel plow +1 spring field cultivator. Spring 1-13 wave coulter with trash whippers	Fall
Corn / Soybean	T1: Fall Strip-Till, knife 9in., Full Berm, - Spring 1-13 wave coulter	Spring
Soybean / Corn	T2: Fall Strip-Till, knife 9in., No Berm, - Spring 1-13 wave coulter	
	T3: Fall Strip-Till, knife 6in., Full Berm, - Spring 1-13 wave coulter	
	T4: Fall Strip-Till, knife 6in., No Berm, -Spring 1-13 wave coulter with trash whippers	
	NT: Spring 1-13 wave coulter	

Results: Tables C-47 and C-48.

Table 47. Tillage, Rotation, and Fertilizer in Corn and Soybean Production Systems - Corn
Arlington, WI - 2007

Tillage	Fertilizer	Rotation	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Residue	Silk	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Cover	DAP	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	no. Days	%	%	%	gallons	gallons
		CC	208	21.7	52.6	669	0.5	0.2	0.3	32307	51.9	77.7	3.3	61.2	7.1	2.92	605
		CS	225	20.0	53.4	748	0.2	0.0	0.1	33164	31.1	73.6	3.4	61.0	7.2	2.91	655
CP			219	20.5	53.5	705	0.1	0.0	0.1	32474	13.4	75.1	3.4	61.0	7.2	2.91	637
NT			213	22.2	52.7	701	0.8	0.3	0.5	32583	58.4	77.5	3.4	61.0	7.1	2.91	620
T1			215	21.0	52.7	703	0.3	0.1	0.1	32757	44.2	75.4	3.4	61.1	7.2	2.91	625
T2			216	20.8	52.6	708	0.4	0.1	0.3	33127	48.1	75.6	3.4	61.1	7.1	2.91	628
T3			219	19.8	53.1	724	0.4	0.2	0.2	32191	42.1	74.9	3.4	61.0	7.1	2.91	639
T4			217	21.0	53.5	711	0.1	0.1	0.1	33280	42.9	75.2	3.4	61.1	7.1	2.91	632
CP		CC	216	20.5	53.3	690	0.1	0.0	0.1	32060	14.4	76.4	3.4	61.2	7.0	2.92	631
CP		CS	222	20.5	53.6	720	0.1	0.0	0.1	32888	12.4	73.9	3.5	60.8	7.3	2.90	642
NT		CC	203	24.2	52.0	654	1.2	0.4	0.8	32234	71.4	79.5	3.4	61.0	7.1	2.91	592
NT		CS	223	20.2	53.3	749	0.3	0.1	0.1	32931	45.5	75.5	3.4	61.1	7.1	2.91	649
T1		CC	206	22.1	52.2	661	0.5	0.3	0.3	32365	53.4	77.9	3.3	61.1	7.3	2.91	598
T1		CS	224	19.8	53.1	745	0.0	0.0	0.0	33149	35.0	73.0	3.4	61.0	7.0	2.91	653
T2		CC	208	21.6	51.9	672	0.3	0.1	0.1	32452	61.5	78.0	3.3	61.2	7.0	2.92	608
T2		CS	224	20.1	53.2	743	0.5	0.0	0.5	33803	34.8	73.1	3.4	60.9	7.2	2.90	648
T3		CC	209	20.4	52.8	680	0.8	0.4	0.4	31842	52.1	77.1	3.3	61.2	7.0	2.92	610
T3		CS	230	19.2	53.4	767	0.0	0.0	0.0	32539	32.0	72.8	3.4	60.9	7.2	2.91	668
T4		CC	203	21.8	53.2	656	0.0	0.0	0.0	32888	58.5	77.1	3.3	61.2	7.0	2.92	594
T4		CS	231	20.2	53.8	766	0.2	0.1	0.1	33672	27.3	73.3	3.4	61.0	7.1	2.91	671
	Fall		216	20.9	52.9	706	0.2	0.1	0.1	32626	42.7	75.7	3.4	61.0	7.2	2.91	628
	Spring		217	20.9	53.0	711	0.5	0.1	0.3	32844	40.3	75.6	3.4	61.1	7.1	2.91	633
	Fall	CC	205	21.6	52.6	659	0.4	0.2	0.2	32133	52.5	77.7	3.3	61.1	7.1	2.92	597
	Fall	CS	227	20.1	53.3	752	0.1	0.0	0.0	33120	33.0	73.7	3.5	60.9	7.2	2.90	658
	Spring	CC	211	21.8	52.5	679	0.6	0.2	0.4	32481	51.3	77.6	3.3	61.2	7.0	2.91	614
	Spring	CS	224	19.9	53.6	744	0.3	0.0	0.3	33207	29.3	73.5	3.4	61.0	7.1	2.91	652
CP	Fall		214	21.0	53.3	685	0.1	0.0	0.1	32365	13.1	75.5	3.5	60.9	7.2	2.91	621
CP	Spring		224	20.0	53.7	725	0.1	0.0	0.1	32583	13.6	74.8	3.4	61.1	7.1	2.91	652
NT	Fall		212	21.8	52.7	698	0.7	0.3	0.4	33062	58.1	77.3	3.4	61.0	7.2	2.91	616
NT	Spring		215	22.6	52.6	704	0.8	0.3	0.5	32104	58.8	77.8	3.4	61.1	7.0	2.91	625
T1	Fall		207	20.9	53.0	677	0.1	0.1	0.0	32583	47.8	75.4	3.4	61.0	7.2	2.91	603
T1	Spring		222	21.0	52.3	729	0.4	0.1	0.3	32931	40.6	75.5	3.4	61.1	7.1	2.91	647
T2	Fall		223	20.4	52.8	734	0.3	0.1	0.1	32278	48.6	75.5	3.4	61.0	7.2	2.91	648
T2	Spring		208	21.2	52.4	681	0.5	0.0	0.5	33977	47.6	75.6	3.3	61.2	7.0	2.92	608
T3	Fall		223	19.9	52.8	737	0.1	0.1	0.0	32714	45.8	75.1	3.4	60.9	7.2	2.91	651
T3	Spring		215	19.7	53.4	710	0.7	0.3	0.4	31668	38.4	74.8	3.3	61.2	7.0	2.91	627
T4	Fall		215	21.2	53.2	704	0.0	0.0	0.0	32757	43.0	75.4	3.4	61.2	7.1	2.91	627

(continued)

Table 47. Tillage, Rotation, and Fertilizer in Corn and Soybean Production Systems - Corn
(continued) **Arlington, WI - 2007**

Tillage	Fertilizer	Rotation	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Residue	Silk	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Cover	DAP	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	no. Days	%	%	%	gallons	gallons
T4	Spring		219	20.8	53.8	718	0.2	0.1	0.1	33803	42.8	75.0	3.4	61.1	7.1	2.9	638
CP	Fall	CC	207	21.3	53.2	657	0.3	0.0	0.3	31537	12.8	76.5	3.4	61.1	7.1	2.91	604
CP	Fall	CS	220	20.8	53.4	713	0.0	0.0	0.0	33193	13.5	74.5	3.5	60.7	7.4	2.90	638
CP	Spring	CC	225	19.7	53.5	724	0.0	0.0	0.0	32583	16.0	76.3	3.3	61.3	6.9	2.92	658
CP	Spring	CS	223	20.3	53.9	727	0.3	0.0	0.3	32583	11.3	73.3	3.4	60.8	7.3	2.90	647
NT	Fall	CC	199	23.3	52.1	645	1.1	0.3	0.8	33280	67.0	79.5	3.4	60.9	7.1	2.92	581
NT	Fall	CS	224	20.2	53.3	752	0.3	0.3	0.0	32844	49.3	75.0	3.4	61.0	7.3	2.90	651
NT	Spring	CC	207	25.0	52.0	664	1.4	0.6	0.8	31189	75.8	79.5	3.4	61.1	7.0	2.91	603
NT	Spring	CS	222	20.2	53.2	745	0.3	0.0	0.3	33019	41.8	76.0	3.4	61.1	7.0	2.91	647
T1	Fall	CC	200	21.6	52.7	643	0.3	0.3	0.0	32147	56.0	77.8	3.3	61.1	7.4	2.91	581
T1	Fall	CS	214	20.2	53.3	711	0.0	0.0	0.0	33019	39.5	73.0	3.4	61.0	7.1	2.91	625
T1	Spring	CC	211	22.6	51.8	680	0.8	0.3	0.6	32583	50.8	78.0	3.3	61.1	7.2	2.90	614
T1	Spring	CS	233	19.5	52.9	778	0.0	0.0	0.0	33280	30.5	73.0	3.4	61.1	7.0	2.91	681
T2	Fall	CC	212	21.1	52.3	687	0.3	0.3	0.0	31799	63.8	78.0	3.3	61.2	7.0	2.92	619
T2	Fall	CS	234	19.8	53.3	780	0.3	0.0	0.3	32757	33.5	73.0	3.5	60.8	7.3	2.89	677
T2	Spring	CC	204	22.1	51.6	658	0.3	0.0	0.3	33106	59.3	78.0	3.3	61.3	6.9	2.92	596
T2	Spring	CS	213	20.4	53.2	705	0.8	0.0	0.8	34848	36.0	73.3	3.4	61.1	7.1	2.91	619
T3	Fall	CC	210	20.7	52.7	683	0.3	0.3	0.0	31537	56.8	77.3	3.3	61.1	7.1	2.92	614
T3	Fall	CS	237	19.1	52.8	792	0.0	0.0	0.0	33890	34.8	73.0	3.4	60.7	7.3	2.90	687
T3	Spring	CC	208	20.1	52.9	678	1.4	0.6	0.8	32147	47.5	77.0	3.3	61.3	7.0	2.92	607
T3	Spring	CS	222	19.3	54.0	742	0.0	0.0	0.0	31189	29.3	72.5	3.4	61.1	7.1	2.91	648
T4	Fall	CC	199	21.9	52.8	642	0.0	0.0	0.0	32496	58.5	77.3	3.3	61.3	7.1	2.92	582
T4	Fall	CS	231	20.5	53.6	765	0.0	0.0	0.0	33019	27.5	73.5	3.4	61.1	7.1	2.91	671
T4	Spring	CC	207	21.7	53.6	669	0.0	0.0	0.0	33280	58.5	77.0	3.3	61.2	7.0	2.92	605
T4	Spring	CS	231	20.0	54.1	768	0.5	0.2	0.2	34325	27.0	73.0	3.5	61.0	7.1	2.91	671
Probability(%)																	
Rotation (R)			0.0	0.0	0.0	0.0	2.9	3.9	29.7	1.1	0.0	0.0	0.0	1.3	19.4	1.8	0.01
Tillage (T)			89.2	0.0	0.1	89.6	11.5	36.7	55.4	40.1	0.0	0.0	51.6	95.1	94.0	95.13	89.74
Fertilizer (F)			62.6	86.2	52.7	63.7	9.1	78.7	12.6	50.9	35.6	50.4	6.1	12.1	33.1	59.6	55.24
R x T			57.1	0.1	48.1	45.1	4.5	39.1	30.6	99.3	3.4	0.5	75.8	47.9	7.5	49.6	59.15
F x R			21.5	47.5	25.7	24.5	79.9	75.1	93.7	69.1	62.9	82.4	25.8	90.4	86.8	36.7	25.66
T x F			11.4	18.1	8.6	9.7	93.4	92.5	95.0	12.0	88.3	43.0	72.8	81.1	97.4	91.0	14.85
T x F x R			94.6	43.3	84.8	91.6	45.8	62.4	71.9	20.1	84.4	75.2	79.7	97.8	97.9	88.6	94.84
LSD (0.05)																	
Rotation (R)			6.8	4.7	0.3	23.1	0.3	0.2	NS	654	5.2	0.4	0.0	0.2	NS	0.0	20.1
Tillage (T)			NS	0.8	0.6	NS	NS	NS	NS	NS	9.1	0.6	NS	NS	NS	NS	NS
Fertilizer (F)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
R x T			NS	1.2	NS	NS	0.7	NS	NS	NS	12.8	0.9	NS	NS	NS	NS	NS
F x R			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
T x F			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
T x F x R			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table C-48. Tillage and Fertilizer in Corn and Soybean Systems - Soybean Arlington, WI - 2007.

Tillage treatment	Fertilizer	Yield	Moisture	Residue Cover	Grower return
		bu/A	%	%	$/A
	Fall	63.9	12.7	57.3	612
	Spring	64.4	12.6	55.9	617
CP		59.8	12.6	18.1	559
NT		60.9	12.7	81.9	591
T1		67.3	12.6	59.8	646
T2		67.8	12.7	60.1	650
T3		68.1	12.7	60.0	654
T4		61.2	12.7	59.6	586
CP	Fall	58.8	12.7	18.3	549
CP	Spring	60.8	12.5	18.0	569
NT	Fall	63.3	12.8	83.5	616
NT	Spring	58.4	12.7	80.3	567
T1	Fall	63.0	12.6	59.3	604
T1	Spring	71.7	12.6	60.3	689
T2	Fall	67.3	12.8	62.3	646
T2	Spring	68.2	12.7	58.0	655
T3	Fall	68.6	12.8	59.8	658
T3	Spring	67.6	12.6	60.3	649
T4	Fall	62.4	12.8	60.8	599
T4	Spring	59.9	12.6	58.5	574
mean		64.2	12.7	56.6	614
Probability(%)					
Tillage (T)		0.0	79.1	0.0	0.0
Fertilizer (F)		68.3	12.5	42.8	68.3
T x F		7.8	88.4	93.3	7.8
LSD (0.05)					
Tillage (T)		3.8	0.2	5.2	37.1
Fertilizer (F)		NS	NS	NS	NS
T x F		NS	NS	NS	NS
CV(%)		7	2	11	7

FIELD EXPERIMENT HISTORY

Title: **17 Tillage On-Farm Trials**

Experiment: 17Tillage **Trial ID:** 3057 **Year:** 2007

Personnel: J. G. Lauer, K. D. Kohn, J.T. Hopf

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

Supported By: HATCH

Site Information

Field: 26 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 4 /27/07 **pH** 6.3 **OM (%)** 3.8 **P (ppm)** 68 **K (ppm)** 79

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/1 /06
	Starter :	9-23-30	200	5/2/2007
	Post plant :	28-0-0	210	5/9/2007
	Manure:	N/A	N/A	N/A

Herbicide: Gramoxone Inteon 1 qts/a 5/9/07
Dual II Mag 16 oz/a 5/9/07
Credit Systemic Extra 32 oz/a 6/11/07

Insecticide: Force 3G 4.4 lbs/A 5/2/07

Irrigation: None

Hybrid/Variety: Pioneer 35F40

Planting Date: 5/2/07

Row Width: 30"

Planting Method: Kinze 2000 Interplant planter

Planting Depth: 1.5"

Harvest Date: 10/5/07

Harvest Method: Kincaid plot combine

Experimental Design

Design: RCB split plot

Replications: 3

Plot Size Seeded: 30' x100'

Experiment Size: 30' x100'

Harvest Plot Size: 5' x 100'

Factors/Treatments:

Rotation:
Continuous Corn

Tillage + Fertilizer Treatments

1. Fall Strip-Till, Knife 9 in., Fertilizer 7 in., Full Berm
2. Fall Strip -Till, Knife 6 in., Fertilizer 4 in., Full Berm
3. Fall Strip - Till, Knife 9 in., No Fertilizer, Full Berm
4. Fall Strip - Till, Knife 6 in., No Fertilizer, Full Berm
5. Fall Strip - Till, Knife 9 in., Fertilizer 7 in., No Berm
6. Fall Strip - Till, Knife 6 in., Fertilizer 4 in., No Berm
7. Fall Strip - Till, Knife 9 in., No Fertilizer, No Berm
8. Fall Strip - Till, Knife 6 in., No Fertilizer, No Berm
9. No Till, Fertilizer applied with Planter
10. Fall Chisel plow, 2 spring field cultivations, fetilizer applied with planter

Results: Tables C-49

Table 49. Tillage and Fertilizer in Continuous Corn Production Systems
Field 26, WI - 2007

Treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest plants	Residue Cover	Silk DAP	Grain Composition			Ethanol	
					Total	Stalk	Root				Oil	Starch	Protein	per bu	per A
	bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	no. Days	%	%	%	gallons	gallons
CP-Spring	226	25.8	52	700	1	1	0	32757	22	78	3.4	59.8	8.0	2.90	657
NT-Spring	211	28.1	51	663	1	0	1	33164	82	82	3.3	60.2	7.5	2.94	621
T1-Fall	238	25.6	52	753	1	0	1	33686	64	80	3.3	60.4	7.6	2.93	699
T1-Spring	240	25.7	52	758	3	0	3	32351	64	80	3.3	60.1	7.8	2.92	700
T2-Fall	234	26.7	52	734	1	1	1	33628	61	79	3.4	60.2	7.8	2.91	682
T2-Spring	236	26.3	52	744	0	0	0	34325	66	79	3.3	60.3	7.4	2.93	693
T3-Fall	233	25.9	53	735	1	0	1	31654	63	79	3.3	60.0	7.9	2.91	678
T3-Spring	248	25.8	52	784	0	0	0	32699	61	80	3.3	60.0	7.9	2.91	721
T4-Fall	237	25.9	52	749	1	0	1	32699	64	79	3.3	60.3	7.7	2.93	695
T4-Spring	234	26.3	51	738	1	0	1	33686	63	79	3.3	60.1	7.7	2.92	685
Probability(%)															
Treatment	6.6	5.8	21.3	6.7	13.6	40.0	18.9	11.2	0.0	0.7	90.5	4.8	0.5	10.9	11
LSD (0.05)															
Treatment	NS	NS	NS	NS	NS	NS	NS	NS	6	1.5	NS	0.4	0.3	NS	NS

FIELD EXPERIMENT HISTORY

Title: **17 Tillage On-Farm Trials**

Experiment: 17Tillage **Trial ID:** 3069 **Year:** 2007

Personnel: J. G. Lauer, K. D. Kohn, J.T. Hopf

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

Supported By: HATCH

Site Information

Field: 27 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 4 /27/07 **pH** 6.5 **OM (%)** 4.1 **P (ppm)** 109 **K (ppm)** 159

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/1 /06
	Starter :	9-23-30	200	5/2/2007
	Post plant :	28-0-0	210	5/9/2007
	Manure:	N/A	N/A	N/A

Herbicide: Gramoxone Inteon 1 qts/a 5/9/07
Dual II Mag 16 oz/a 5/9/07
Credit Systemic Extra 32 oz/a 6/11/07

Insecticide: Force 3G 4.4 lbs/A 5/2/07

Irrigation: None

Hybrid/Variety: Pioneer 35F40

Planting Date: 5/2/07

Row Width: 30"

Planting Method: Kinze 2000 Interplant planter

Planting Depth: 1.5"

Harvest Date: 10/5/07

Harvest Method: Kincaid plot combine

Experimental Design

Design: RCB split plot

Replications: 3

Plot Size Seeded: 30' x100'

Experiment Size: 30' x100'

Harvest Plot Size: 5' x 100'

Factors/Treatments:

Rotation:
Corn/Soybean

Tillage + Fertilizer Treatments

1. Fall Strip-Till, Knife 9 in., Fertilizer 7 in., Full Berm
2. Fall Strip -Till, Knife 6 in., Fertilizer 4 in., Full Berm
3. Fall Strip - Till, Knife 9 in., No Fertilizer, Full Berm
4. Fall Strip - Till, Knife 6 in., No Fertilizer, Full Berm
5. Fall Strip - Till, Knife 9 in., Fertilizer 7 in., No Berm
6. Fall Strip - Till, Knife 6 in., Fertilizer 4 in., No Berm
7. Fall Strip - Till, Knife 9 in., No Fertilizer, No Berm
8. Fall Strip - Till, Knife 6 in., No Fertilizer, No Berm
9. No Till, Fertilizer applied with Planter
10. Fall Chisel plow, 2 spring field cultivations, fetilizer applied with

Results: Tables C-50

Table 50. Tillage and Fertilizer in Corn/Soybean Production Systems
Field 27, WI - 2007

Treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Residue	Silk	Grain Composition			Ethanol	
					Total	Stalk	Root	plants	Cover	DAP	Oil	Starch	Protein	per bu	per A
	bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	no. Days	%	%	%	gallons	gallons
CP-Spring	258	22.2	55	835	0	0	0	32699	2	76	3.4	60.2	7.6	2.92	756
NT-Spring	252	23.4	54	830	0	0	0	33222	32	77	3.4	60.2	7.6	2.93	738
T1-Fall	250	23.3	54	814	1	0	1	33570	18	77	3.4	60.2	7.6	2.94	734
T1-Spring	251	22.9	54	821	1	0	1	34267	17	77	3.3	60.4	7.4	2.94	738
T2-Fall	255	22.9	54	833	2	0	2	33919	17	77	3.4	60.2	7.7	2.92	744
T2-Spring	253	22.6	54	829	2	0	2	33977	18	77	3.3	60.3	7.7	2.93	741
T3-Fall	245	23.0	54	801	0	0	0	33106	17	77	3.3	60.3	7.5	2.94	720
T3-Spring	256	23.1	54	835	2	1	1	33628	19	77	3.4	60.1	7.7	2.93	748
T4-Fall	235	22.2	55	770	1	1	0	33338	18	76	3.4	60.1	7.7	2.91	683
T4-Spring	250	22.9	54	818	3	0	2	31886	18	77	3.4	60.2	7.7	2.92	731
Probability(%)															
Treatment	13.3	11.7	18.7	24.5	39.4	11.2	41.3	23.3	0.0	20.8	71.4	72.9	63.2	3.4	14
LSD (0.05)															
Treatment	NS	NS	NS	NS	NS	NS	NS	NS	3	NS	NS	NS	NS	0.0	NS

FIELD EXPERIMENT HISTORY

Title: **17 Tillage On-Farm Trials**

Experiment: 17Tillage **Trial ID:** 3058 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, J.T. Hopf, G.L. Hopf

Location: Howards Grove, WI **County:** Sheboygan

Supported By: Hatch

Site Information

Field: Hopf 1 **Previous Crop:** Corn **Soil Type:** Kewaunee Silt Clay Loam

Soil Test: **Date:** 5 /09/07 **pH** 7.5 **OM (%)** 3.1 **P (ppm)** 53 **K (ppm)** 95

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/3 /06
	Starter :	9-23-30	200	5/12/2007
	Post plant :	28-0-0	150	6 /11/07
	Manure:	N/A	N/A	N/A

Herbicide: Glyphomax 22 oz/a 6/2/07 **Insecticide:**

Irrigation: None **Hybrid/Variety:** Dekalb DKC4288

Planting Date: 5/12/07 **Row Width:** 30"

Planting Method: Case IH 955 minimum-till early **Planting Depth:** 1.5"

Harvest Date: 10/17/07 **Harvest Method:** Kincaid plot combine

Experimental Design

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

Plot Size Seeded: 30' x100' **Experiment Size:** 3.44 Acres

Harvest Plot Size: 5' x 100'

Factors/Treatments:

Rotation:
Continuous Corn

Tillage + Fertilizer Treatments

1. Fall Strip-Till, Knife 9 in., Fertilizer 7 in., Full Berm
2. Fall Strip -Till, Knife 6 in., Fertilizer 4 in., Full Berm
3. Fall Strip - Till, Knife 9 in., No Fertilizer, Full Berm
4. Fall Strip - Till, Knife 6 in., No Fertilizer, Full Berm
5. Fall Strip - Till, Knife 9 in., Fertilizer 7 in., No Berm
6. Fall Strip - Till, Knife 6 in., Fertilizer 4 in., No Berm
7. Fall Strip - Till, Knife 9 in., No Fertilizer, No Berm
8. Fall Strip - Till, Knife 6 in., No Fertilizer, No Berm
9. No Till, Fertilizer applied with Planter
10. Fall Chisel plow, 2 spring field cultivations, fetilizer applied with planter

Results: Tables C-51

Table 51. Tillage and Fertilizer in Continuous Corn Production Systems
Hopf 1, WI - 2007

Treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Residue	Grain Composition			Ethanol	
					Total	Stalk	Root	plants	Cover	Oil	Starch	Protein	per bu	per A
	bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	%	gallons	gallons
CP-Spring	173	23.1	51	536	1	1	0	27356	13	3.0	59.9	7.9	2.91	503
NT-Spring	141	23.9	49	450	2	2	0	28401	82	3.1	60.1	7.6	2.92	412
T1-Fall	164	22.2	50	523	1	1	0	32002	66	3.1	60.2	7.5	2.94	481
T1-Spring	176	22.9	51	560	1	1	0	27356	63	3.1	60.1	7.7	2.93	514
T2-Fall	164	23.0	50	521	1	1	0	31131	62	3.1	60.5	7.4	2.95	483
T2-Spring	167	21.2	51	536	1	1	0	28111	63	3.1	60.2	7.5	2.93	489
T3-Fall	170	22.0	51	543	1	1	0	28924	65	3.1	60.4	7.5	2.94	498
T3-Spring	162	21.2	50	519	2	2	0	27937	64	3.2	60.3	7.5	2.93	473
T4-Fall	171	23.5	51	543	2	2	0	28575	66	3.0	60.6	7.6	2.93	501
T4-Spring	172	22.4	51	548	1	1	0	28866	68	3.1	60.3	7.8	2.92	502
Probability(%)														
Treatment	59.6	77.3	42.7	72.4	36.6	43.9	47.4	5.7	0.0	24.4	43.9	59.3	77.7	63
LSD (0.05)														
Treatment	NS	NS	NS	NS	NS	NS	NS	NS	6	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **17 Tillage On-Farm Trials**

Experiment: 17Tillage **Trial ID:** 3070 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, J.T. Hopf, G.L. Hopf

Location: Howards Grove, WI **County:** Sheboygan

Supported By: Hatch

Site Information

Field: Hopf 2 **Previous Crop:** Soybean **Soil Type:** Kewaunee Silt Clay Loam

Soil Test: **Date:** 5 /09/07 **pH** 7.7 **OM (%)** 2.8 **P (ppm)** 13 **K (ppm)** 80

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/3 /06
	Starter :	9-23-30	200	5/7/2007
	Post plant :	28-0-0	120	28-0-0
	Manure:	N/A	N/A	N/A

Herbicide: Glyphomax 22 oz/a 5/31/07 **Insecticide:**

Irrigation: None **Hybrid/Variety:** Dekalb DKC4288

Planting Date: 5/7/07 **Row Width:** 30"

Planting Method: Case IH 955 minimum-till early **Planting Depth:** 1.5"

Harvest Date: 10/17/07 **Harvest Method:** Kincaid plot combine

Experimental Design

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

Plot Size Seeded: 30' x100' **Experiment Size:** 3.44 Acres

Harvest Plot Size: 5' x 100'

Factors/Treatments:

Rotation:
Corn/Soybean

Tillage + Fertilizer Treatments

1. Fall Strip-Till, Knife 9 in., Fertilizer 7 in., Full Berm
2. Fall Strip -Till, Knife 6 in., Fertilizer 4 in., Full Berm
3. Fall Strip - Till, Knife 9 in., No Fertilizer, Full Berm
4. Fall Strip - Till, Knife 6 in., No Fertilizer, Full Berm
5. Fall Strip - Till, Knife 9 in., Fertilizer 7 in., No Berm
6. Fall Strip - Till, Knife 6 in., Fertilizer 4 in., No Berm
7. Fall Strip - Till, Knife 9 in., No Fertilizer, No Berm
8. Fall Strip - Till, Knife 6 in., No Fertilizer, No Berm
9. No Till, Fertilizer applied with Planter
10. Fall Chisel plow, 2 spring field cultivations, fetilizer applied with

Results: Tables C-52

Table 52. Tillage and Fertilizer in Corn/Soybean Production Systems
Hopf 2, WI - 2007

Treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest plants	Residue Cover	Grain Composition			Ethanol	
					Total	Stalk	Root			Oil	Starch	Protein	per bu	per A
	bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	%	gallons	gallons
CP-Spring	148	19.0	53	479	0	0	0	29969	2	3.1	60.7	7.0	2.97	441
NT-Spring	144	18.5	53	489	0	0	0	30144	30	3.1	60.8	7.1	2.97	429
T1-Fall	148	18.5	53	492	0	0	0	30782	16	3.2	60.6	7.0	2.97	438
T1-Spring	148	18.8	53	493	0	0	0	31305	15	3.2	60.8	7.1	2.97	439
T2-Fall	157	18.6	53	523	0	0	0	29969	15	3.1	60.4	7.3	2.96	465
T2-Spring	165	18.5	53	551	0	0	0	29737	16	3.1	60.5	7.0	2.96	488
T3-Fall	147	18.4	54	490	0	0	0	30434	17	3.2	60.4	7.1	2.95	434
T3-Spring	148	18.1	53	495	0	0	0	29272	16	3.1	60.6	7.1	2.97	440
T4-Fall	155	17.8	54	518	0	0	0	29911	18	3.1	60.5	7.1	2.97	459
T4-Spring	142	18.9	53	473	0	0	0	30318	17	3.1	60.7	7.0	2.97	422
Probability(%)														
Treatment	97.8	49.5	85.5	97.3	16.6	55.2	55.2	73.4	0.0	58.4	97.5	71.0	98.2	98
LSD (0.05)														
Treatment	NS	NS	NS	NS	NS	NS	NS	NS	3	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **17 Tillage On-Farm Trials**

Experiment: 17Tillage **Trial ID:** 3071 **Year:** 2007

Personnel: J.G. Lauer, K.D. Kohn, J.T. Hopf, G.L. Hopf

Location: Howards Grove, W **County:** Sheboygan

Supported By: Hatch

Site Information

Field: Hopf 3 **Previous Crop:** Wheat **Soil Type:** Kewaunee Silt Clay Loam

Soil Test: **Date:** 5 /09/07 **pH** 7.7 **OM (%)** 2.5 **P (ppm)** 8 **K (ppm)** 87

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	9-23-30	200	11/3 /06
	Starter :	9-23-30	200	5/7/2007
	Post plant :	28-0-0	150	28-0-0
	Manure:	N/A	N/A	N/A

Herbicide: Glyphomax 22 oz/a 6/1/07 **Insecticide:**

Irrigation: None **Hybrid/Variety:** Dekalb DKC4288

Planting Date: 5/7/07 **Row Width:** 30"

Planting Method: Case IH 955 minimum-till early **Planting Depth:** 1.5"

Harvest Date: 10/17/07 **Harvest Method:** Kincaid plot combine

Experimental Design

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

Plot Size Seeded: 30' x100' **Experiment Size:** 3.44 Acres

Harvest Plot Size: 5' x 100'

Factors/Treatments:

Rotation:
Corn/Wheat

Tillage + Fertilizer Treatments

1. Fall Strip-Till, Knife 9 in., Fertilizer 7 in., Full Berm
2. Fall Strip -Till, Knife 6 in., Fertilizer 4 in., Full Berm
3. Fall Strip - Till, Knife 9 in., No Fertilizer, Full Berm
4. Fall Strip - Till, Knife 6 in., No Fertilizer, Full Berm
5. Fall Strip - Till, Knife 9 in., Fertilizer 7 in., No Berm
6. Fall Strip - Till, Knife 6 in., Fertilizer 4 in., No Berm
7. Fall Strip - Till, Knife 9 in., No Fertilizer, No Berm
8. Fall Strip - Till, Knife 6 in., No Fertilizer, No Berm
9. No Till, Fertilizer applied with Planter
10. Fall Chisel plow, 2 spring field cultivations, fetilizer applied with

Results: Tables C-53

Table 53. Tillage and Fertilizer in Corn/Wheat Production Systems
Hopf 3, WI - 2007

Treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest plants	Residue Cover	Grain Composition			Ethanol	
					Total	Stalk	Root			Oil	Starch	Protein	per bu	per A
	bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	%	gallons	gallons
CP-Spring	139	18.8	54	436	0.3	0.3	0.0	32118	1	3.1	60.8	7.2	2.96	411
NT-Spring	133	19.8	53	436	0.0	0.0	0.0	30957	75	3.1	60.6	7.2	2.96	395
T1-Fall	136	20.7	52	436	0.0	0.0	0.5	31828	58	3.1	60.5	7.2	2.95	403
T1-Spring	143	19.8	52	461	0.0	0.0	0.5	28924	58	3.2	60.7	7.1	2.95	422
T2-Fall	128	18.6	54	413	0.0	0.0	1.0	33106	61	3.2	61.0	6.7	2.97	380
T2-Spring	119	19.3	53	380	0.0	0.0	1.3	33338	57	3.1	60.8	7.2	2.96	351
Probability(%)														
Treatment	60.0	14.5	19.6	63.9	45.8	45.8	52.3	2.9	0.0	47.6	19.3	50.8	17.3	63
LSD (0.05)														
Treatment	NS	NS	NS	NS	NS	NS	NS	2591	9	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **Corn Tillage Study**

Experiment: 17 Tillage **Trial ID:** 07C53 **Year:** 2007

Personnel: M.G. Bertram

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

Supported by: Marshfield Ag. Research Station

Site Information

Field: N5 **Previous Crop:** Soybean **Soil Type:** Withee silt loam

Soil Test : **Date:** 10/31/06 **pH** 6.8 **SOM (%)** 3.0 **P (ppm)** 55 **K (ppm)** 126

Plot Management

Tillage Operations: varies Cultivate 6/12/07

Fertilizer:

	Analysis	Rate	Date
Preplant	none	N/A	N/A
Starter	9-11-30	150 lb/A	5/8/2007
Post plant	28-0-0	27 gal/A	6/12/2007
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: 5/8/2007 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 35,000 **plants per acre** **Planting Method:** John Deere 1750 planter

Harvest Date: 11/9/2007 **Harvest Method:** John Deere combine

Notes:

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 540' x 30' **Experiment Size:** 7.25 A

Harvest Plot size: 538' 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-54.

Table C-54. Corn Tillage Study - 2007
Marshfield, WI

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	32990	33222	33686	33803	33571	21	58.1	15.7	139	393
Fall strip till	32176	32990	33106	33454	33222	26	58.3	15.6	141	399
Spring chisel	32176	32757	32873	33222	32176	22	57.7	15.7	139	394
Spring field cultivate	27762	29969	31479	31944	31131	19	58.2	15.5	139	406
Mean	31276	32235	32786	33106	32525	22	58	15.6	140	398
Probability (%)										
Tillage	0.7	3.2	22.6	29.6	33.5	35.8	10.8	38.1	41.0	15.2
LSD 10%										
Tillage	1924	1716	NS	NS	NS	NS	0.4	NS	NS	10
C.V. (%)	4	3	4	3	5	21	0	1	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

Wisconsin On-Farm Testing
WAPAC Corn Trials
2007

University of Wisconsin - Extension
Wisconsin Association of Professional Ag Consultants
Independent, Replicated, On-Farm Research

2007 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 2007.

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** = $3.39 = **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	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K Micro + Manure	Weed control	Insecticide + Fungicide
Bonduel, WI Sorenson Grain Stern Crop Consulting	2985 Onaway	Corn	4/28/07 30 29100		Spring Mulch finisher 2x	7 20 120	No micro + Manure 3-3-8	Lumax @ 2.5 qt/A on 29 April	None + None
Cecil, WI Jeff & Connie Horsens Bill Schaumberg	2984 Onaway fine sandy loam	Alfalfa	5/1/07 30 31000		Spring Disk + Field Cultivator	7.4 60 109	14 23 45 9 S + No manure	Volley ATZ + Hornet WDG @ 1.5 qt/A + 3 oz/A on 3 May	None + None
Very drought stressed, very little moisture in July and August. The first rep of Dairyland was harvested by accident before we got there.									
Hamburg, WI Draeger Dairy Farm Paul Sturgis	2986 Fenwood	Corn	5/19/07 30 29000		Spring Chisel plow + Soil Finisher	7.1 29 183	34 12 4 No micro + No manure	Keystone LA + Python @ 3.5 pt/A + 0.7 oz/A on 25 May	None + None
Field had severe hail damage in mid June. Plant populations after hail event were 17-20,000 plants acre. No additional N was applied due to uncertainty of insurance company's status on field.									
Middle Inlet, WI Michael Kaufman Scott Reuss	2983 Emmet	Corn	5/25/07 30 30750	11/4/07	Fall Chisel Plow Spring Disk 2x		77 35 70 No micro + No manure	Hornet WDG + Atrazine + Parallel @ 3 oz/A + 0.75 lb/A + 1 qt/A on 2 June	None + None
Combined both reps as one; yield too low otherwise.									
Pittsville, WI Pete Peterson Paul Sturgis	2987 Kert	Soybean	5/9/07 30 30000		Fall Chisel plow Spring Soil finisher	6.3 38 174	66 8 2 No micro + 4000 gal/A (10-5-6)	Lumax @ 2.5 qt/A on 19May	None + None
Field was very dry with no rain from July 7th through Aug 18th.									
Porterfield, WI Harry Dudkiewicz Scott Reuss	2982 Emmet	Corn	5/22/07 30 32000	10/29/07	Fall Chisel Plow Spring Disk		117 32 13 No micro + No manure	Hornet WDG + Atrazine + Parallel + Steadfast @ 3 oz/A + 0.75 lb/A + 1.5 pt/A + 0.25 oz/A on 29 May	None + None
Pulaski, WI Phil Ullmer Nathen Nysse	2980 Onaway sandy loam	Soybean	5/14/07 30 32000		No tillage	7.8 40 110	120 20 58 No micro + No manure	Lumax @ 2.5 qt/A on 25 may	None + None
Variety #9 second rep of Pioneer 38P03 (not in WAPAC trials anyway) was mistakenly taken out before weighing. There were also 72 rows of mixed corn from the plot located between plot numbers 8 and 10.									
Pulaski, WI Lee Herman Jeff Polenske	2981 Solona / Hortonville	Soybean	5/5/07 30 29917		No tillage	8 12 68	140 26 61 No micro + No manure	Lumax @ 2.25 qt/A on 7May	None + None

WAPAC Corn Hybrid Trial Results (90 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield	Grower Return	Pulaski 2980	Pulaski 2981	Porter-field 2982	Middle Inlet 2983	Cecil 2984	Bonduel 2985	Ham-burg 2986	Pitts-ville 2987
	no./A	%	lb/bu	%	bu/A	$/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A	bu/A
Croplan Genetics 296TS	27963	4	55	19.9	105	325	131	78	135	36	87	125	90	159
LG Seeds LG2411	27854	3	54	21.1	109	335	139	90	138	35	88	136	93	152
Pioneer 38W22	26938	2	55	21.5	104	317	138	87	144	48	85	108	94	124
Dekalb DKC42-88(RR2YGPL)	25667	2	53	22.3	101	309	133	78	132	37	82	138	74	135
Renk RK438RRYGPL	27692	2	54	22.8	106	324	138	81	139	20	89	135	98	150
Kaltenberg K3915Plus	27271	4	53	23.2	102	309	133	73	137	17	82	139	96	137
Mean	27231	3	54	21.8	104	320	136	81	138	32	85	130	91	143
LSD(0.10)	1213	NS	1	1.1	NS	NS	NS	7	NS	---	NS	---	----	---

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.39 = 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: 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	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K Micro + Manure	Weed control	Insecticide + Fungicide
Abrams, WI Ron Leja Stern Crop Consulting *Uniform plot, very consistent ,dry summer,light bear damage*	2978 Onaway course	Soybean	5/7/07 30 28900		Spring To the Max 2x	7.4 20 136	119 23 5 No micro + No manure	Lumax + glyphosate + AMS @ 2 qt/A + 1 qt/A + 2 lb/A on 7 May	None + None
Clintonville, WI Doug Behnke Mike Kiddy *Very dry June, July, and half of August.*	2972 HnB	Corn	5/4/07 30 32000		Spring field cultivate 2x Cultivate 1x	6.8 31 124	166 52 213 13.2 S + 10000 gal/A (12-3.6-18.6-1.2)	Volley ATZ Lite + Hornet WDG + AMS @ 1.75 qt/A + 2.75 oz/A + 2.5 lb/A on 18 May	Chlorpyrifos @ 8.7 lb/A on 5/4/07 + None
De Pere, WI Robertson Brothers Jeff Polenske	2975 Hortonville	Soybean	5/7/07 30 31167		Fall Chisel Spring Field Cultivated 2x	6.8 29 143	120 0 0 No micro + No manure	Lumax @ 2.25 qt/A on 9May	None + None
Iola, WI Paul Reierson Paul Knutzen	2974 Plainfield	Alfalfa	5/4/07		Spring disking	6 25 110	No micro + No manure	Define + Marksman @ 20 oz/A + 2.5 pt/A May	None + Headline @ 6 oz/A July
New London, WI Ryan Martin Paul Knutzen	2973 Kolberg	Soybean	5/5/07 30		Spring Disk	7.6 151 131	No micro + No manure	Dual 8E + Hornet WDG + Atrazine 4L @ 1.33 pt/A + 2.8 oz/A + 1 pt/A May Status @ 6 oz/A June	None + Headline + Crop oil @ 6 oz/A + 1 pt/A July
Oneida, WI Oneida Nation Farms Bill Schamberg	2977 Solona silt loam	Soybean	5/9/07 30 32500		Spring field cultivator + Rotary harrow	7.2 19 91	150 128 180 No micro + No manure	Confidence Extra + Hornet WDG @ 2.2 qt/A + 3 oz/A on 10 May	None + None
Peshtigo, WI Dale Schroeder Scott Reuss	2976 Emmet	Alfalfa	5/9/07 30 28000	10/20/07	Spring moldboard plow Spring Field cultivator & Disk		77 35 70 No micro + No manure	Hornet WDG + Prowl @ 3 oz/A + 1 qt/A on 15 May	None + None
St. Nazianz, WI Mark Litz Steve Hoffman	2971 Kewaunee	Corn	5/10/07 30 29625	10/16/07	Fall DMI Spring Field Cultivator 2x Cultivate 1x	7.2 22 163	No micro + Dairy Manure 9423 gal/A on 6Nov06	Metolachlor-Magnum + Stout + Impact + Atrazine @ 1 pt/A + 0.5 oz/A + 0.5 oz/A + 0.25 lb/A on 30 May	Force 3G @ 3.3 lb/A + None
Valders, WI Larry Krepline Carl Buchner	2979 Kewaunee loam	Wheat	5/10/07 30 30500	10/25/07	Fall Chisel plow Field cultivator 2x	7 39 112	No micro + No manure	Dual II Magnum @ 0.7 pt/A on 9May Status + Astrex @ 4 oz/A + 1 pt/A on 5 June	None + None

WAPAC Corn Hybrid Trial Results 95 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield	Grower Return	St. Nazianz 2971	Clinton-ville 2972	New London 2973	Iola 2974	De Pere 2975	Pesh-tigo 2976	Oneida 2977	Abrams 2978	Valders 2979
	no./A	%	lb/bu	%	bu/A	$/A	bu/A	bu/A	bu/A	bu/A	bu/A				
Dairyland Stealth 7196	27125	1	56	18.9	155 *	481	135	181	96	194	177	104	170	171	170
Dekalb DKC46-60(VT3)	28946	2	56	18.9	158 *	490	132	160	111	210	183	91	181	179	178
LG Seeds LG2463Bt	28321	3	55	19.0	151 *	468	138	171	94	192	155	102	171	173	166
Garst 8860CB/LL	26089	2	55	19.1	139	429	114	153	86	168	164	104	161	154	145
Golden Harvest L7H08BtRW	28339	2	56	19.3	150	464	128	176	92	191	155	88	176	180	165
Renk RK488RR/YGPL	28643	1	56	19.5	153 *	470	129	177	93	187	168	111	173	168	166
Kaltenberg K3843RRPlus	28536	1	55	19.9	151 *	466	128	178	83	187	187	94	170	173	163
Mycogen 2R428	28714	3	56	19.9	149	460	113	172	108	191	160	86	179	173	164
Mean	28089	2	56	19.3	151	466	127	171	95	190	169	98	173	171	165
LSD(0.10)	816	NS	1	0.6	7	20	14	NS	NS	6	9	9	NS	NS	16

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.39 = 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: 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	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K Micro + Manure	Weed control	Insecticide + Fungicide
Appleton, WI Dave McCarthy Jeff Polenske	2970 Hortonville	Alfalfa	4/24/07 20 32833		No Tillage	6.9 25 140	182 50 144 No micro + 10000 gal/A	Dual II Magnum + AaTrex 9.0 @ 1 pt/A + 1 lb/A on 21April Basis @ 0.33 oz/A on 30April	None + None
Planter had a hard time with flat seed sizes, that explains the high populations on some varieties above. Dry weather had an effect on yield.									
Deerfield, WI Russ Dahl Tom Novak	2914 Dosge sil	Corn	5/4/07 30 28000	11/5/07	Spring Disk + Field cultivator	6.5 27 92	124 20 20 No micro + No manure	Harness @ 2 pt/A early May Status @ 5 oz/A early June	Force 3G @ 4.4 lb/A + None
Very dry all season until mid-August. Pollination problems (see final ear counts). Reps 1+2 were on opposite ends of the field separated by several hundred feet.									
Manawa, WI Dan Boerst Mike Kiddy	2917 HnB/SyA	Alfalfa	4/29/07 30 34000		Fall Chisel plow Spring Field cultivate 2x Cultivate 1x	7.1 50 131	100 103 218 12 S + Manure at 10000 gal/A 10-8-21-1.2	Honcho Plus + AMS @ 1.5 qt/A + 3 lb/A on 5Oct06 Lumax + AMS @ 2 qt/A + 3 lb/A on 7May	Latitude @ 0.5 pk/bu on 29Apr + None
Very dry June, July and half of August.									
Markesan, WI Steve Stellmacher Rachel Mueller	2918 Kidder loam	Corn	5/12/07 38 29000	11/10/07	Fall chisel Spring disk	6 50 106	150 12 60 3.5 S + 0.3 Zn + No manure	Harness + Hornet WDG + Atrazine @ 2 pt/A + 4 oz/A + 0.5 lb/A on 14May	None + None
Fair amount of wind damage, broken stalks. Wind damage, snapped stalks, picked most of it up, stalk still hanging.									
Poy Sippi, WI Larry Paltzer Larry Paltzer	2969 Fisk loamy sand loamy sand	Soybean	5/5/07 30 31000		No tillage	6.4 47 135	135 9 75 12 S + No manure	2,4-D + Princep @ ? in fall Touchdown + Camix + Atrazine @ 12 oz/A + 1.75 qt/A + 0.6 lb/A on 12May	None + None
Very dry July weather. Approximately 1.5 inches of rain from planting to July 15.									
Readfield, WI Larry Danke Paul Knutzen	2915 Hortonville	Corn	5/4/07 30		No tillage	6.4 51 125	124 22 60 8 S + 1.2 Zn + No manure	Cornerstone Plus + Dual 8E + Hornet WDG + Atrazine 4L + AMS @ 1 qt/A 1.33 pt/A + 2.8 oz/A + 1 pt/A 3 lb/A pre	None + Headline + Crop oil @ 6 oz/A + 1 pt/A during July
Whitewater, WI Tom Hoffman Tom Novak	2861 Mahalasville sil	Soybean	5/4/07 30 30000	10/23/07	No tillage	7.1 28 106	108 46 150 No micro + No manure	Glyphosate + Harness + 2,4-D exter @ 1 qt/A + 2 pt/A + 0.5 pt/A ealy May Status @ 5 oz/A early June	Force 3G @ 4.4 lb/A + None
This location has the western CRW variant. We use insecticide on RW hybrids on all corn after soybean.									
Wrightstown, WI Dave Vandehey Nathan Nysse	2968 Kewaunee clay loam	Corn	5/14/07 30 32000	10/5/07		6.9 35 145	180 90 216 No micor + Dairy manure at 18000 gal/A (150-90-216)	Mee-to-Lachor + Callisto + Atrazine @ 1.67 pt/A + 3 oz/A + 0.5 pb/A on 20May	Lorsban on non-BtCR corn @ 8 lb/A on 14May + None
Good stand except for low areas.									

WAPAC Corn Hybrid Trial Results (100 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield	Grower Return	White-water 2861	Deer-field 2914	Read-field 2915	Manawa 2917	Mark-esan 2918	Wrights-town 2968	Poy Sippi 2969	Apple-ton 2970
	no./A	%	lb/bu	%	bu/A	$/A	bu/A	bu/A	bu/A	bu/A	bu/A			
Garst 8880YG1	27361	2	54	17.9	136	423	182	87	131	135	143	108	165	137
Trelay 5K626	28944	2	55	19.2	156	481	192	152	139	138	166	138	180	140
AgriGold A6225BtRR	29569	2	54	19.4	156	481	191	139	149	143	167	130	191	138
Golden Harvest H7506HxLL	28861	2	55	19.5	155	478	193	129	138	136	160	144	200	140
Croplan Genetics 3824TS	28444	1	55	19.7	155	478	188	137	133	147	162	139	191	143
LG Seeds LG2496BtRR	29944	1	54	19.8	161 *	495	185	158	159	146	169	143	187	141
Dairyland Stealth 7201	28028	2	56	20.1	151	466	188	117	133	146	165	117	189	155
Kaltenberg K4265RRBt	29361	2	55	20.2	160 *	491	193	131	154	153	152	144	202	150
Renk RK670VT3	29194	2	54	20.6	160 *	491	185	149	144	148	180	149	187	141
DeKalb DKC52-59	28403	2	53	20.6	167 *	510	193	141	156	161	179	152	204	149
Mean	28811	2	55	19.7	156	479	189	134	144	145	164	136	190	143
LSD(0.10)	NS	NS	1	0.9	8	24	NS	5	10	10	---	10	11	NS

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.39 = 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	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K Micro + Manure	Weed control	Insecticide + Fungicide
Cambridge, WI Jeff Notstad A.D. Cole	2966 Kidder-McHenry silt loam	Soybean	5/7/07 38 29000	11/2/07	Spring disk	6.7 26 103	131 42 110 1 Zn + Manure @ 10 T/A	Harness 7EC + Princep 90 @ 3 pt/A + 1 lb/A on 12 May Status @ 5 oz/A on 6June	Force 3G @ 3.4 lb/A on 7May + None
Normal to above normal during growing season, low stress.									
Elkhorn, WI Lauderdale Farms Tom Novak	2878 Plano silt loam sil	Corn	5/4/07 30 30000	10/30/07	Fall chisel Spring soil finisher	7.3 78 187	150 95 260 + Dairy manure 15000 gal/A	Harness @ 2 pt/A pre Buctril @ 1.5 pt/A post	Force 3G @ 4.4 lb/A + None
This location has the western CRW variant so we use insecticde on RW hybrids on all corn after soybeans or corn. Perfect rainfall all year - never a day of moisture stress.									
Lodi, WI Lockner Dairy A.D. Cole	2964 Mt. Carrol silt loam	Corn	5/2/07 30 40000	10/5/07	Field cultivate (Combo chisel & Disk) Cultivate 1x	6.7 38 195	190 72 177 1 Zn + 15000 gal/A (3x applications)	Dual II Mag + Hornet WDG @ 2 pt/A + 4 oz/A on 10 May	Poncho SAI @ 250 g/seed + Force 3G @ 4.4 lb/A on 2May + None
Planter went nuts, way too many seeds dropped, air planters leave a lot to be desired trying to calibrate. Peepers=5698/A (plants not contributing anything to yield). Ear droppage of 5-10 bu/A. Mid-season drought, but had good soil moisture. Anthracnose.									
Markesan, WI Gran Prairie Cornerstone Crop Consulting	2919 Plano silt loam	Sweet corn	5/10/07 30 30500	10/22/07	Fall Chisel Spring Mulch/Finisher	6.7 36 148	124 20 50 3.5 S+0.3 Zn + Second year after manure application (24 lb N/A)	Celebrity Plus @ 4 oz/A on 9June	None + None
Broken stalks from wind. Thanks to Leystra Vue Farms for weigh wagon!									
Prairie du Sac, WI USDA-DFRC A.D. Cole	2879 Richwood & Rhb silt loam	Soybean	5/8/07 30	10/30/07	Aer-Way 1X	6.9 29 127	35 14 19 No micro + 12000 gal/A Liquid Dairy	Generic glyphosate + Define + Sencor @ 32 + 10 + 2 oz/A on 30Apr Liberty @ 34 oz/A on 11Jun	None + None
These hybrids had western bean cutworm from 10-30% level in all reps, A range of ear droppage 7-11bu/ across all hybrids. Normal to above normal rain during growing season, low stress.									

WAPAC Corn Hybrid Trial Results (105 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield	Grower Return	Elkhorn 2878	Prairie du Sac 2879	Mark-esan 2919	Lodi 2964	Cam-bridge 2966
	no./A	%	lb/bu	%	bu/A	$/A	bu/A	bu/A	bu/A	bu/A	bu/A
Renk RK644YGCB	33594	6	57	19.0	176	543	188	170	180	155	185
Dairyland Stealth 5204	33896	6	57	19.1	177	548	188	172	190	164	173
Dairyland Stealth 4006	33642	7	56	20.0	197 *	607	220	186	196	179	206
AgriGold A6325RWRR	33767	6	55	20.1	200 *	615	221	182	204	193	203
Trelay 6T226	35583	6	57	20.1	193	594	215	178	199	181	194
Croplan Genetics 5338TS	32887	7	57	20.3	195 *	597	219	189	196	179	191
Kaltenberg K5823RRPlus	31358	3	58	20.4	188	575	199	176	195	177	191
Dekalb DKC57-79(RR2YGPL)	32021	5	57	20.4	202 *	618	217	191	210	203	189
Mean	33343	6	57	19.9	191	587	208	181	196	179	191
LSD(0.10)	NS	2	NS	0.8	7	24	10	NS	---	NS	NS

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.39 = 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

Thank you to everyone who contributed to the success of the 2007 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 – Laura Rowe
Garst Seed – Nina Holte
Golden Harvest – John Riemer
Kaltenberg – Jim Dassow
LG Seeds – Paul Reierson
Mycogen – Kelly Keyzers
Pioneer – Dan Wiersma/Arnie Imholte
Renk – Jeff Renk
Trelay-Kevin Schmitz

On-Farm Trial Coordinators and Participating Growers

• Carl Buchner – Buchner Agronomy Consulting, Whitelaw, WI
1.) 95-day: Larry Krepline, Valders, WI

• A.D. Cole – ITAC of Wisconsin, Prairie du Sac, WI
1.) 105-day: Jeff Notstad, Cambridge, WI
2.) 105-day: Lockner Dairy, Lodi, WI
3.) 105-day: USDA-DFRC, Prairie du Sac, WI

• Steve Hoffman, Hoffman Crop Consulting, Manitowoc, WI
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• Mike Kiddy – Kiddy Crop Consulting, New London, WI
1.) 95-day: Doug Behnke, Clintonville, WI
2.) 100-day: Dan Boerst, Manawa, WI

• Paul Knutzen – Knutzen Crop Consulting, New London, WI
1.) 95-day: Paul Reierson, Iola, WI
2.) 95-day: Ryan Martin, New London, WI
3.) 100-day: Larry Danke, Readfield, WI

• Rachel Mueller, Cornerstone Crop Consulting, Princeton, WI
1.) 100-day: Steve Stellmacher, Markesan, WI
2.) 105-day: Gran Prairie, 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
3.) 105-day: Lauderdale Farms, Elkhorn, WI

• Nathen Nysse – Polenske Agronomic Consulting, Appleton, WI
1.) 90-day: Phil Ullmer, Pulaski, WI
2.) 100-day: Dave Vandehey, Wrightstown, WI

• Larry Paltzer – Paltzer Agronomy Service, Omro, WI
1.) 100-day: Larry Paltzer, Poy Sippi, WI

• Jeff Polenske – Polenske Agronomic Consulting, Appleton, WI
1.) 90-day: Lee Herman, Pulaski, WI
2.) 95-day: Robertson Brothers, De Pere, WI
3.) 100-day: Dave McCarthy, Appleton, WI

• Scott Reuss – UW-Extension-Oconto/Marinette Counties, Marinette, WI
1.) 90-day: Michael Kaufman, Middle Inlet, WI
2.) 90-day: Harry Dudkiewicz, Porterfield, WI
3.) 95-day: Dale Schroeder, Peshtigo, WI

• Bill Schaumberg – Polenske Agronomic Consulting, Appleton, WI
1.) 90-day: Jeff & Connie Horsens, Cecil, WI
2.) 95-day: Oneida Nation Farms, Oneida, WI

• Phil Stern – Stern Crop Consulting, Bonduel, WI
1.) 90-day: Sorenson Grain, Bonduel, WI
2.) 95-day: Ron Leja, Abrams, WI

• Paul Sturgis – Croptech Agronomics, Vesper, WI
1.) 90-day: Draeger Dairy Farm, Hamburg, WI
2.) 90-day: Pete Peterson, Pittsville, WI

WAPAC Research Chair

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Links to the WAPAC Corn Trails are available on the WAPAC website: **www.wapac.info** under the Corn Trials tab, and also on the University of Wisconsin Extension Corn Agronomy website: **http://corn.agronomy.wisc.edu** under the Hybrid Trials tab.

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