2008
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

2008 Wisconsin Research Report of Studies on Cultural Practices and Management Systems for Corn

Joe Lauer
Corn Agronomist
358 Moore Hall
(608) 263-7438
jglauer@wisc.edu
http://corn.agronomy.wisc.edu

Kent Kohn
Program Manager
566 Moore Hall
(608) 262-1840
kdkohn@wisc.edu

Thierno Diallo
Research Specialist
566 Moore Hall
(608) 262-1840
thdiallo@wisc.edu

Agronomy Department
University of Wisconsin
1575 Linden Drive
Madison, WI 53706
(608) 262-1390

The information presented in this report is for the purpose of informing cooperators in industry of the results of research conducted during 2008. 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 This information is **NOT FOR PUBLICATION** unless prior approval is received.

The assistance of the following people in conducting these studies is acknowledged.

Graduate Research Assistants: Justin Hopf

Cooperating Faculty: Shawn Conley – Agronomy, Jim Coors – Agronomy, Natalia de-Leon – Agronomy, Randy Shaver – Dairy Science

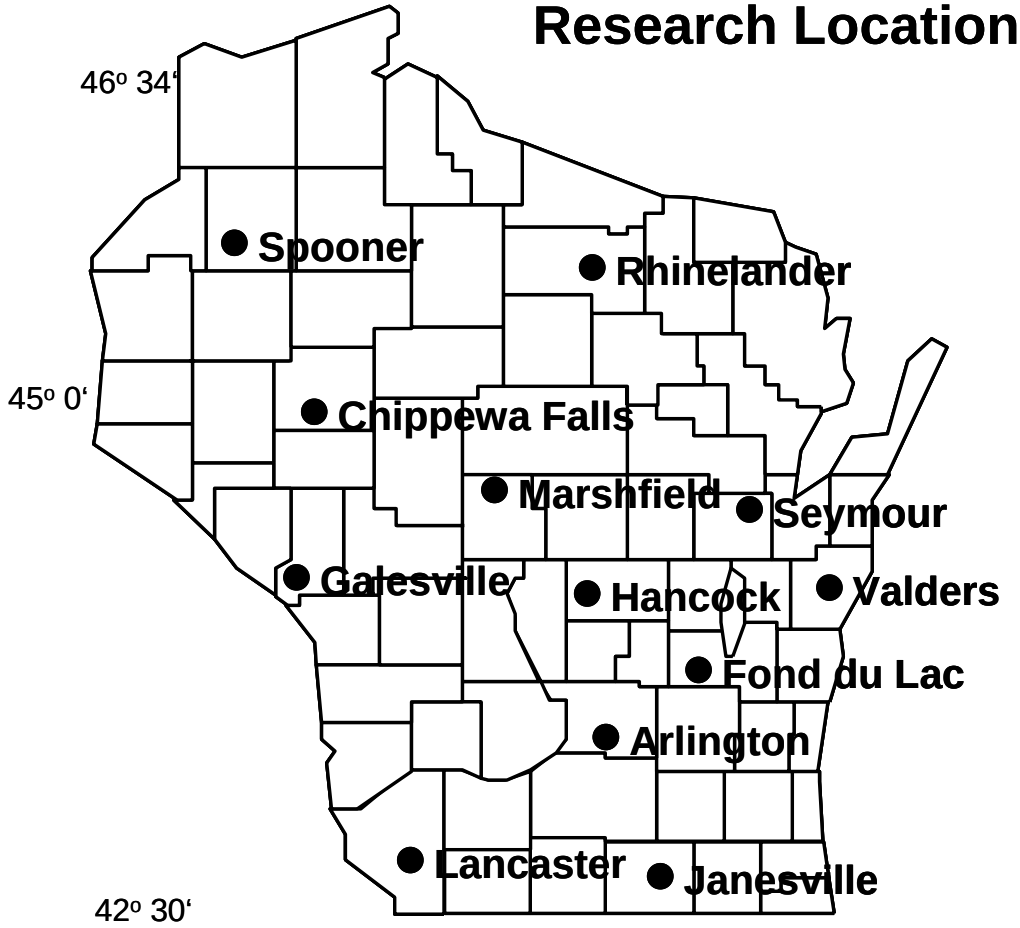
Cooperating UWEX County Agents and ARS Staff: Jerry Clark, Zen Miller, Mike Rankin, John Zander, Mike Bertram, Jeff Breuer, Tom Drendel, Charles Kostichka, Dwight Mueller, Tim Wood, Bob Rand, Jim Stute

Cooperating Farmers: Ken Congdon, Mike Maass, Ed Montsma, Gary Wack

Cooperating Academic Staff: John Gaska, Mark Martinka

Project Summer Crew: Jason Janzen, Bryan Mosgaller, Rachel Olson , Darwin Peters

UW Corn Agronomy Research Locations



We wish to thank the following companies and organizations that have generously supported our research through financial and/or material donations.

UW College of Agriculture and Life Sciences – Hatch Program
Ag Reliant Genetics LLC
BASF Plant Sciences
Bayer Crop Science
BiAgro Western
Croplan Genetics
Dahlco Seeds
Dairyland Seeds
Gold Country Seeds
Kaltenberg Seeds
Kruger Seed Inc
Latham Seeds
MPCI
Monsanto Company
Mycogen Seeds
Nu Tech Seed, LLC
Pioneer Hi-Bred International, Inc.
Renk Seed Company
Syngenta Crop Protection
Trelay Seeds

TABLE OF CONTENTS

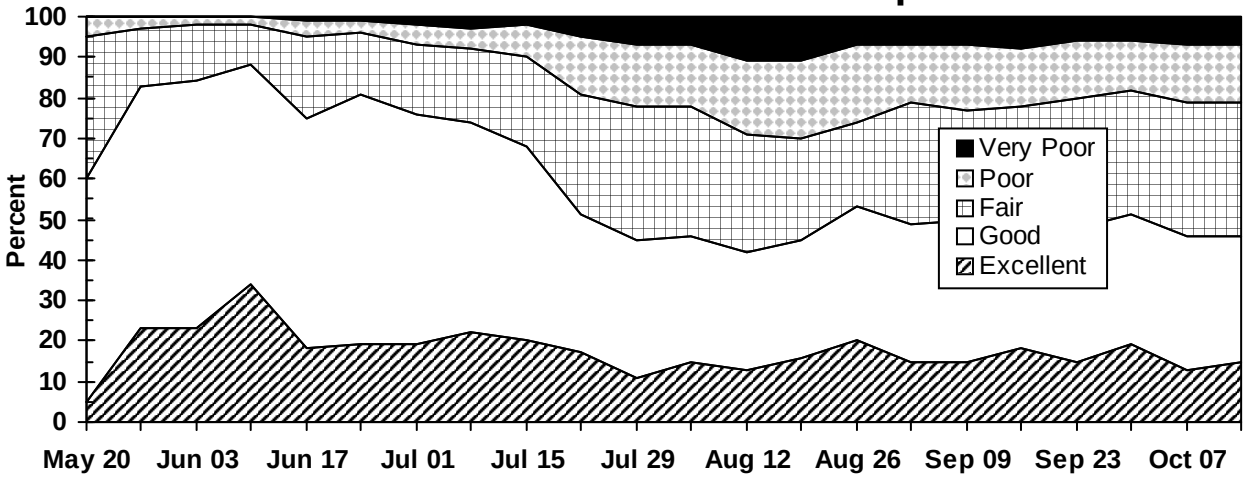
	Location	Experiment	Page	Table
Growing Conditions and Measurements				
2008 Crop Summary			1	
Arlington Daily Rainfall, Temperature and GDU	Arlington		6	A-1
Arlington Monthly Rainfall 1979-2008	Arlington		10	A-2
Arlington Monthly Temperatures 1979-2008	Arlington		11	A-3
Hancock Rainfall, Temperature and GDU	Hancock		12	
Hancock Monthly Rainfall 1979-2008	Hancock		13	A-4
Hancock Monthly Temperatures 1979-2008	Hancock		14	A-5
Marshfield Rainfall, Temperature and GDU	Marshfield		15	
Marshfield Monthly Rainfall 1979-2008	Marshfield		16	A-6
Marshfield Monthly Temperatures 1979-2008	Marshfield		17	A-7
Observations, Data Collected, and Statistical Analysis			18	B-1
Soils Information			20	B-2
Corn Hybrid Maturity				
Hybrid Growth & Development	Arlington	01	21	C-01 & C-02
	Marshfield	01	26	C-03
	Seymour	01	28	C-04
Private Silage				
AgReliant				
	Arlington	01	30	C-05
	Lancaster	01	32	C-06
	Fond du Lac	01	34	C-07
	Galesville	01	36	C-08
	Chippewa Falls	01	38	C-09
	Marshfield	01	40	C-10
	Valders	01	42	C-11
BASF	Arlington	01	44	C-12
	Lancaster	01	46	C-13
	Fond du Lac	01	48	C-14
	Galesville	01	50	C-15
	Chippewa Falls	01	52	C-16
	Marshfield	01	54	C-17
	Valders	01	56	C-18

	Location	Experiment	Page	Table
Silage Harvest Technique				
Mycogen	Arlington	01	58	C-19
Organic				
SARE	Arlington	01	61	C-20
Plant Density				
Monsanto	Arlington	02	63	C-21
	Hancock	02	65	C-22
Pioneer	Arlington	02	67	C-23 & C-24
	Fond du Lac	02	77	C-25
	Galesville	02	79	C-26
	Lancaster	02	81	C-27
Planting Date				
Corn and Silage Trial	Arlington	03	83	C-28,C-29& C-30
Fungicides				
Bayer	Arlington	08	91	C-31
	Fond du Lac	08	93	C-32
	Galesville	08	95	C-33
	Janesville	08	97	C-34
Corn-Soybean Rotation Study				
Corn - Yield Data	Arlington	09	100	C-35
Soybean - Yield Data	Arlington	09	104	C-36
Corn-Soybean-Wheat Rotation Study				
Corn - Yield Data	Arlington	09	109	C-37
Silage – Yield Data	Arlington	09	112	C-38
Soybean - Yield Data	Arlington	09	113	C-39
Wheat - Yield Data	Arlington	09	114	C-40
Corn - Yield Data	Marshfield	09	117	C-41
Silage – Yield Data	Marshfield	09	118	C-42
Soybean - Yield Data	Marshfield	09	119	C-43
Wheat - Yield Data	Marshfield	09	120	C-44
Foliar Fungicide				
Syngenta	Arlington	10	121	C-45

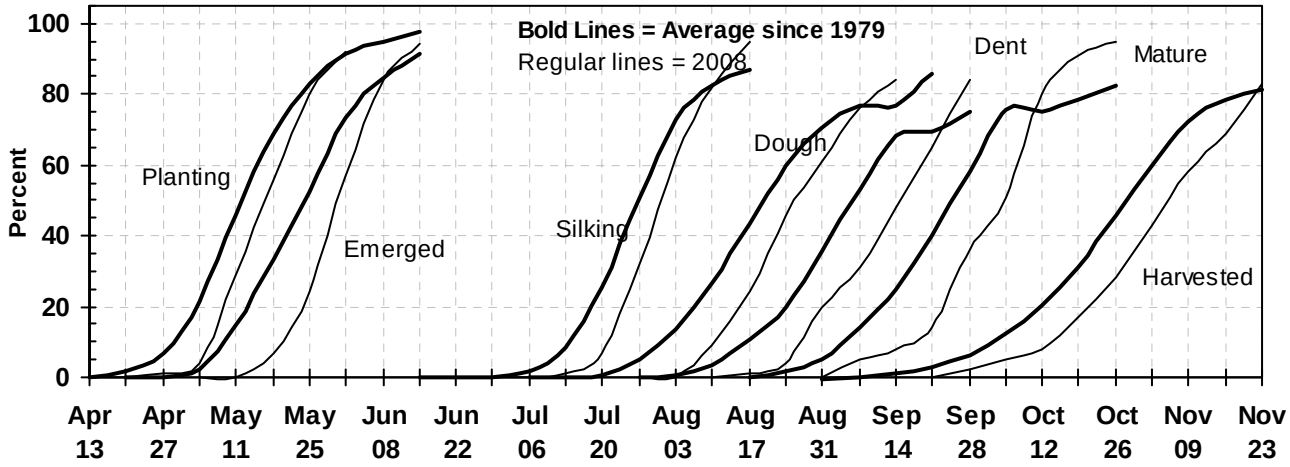
	Location	Experiment	Page	Table
Foliar Photosynthetic Enhancers				
BiAgro	Arlington	11	124	C - 46
Low Starch Silage Trial	Arlington	11	126	C-47
	Marshfield	11	128	C-48
	Strattford	11	130	C - 49
Nitrogen x Hybrid	Arlington	12	132	C - 50
Nitrogen x Plant Density	Hancock	12	135	C - 51
Clip Study				
Influence of Clipping on Corn	Arlington	16	137	C-52
Tillage in Corn and Soybean Production Systems				
Corn - Yield Data	Arlington	17	140	C-53
Soybean - Yield Data	Arlington	17	143	C-54

2008 Crop Summary for Wisconsin

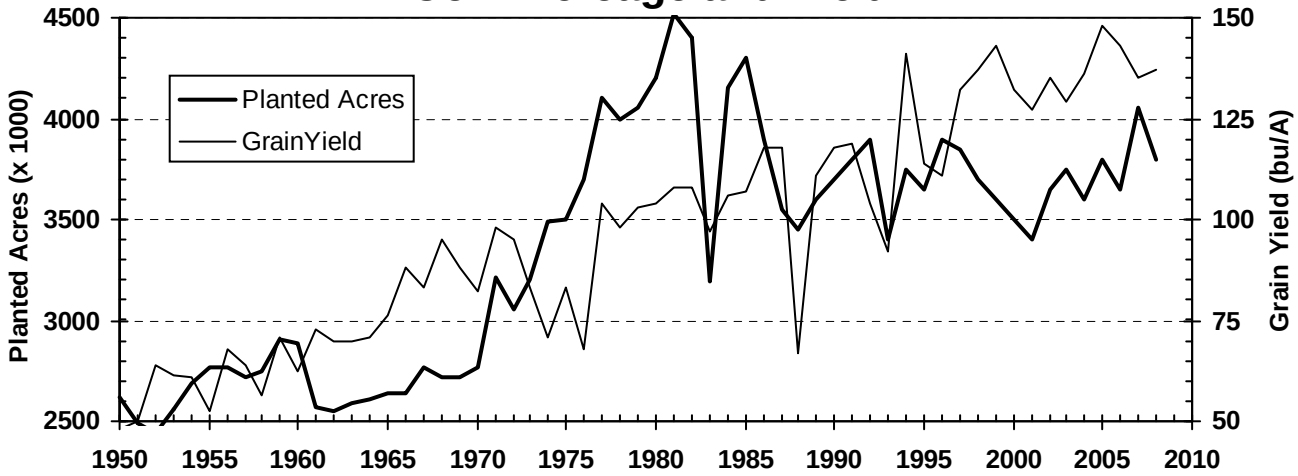
Condition of Corn Crop



Progress of Corn Crop



Corn Acreage and Yield



2008 Crop Production Review
(Derived from USDA-NASS reports)

Cool weather and frequent precipitation in the spring left many fields saturated, delaying planting and slowing crop emergence. In early June, severe storms with heavy rain and high winds prevented fieldwork and left standing water in many fields in Central and Southern Wisconsin. Through most of the summer crops were rated mostly good to excellent as soils dried out. By mid-August, producers were hoping for rain and warmth. Spotty rain showers in late August and early September were not enough in many areas to prevent stress to corn, soybeans, alfalfa, and pastures. Warm weather in the fall gave crop development a final boost and allowed crops to mature before a hard frost.

Corn

In the first week of June, corn planting was reported at 96 percent complete with emergence at 84 percent. The cooler temperatures hindered corn progress, and corn on heavy, wet soils was in poor condition. Corn progressed slowly through mid-July, but warmer weather later in the month promoted growth and better color. Silage chopping got underway in early September, later than usual. Reporters were worried that corn would not be mature enough if there was an early frost. Luckily, most areas remained warmer than normal throughout most of September and October, and many areas didn't receive a hard frost until November. As a result, corn for grain lacked good drying weather. Corn yields were variable, and some had lower yields than last year due to dry weather in their area.

Wisconsin farmers planted 3.80 million acres to corn in 2008, a 6 percent decrease the previous year. Of those acres planted, 2.88 million were harvested for grain with a yield of 137.0 bushels per acre. This year's corn crop produced 395 million bushels. Silage area harvested increased 130,000 acres, reaching 875,000 acres in 2008. Corn silage acres yielded 17.5 tons per acre for 2008, up 1.5 tons. Silage production was 15.3 million tons, compared to 11.9 million tons in 2007. Nationally, farmers planted 86.0 million acres to corn in 2008, an 8 percent decrease from 2007. Corn acres harvested for grain yielded 153.9 bushels per acre, up 3.2 bushels a year earlier. The 2008 yield is the second highest on record, behind 2004. Production at 12.1 billion bushels is the second largest national production on record behind 2007.

Soybeans

Soybean planting was delayed due to cool, wet conditions. Planting was 6 percent complete as of May 11, 2008, below both 2007 and the 5-year average for that time of year, and the slowest rate since 1996. By May 25th, growers had nearly caught up with the average planting rate; and thereafter, planting progress remained close to average. Emergence was slow through mid-June due to cool soil temperatures. Soybeans did well in July with adequate soil moisture. Dry August weather stressed the crop in many areas, and there were reports of light or empty pods. Harvest began in mid to late September with varying yields throughout the state. Many producers noted yields were lower than last year due to the lack of precipitation in late summer. Harvest wrapped up by the beginning of November.

Soybean acres planted in Wisconsin rose to 1.61 million acres in 2008, a rebound from 1.40 million acres in 2007. Statewide soybean yield was 35.0 bushels per acre, down 5.5 bushels from the previous year. The 2008 soybean crop produced 55.7 million bushels, down slightly from a year ago. U.S. soybean area planted rose 17 percent from 2007, to 75.7 million acres planted, slightly higher than acreage planted in 2006. Area of soybeans harvested as beans rose 16 percent to 74.6 million acres harvested. Yield was down 2.1 bushels per acre from a year ago, at 39.6 bushels per acre. Production is estimated at 2.96 billion bushels of soybeans in 2008, compared to 2.68 billion bushels in 2007.

Small Grains

Very few oats were reported planted as of April 13, 2008. Cold temperatures and spotty areas of frost remained in the ground. Some areas put off planting until May due to cool, wet conditions. By May 4th, planting was at 23 percent complete with 10 percent emerged. This was well below 2007's

average of 72 percent complete and 19 percent emerged. By July 13th, some farmers were harvesting oats for forage. Both oats and winter wheat were rated mostly good to excellent throughout July and early August. Oats harvested for grain wrapped up at the end of August with excellent yields. Winter wheat had minimal winter freeze damage. By mid- May most winter wheat had greened up. Very good yields were expected in some southern and central areas. Dry weather helped move along harvest, which wrapped up around August 24th.

In Wisconsin, area seeded to winter wheat in the fall of 2007 was 350,000 acres, an increase of 60,000 acres from a year earlier. Area harvested for grain was 335,000 acres, a 24 percent increase from the previous year. Yield dropped 2.0 bushels per acre from last year to reach 66.0 bushels per acre. The increased acreage planted and harvested offset the decrease in yield for winter wheat production. As a result, production reached 22.1 million bushels, a new state record and an increase of 20 percent from 2007.

Nationally, winter wheat was planted to 46.3 million acres, up 3 percent. Area harvested was 39.6 million acres, compared to 35.9 million acres in 2007. U.S. winter wheat yield was 47.2 bushels per acre, a 5.5 bushel increase from the previous year. Nationally, production increased from 1.50 billion bushels in 2007 to 1.87 million bushels in 2008. Wisconsin seeded 270,000 acres to oats in 2008, unchanged from a year earlier. Statewide, farmers harvested 190,000 acres for grain, 30,000 more acres than a year ago. Yield decreased 5.0 bushels per acre from 2007 to reach 62.0 bushels per acre. Overall production was 11.8 million bushels, a 10 percent increase from 2007.

U.S. acreage planted to oats was 3.22 million acres, down from 3.76 million acres in 2007. Area harvested for grain dropped from 1.50 million acres in 2007 to 1.40 million acres in 2008. Yield increased by 3.4 bushels, to 63.5 bushels per acre in 2008. Nationally, oat production declined 2 percent to 88.6 million bushels.

Barley area seeded in Wisconsin rose 3,000 acres, to 43,000 acres in 2008. Acres harvested for grain was 30,000 in 2008, compared to 23,000 acres in 2007. Barley yield decreased 3.0 bushels from the previous year, reaching 54.0 bushels per acre. Wisconsin barley production was 1.62 million bushels this year. Nationwide, barley was seeded to 4.23 million acres and harvested for grain on 3.77 million acres. The U.S. barley crop yielded 63.6 bushels per acre, a 3.6 bushel increase from 2007. Barley production was 239 million bushels, up from 210 million bushels in 2007. In Wisconsin, other spring wheat area planted increased from 9,000 acres in 2007 to 23,000 acres in 2008. Area harvested for grain was 22,000 acres in 2008, compared to 8,000 acres in 2007. The increase in acreage planted and harvested is directly related to an increase in wheat price. Yield increased 6.0 bushels to 41.0 bushels per acre. Other spring wheat production increased from 280,000 bushels in 2007 to 902,000 bushels in 2008. Other spring wheat was planted to 14.1 million acres nationwide. U.S. farmers harvested 13.5 million acres for grain. The U.S. crop yielded 40.5 bushels per acre and produced 547 million bushels in

Hay

Almost 80 percent of winter freeze damage to alfalfa was reported as mostly none to light. Due to below average temperatures and excess moisture, hayfields were showing slow growth in early May. By the 1st of June, first crop hay cutting was reported at 12 percent harvested with conditions varying across the state. There were reports of high first crop hay yields, especially in the northern half of the state. Generally, hay cutting progress lagged behind normal for first and second cuttings. In late August and September, completion rates for third and fourth cuttings were ahead of normal. Overall, most producers were able to harvest sufficient quantities of hay in 2008.

Pastures were productive until lack of rain slowed growth. By the end of August, many pastures looked dormant as conditions had declined to 82 percent very poor to fair. With September rains, many pastures greened up and conditions improved.

Wisconsin farmers harvested 1.50 million acres of alfalfa or alfalfa mixture dry hay in 2008, down 50,000 acres from 2007. Yield rose from 2.40 tons per acre in 2007 to 2.70 tons per acre in 2008.

Alfalfa and alfalfa mixture dry hay production was 4.05 million tons in 2008, up from 3.72 million tons a year earlier. Alfalfa haylage or greenchop was harvested from 1.40 million acres in Wisconsin during 2008, up 50,000 acres from 2007. Yield (green weight) was 6.70 tons per acre, up from 6.50 tons per acre. Alfalfa haylage or greenchop production was 9.38 million tons statewide, up 7 percent from 2007. Nationally, farmers harvested 21.0 million acres of alfalfa or alfalfa mixture dry hay in 2008, a slight decrease from 2007. Yield was virtually unchanged from 3.31 tons per acre in 2007 to 3.32 tons per acre in 2008. U.S. alfalfa or alfalfa mixture dry hay production was 69.6 million tons, down slightly from a year ago. Nationwide, alfalfa haylage or greenchop acreage harvested was 3.28 million acres, with Wisconsin accounting for 43 percent of harvested acres. U.S alfalfa haylage or greenchop yield was 6.81 tons per acre in 2008 compared to 6.58 tons per acre in 2007. Nationwide, alfalfa haylage or greenchop production reached 22.4 million tons in 2008, up 3 percent from last year.

All other hay harvested as dry hay accounted for 400,000 acres in Wisconsin during 2008, a 20,000 acre decline from 2007. Yield was 1.90 tons per acre, up from 1.60 tons per acre in 2007 and 2006. Production of all other hay harvested as dry hay totaled 760,000 tons in 2008, compared to 672,000 tons a year earlier. Nationally, 39.1 million acres of all other hay were harvested as dry hay, down 2 percent from the previous year. Nationwide, the all other hay dry hay crop yielded 1.95 tons per acre, virtually unchanged from 1.93 the previous year. All other hay dry hay production was 76.1 million tons in 2008, compared to 77.0 million tons in 2007.

Potatoes

Wisconsin farmers planted 63,500 acres of fall potatoes, down 1,000 acres. Area harvested in 2008 was 62,000 acres, down 2,000 acres from the previous year. Potatoes yielded 415 hundredweight (cwt.) per acre statewide in 2008, compared to 440 cwt. per acre a year earlier. Wisconsin potato production was 25.7 million cwt. in 2008. Nationwide, farmers planted 930,500 acres to fall potatoes and 46,000 acres to summer potatoes. Fall potato area harvested was 921,100 acres, while summer potato harvest was 43,800 acres nationally. U.S. fall potatoes yielded 409 cwt. per acre during 2008 in comparison to summer potato yield of 309 cwt. per acre. Total U.S. production for fall potatoes was 376 million cwt. in 2008, while summer potato production was 13.5 million cwt.

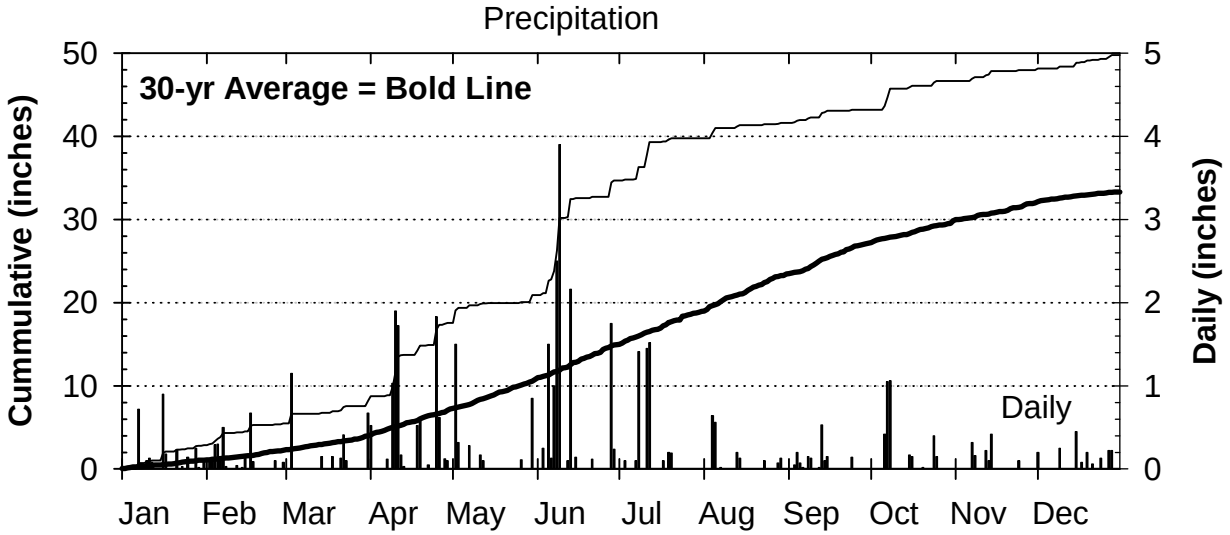
Dry Edible Beans

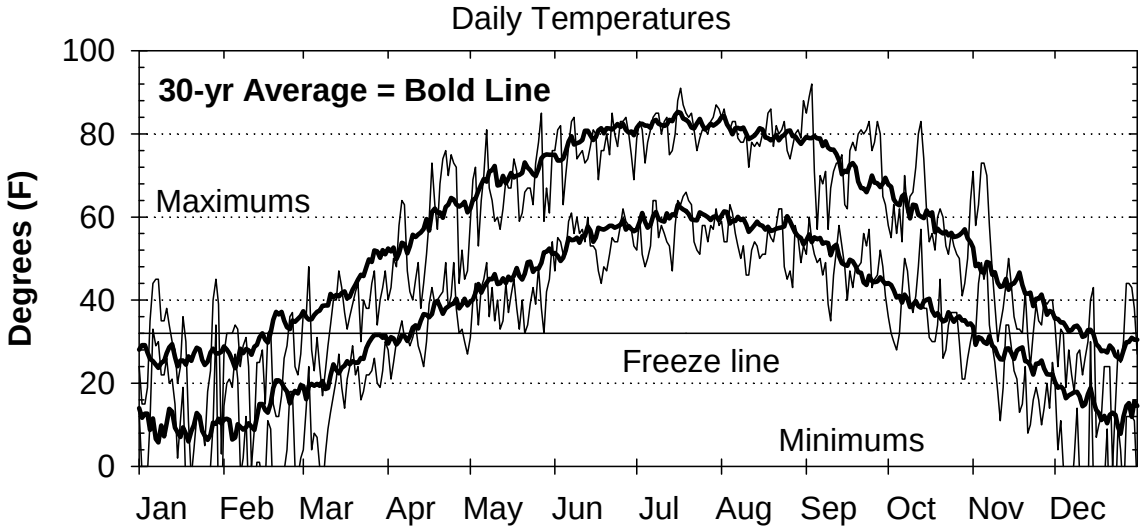
Dry beans planted in Wisconsin during 2008 totaled 6,500 acres, an increase of 400 acres from 2007. The number of acres harvest also climbed by 400 acres, to reach 6,400 acres. State dry bean production in 2008 totaled 136,000 cwt. with a yield of 2,130 pounds per acre. Wisconsin produces mostly dark red kidney beans and placed second in the nation for the production of those beans. U.S. dry bean growers planted 1.50 million acres for 2008, down 2 percent from the previous year. Acres harvested were 1.45 million, a decline of 2 percent from 2007.

Mint

Wisconsin farmers harvested 3,700 acres of peppermint and 1,000 acres of spearmint in 2008. Peppermint yielded 48 pounds per acre and spearmint yielded 30 pounds per acre compared to 59 pounds per acre and 40 pounds per acres respectively in 207. Peppermint production, at 178,000 pounds, was down 34 percent from the previous year, while spearmint production, at 30,000 pounds, was down 32 percent. U.S. mint producers harvested 60,000 acres of peppermint and 20,400 acres of spearmint in 2008. Yields were 92 pounds per acre for peppermint and 118 pounds per acre for spearmint. Both crops showed lower production in 2008 compared to 2007. Peppermint production decreased from 5.64 million pounds in 2007 to 5.50 million pounds in 2008, while spearmint production fell from 2.49 million pounds to 2.40 million pounds.

2008 Weather Summary for Arlington, WI





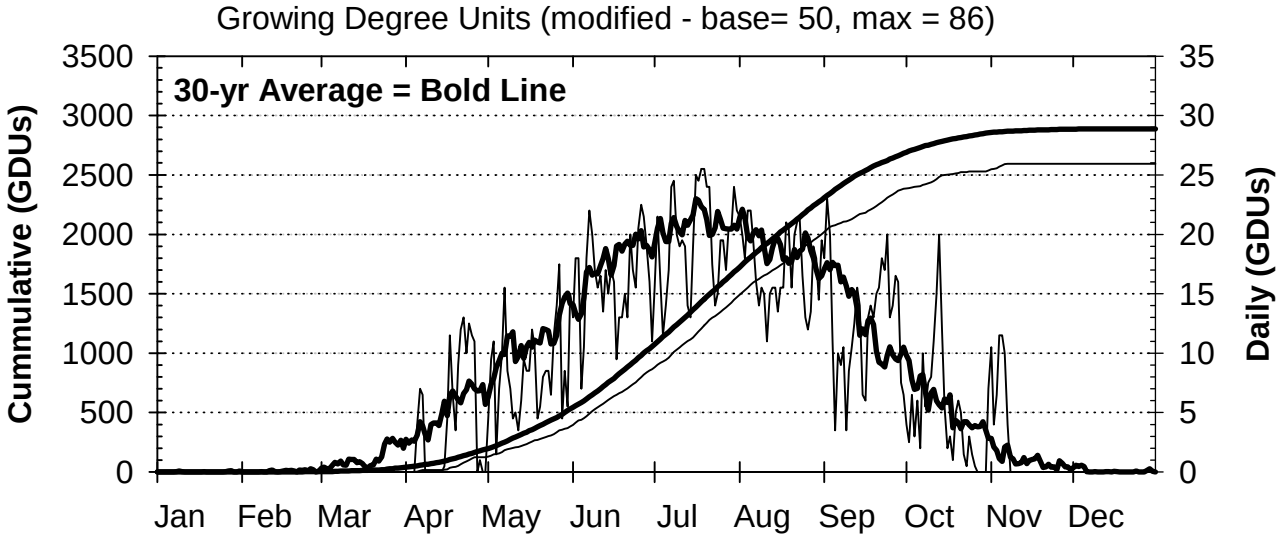


Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2008.

Day of year		Precipitation Daily	Precipitation Total	Daily Solar Radiation	Soil Temperature at 2 inches Max	Soil Temperature at 2 inches Min	Air Temperature Max	Air Temperature Min	Growing Degree Units (86/50 F) Daily	Growing Degree Units (86/50 F) Total
		inches		W m^{-2}	°F		°F			
92	1-Apr	0.52	8.8	153	32	32	40	28	0	0
93	2-Apr	0.00	8.8	253	34	31	43	21	0	0
94	3-Apr	0.00	8.8	90	33	31	50	25	0	0
95	4-Apr	0.00	8.8	233	62	31	48	30	0	0
96	5-Apr	0.00	8.8	246	72	31	58	32	4	4
97	6-Apr	0.00	8.8	196	74	35	64	35	7	11
98	7-Apr	0.12	8.9	93	55	35	63	31	7	18
99	8-Apr	0.00	8.9	39	46	33	47	31	0	18
100	9-Apr	1.03	9.9				42	29	0	18
101	10-Apr	1.90	11.8	22	41	37	40	31	0	18
102	11-Apr	1.72	13.5	53	54	37	45	34	0	18
103	12-Apr	0.17	13.7	88	53	32	49	29	0	18
104	13-Apr	0.03	13.7	261	70	28	38	27	0	18
105	14-Apr	0.00	13.7	289	86	25	44	24	0	18
106	15-Apr	0.00	13.7	284	79	28	51	30	1	18
107	16-Apr	0.00	13.7	255	87	38	59	39	5	23
108	17-Apr	0.00	13.7	124	89	39	73	43	12	34
109	18-Apr	0.52	14.3	78	74	42	63	39	7	41
110	19-Apr	0.60	14.9	159	96	45	57	40	4	44
111	20-Apr	0.00	14.9	271	105	42	68	41	9	53
112	21-Apr	0.00	14.9	256	101	42	74	42	12	65
113	22-Apr	0.05	14.9	154	93	44	76	49	13	78
114	23-Apr	0.00	14.9	296	106	37	70	38	10	88
115	24-Apr	0.00	14.9	103	79	48	75	41	13	101
116	25-Apr	1.83	16.7	107	85	41	73	49	12	112
117	26-Apr	0.62	17.4	193	69	35	72	38	11	123
118	27-Apr	0.00	17.4	265	80	33	44	32	0	123
119	28-Apr	0.12	17.5	148	62	36	52	33	1	124
120	29-Apr	0.10	17.6	170	70	36	45	30	0	124
121	30-Apr	0.00	17.6	286	80	33	47	27	0	124
122	1-May	0.00	17.6	200	80	40	59	31	5	129
123	2-May	1.50	19.1	93	77	49	69	40	10	138
124	3-May	0.32	19.4	128	62	41	72	44	11	149
125	4-May	0.00	19.4	290	72	37	53	34	2	151
126	5-May	0.00	19.4	279	78	43	64	43	7	158
127	6-May	0.00	19.4	275	81	45	70	45	10	168
128	7-May	0.28	19.7	155	68	48	81	49	16	183
129	8-May	0.00	19.7	307	80	44	67	36	9	192
130	9-May	0.00	19.7	134	63	45	64	43	7	199
131	10-May	0.00	19.7	163	61	42	59	35	5	203
132	11-May	0.17	19.8	169	59	43	60	40	5	208
133	12-May	0.10	19.9	316	72	40	57	33	4	212
134	13-May	0.00	19.9	161	61	45	62	35	6	218
135	14-May	0.01	20.0	292	69	48	69	44	10	227
136	15-May	0.00	20.0	302	69	46	67	37	9	236
137	16-May	0.00	20.0	255	70	46	67	41	9	244
138	17-May	0.00	20.0	266	68	51	74	45	12	256
139	18-May	0.00	20.0	224	65	44	71	38	11	267
140	19-May	0.00	20.0	201	63	41	59	33	5	271
141	20-May	0.00	20.0	231	65	48	61	40	6	277
142	21-May	0.00	20.0	338	72	43	66	32	8	285
143	22-May	0.00	20.0	311	71	44	67	34	9	293
144	23-May	0.00	20.0	264	66	47	67	39	9	302
145	24-May	0.00	20.0	299	67	46	63	43	7	308
146	25-May	0.00	20.0	163	67	50	73	39	12	320
147	26-May	0.11	20.1	297	75	55	78	48	14	334
148	27-May	0.00	20.1	244	62	48	85	38	18	351

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2008.

Day of year		Precipitation Daily	Precipitation Total	Daily Solar Radiation	Soil Temperature at 2 inches Max	Soil Temperature at 2 inches Min	Air Temperature Max	Air Temperature Min	Growing Degree Units (86/50 F) Daily	Growing Degree Units (86/50 F) Total
		inches		W m^{-2}	°F		°F			
149	28-May	0.00	20.1	318	66	42	59	32	5	356
150	29-May	0.00	20.1	76	54	44	67	42	9	364
151	30-May	0.85	20.9	208	67	50	61	45	6	370
152	31-May	0.00	20.9	287	71	58	76	54	15	385
153	1-Jun	0.00	20.9	336	71	53	76	47	13	398
154	2-Jun	0.00	20.9	188	68	54	81	55	18	416
155	3-Jun	0.25	21.2	76	61	57	82	54	18	434
156	4-Jun	0.00	21.2	88	64	57	63	51	7	441
157	5-Jun	1.50	22.7	62	67	61	70	51	11	451
158	6-Jun	0.13	22.8	237	73	64	77	59	18	469
159	7-Jun	1.00	23.8	169	76	62	83	61	22	491
160	8-Jun	2.50	26.3	68	69	64	84	56	20	511
161	9-Jun	3.90	30.2	168	70	65	74	60	17	528
162	10-Jun	0.00	30.2	325	71	61	75	56	16	544
163	11-Jun	0.00	30.2	175	70	63	76	57	17	560
164	12-Jun	0.10	30.3	44	69	63	73	54	14	574
165	13-Jun	2.16	32.5	263	72	61	74	60	17	591
166	14-Jun	0.00	32.5	308	72	58	77	53	15	606
167	15-Jun	0.14	32.6	309	72	59	81	53	17	623
168	16-Jun	0.00	32.6	229	65	55	80	52	16	639
169	17-Jun	0.00	32.6	331	68	53	69	47	10	648
170	18-Jun	0.00	32.6	321	69	53	76	44	13	661
171	19-Jun	0.00	32.6	323	70	50	76	48	13	674
172	20-Jun	0.00	32.6	305	73	58	80	47	15	689
173	21-Jun	0.12	32.7	305	71	56	75	51	13	702
174	22-Jun	0.00	32.7	223	68	55	85	55	20	722
175	23-Jun	0.00	32.7	311	71	55	80	54	17	739
176	24-Jun	0.00	32.7	284	71	56	77	54	16	755
177	25-Jun	0.00	32.7	241	74	58	83	58	21	775
178	26-Jun	0.00	32.7	257	73	62	83	62	23	798
179	27-Jun	0.00	32.7	169	72	61	84	59	22	819
180	28-Jun	1.75	34.5	276	71	58	80	58	19	838
181	29-Jun	0.24	34.7	124	65	56	75	57	16	854
182	30-Jun	0.00	34.7		85	55	69	53	11	865
183	1-Jul	0.00	34.7	313	105	51	79	52	16	881
184	2-Jul	0.00	34.7	138	89	59	83	60	22	902
185	3-Jul	0.10	34.8	330	104	55	81	51	16	918
186	4-Jul	0.00	34.8	332	112	52	73	48	12	930
187	5-Jul	0.00	34.8	337	111	51	78	50	14	944
188	6-Jul	0.00	34.8	261	102	53	81	53	17	961
189	7-Jul	0.10	34.9	133	93	65	84	64	24	985
190	8-Jul	1.41	36.3	166	97	64	85	64	25	1009
191	9-Jul	0.01	36.3	312	110	59	85	55	20	1029
192	10-Jul	0.00	36.3	242	105	59	80	58	19	1048
193	11-Jul	1.45	37.8	234	104	63	83	56	20	1068
194	12-Jul	1.52	39.3	191	96	61	84	54	19	1087
195	13-Jul	0.00	39.3	307	102	58	75	53	14	1101
196	14-Jul	0.00	39.3	328	114	56	76	47	13	1114
197	15-Jul	0.00	39.3	298	111	58	80	58	19	1133
198	16-Jul	0.00	39.3	211	112	64	88	64	25	1158
199	17-Jul	0.10	39.4	196	102	64	91	63	25	1182
200	18-Jul	0.00	39.4	234	111	69	87	65	26	1208
201	19-Jul	0.20	39.6	214	111	69	85	66	26	1233
202	20-Jul	0.19	39.8	287	114	68	84	64	24	1257
203	21-Jul	0.00	39.8	218	102	66	85	63	24	1281
204	22-Jul	0.00	39.8	265	107	59	81	54	18	1299
205	23-Jul	0.00	39.8	318	113	56	76	52	14	1313

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2008.

Day of year		Precipitation Daily	Precipitation Total	Daily Solar Radiation	Soil Temperature at 2 inches Max	Soil Temperature at 2 inches Min	Air Temperature Max	Air Temperature Min	Growing Degree Units (86/50 F) Daily	Growing Degree Units (86/50 F) Total
		inches		W m^{-2}	°F		°F			
206	24-Jul	0.00	39.8	279	109	55	79	51	15	1328
207	25-Jul	0.00	39.8	140	92	62	81	58	20	1347
208	26-Jul	0.00	39.8	284	109	61	81	58	20	1367
209	27-Jul	0.00	39.8	245	103	60	80	54	17	1384
210	28-Jul	0.00	39.8	280	107	59	83	58	21	1404
211	29-Jul	0.00	39.8	206	97	62	84	57	21	1425
212	30-Jul	0.00	39.8	307	115	63	87	62	24	1449
213	31-Jul	0.00	39.8	214	94	60	86	58	22	1471
214	1-Aug	0.00	39.8	284	116	61	84	59	22	1492
215	2-Aug	0.00	39.8	303	116	56	86	54	20	1512
216	3-Aug	0.00	39.8	194	105	57	82	54	18	1530
217	4-Aug	0.64	40.4	93	90	68	81	63	22	1552
218	5-Aug	0.56	41.0	265	106	62	83	61	22	1574
219	6-Aug	0.00	41.0	184	84	59	83	56	20	1594
220	7-Aug	0.02	41.0	284	99	58	79	53	16	1610
221	8-Aug	0.00	41.0	259	106	56	78	50	14	1624
222	9-Aug	0.00	41.0	262	107	58	78	53	16	1639
223	10-Aug	0.00	41.0	298	110	53	80	46	15	1654
224	11-Aug	0.00	41.0	269	107	52	72	46	11	1665
225	12-Aug	0.00	41.0	185	94	55	78	52	15	1680
226	13-Aug	0.20	41.2	158	90	58	77	54	16	1696
227	14-Aug	0.13	41.3	226	102	57	78	53	16	1711
228	15-Aug	0.00	41.3	280	108	55	77	50	14	1725
229	16-Aug	0.00	41.3	273	109	52	80	51	16	1740
230	17-Aug	0.00	41.3	269	115	59	80	51	16	1756
231	18-Aug	0.00	41.3	275	116	58	85	57	21	1777
232	19-Aug	0.00	41.3	233	112	61	86	55	21	1797
233	20-Aug	0.01	41.3	191	112	58	77	54	16	1813
234	21-Aug	0.00	41.3	131	87	61	82	58	20	1833
235	22-Aug	0.00	41.3	130	102	68	80	62	21	1854
236	23-Aug	0.10	41.4	243	114	58	81	62	22	1875
237	24-Aug	0.00	41.4	270	114	54	83	48	17	1892
238	25-Aug	0.00	41.4	244	112	51	76	45	13	1905
239	26-Aug	0.00	41.4	264	112	50	74	47	12	1917
240	27-Aug	0.00	41.4	243	119	49	77	43	14	1930
241	28-Aug	0.07	41.5	135	93	58	80	58	19	1949
242	29-Aug	0.13	41.6	265	111	53	81	55	18	1967
243	30-Aug	0.00	41.6	261	119	52	79	49	15	1982
244	31-Aug	0.00	41.6	251	119	55	88	53	20	2001
245	1-Sep	0.00	41.6	238	117	53	85	51	18	2019
246	2-Sep	0.00	41.6	216	109	60	89	60	23	2042
247	3-Sep	0.05	41.7	180	94	60	92	54	20	2062
248	4-Sep	0.20	41.9	33	61	57	71	51	11	2073
249	5-Sep	0.07	42.0	190	98	56	57	49	4	2077
250	6-Sep	0.02	42.0	205	98	52	70	50	10	2087
251	7-Sep	0.00	42.0	226	106	50	68	46	9	2096
252	8-Sep	0.15	42.1	50	64	47	71	49	11	2106
253	9-Sep	0.13	42.3	209	97	44	57	39	4	2110
254	10-Sep	0.00	42.3	234	101	41	67	35	9	2118
255	11-Sep	0.00	42.3	77	73	52	71	46	11	2129
256	12-Sep	0.02	42.3	74	78	63	73	52	13	2141
257	13-Sep	0.53	42.8	38	73	64	73	58	16	2157
258	14-Sep	0.10	42.9	40	69	58	75	53	14	2171
259	15-Sep	0.15	43.1	118	76	46	63	48	7	2177
260	16-Sep	0.00	43.1	224	97	44	62	40	6	2183
261	17-Sep	0.00	43.1	223	107	51	76	47	13	2196
262	18-Sep	0.00	43.1	211	99	47	78	43	14	2210

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2008.

		Precipitation		Daily Solar	Soil Temperature at 2 inches		Air Temperature		Growing Degree Units (86/50 F)	
Day of year		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		$W\ m^{-2}$	°F		°F			
263	19-Sep	0.00	43.1	196	95	51	76	48	13	2223
264	20-Sep	0.00	43.1	202	109	50	80	48	15	2238
265	21-Sep	0.00	43.1	164	106	52	81	49	16	2254
266	22-Sep	0.00	43.1	146	100	59	80	56	18	2272
267	23-Sep	0.00	43.1	170	102	55	81	53	17	2289
268	24-Sep	0.14	43.2				83	57	20	2309
269	25-Sep	0.00	43.2				76	43	13	2322
270	26-Sep	0.00	43.2	196	114	47	78	45	14	2336
271	27-Sep	0.00	43.2	144	107	45	83	46	17	2352
272	28-Sep	0.00	43.2	88	84	49	80	52	16	2368
273	29-Sep	0.01	43.2	60	76	45	65	48	8	2376
274	30-Sep	0.00	43.2	90	82	41	63	41	7	2382
275	1-Oct	0.00	43.2	98	73	33	58	36	4	2386
276	2-Oct	0.00	43.2	95	92	32	55	32	3	2389
277	3-Oct	0.00	43.2	196	95	29	63	30	7	2395
278	4-Oct	0.00	43.2	191	100	27	56	28	3	2398
279	5-Oct	0.00	43.2	29	55	30	62	32	6	2404
280	6-Oct	0.42	43.6	131	94	50	54	42	2	2406
281	7-Oct	1.05	44.7	35	63	50	70	50	10	2416
282	8-Oct	1.06	45.7	146	92	44	61	47	6	2422
283	9-Oct	0.00	45.7	172	92	36	65	40	8	2429
284	10-Oct	0.00	45.7	177	96	35	66	37	8	2437
285	11-Oct	0.00	45.7	166	98	40	72	41	11	2448
286	12-Oct	0.00	45.7	153	101	48	80	48	15	2463
287	13-Oct	0.00	45.7	50	76	53	83	57	20	2483
288	14-Oct	0.00	45.7	139	94	39	74	38	12	2495
289	15-Oct	0.17	45.9	35	60	35	61	38	6	2501
290	16-Oct	0.15	46.1	161	89	33	54	31	2	2503
291	17-Oct	0.00	46.1	57	61	32	56	30	3	2506
292	18-Oct	0.00	46.1	143	84	32	52	30	1	2507
293	19-Oct	0.00	46.1	114	80	33	60	34	5	2512
294	20-Oct	0.02	46.1	88	86	30	62	45	6	2518
295	21-Oct	0.00	46.1	157	83	26	60	26	5	2523
296	22-Oct	0.00	46.1	61	61	30	53	28	2	2524
297	23-Oct	0.00	46.1	98	69	28	51	34	1	2525
298	24-Oct	0.40	46.5	55	69	41	56	37	3	2528
299	25-Oct	0.15	46.6	78	64	40	53	37	2	2529
300	26-Oct	0.00	46.6	114	70	37	51	37	1	2530
301	27-Oct	0.00	46.6	64	60	26	50	30	0	2530
302	28-Oct	0.00	46.6				41	21	0	2530
303	29-Oct	0.00	46.6	141	74	22	44	21	0	2530
304	30-Oct	0.00	46.6	136	76	25	50	26	0	2530
305	31-Oct	0.00	46.6	128	86	32	64	30	7	2537

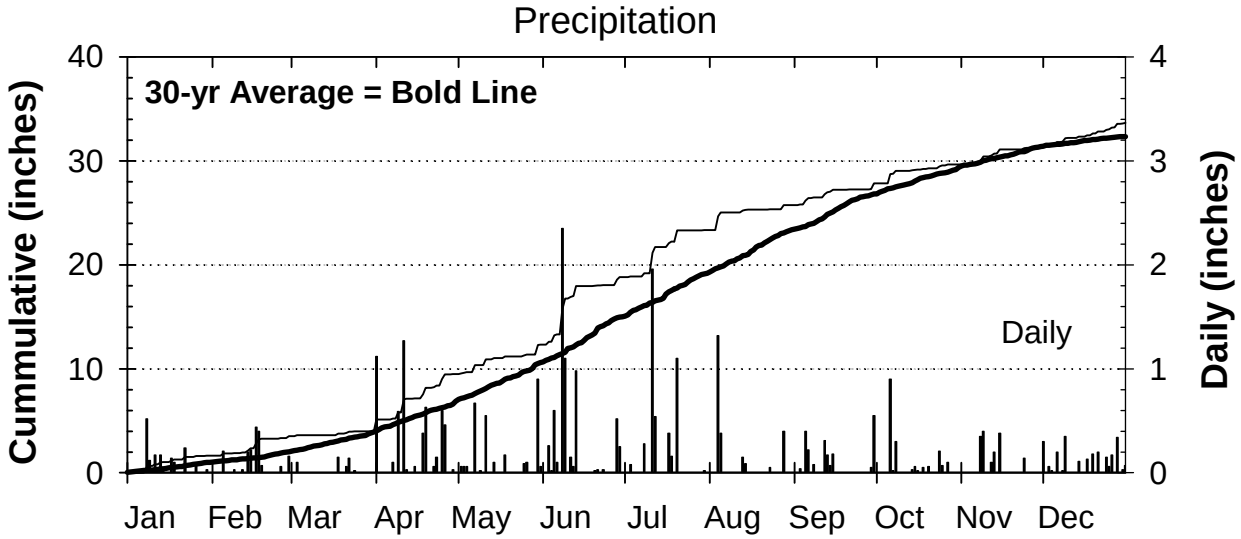
Table A-2. Monthly and total precipitation (inches) data for the Arlington Research Station.

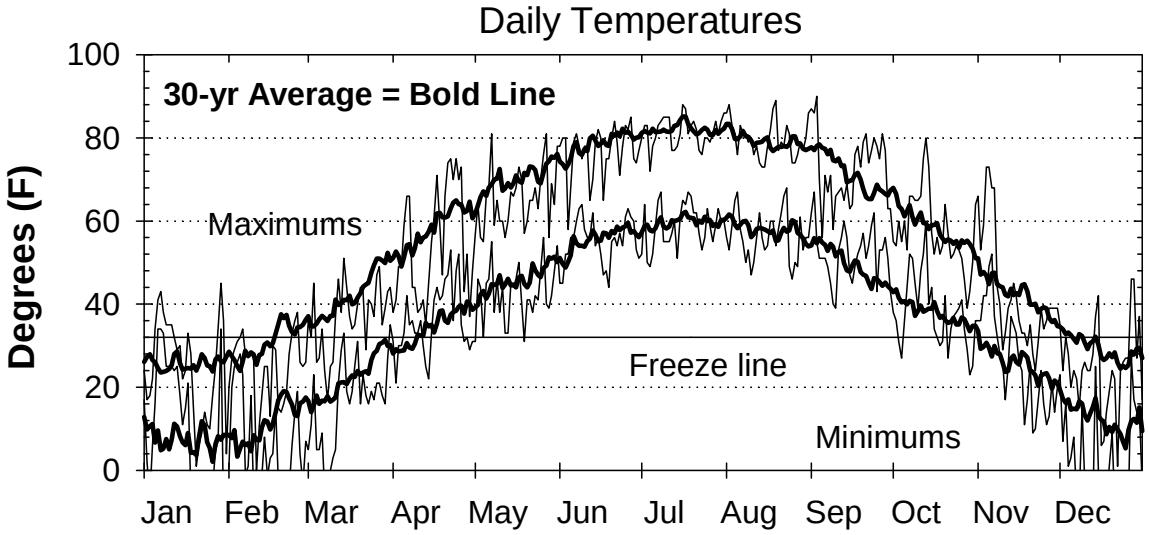
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1979	1.2	0.7	3.1	1.7	2.7	3.8	2.7	7.7	0.2	2.9	1.8	1.5	29.8
1980	1.2	0.2	0.5	1.8	2.1	3.6	2.1	12.9	9.7	1.1	1.2	0.7	37.2
1981	0.1	2.7	0.6	3.7	0.3	3.6	7.0	4.5	3.4	3.1	1.1	0.9	31.0
1982	1.4	0.1	2.3	3.8	4.0	3.1	2.6	3.2	1.0	1.3	4.8	4.1	31.5
1983	0.4	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
2008	2.9	2.6	2.8	9.3	3.3	13.8	5.1	1.9	1.6	3.4	1.3	1.8	49.8
30-year Average	1.1	1.2	1.8	3.3	3.6	4.5	4.0	4.4	3.7	2.5	2.3	1.4	33.9

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
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
2008	15	14	27	45	53	66	70	67	61	47	34	14	43
30-year Average	18	22	33	46	58	67	71	69	61	49	36	23	46

2008 Weather Summary for Hancock, WI





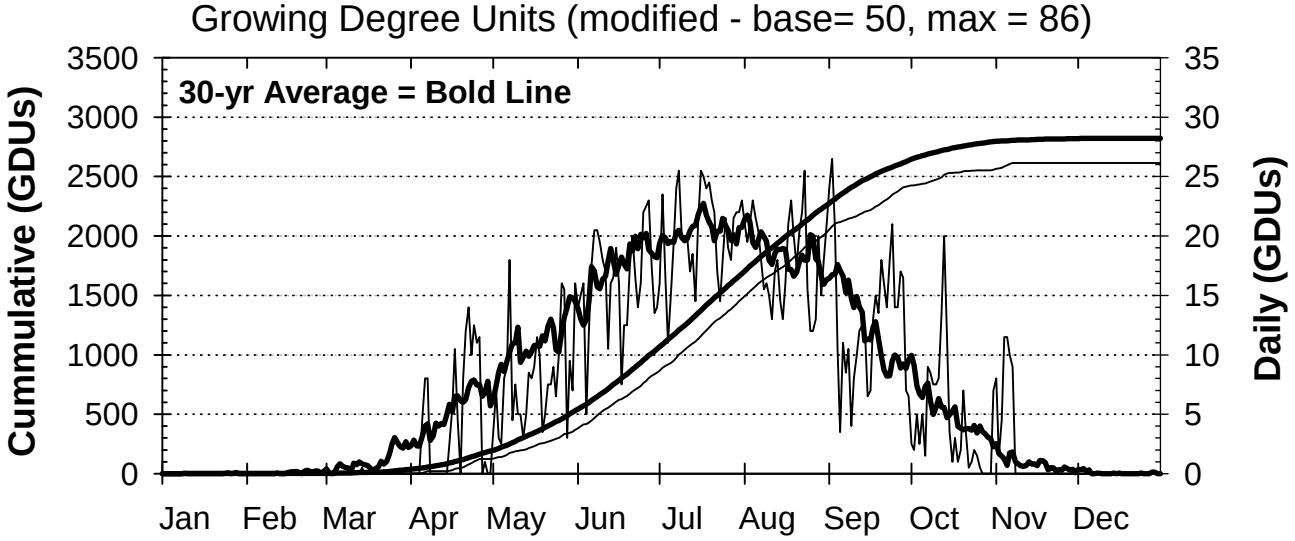


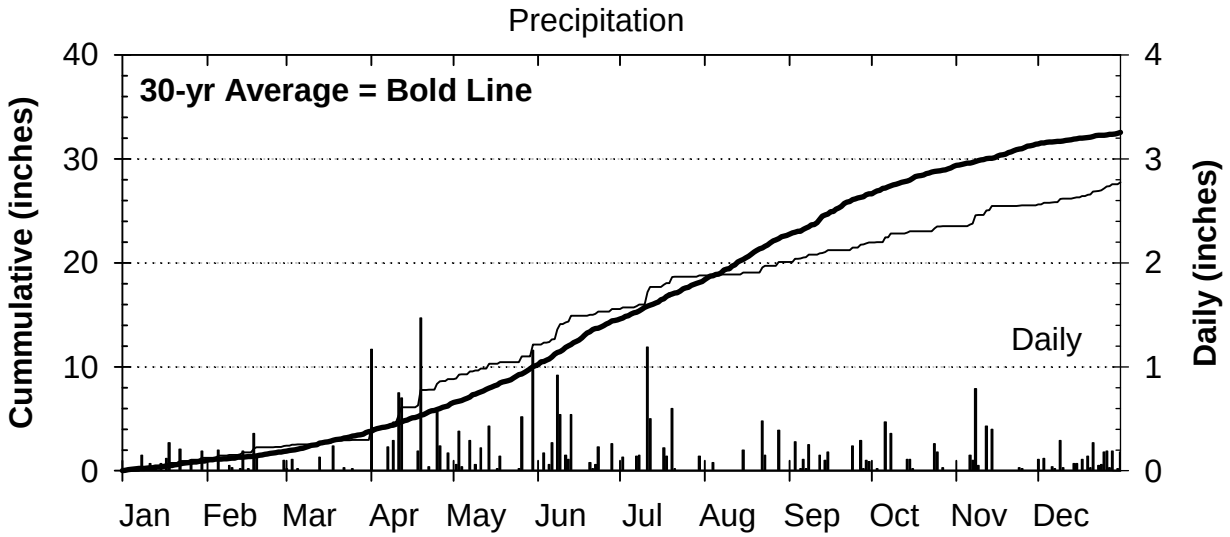
Table A-4. Monthly and total precipitation (inches) data for the Hancock Research Station.

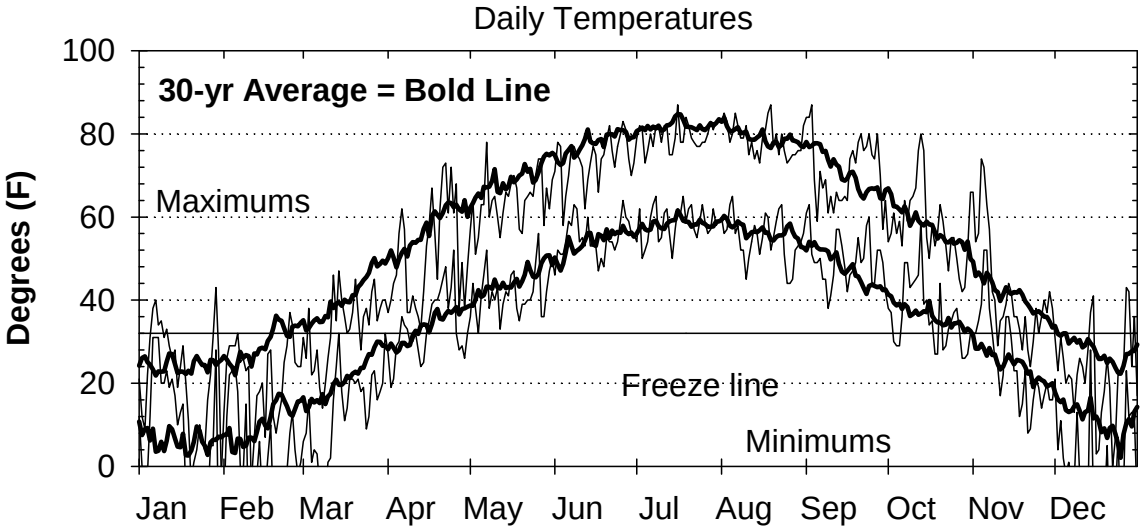
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1979	1.4	1.1	3.8	1.4	4.3	2.8	3.8	6.5	0.6	2.8	2.7	0.7	32.0
1980	1.6	0.2	0.7	2.0	3.6	5.0	1.9	9.2	3.8	2.1	0.6	0.7	31.4
1981	0.1	2.6	0.6	5.1	0.7	2.4	2.7	2.8	2.5	3.1	0.4	0.7	23.6
1982	1.0	0.1	1.9	3.5	3.3	4.1	5.4	3.6	1.9	1.5	5.4	2.1	33.9
1983	0.7	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	8.0	3.2	3.4	1.5	0.4	0.6	29.9
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	1.1	0.7	0.8	5.0	5.8	1.5	2.7	2.9	3.8	2.0	1.7	1.6	29.7
2007	1.1	0.9	2.4	2.4	3.8	1.8	2.7	8.9	2.9	4.6	0.1	0.9	32.3
2008	1.6	1.9	0.5	5.5	2.9	6.5	4.5	2.4	2.1	1.8	1.6	2.4	33.7
30-year Average	1.0	1.0	1.8	3.0	3.8	4.5	4.2	4.1	3.4	2.4	2.2	1.0	32.4

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
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	64	61	49	31	26	44
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	48
2007	23	13	36	44	61	69	71	70	62	54	34	18	47
2008	17	15	26	45	54	66	70	68	62	48	35	14	43
30-year Average	17	21	32	46	57	67	71	69	61	48	34	21	45

2008 Weather Summary for Marshfield, WI





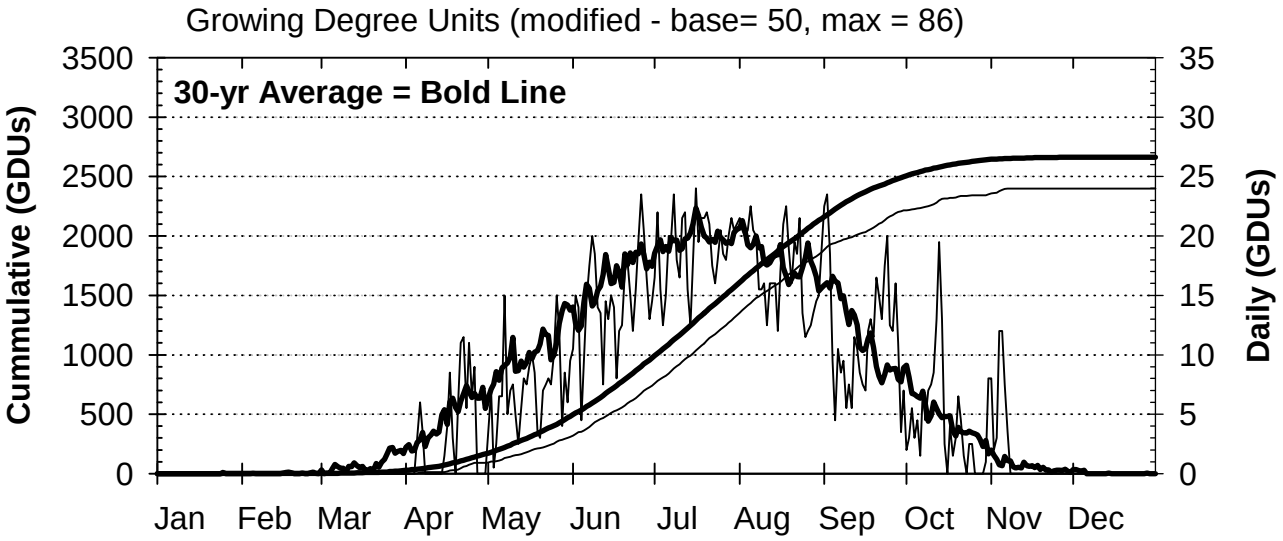


Table A-6. Monthly and total precipitation (inches) data for the Marshfield Research Station.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
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
2008	1.3	1.1	0.6	5.8	3.3	3.4	3.2	1.3	1.9	1.6	2.0	2.2	27.8
30-year Average	1.0	0.9	1.8	2.7	3.7	4.3	3.7	4.4	3.9	2.6	2.2	1.2	32.3

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
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
2008	13	11	23	42	53	64	69	67	60	47	34	12	41
30-year Average	15	19	30	45	56	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 = $3.71 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 taken	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 = $8.75 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 = $4.70 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° 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:** 3178 **Year:** 2008

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

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

Supported By: HATCH

Site Information

Field: ARS407 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /08 **pH:** 6.7 **OM (%)** 2.9 **P (ppm)** 37 **K (ppm)** 102

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/17/08

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:**	300 lbs	**Date:** N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3 gallons	**Date:** 5 /9 /08
Post plant Analysis:	46-0-0	**Rate lbs/A:**	108	**Date:** 6 /17/08
Manure: N/A				

Herbicide: Dual II Mag 24 oz/A
Hornet 2.4 oz/A
Accent 0.33 oz/A

Insecticide: Force 3G 4.4lb/A
Hybrid: See Factors

Irrigation: None

Planting Date: 5/9/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/17/08 **Harvest Method:** Massey Ferguson 8XP

Notes: Drought stress between rep 2 and rep 3.

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:** 35254 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 421VT3	Kruger K6412VT3	Pioneer 39D82
Dairyland ST7184	Kruger K6499VT3	Renk RK292CBLL
Dekalb DKC42-91(VT3)	Mycogen 2K15	Renk RK692LLYGCB
Gold Country 9608VT3	NuTech 3A-390RR	Trelay 4T722
Kruger K5504YGCB	Pioneer 35F40	Trelay 8T339
Kruger K6208VT3		

Results: Tables C-01 and C-02.

Table C-01. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Arlington, WI - 2008.

Hybrid	Relative maturity	Grain yield	Grain moisture	Test wt	Lodging	Grower return	Silking date	Early dent	Kernel Milk 75%	Kernel Milk 50%	Kernel Milk 25%	Black layer	Plant height	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
		bu/A	%	lb/bu	%	$/A	doy	doy	doy	doy	doy	doy	inches	%	%	%	gallons	gallons
Mycogen 2K15	82	200	19.6	60.5	0	681	206	240	247	256	263	271	100	3.5	60.4	8.0	2.91	582
Dairyland ST7184	84	192	18.8	59.9	0	656	204	239	247	259	265	271	103	3.7	60.8	7.7	2.87	552
Renk RK292CBLL	85	214	18.2	57.1	0	733	204	238	247	253	258	268	102	3.7	59.4	8.3	2.86	612
Pioneer 39D82	87	184	17.6	58.3	0	631	204	239	246	252	257	260	98	3.6	60.2	8.1	2.86	526
NuTech 3A-390RR	90	214	16.2	57.5	0	741	206	240	249	255	261	271	113	3.6	60.2	7.9	2.87	616
Dekalb DKC42-91(VT3)	92	190	16.9	56.4	0	653	205	240	246	254	260	267	102	3.3	60.3	8.0	2.92	554
Gold Country 9608VT3	96	223	18.0	55.3	0	763	209	245	256	260	265	276	112	3.4	60.3	7.8	2.91	647
Trelay 4T722	97	209	18.4	56.2	0	714	209	241	248	258	265	273	104	3.3	60.2	8.0	2.90	606
Kruger K6499VT3	99	236	20.3	56.9	0	800	208	242	256	262	269	274	107	3.3	60.6	7.7	2.92	691
Croplan Genetics 421VT3	100	239	22.3	56.6	0	800	210	244	257	263	271	281	110	3.3	60.9	7.6	2.93	700
Kruger K5504YGCB	104	203	19.3	55.2	0	688	211	245	254	260	267	271	113	3.5	59.6	8.1	2.87	583
Pioneer 35F40	104	258	29.0	54.6	0	829	209	245	258	265	276	284	116	3.6	60.1	7.5	2.90	750
Kruger K6208VT3	108	234	27.4	53.8	0	758	210	246	260	266	272	279	118	3.4	60.3	7.4	2.90	678
Renk RK692LLYGCB	108	257	27.5	54.9	0	832	209	240	255	265	273	283	116	3.4	60.3	7.5	2.89	743
Kruger K6412VT3	112	237	31.6	53.8	0	750	211	250	262	272	278	285	120	3.5	60.3	7.5	2.89	686
Trelay 8T339	113	247	31.3	54.5	0	782	211	251	261	266	278	285	121	3.5	59.8	7.7	2.88	711
Mean		221	22.0	56.3	0	738	208	243	253	260	267	275	110	3.5	60.2	7.8	2.89	640
Probability(%)																		
Hybrid (H)		0.0	0.0	0.0	60.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	4.6	0.0	0.0
LSD(0.10)																		
Hybrid (H)		25	3.1	0.8	NS	76	1	3	3	5	5	6	5	0.2	0.6	0.4	0.03	76

Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids. Arlington, WI - 2008.

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
		152	2.1	3.4	4.2	4.2
		171	4.9	6.6	8.3	16.1
		182	7.5	10.5	12.2	29.5
		198	13.1	15.1	16.3	72.1
		212	18.9	18.9	18.9	109.0
Mycogen 2K15	82		9.2	11.1	12.0	44.1
Dairyland ST7184	84		9.5	11.3	12.2	46.1
Renk RK292CBLL	85		9.1	10.7	11.9	48.1
Pioneer 39D82	87		8.8	10.7	11.5	45.0
NuTech 3A-390RR	90		9.5	11.0	12.0	47.1
Dekalb DKC42-91(VT3)	92		9.1	10.8	11.7	43.5
Gold Country 9608VT3	96		9.7	11.0	12.2	47.2
Trelay 4T722	97		9.7	11.1	12.2	46.5
Kruger K6499VT3	99		9.6	10.8	12.1	47.2
Croplan Genetics 421VT3	100		9.4	10.7	11.8	45.1
Kruger K5504YGCB	104		9.3	10.9	12.0	47.3
Pioneer 35F40	104		9.2	10.8	12.0	46.1
Kruger K6208VT3	108		9.2	11.0	12.0	46.1
Renk RK692LLYGCB	108		9.4	10.9	12.2	47.3
Kruger K6412VT3	112		9.1	10.9	12.0	46.2
Trelay 8T339	113		9.1	10.7	11.8	46.3
Mycogen 2K15	82	152	2.0	4.0	5.0	3.6
Mycogen 2K15	82	171	5.0	7.7	8.8	14.7
Mycogen 2K15	82	182	7.8	11.0	12.3	31.0
Mycogen 2K15	82	198	13.7	15.3	16.3	74.2
Mycogen 2K15	82	212	17.7	17.7	17.7	96.8
Dairyland ST7184	84	152	2.3	4.0	4.5	3.7
Dairyland ST7184	84	171	5.0	7.3	8.8	15.5
Dairyland ST7184	84	182	7.8	11.5	13.0	30.0
Dairyland ST7184	84	198	14.3	15.7	16.7	76.7
Dairyland ST7184	84	212	18.2	18.2	18.2	104.5
Renk RK292CBLL	85	152	2.0	4.0	4.7	5.2
Renk RK292CBLL	85	171	5.0	6.8	8.7	20.0
Renk RK292CBLL	85	182	7.5	10.3	12.7	33.3
Renk RK292CBLL	85	198	12.8	14.3	15.5	77.8
Renk RK292CBLL	85	212	18.0	18.0	18.0	104.3

continued

Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids. Arlington, WI - 2008.
(continued)

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	152	2.0	3.8	4.0	3.9
Pioneer 39D82	87	171	5.0	6.7	8.3	16.0
Pioneer 39D82	87	182	7.0	11.0	12.3	31.3
Pioneer 39D82	87	198	13.0	15.0	16.2	77.2
Pioneer 39D82	87	212	16.8	16.8	16.8	96.5
NuTech 3A-390RR	90	152	1.8	3.2	3.8	4.4
NuTech 3A-390RR	90	171	5.0	6.3	8.2	16.0
NuTech 3A-390RR	90	182	7.8	11.2	12.3	29.7
NuTech 3A-390RR	90	198	13.7	15.3	16.5	72.8
NuTech 3A-390RR	90	212	19.0	19.0	19.0	112.5
Dekalb DKC42-91(VT3)	92	152	2.0	3.7	4.2	4.2
Dekalb DKC42-91(VT3)	92	171	4.8	6.5	8.3	15.0
Dekalb DKC42-91(VT3)	92	182	7.2	11.0	12.0	27.2
Dekalb DKC42-91(VT3)	92	198	13.2	14.8	15.8	67.5
Dekalb DKC42-91(VT3)	92	212	18.2	18.2	18.2	103.7
Gold Country 9608VT3	96	152	2.5	3.2	4.3	4.5
Gold Country 9608VT3	96	171	5.0	6.5	8.3	16.5
Gold Country 9608VT3	96	182	8.0	10.3	12.3	31.2
Gold Country 9608VT3	96	198	13.3	15.2	16.3	70.8
Gold Country 9608VT3	96	212	19.8	19.8	19.8	112.8
Trelay 4T722	97	152	2.2	3.5	4.2	4.6
Trelay 4T722	97	171	5.0	6.2	8.5	19.0
Trelay 4T722	97	182	8.0	10.7	12.0	30.0
Trelay 4T722	97	198	13.8	15.5	16.5	71.7
Trelay 4T722	97	212	19.7	19.7	19.7	107.0
Kruger K6499VT3	99	152	2.2	3.2	4.2	4.3
Kruger K6499VT3	99	171	5.0	6.2	8.5	19.7
Kruger K6499VT3	99	182	7.5	9.8	12.0	33.0
Kruger K6499VT3	99	198	13.7	15.2	16.2	71.3
Kruger K6499VT3	99	212	19.7	19.7	19.7	107.8
Croplan Genetics 421VT3	100	152	2.0	3.0	4.0	4.1
Croplan Genetics 421VT3	100	171	4.8	6.2	7.7	15.2
Croplan Genetics 421VT3	100	182	7.2	9.5	11.5	29.7
Croplan Genetics 421VT3	100	198	13.0	14.8	15.8	67.8
Croplan Genetics 421VT3	100	212	19.8	19.8	19.8	108.8
Kruger K5504YGCB	104	152	2.0	3.3	4.2	4.6
Kruger K5504YGCB	104	171	5.0	6.7	8.2	16.5
Kruger K5504YGCB	104	182	7.7	10.3	12.2	29.7
Kruger K5504YGCB	104	198	12.8	15.3	16.5	73.2
Kruger K5504YGCB	104	212	18.8	18.8	18.8	112.7

continued

Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids. Arlington, WI - 2008.
(continued)

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 35F40	104	152	2.0	3.3	4.3	4.2
Pioneer 35F40	104	171	5.0	6.5	8.3	15.0
Pioneer 35F40	104	182	7.3	10.5	11.8	26.5
Pioneer 35F40	104	198	12.5	14.7	16.2	71.0
Pioneer 35F40	104	212	19.0	19.2	19.3	113.7
Kruger K6208VT3	108	152	2.0	3.2	4.0	4.4
Kruger K6208VT3	108	171	5.0	6.8	7.8	14.7
Kruger K6208VT3	108	182	7.5	11.0	12.5	27.5
Kruger K6208VT3	108	198	12.7	15.0	16.3	70.5
Kruger K6208VT3	108	212	19.0	19.2	19.2	113.5
Renk RK692LLYGCB	108	152	2.0	3.0	4.0	3.9
Renk RK692LLYGCB	108	171	4.8	6.5	8.5	15.8
Renk RK692LLYGCB	108	182	8.2	10.8	12.7	29.8
Renk RK692LLYGCB	108	198	12.8	14.8	16.5	70.5
Renk RK692LLYGCB	108	212	19.2	19.2	19.2	116.7
Kruger K6412VT3	112	152	2.0	3.0	4.0	4.4
Kruger K6412VT3	112	171	4.8	6.5	8.0	15.5
Kruger K6412VT3	112	182	6.8	9.8	11.8	26.7
Kruger K6412VT3	112	198	12.0	15.2	16.5	68.7
Kruger K6412VT3	112	212	19.8	19.8	19.8	115.7
Trelay 8T339	113	152	2.0	3.2	4.0	3.8
Trelay 8T339	113	171	4.8	6.3	7.8	13.0
Trelay 8T339	113	182	7.2	9.5	11.5	26.2
Trelay 8T339	113	198	12.0	14.7	16.2	71.2
Trelay 8T339	113	212	19.5	19.7	19.7	117.2
Mean			9.3	10.9	12.0	46.2
Probability(%)						
Hybrid (H)			0.0	1.2	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)			0.2	0.3	0.3	1.3
Day Of Year (D)			0.1	0.2	0.1	0.7
H x D			0.5	0.7	0.6	2.8

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01GD **Trial ID:** 3179 **Year:** 2008

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 /08 **pH:** 6.4 **OM (%)** 3.3 **P (ppm)** 75 **K (ppm)** 220

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 7/1/08

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:** N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3 gallons	**Date:** 5 /19/08
Post plant Analysis:	28-0-0	**Rate lbs/A:**	27 gal/A	**Date:** 7 /1 /08
Manure:	N/A			

Herbicide: Gmax Lite 2.33 pt/A
Hornet 2.4 oz/A
Aatrex4L 6.4 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/19/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/30/08 **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:** 34623 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 421VT3	Kruger K6412VT3	Pioneer 39D82
Dairyland ST7184	Kruger K6499VT3	Renk RK292CBLL
Dekalb DKC42-91(VT3)	Mycogen 2K15	Renk RK692LLYGCB
Gold Country 9608VT3	NuTech 3A-390RR	Trelay 4T722
Kruger K5504YGCB	Pioneer 35F40	Trelay 8T339
Kruger K6208VT3		

Results: Table C-03.

Table C-03. Determining Corn Hybrid Maturity - Comparison of Hybrids. Marshfield, WI - 2008.

Hybrid	Relative maturity	Grain yield	Grain moisture	Test weight	Lodging	Grower return	Plant density	Grain Composition			Ethanol	
								Oil	Starch	Protein	per bu	per A
		bu/A	%	lb/bu	%	$/A	plants/A	%	%	%	gallons	gallons
Mycogen 2K15	82	122	23.7	54.0	16	405	32635	3.5	60.3	8.0	2.86	349
Dairyland ST7184	84	111	23.3	54.3	0	368	26136	3.8	60.9	7.7	2.85	315
Renk RK292CBLL	85	134	23.1	51.4	0	444	32774	3.6	60.1	8.1	2.83	379
Pioneer 39D82	87	131	25.0	52.7	0	430	36231	3.6	60.7	7.9	2.83	369
NuTech 3A-390RR	90	135	27.5	49.6	0	436	34295	3.4	60.5	7.7	2.85	385
Dekalb DKC42-91(VT3)	92	134	27.6	49.8	0	433	36231	3.2	60.5	7.8	2.87	384
Gold Country 9608VT3	96	134	29.0	47.4	0	431	35816	3.2	60.4	7.6	2.85	383
Trelay 4T722	97	121	34.8	47.4	0	373	38305	3.1	60.4	8.0	2.84	342
Kruger K6499VT3	99	122	31.4	47.9	0	387	34710	3.1	60.3	8.1	2.84	348
Croplan Genetics 421VT3	100	125	34.1	47.9	1	388	35125	3.1	60.4	7.7	2.84	355
Kruger K5504YGCB	104	107	36.8	49.7	0	326	31667	3.2	60.3	8.0	2.82	301
Pioneer 35F40	104	124	37.8	49.2	1	377	36369	3.2	60.1	7.7	2.83	351
Kruger K6208VT3	108	111	39.8	47.6	1	334	35954	3.4	60.6	7.9	2.82	314
Renk RK692LLYGCB	108	104	44.1	50.3	0	303	35401	3.3	60.4	7.7	2.83	294
Kruger K6412VT3	112	87	47.9	42.2	1	247	35539	3.3	61.3	8.0	2.80	244
Trelay 8T339	113	86	48.2	42.2	0	242	36784	3.5	61.5	7.4	2.82	241
Mean		118	33.4	49.0	1	370	34623	3.3	60.6	7.8	2.84	335
Probability(%)												
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.8	0.0	0.0
LSD(0.10)												
Hybrid (H)		9	2.6	1.9	2	32	2388	0.2	0.6	0.3	0.0	26

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01GD **Trial ID:** 3180 **Year:** 2008

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

Location: Seymour, WI **County:** Oneida

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/1 /08 **pH:** 7.6 **OM (%)** 2.8 **P (ppm)** 22 **K (ppm)** 70

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/25/08

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:**	N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3 gallons	**Date:**	5 /13/08
Post plant Analysis:	46-0-0	**Rate lbs/A:**	260	**Date:**	6 /25/08
Manure:	N/A				

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

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/13/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/28/08 **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:** 32576 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 421VT3	Kruger K6412VT3	Pioneer 39D82
Dairyland ST7184	Kruger K6499VT3	Renk RK292CBLL
Dekalb DKC42-91(VT3)	Mycogen 2K15	Renk RK692LLYGCB
Gold Country 9608VT3	NuTech 3A-390RR	Trelay 4T722
Kruger K5504YGCB	Pioneer 35F40	Trelay 8T339
Kruger K6208VT3		

Results: Table C-04.

Table C-04. Determining Corn Hybrid Maturity - Comparison of Hybrids. Seymour, WI - 2008.

Hybrid	Relative maturity	Grain yield	Grain moisture	Test weight	Lodging	Grower return	Plant density	Grain Composition			Ethanol	
								Oil	Starch	Protein	per bu	per A
		bu/A	%	lb/bu	%	$/A	plants/A	%	%	%	gallons	gallons
Mycogen 2K15	82	150	18.7	57.9	5	511	35539	3.5	61.3	7.0	2.92	437
Dairyland ST7184	84	135	17.2	58.2	0	464	31806	3.5	61.2	6.9	2.91	392
Renk RK292CBLL	85	144	16.0	54.4	0	498	34295	3.4	60.7	7.2	2.91	419
Pioneer 39D82	87	137	17.6	57.2	0	470	35678	3.4	60.7	7.6	2.88	394
NuTech 3A-390RR	90	163	20.3	55.8	5	551	34571	3.6	61.3	6.5	2.90	473
Dekalb DKC42-91(VT3)	92	134	18.9	55.0	0	458	35816	3.2	60.9	7.2	2.94	395
Gold Country 9608VT3	96	161	20.6	54.5	0	544	36093	3.4	60.7	7.3	2.90	468
Trelay 4T722	97	155	23.3	53.6	0	514	36231	3.4	60.8	6.9	2.92	451
Kruger K6499VT3	99	157	21.6	54.5	0	525	35816	3.3	61.1	7.0	2.92	457
Croplan Genetics 421VT3	100	154	22.3	54.1	0	516	36369	3.3	61.0	7.1	2.91	450
Kruger K5504YGCB	104	148	21.1	56.0	0	498	36093	3.4	61.1	7.2	2.91	430
Pioneer 35F40	104	136	25.0	53.6	0	448	35401	3.3	60.5	7.2	2.92	398
Kruger K6208VT3	108	136	29.7	51.9	0	435	35401	3.4	60.9	6.7	2.90	395
Renk RK692LLYGCB	108	145	27.5	52.1	0	469	34710	3.2	60.8	6.7	2.92	423
Kruger K6412VT3	112	148	32.5	52.0	0	466	34571	3.2	60.8	7.0	2.85	423
Trelay 8T339	113	146	32.7	50.3	1	458	35678	3.2	60.5	6.7	2.87	418
Mean		147	22.8	54.4	1	489	35254	3.4	60.9	7.0	2.91	427
Probability(%)												
Hybrid (H)		6.0	0.0	0.0	0.1	1.6	0.7	0.0	18.6	4.3	0.0	6.9
LSD(0.10)												
Hybrid (H)		16	1.6	1.2	2	54	1594	0.1	NS	0.5	0.0	48

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3102 **Year:** 2008

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

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

Supported By: AgReliant Genetics, LLC

Site Information

Field: ARS407 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 110

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	138	N/A
Starter	10-34-0	3.0 gal/A	5 /9 /08
Post plant	46-0-0	50	6 /17/08
Manure:		N/A	N/A

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/9/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/18/08 **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:** 0.27 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 31900 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S823
S709	S824
S817	S825
S818	S826
S822	

Results: Table C-05.

Table C-05. AgReliant Hybrid Corn Silage Evaluation Study. Arlington, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	7.9	68.5	7.6	24.8	46.3	77.9	52.4	30.4	3008	23912
AgReliant S709	9.3	69.9	7.7	25.5	47.9	78.2	54.4	28.6	3005	27826
AgReliant S817	9.7	66.7	7.1	23.9	44.6	79.7	54.4	31.3	3122	30425
AgReliant S818	11.3	66.2	6.6	25.8	47.0	77.0	51.0	32.0	2951	33399
AgReliant S822	10.2	71.8	7.6	27.7	49.5	77.2	53.9	26.9	2934	30007
AgReliant S823	10.0	72.0	7.6	26.5	48.6	77.9	54.5	27.5	2982	29967
AgReliant S824	9.5	69.6	7.8	25.5	47.6	76.9	51.5	28.4	2938	28030
AgReliant S825	10.5	68.8	7.4	25.2	47.1	79.0	55.5	27.4	3058	32321
AgReliant S826	10.0	67.8	7.3	25.8	47.8	78.5	55.1	29.6	3025	30173
Mean	9.8	69.0	7.4	25.6	47.4	78.0	53.6	29.1	3003	29562
Probability (%)										
Hybrid	11.8	0.1	0.2	49.3	65.6	47.8	3.4	39.3	58.0	31.4
LSD (0.10)										
Hybrid	NS	1.9	0.4	NS	NS	NS	2.4	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3104 **Year:** 2008

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:** 10/20/08 **pH:** 7.4 **OM (%)** 2.0 **P (ppm)** 26 **K (ppm)** 78

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	10-34-0	3.0 gal/A	5 /15/08
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: 5/15/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/15/08 **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:** 0.27 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30900 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S823
S709	S824
S817	S825
S818	S826
S822	

Results: Table C-06.

Table C-06. AgReliant Hybrid Corn Silage Evaluation Study. Lancaster, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	8.1	66.5	6.8	24.2	45.6	79.5	55.0	34.3	3110	25237
AgReliant S709	8.5	70.7	6.5	25.5	48.5	78.0	54.5	31.4	2998	25529
AgReliant S817	9.4	66.3	6.9	24.2	45.4	78.5	52.6	33.3	3057	28676
AgReliant S818	9.8	65.7	6.6	24.6	46.0	79.0	54.3	32.2	3080	30312
AgReliant S822	8.3	72.9	6.3	27.7	50.6	76.7	54.1	29.8	2911	24173
AgReliant S823	9.2	72.3	6.8	27.6	51.0	77.2	55.3	27.4	2930	27083
AgReliant S824	8.0	71.1	6.7	27.8	51.7	75.9	53.3	27.6	2854	22970
AgReliant S825	9.8	66.2	6.9	25.1	46.5	79.0	54.9	32.2	3077	30152
AgReliant S826	9.9	68.8	7.2	24.7	46.1	79.1	54.7	32.3	3085	30519
Mean	9.0	68.9	6.7	25.7	47.9	78.1	54.3	31.2	3011	27183
Probability (%)										
Hybrid	2.7	0.0	56.9	0.3	0.1	0.6	65.8	9.7	0.2	1.3
LSD (0.10)										
Hybrid	1.1	2.1	NS	1.7	2.6	1.5	NS	4.1	98	3682

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3107 **Year:** 2008

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:** 10/23/08 **pH:** 6.7 **OM (%)** 4.6 **P (ppm)** 17 **K (ppm)** 95

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /8 /08
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: 5/8/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/23/08 **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: 23' x 2.5' **Harvest Plant Density:** 32600 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S816
S707	S819
S814	S820
S815	S821

Results: Table C-07.

Table C-07. AgReliant Hybrid Corn Silage Evaluation Study. Fond du Lac, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	8.4	60.2	5.5	24.3	45.8	78.4	52.8	32.1	3042	25568
AgReliant S707	6.6	62.2	5.3	23.4	45.2	80.3	56.3	31.8	3151	20667
AgReliant S814	8.4	57.6	6.0	22.5	43.2	78.3	49.9	36.0	3063	26099
AgReliant S815	8.6	58.2	5.5	23.4	45.0	79.2	53.7	34.7	3092	26726
AgReliant S816	7.7	51.2	5.8	21.3	42.2	80.2	52.9	37.9	3178	24155
AgReliant S819	9.7	58.4	5.5	23.4	44.7	79.5	54.2	33.8	3113	30202
AgReliant S820	8.6	60.7	5.4	24.0	45.4	78.7	53.0	33.5	3063	26473
AgReliant S821	8.6	62.7	5.6	23.5	43.8	79.0	52.0	34.4	3093	26596
Mean	8.3	58.9	5.6	23.2	44.4	79.2	53.1	34.3	3099	25811
Probability (%)										
Hybrid	2.1	0.1	36.7	84.9	92.8	85.5	5.7	63.9	93.6	13.4
LSD (0.10)										
Hybrid	1.2	3.3	NS	NS	NS	NS	2.8	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3105 **Year:** 2008

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:** 10/21/08 **pH:** 6.1 **OM (%)** 3.6 **P (ppm)** 22 **K (ppm)** 140

Plot Management

Tillage Operations: Fall Zone Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /12/08
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: 5/12/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/17/08 **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: 23' x 2.5' **Harvest Plant Density:** 29300 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S816
S707	S819
S814	S820
S815	S821

Results: Table C-08.

Table C-08. AgReliant Hybrid Corn Silage Evaluation Study. Galesville, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S510	6.9	72.0	8.0	26.3	49.4	77.7	55.0	26.6	2968	20380
AgReliant S707	6.4	70.2	7.3	27.2	51.2	77.5	56.1	20.4	2888	18670
AgReliant S814	8.0	68.0	7.0	25.1	47.8	77.8	53.5	29.1	2993	23926
AgReliant S815	8.9	69.5	6.7	24.9	47.1	78.6	54.4	30.0	3042	27006
AgReliant S816	8.3	64.4	6.9	22.9	45.3	78.9	53.3	33.3	3080	25790
AgReliant S819	9.5	67.5	6.9	25.0	47.3	78.9	55.4	30.4	3058	29176
AgReliant S820	8.8	69.8	6.7	25.3	48.1	77.9	54.0	28.5	2995	26415
AgReliant S821	8.0	71.8	7.5	27.7	50.6	75.2	51.0	25.2	2821	22508
Mean	8.1	69.1	7.1	25.6	48.4	77.8	54.1	27.9	2981	24234
Probability (%)										
Hybrid	1.7	0.4	3.2	11.6	24.4	6.6	6.3	0.4	4.1	1.8
LSD (0.10)										
Hybrid	1.3	2.7	0.6	NS	NS	1.9	2.4	4.2	128	4592

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3101 **Year:** 2008

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:** 10/21/08 **pH:** 6.5 **OM (%)** 2.2 **P (ppm)** 23 **K (ppm)** 162

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /7 /08
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: 5/7/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/16/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30635 **plants per acre**

Factors/Treatments:

Hybrid

S603
S811
S812
S813

Results: Table C-09.

Table C-09. AgReliant Hybrid Corn Silage Evaluation Study. Chippewa Falls, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S603	6.5	69.7	6.0	24.5	46.4	79.1	54.9	31.5	3126	20190
AgReliant S811	6.3	67.2	6.1	23.5	46.0	81.3	59.4	30.7	3248	20579
AgReliant S812	7.9	68.7	6.2	23.2	46.8	81.8	61.1	29.5	3271	25898
AgReliant S813	6.9	68.5	6.4	26.1	49.1	78.8	56.6	27.4	3081	21443
Mean	6.9	68.5	6.2	24.3	47.1	80.2	58.0	29.8	3181	22028
Probability (%)										
Hybrid	53.6	51.6	82.1	50.4	76.2	12.4	11.3	76.1	20.7	54.4
LSD (0.10)										
Hybrid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3106 **Year:** 2008

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:** 10/30/08 **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	10-34-0	3.0 gal/A	5 /19/08
Post plant	28-0-0	76	7 /1 /08
Manure:		N/A	N/A

Herbicide: G-MaxLite 2.33 pt/A
Hornet 2.4 oz/A
Atrazine 1.0 qt/A

Insecticide: None

Irrigation: None

Planting Date: 5/19/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/26/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30200 **plants per acre**

Factors/Treatments:

Hybrid
S603
S811
S812
S813

Results: Table C-10.

Table C-10. AgReliant Hybrid Corn Silage Evaluation Study. Marshfield, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S603	6.3	63.7	6.6	21.9	43.8	81.1	56.7	31.4	3235	20268
AgReliant S811	6.5	63.1	6.6	23.7	45.4	79.9	55.8	30.5	3155	20593
AgReliant S812	6.8	63.9	6.4	23.6	45.4	79.7	55.1	28.9	3144	21474
AgReliant S813	6.4	64.5	6.5	23.8	45.7	80.0	56.2	29.0	3157	20360
Mean	6.5	63.8	6.5	23.2	45.1	80.2	56.0	30.0	3173	20674
Probability (%)										
Hybrid	47.9	92.0	80.6	85.9	95.5	79.4	81.8	93.1	85.1	85.9
LSD (0.10)										
Hybrid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3103 **Year:** 2008

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:** 9 /25/08 **pH:** 6.7 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 100

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /13/08
Post plant	34-0-0	150	6 /26/08
Manure:	Dairy	10 ton	

Herbicide: Callisto 2.0 oz/A
Harness Xtra 1.5 pt/A
Atrazine 0.5 lb/A
Steadfast 0.5 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/13/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/25/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30980 **plants per acre**

Factors/Treatments:

Hybrid

S603
S811
S812
S813

Results: Table C-11.

Table C-11. AgReliant Hybrid Corn Silage Evaluation Study. Valders, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
AgReliant S603	8.4	52.2	7.1	21.2	42.2	79.3	51.0	36.5	3113	26103
AgReliant S811	9.3	52.0	6.8	20.4	40.4	81.1	53.3	37.5	3235	30311
AgReliant S812	9.7	52.9	6.8	21.1	41.7	80.1	52.2	36.4	3166	30629
AgReliant S813	8.4	48.0	7.3	23.6	45.3	78.3	52.0	31.1	3022	25564
Mean	9.0	51.3	7.0	21.6	42.4	79.7	52.1	35.4	3134	28152
Probability (%)										
Hybrid	13.2	39.6	37.4	44.6	42.4	36.5	70.4	20.0	34.8	16.9
LSD (0.10)										
Hybrid	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3113 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

Field: ARS407 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 110

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	138	N/A
Starter	10-34-0	3.0 gal/A	5 /9 /08
Post plant	46-0-0	50	6 /17/08
Manure:		N/A	N/A

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/9/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/18/08 **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:** 0.27 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 31900 **plants per acre**

Factors/Treatments:

Hybrid	
873816	887140
874658	888418
874767	888773
875980	889839
875995	889844
876009	889845
887139	

Results: Table C-12.

Table C-12. BASF Hybrid Corn Silage Evaluation Study. Arlington, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 873816	9.8	70.4	7.7	25.0	46.6	78.3	53.4	29.9	3044	29990
BASF 874658	10.6	70.3	7.4	28.1	51.4	76.8	55.1	24.3	2918	30917
BASF 874767	10.4	72.7	8.1	25.5	47.7	78.3	54.6	26.3	3034	31423
BASF 875980	12.6	70.9	7.5	27.9	51.5	76.5	54.3	21.9	2888	36206
BASF 875995	10.4	67.5	7.1	23.8	44.1	78.8	52.1	33.0	3101	32297
BASF 876009	9.2	75.4	8.3	25.9	49.4	82.7	64.9	22.4	3237	29930
BASF 887139	10.1	68.4	7.9	24.6	46.2	79.5	55.7	29.1	3116	31678
BASF 887140	10.2	68.5	7.7	23.9	44.9	79.1	53.6	31.6	3106	31824
BASF 888418	11.2	69.0	6.9	23.9	44.7	78.2	51.2	32.2	3061	34308
BASF 888773	8.9	75.1	8.6	25.9	50.1	81.0	62.2	22.2	3151	28035
BASF 889839	10.4	70.6	8.0	23.6	44.6	80.4	56.3	28.8	3182	33203
BASF 889844	9.6	74.7	8.5	27.1	49.4	76.4	52.3	25.9	2910	28055
BASF 889845	11.4	69.2	7.7	24.5	46.3	79.1	54.9	27.2	3092	35387
Mean	10.4	71.0	7.8	25.4	47.5	78.9	55.4	27.3	3065	31789
Probability (%)										
Hybrid	0.6	0.0	0.0	4.4	0.6	0.2	0.0	0.0	1.2	12.8
LSD (0.10)										
Hybrid	1.3	2.9	0.6	2.5	3.6	2.2	2.5	3.4	150	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3111 **Year:** 2008

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:** Soybean **Soil Type:** Fayette Silt Loam

Soil Test: **Date:** 10/20/08 **pH:** 7.4 **OM (%)** 2.0 **P (ppm)** 26 **K (ppm)** 78

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	10-34-0	3.0 gal/A	5 /15/08
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: 5/15/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/15/08 **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:** 0.27 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30900 **plants per acre**

Factors/Treatments:

Hybrid	
873816	887140
874658	888418
874767	888773
875980	889839
875995	889844
876009	889845
887139	

Results: Table C-13.

Table C-13. BASF Hybrid Corn Silage Evaluation Study. Lancaster, - WI 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 873816	8.8	71.8	7.5	26.3	49.3	77.1	53.6	27.3	2959	26029
BASF 874658	10.5	66.6	6.7	26.0	48.5	78.0	54.7	31.0	3017	31680
BASF 874767	10.0	72.3	7.2	27.8	52.1	76.4	54.7	25.1	2893	29070
BASF 875980	10.9	69.4	6.9	26.9	50.8	77.3	55.4	24.3	2956	32154
BASF 875995	10.2	67.6	6.7	24.8	47.0	78.3	53.7	32.9	3047	31076
BASF 876009	9.4	70.6	7.1	24.2	46.5	82.9	63.5	29.3	3302	31226
BASF 887139	10.6	68.0	7.0	25.3	48.3	77.9	54.3	30.3	3013	32056
BASF 887140	9.5	69.4	7.6	26.3	49.0	77.7	54.7	28.9	2995	28665
BASF 888418	10.1	69.5	6.7	26.5	48.8	77.5	53.9	27.9	2987	30259
BASF 888773	8.4	73.9	7.1	26.3	51.8	80.3	62.0	23.7	3101	25959
BASF 889839	9.8	69.2	7.0	24.4	46.3	79.4	55.5	29.1	3112	30399
BASF 889844	8.9	73.2	7.5	26.4	48.8	78.1	55.1	28.4	3016	26782
BASF 889845	9.9	69.9	6.5	25.7	48.6	77.4	53.6	28.6	2986	29584
Mean	9.8	70.1	7.0	25.9	48.9	78.3	55.7	28.2	3030	29610
Probability (%)										
Hybrid	0.3	0.1	14.0	48.7	25.2	3.1	0.0	2.0	8.6	10.7
LSD (0.10)										
Hybrid	0.9	2.5	NS	NS	NS	2.6	3.1	3.9	176	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3108 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 10/23/08 **pH:** 6.7 **OM (%)** 4.6 **P (ppm)** 17 **K (ppm)** 95

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /8 /08
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: 5/8/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/23/08 **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: 23' x 2.5' **Harvest Plant Density:** 32600 **plants per acre**

Factors/Treatments:

Hybrid	
873816	887140
874658	888418
874767	888773
875980	889839
875995	889844
876009	889845
887139	

Results: Table C-14.

Table C-14. BASF Hybrid Corn Silage Evaluation Study.
Fond du Lac, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 873816	9.4	66.5	5.6	25.9	48.5	76.8	52.1	28.8	2944	27865
BASF 874658	10.4	62.7	5.2	26.0	48.8	78.9	56.8	29.2	3056	31811
BASF 874767	9.3	67.6	4.9	27.2	50.9	76.7	54.2	25.1	2913	27228
BASF 875980	9.7	66.2	4.9	27.9	51.6	77.7	56.7	24.3	2959	28696
BASF 875995	9.9	62.5	5.3	22.8	43.4	79.4	52.5	33.7	3136	31029
BASF 876009	8.8	67.9	5.4	25.5	48.5	81.4	61.6	27.4	3192	27991
BASF 887139	9.3	66.2	5.0	27.3	50.5	76.4	53.3	26.1	2905	26978
BASF 887140	9.9	63.0	5.3	23.2	43.9	79.0	52.3	33.7	3113	30859
BASF 888418	9.5	65.4	5.1	26.0	48.4	76.5	51.4	28.6	2930	27721
BASF 888773	8.4	69.7	5.6	25.8	49.8	80.5	60.8	26.1	3127	26142
BASF 889839	8.8	66.6	4.9	25.8	47.4	77.9	53.4	28.5	3017	26497
BASF 889844	8.9	68.9	5.1	27.6	50.1	75.9	51.8	27.0	2877	25585
BASF 889845	9.0	65.3	4.7	26.4	49.4	76.8	53.0	27.1	2937	26554
Mean	9.3	66.0	5.1	25.9	48.6	78.0	54.6	28.1	3008	28073
Probability (%)										
Hybrid	61.2	0.2	14.0	12.4	10.4	0.2	0.0	7.6	1.8	63.9
LSD (0.10)										
Hybrid	NS	2.7	NS	NS	NS	2.1	2.2	5.0	155	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3110 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 10/21/08 **pH:** 6.1 **OM (%)** 3.6 **P (ppm)** 22 **K (ppm)** 140

Plot Management

Tillage Operations: Fall Zone Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /12/08
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: 5/12/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/17/08 **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: 23' x 2.5' **Harvest Plant Density:** 29300 **plants per acre**

Factors/Treatments:

Hybrid	
873816	887140
874658	888418
874767	888773
875980	889839
875995	889844
876009	889845
887139	

Results: Table C-15.

Table C-15. BASF Hybrid Corn Silage Evaluation Study. Galesville, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 873816	9.6	72.5	7.6	27.3	51.2	76.5	54.1	24.7	2894	27962
BASF 874658	9.5	70.4	7.5	28.0	51.7	76.7	55.0	22.7	2901	27447
BASF 874767	9.6	74.8	6.9	30.5	56.5	74.8	55.5	16.2	2718	26012
BASF 875980	10.6	70.8	7.1	27.2	51.6	77.1	55.6	23.9	2926	31098
BASF 875995	8.8	72.5	7.5	27.4	50.3	75.5	51.4	25.9	2851	25189
BASF 876009	7.6	78.1	7.9	28.9	55.3	79.3	62.6	17.8	2991	22716
BASF 887139	8.8	74.0	8.0	27.8	51.9	75.9	53.5	23.6	2853	25149
BASF 887140	9.0	71.2	7.4	25.1	47.3	78.6	54.9	27.2	3051	27599
BASF 888418	8.0	72.7	7.1	27.3	50.1	75.3	50.7	25.6	2844	22784
BASF 888773	7.9	76.6	7.7	27.8	52.9	81.2	64.6	16.9	3020	24101
BASF 889839	8.9	72.8	7.2	28.6	52.3	75.9	54.0	21.2	2813	24922
BASF 889844	8.2	74.2	7.6	28.8	52.0	74.2	50.4	22.9	2763	22834
BASF 889845	8.7	73.5	7.3	29.6	54.3	73.9	52.0	20.3	2722	23686
Mean	8.9	73.4	7.4	28.0	52.1	76.5	54.9	22.2	2873	25500
Probability (%)										
Hybrid	33.5	0.0	4.0	5.2	0.5	0.0	0.0	0.0	1.1	54.5
LSD (0.10)										
Hybrid	NS	1.9	0.5	2.2	3.1	2.2	2.6	3.7	151	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3114 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 10/21/08 **pH:** 6.5 **OM (%)** 2.2 **P (ppm)** 23 **K (ppm)** 162

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /7 /08
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: 5/7/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/16/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30635 **plants per acre**

Factors/Treatments:

Hybrid	
554724	887139
873815	887140
873816	888782
874657	889839
875995	889844

Results: Table C-16.

Table C-16. BASF Hybrid Corn Silage Evaluation Study. Chippewa Falls, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 554724	6.2	70.0	6.8	25.3	48.1	79.0	56.3	26.3	3073	19132
BASF 873815	7.7	69.3	6.7	27.0	51.2	76.5	54.0	23.2	2907	22365
BASF 873816	8.0	72.8	6.3	28.1	51.8	75.8	53.2	23.8	2865	23058
BASF 874657	6.9	74.3	6.8	25.5	50.5	83.0	66.2	20.7	3162	21900
BASF 875995	8.1	71.5	6.4	26.9	50.7	76.3	53.3	24.8	2905	23579
BASF 887139	7.9	72.9	5.8	28.4	53.1	76.5	55.7	20.4	2890	22868
BASF 887140	8.7	71.0	6.0	26.2	49.4	77.4	54.1	25.6	2976	25759
BASF 888782	8.6	70.0	6.0	26.6	49.0	77.8	54.6	27.6	3003	25893
BASF 889839	7.8	71.8	5.4	26.9	51.6	76.5	54.5	22.3	2858	22242
BASF 889844	7.8	73.9	7.0	28.9	53.0	76.3	55.3	20.3	2859	22375
Mean	7.8	71.8	6.3	27.0	50.8	77.5	55.7	23.5	2950	22917
Probability (%)										
Hybrid	1.0	0.2	12.3	12.5	28.7	0.0	0.0	6.4	1.2	15.5
LSD (0.10)										
Hybrid	1.0	1.9	NS	NS	NS	1.8	2.3	4.2	137	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3109 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 10/30/08 **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	10-34-0	3.0 gal/A	5 /19/08
Post plant	28-0-0	76	7 /1 /08
Manure:		N/A	N/A

Herbicide: G-MaxLite 2.33 pt/A
Hornet 2.4 oz/A
Atrazine 1.0 qt/A

Insecticide: None

Irrigation: None

Planting Date: 5/19/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/26/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30200 **plants per acre**

Factors/Treatments:

Hybrid	
554724	887139
873815	887140
873816	888782
874657	889839
875995	889844

Results: Table C-17.

Table C-17. BASF Hybrid Corn Silage Evaluation Study. Marshfield, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 554724	4.9	69.1	7.5	25.1	49.0	79.7	58.6	22.1	3135	15348
BASF 873815	5.9	71.0	7.1	27.4	52.3	79.2	60.2	14.5	2722	16131
BASF 873816	6.1	73.0	6.6	28.5	53.6	77.7	58.5	14.6	2706	16625
BASF 874657	5.3	71.2	7.1	24.5	51.5	85.4	71.7	18.3	3280	17505
BASF 875995	5.9	70.3	6.8	25.9	49.3	79.2	57.8	21.4	3036	18015
BASF 887139	6.1	72.8	7.0	27.0	51.9	80.6	62.6	15.6	2847	17240
BASF 887140	6.0	71.8	7.2	27.2	51.8	79.6	60.7	16.7	2888	17245
BASF 888782	6.3	66.5	6.6	25.6	48.9	79.6	58.3	24.9	3161	20062
BASF 889839	6.4	69.8	7.1	24.6	47.4	81.1	60.1	22.1	3076	19558
BASF 889844	5.8	74.5	6.8	29.3	55.1	78.3	60.7	14.9	2872	16713
Mean	5.9	71.0	7.0	26.5	51.1	80.0	60.9	18.5	2972	17444
Probability (%)										
Hybrid	5.3	0.1	3.3	5.2	3.9	0.1	0.0	0.4	0.1	28.3
LSD (0.10)										
Hybrid	0.7	2.4	0.4	2.6	3.6	2.2	3.5	4.6	196	NS

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: 01PrivateSilage **Trial ID:** 3112 **Year:** 2008

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

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

Supported By: BASF Plant Science

Site Information

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

Soil Test: **Date:** 9 /25/08 **pH:** 6.7 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 100

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /13/08
Post plant	34-0-0	150	6 /26/08
Manure:	Dairy	10 ton	

Herbicide: Callisto 2.0 oz/A
Harness Xtra 1.5 pt/A
Atrazine 0.5 lb/A
Steadfast 0.5 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/13/08 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 9/25/08 **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:** 0.14 A

Harvest Plot Size: 23' x 2.5' **Harvest Plant Density:** 30980 **plants per acre**

Factors/Treatments:

Hybrid	
554724	887139
873815	887140
873816	888782
874657	889839
875995	889844

Results: Table C-18.

Table C-18. BASF Hybrid Corn Silage Evaluation Study. Valders, WI - 2008.

Hybrid	Dry Matter Yield	Moisture	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A
BASF 554724	7.3	58.0	7.5	23.5	45.7	78.9	53.8	29.2	3074	22353
BASF 873815	7.2	65.5	7.7	26.0	50.1	77.5	55.0	22.2	2868	20799
BASF 873816	9.7	66.1	7.8	24.7	46.6	78.2	53.4	26.9	3029	29372
BASF 874657	8.6	60.0	7.6	22.1	44.8	82.4	60.7	30.3	3276	28146
BASF 875995	9.5	64.8	7.0	24.4	45.4	78.4	52.6	31.0	3054	28889
BASF 887139	9.7	66.5	8.0	25.7	48.4	77.8	54.1	26.1	2983	29045
BASF 887140	8.8	61.6	8.0	24.4	46.4	77.6	51.7	28.8	2994	26306
BASF 888782	10.5	62.1	7.1	23.8	45.2	79.8	55.4	31.5	3132	33047
BASF 889839	8.8	63.4	7.7	24.2	46.3	78.4	53.5	28.8	3044	26764
BASF 889844	9.1	69.9	7.8	26.0	48.6	77.5	53.5	27.0	2965	26833
Mean	8.9	63.8	7.6	24.5	46.8	78.6	54.4	28.2	3042	27155
Probability (%)										
Hybrid	0.0	0.0	31.5	25.8	35.4	12.8	2.6	16.1	12.3	0.0
LSD (0.10)										
Hybrid	0.8	2.6	NS	NS	NS	NS	3.6	NS	NS	3030

FIELD EXPERIMENT HISTORY

Title: **Influence of Plot Size on BMR Corn Silage Yield and Quality**

Experiment: 01Silage Tech **Trial ID:** 3187 **Year:** 2008

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

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

Supported By: Mycogen Seeds

Site Information

Field: ARS407 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 110

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	138	N/A
Starter	10-34-0	3.0 gal/A	5 /9 /08
Post plant	46-0-0	50	6 /17/08
Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 5/9/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 9/19/08 **Harvest Method:** New Holland 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: See Factors **Experiment Size:** 1.2 Acre

Harvest Plot Size: See Factors **Harvest Plant Density:** 32342 **plants per acre**

Factors/Treatments:

Hybrid		Plot Size	Harvest Area
Dekalb DKC57-79	Mycogen TMF2Q71	10' x 25	5' x 23'
Mycogen F2568	Mycogen TMF2T49	5' x 25'	2.5' x 23'
Mycogen F2F610	Pioneer 35A30		
Mycogen F2F635	Pioneer 35F44		

Results: Table C-19.

Table C-19. Influence of Plot Size on BMR Corn Silage Yield and Quality. Arlington, WI - 2008.

Plot type	Harvest size	Hybrid	Whole Plant Dry Matter yield	Moisture	Harvest plants	Plant height	Silk	Crude protein	ADF	NDF	*in vitro* Digest	NDFD	Starch	Milk per Ton	Milk per Acre
			tons/A	%	plants/A	inches	doy	%	%	%	%	%	%	lbs/T	lbs/A
		Dekalb DKC57-79	10.6	67.4	32599	116	208	7.4	22.1	41.7	80.2	52.6	34.3	3215	34262
		Mycogen F2F568	9.6	69.3	32031	110	213	7.4	23.8	45.9	82.7	62.3	27.3	3311	31855
		Mycogen F2F610	10.5	70.9	33072	121	215	7.5	27.8	51.0	80.8	62.4	21.8	3150	33096
		Mycogen F2F635	9.9	72.0	34256	108	214	7.8	24.4	46.6	82.6	62.7	26.1	3294	32710
		Mycogen TMF2Q71	11.6	67.0	32339	120	214	7.2	25.1	46.1	79.1	54.8	29.9	3114	36282
		Mycogen TMF2T49	12.0	62.6	34706	125	212	7.2	24.0	45.1	78.4	52.0	27.6	3069	36950
		Pioneer 35A30	11.1	66.5	29829	118	210	7.1	23.9	44.0	80.1	54.7	31.3	3187	35578
		Pioneer 35F44	9.8	67.7	29900	111	209	7.3	23.4	43.1	80.6	55.1	33.0	3225	31487
	1-Row		11.1	67.8	32327	115	212	7.3	24.5	45.8	80.4	57.0	28.4	3180	35283
	2-Row		10.2	68.0	32356	117	212	7.4	24.1	45.1	80.8	57.2	29.4	3211	32771
	1-Row	Dekalb DKC57-79	11.1	66.9	32670	114	208	7.3	21.9	41.4	80.4	52.6	34.7	3228	35886
	1-Row	Mycogen F2F568	10.1	69.1	32291	109	213	7.4	24.3	46.7	82.3	62.0	26.1	3279	33203
	1-Row	Mycogen F2F610	10.7	71.1	32670	119	215	7.4	27.9	51.3	80.6	62.2	21.5	3139	33618
	1-Row	Mycogen F2F635	10.3	71.6	33806	106	214	7.8	24.5	46.7	82.6	62.8	25.7	3292	33990
	1-Row	Mycogen TMF2Q71	12.1	66.8	32197	121	214	7.1	25.3	46.7	79.0	55.0	29.3	3102	37620
	1-Row	Mycogen TMF2T49	12.9	62.6	35416	124	212	7.3	24.4	45.7	77.8	51.5	26.6	3022	39064
	1-Row	Pioneer 35A30	11.5	66.3	29734	119	210	7.0	24.2	44.4	79.9	54.8	31.0	3175	36685
	1-Row	Pioneer 35F44	10.0	68.1	29829	110	209	7.2	23.7	43.7	80.4	55.1	32.5	3205	32202
	2-Row	Dekalb DKC57-79	10.2	67.8	32528	118	207	7.5	22.4	42.1	80.1	52.7	33.9	3202	32638
	2-Row	Mycogen F2F568	9.1	69.4	31770	112	213	7.5	23.3	45.1	83.2	62.6	28.5	3344	30506
	2-Row	Mycogen F2F610	10.3	70.8	33475	123	215	7.5	27.7	50.7	81.0	62.7	22.0	3162	32575
	2-Row	Mycogen F2F635	9.5	72.4	34706	109	214	7.8	24.3	46.6	82.6	62.6	26.5	3296	31429
	2-Row	Mycogen TMF2Q71	11.2	67.1	32481	118	214	7.3	24.8	45.6	79.2	54.5	30.5	3126	34944
	2-Row	Mycogen TMF2T49	11.2	62.5	33996	126	211	7.1	23.6	44.5	78.9	52.5	28.6	3117	34836
	2-Row	Pioneer 35A30	10.7	66.6	29924	118	210	7.2	23.6	43.5	80.2	54.6	31.6	3199	34470
	2-Row	Pioneer 35F44	9.5	67.4	29971	111	209	7.3	23.0	42.5	80.9	55.1	33.5	3245	30771
2-Row			10.8	68.1	32220	116	212	7.4	24.1	45.2	80.8	57.3	29.1	3209	34498
4-Row			10.5	67.7	32463	116	212	7.3	24.5	45.7	80.4	56.9	28.7	3183	33557
2-Row		Dekalb DKC57-79	10.9	66.5	32623	115	208	7.4	21.2	40.4	81.0	52.9	35.8	3266	35738
2-Row		Mycogen F2F568	9.7	69.4	31439	112	214	7.6	24.0	46.3	82.6	62.4	26.7	3302	32053
2-Row		Mycogen F2F610	10.7	70.3	32907	123	216	7.3	27.3	50.4	81.1	62.5	22.2	3172	34130
2-Row		Mycogen F2F635	9.7	73.2	34327	108	214	8.0	24.4	46.8	82.5	62.7	25.7	3286	31917
2-Row		Mycogen TMF2Q71	11.5	67.8	32149	117	214	7.3	25.3	46.4	78.9	54.5	29.8	3100	35807
2-Row		Mycogen TMF2T49	12.5	62.6	34280	124	211	7.3	23.5	44.3	79.0	52.7	28.1	3106	38771
2-Row		Pioneer 35A30	11.2	67.2	30255	119	210	7.2	24.2	44.5	79.8	54.7	30.8	3170	35600
2-Row		Pioneer 35F44	9.8	67.8	29782	109	209	7.3	22.9	42.6	81.3	56.0	33.5	3266	31969
4-Row		Dekalb DKC57-79	10.3	68.2	32575	117	208	7.3	23.0	43.0	79.5	52.4	32.8	3164	32786
4-Row		Mycogen F2F568	9.5	69.1	32623	109	213	7.3	23.6	45.5	82.8	62.2	27.8	3321	31656
4-Row		Mycogen F2F610	10.2	71.5	33238	120	215	7.6	28.3	51.7	80.6	62.4	21.3	3129	32063
4-Row		Mycogen F2F635	10.1	70.9	34185	107	214	7.7	24.3	46.5	82.7	62.7	26.5	3302	33503
4-Row		Mycogen TMF2Q71	11.7	66.2	32528	122	214	7.1	24.9	45.9	79.3	55.0	30.0	3128	36757
4-Row		Mycogen TMF2T49	11.6	62.5	35132	127	212	7.1	24.5	45.8	77.7	51.3	27.1	3032	35129
4-Row		Pioneer 35A30	11.1	65.8	29403	118	210	7.1	23.6	43.5	80.3	54.7	31.8	3204	35556
4-Row		Pioneer 35F44	9.7	67.7	30019	112	208	7.2	23.9	43.7	80.0	54.2	32.5	3184	31005
2-Row	1-Row		11.2	68.1	32220	115	212	7.4	24.4	45.6	80.5	57.0	28.5	3187	35730
2-Row	2-Row		10.3	68.1	32220	117	212	7.5	23.8	44.8	81.0	57.6	29.6	3230	33266
4-Row	1-Row		11.0	67.6	32433	115	212	7.3	24.6	46.0	80.2	57.0	28.3	3173	34837
4-Row	2-Row		10.1	67.9	32492	117	212	7.4	24.4	45.4	80.5	56.8	29.1	3193	32276

continued

Table C-19. Influence of Plot Size on BMR Corn Silage Yield and Quality.
(continued) **Arlington, WI - 2008.**

Plot type	Harvest size	Hybrid	Whole Plant Dry Matter yield	Moisture	Harvest plants	Plant height	Silk	Crude protein	ADF	NDF	*in vitro* Digest	NDFD	Starch	Milk per Ton	Milk per Acre
			tons/A	%	plants/A	inches	doy	%	%	%	%	%	%	lbs/T	lbs/A
2-Row	1-Row	Dekalb DKC57-79	11.3	66.4	32765	113	208	7.4	20.9	39.7	80.9	51.9	36.4	3268	37095
2-Row	1-Row	Mycogen F2F568	10.2	69.6	31439	112	214	7.6	25.1	47.9	82.2	62.7	24.6	3260	33148
2-Row	1-Row	Mycogen F2F610	10.8	70.8	32386	123	215	7.2	28.1	51.7	80.4	62.1	20.8	3121	33673
2-Row	1-Row	Mycogen F2F635	10.0	73.5	34280	107	214	8.0	24.8	47.0	82.5	62.8	24.8	3278	32668
2-Row	1-Row	Mycogen TMF2Q71	12.1	67.5	31818	119	214	7.1	25.4	46.7	78.8	54.5	29.7	3090	37484
2-Row	1-Row	Mycogen TMF2T49	13.7	61.9	35416	120	212	7.3	23.8	44.6	78.3	51.3	27.3	3044	41784
2-Row	1-Row	Pioneer 35A30	11.8	66.4	29734	121	211	7.2	23.9	44.0	80.2	54.9	31.6	3192	37660
2-Row	1-Row	Pioneer 35F44	10.0	68.5	29924	107	209	7.3	23.4	43.2	81.0	56.0	33.0	3243	32327
2-Row	2-Row	Dekalb DKC57-79	10.5	66.6	32481	117	207	7.4	21.6	41.2	81.0	54.0	35.1	3264	34381
2-Row	2-Row	Mycogen F2F568	9.3	69.3	31439	113	214	7.6	23.0	44.6	83.1	62.1	28.8	3345	30959
2-Row	2-Row	Mycogen F2F610	10.7	69.8	33428	123	216	7.5	26.5	49.1	81.7	62.8	23.6	3224	34587
2-Row	2-Row	Mycogen F2F635	9.5	72.9	34375	109	214	7.9	24.1	46.6	82.6	62.5	26.5	3294	31166
2-Row	2-Row	Mycogen TMF2Q71	11.0	68.1	32481	116	214	7.4	25.1	46.1	79.0	54.5	30.0	3110	34130
2-Row	2-Row	Mycogen TMF2T49	11.3	63.3	33143	127	211	7.2	23.2	44.1	79.8	54.1	28.8	3168	35757
2-Row	2-Row	Pioneer 35A30	10.6	67.9	30776	117	209	7.2	24.5	45.0	79.5	54.4	30.0	3147	33539
2-Row	2-Row	Pioneer 35F44	9.6	67.0	29640	111	209	7.3	22.4	41.9	81.6	56.0	34.1	3289	31610
4-Row	1-Row	Dekalb DKC57-79	10.9	67.5	32575	115	208	7.1	22.8	43.0	79.9	53.3	33.0	3187	34677
4-Row	1-Row	Mycogen F2F568	10.1	68.6	33143	107	213	7.2	23.6	45.5	82.4	61.3	27.5	3298	33258
4-Row	1-Row	Mycogen F2F610	10.6	71.4	32954	116	215	7.7	27.6	50.9	80.8	62.4	22.1	3156	33562
4-Row	1-Row	Mycogen F2F635	10.7	69.8	33333	105	214	7.7	24.2	46.4	82.7	62.7	26.5	3306	35313
4-Row	1-Row	Mycogen TMF2Q71	12.1	66.2	32575	124	214	7.1	25.3	46.7	79.2	55.5	29.0	3114	37755
4-Row	1-Row	Mycogen TMF2T49	12.1	63.4	35416	128	213	7.3	25.1	46.8	77.4	51.6	25.9	2999	36344
4-Row	1-Row	Pioneer 35A30	11.3	66.3	29734	116	210	6.9	24.6	44.9	79.7	54.7	30.4	3157	35710
4-Row	1-Row	Pioneer 35F44	10.1	67.7	29734	112	208	7.2	24.1	44.2	79.7	54.2	32.1	3167	32077
4-Row	2-Row	Dekalb DKC57-79	9.8	69.0	32575	119	208	7.6	23.1	43.0	79.1	51.4	32.6	3140	30896
4-Row	2-Row	Mycogen F2F568	9.0	69.6	32102	111	213	7.4	23.6	45.5	83.2	63.1	28.2	3343	30053
4-Row	2-Row	Mycogen F2F610	9.8	71.7	33522	124	215	7.5	29.0	52.4	80.3	62.5	20.5	3101	30564
4-Row	2-Row	Mycogen F2F635	9.6	72.0	35037	108	214	7.7	24.5	46.6	82.7	62.7	26.5	3298	31693
4-Row	2-Row	Mycogen TMF2Q71	11.4	66.2	32481	121	214	7.1	24.5	45.1	79.4	54.5	31.1	3141	35758
4-Row	2-Row	Mycogen TMF2T49	11.1	61.6	34848	126	212	7.0	24.0	44.9	78.0	51.0	28.4	3065	33915
4-Row	2-Row	Pioneer 35A30	10.9	65.3	29072	120	211	7.2	22.6	42.1	80.9	54.8	33.1	3250	35401
4-Row	2-Row	Pioneer 35F44	9.3	67.8	30303	111	209	7.3	23.7	43.2	80.2	54.2	32.8	3201	29932
Mean			10.7	67.9	32342	116	212	7.4	24.3	45.4	80.6	57.1	28.9	3196	34027
Probability(%)															
Plot Type (T)			23.7	70.4	39.4	72.8	90.1	40.0	37.5	40.8	25.1	22.2	65.6	29.0	27.3
Harvest Size (S)			0.1	55.0	90.8	10.3	56.0	43.5	30.5	19.5	23.7	55.2	11.4	16.9	1.2
T x S			88.6	66.3	90.8	80.4	87.1	98.0	68.7	92.4	68.0	27.2	81.5	57.5	94.7
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
S x H			24.7	82.3	33.0	67.0	74.5	79.0	93.5	92.8	81.0	78.2	86.5	75.0	85.3
T x H			17.1	0.3	57.1	26.7	39.5	47.0	34.3	41.2	11.3	24.6	49.3	22.3	16.5
T x S x H			37.9	6.9	57.0	25.6	39.4	54.3	38.0	39.6	63.8	2.2	45.8	61.2	51.6
LSD (0.10)															
Plot Type (T)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Harvest Size (S)			0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1366
T x S			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hybrid (H)			0.4	0.9	814	3	1	0.2	1.0	1.5	0.7	0.8	1.7	56	1728
S x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
T x H			NS	1.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
T x S x H			NS	2.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **Organic Hybrid Comparison**

Experiment: 01 Organic-SARE **Trial ID:** 3191 **Year:** 2008

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

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

Supported By: SARE

Site Information

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

Soil Test: **Date:** 11/1 /08 **pH:** 6.9 **OM (%)** 3.9 **P (ppm)** 36 **K (ppm)** 125

Plot Management

Tillage Operations: Chisel Plow Disk Field Digger Soil Finisher CultiMulcher Tine Weed Rotary Hoe Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	CPM	1.2 Ton	4 /29/08
	Starter :	N/A	N/A	N/A
	Post plant :	N/A	N/A	N/A
	Manure:	Dairy	5952 gal	4/28/08
		Dairy	7935 gal	4/7/08
		Dairy	18.4 Ton	11/15/07
		Dairy	1323 gal	10/25/07

Herbicide: None **Insecticide:** None

Irrigation: None **Hybrid:** See Factors

Planting Date: 5/21/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 33000 **plants per acre** **Planting Method:** Kinze 3000 InterRow Planter

Harvest Date: 11/3/08 **Harvest Method:** Massey 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 200' x 90' **Experiment Size:** 5.5 Acre

Harvest Plot Size: 5' x 200'
5' x 125' **Harvest Plant Density:** 33000 **plants per acre**

Factors/Treatments:

Hybrids:

Blue River 49M37
Blue River 52A20
Blend of 49M37 and 52A20

Results: Table C-20.

Table C-20. Organic Hybrid Comparison - SARE.
Arlington, WI - 2008.

Hybrid	Grain yield	Grain moisture	Test weight	Lodged Total	Lodged Stalk	Lodged Root	Grower return	Harvest population	Plant height	Vegetative cover	Weed biomass
	bu/A	%	lb/bu	%	%	%	$/A	plants/A	inches	%	%
Blue River 49M37	154	26.5	55	3	1	2	508	33667	101	90	1
Blue River 52A20	159	26.3	55	1	1	0	525	33000	104	92	1
Blend	164	25.2	55	1	0	1	545	32333	105	88	2
Mean	159	26.0	55	2	1	1	526	33000	104	90	2
Probability(%)											
Hybrid (H)	75.0	9.1	96.2	43.6	64.0	59.2	66.2	69.4	25.6	32.7	44.4
LSD (0.10)											
Hybrid (H)	NS	1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3185 **Year:** 2008

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

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

Supported By: Monsanto

Site Information

Field: ARS392 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 7.1 **OM (%)** 2.7 **P (ppm)** 49 **K (ppm)** 128

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	138	N/A
	Starter :	10-34-0	3.0 gal/A	5 /5 /08
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/5/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 10/13/08 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.46 Acre

Harvest Plot Size: 5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)

18000 23000 28000
33000 38000 43000

Hybrid:

Dekalb DKC44-92
Dekalb DKC46-60
Dekalb DKC52-59
Dekalb DKC52-62

Results: Table C-21.

Table C-21. Plant Density and Hybrid Influence on Corn Grain.
Arlington, WI - 2008.

Target density	Hybrid	Yield	Moisture	Test weight	Lodged Total	Lodged Stalk	Lodged Root	Lodged Due to Borers	Grower return	Plant height	V4 population	Harvest population	Harvest ears
plants/A		bu/A	%	lbs/bu	%	%	%	%	$/A	inches	plants/A	plants/A	ears/A
	Dekalb DKC44-92	221	19.1	55	0	0	0	0	754	98	35227	34974	35606
	Dekalb DKC46-60	209	19.6	57	0	0	0	0	712	96	34532	34385	35216
	Dekalb DKC52-59	231	20.2	55	0	0	0	0	781	100	34953	35122	35732
	Dekalb DKC52-62	235	20.2	55	0	0	0	0	797	102	35206	34806	35195
18000		210	21.4	55	0	0	0	0	705	96	21401	21149	22490
23000		219	20.7	55	0	0	0	0	740	100	26325	26609	27493
28000		224	19.7	56	0	0	0	0	761	100	31597	31281	31944
33000		225	19.0	56	0	0	0	0	767	101	38162	37768	38178
38000		233	19.2	56	0	0	0	0	792	98	42802	42739	42929
43000		234	18.6	55	0	0	0	0	801	99	49589	49384	49589
18000	Dekalb DKC44-92	208	21.0	54	0	0	0	0	701	96	21591	21212	22601
18000	Dekalb DKC46-60	190	20.4	56	0	0	0	0	644	93	21212	20581	22096
18000	Dekalb DKC52-59	213	22.8	53	0	0	0	0	710	95	21212	21212	22727
18000	Dekalb DKC52-62	228	21.4	54	0	0	0	0	766	99	21591	21591	22538
23000	Dekalb DKC44-92	213	20.2	55	0	0	0	0	720	101	26262	26389	27399
23000	Dekalb DKC46-60	210	20.7	56	0	0	0	0	708	97	26262	26389	27904
23000	Dekalb DKC52-59	230	21.3	55	0	0	0	0	774	101	26767	27651	28282
23000	Dekalb DKC52-62	224	20.7	55	0	0	0	0	757	101	26010	26010	26389
28000	Dekalb DKC44-92	221	18.7	55	0	0	0	0	756	98	32449	32070	32702
28000	Dekalb DKC46-60	204	19.8	57	0	0	0	0	693	97	28156	28030	29166
28000	Dekalb DKC52-59	236	19.7	55	0	0	0	0	803	103	33080	32575	33080
28000	Dekalb DKC52-62	234	20.8	55	0	0	0	0	791	103	32702	32449	32828
33000	Dekalb DKC44-92	223	18.3	56	1	1	0	0	764	98	38636	37752	38131
33000	Dekalb DKC46-60	212	19.3	56	0	0	0	0	724	100	38636	38446	38825
33000	Dekalb DKC52-59	228	19.0	55	0	0	0	0	778	102	38383	38257	38636
33000	Dekalb DKC52-62	236	19.6	56	0	0	0	0	802	103	36994	36616	37121
38000	Dekalb DKC44-92	228	18.3	56	0	0	0	0	781	97	43307	42929	43055
38000	Dekalb DKC46-60	215	19.2	57	0	0	0	0	732	94	44065	44191	44444
38000	Dekalb DKC52-59	239	19.7	55	0	0	0	0	812	101	39772	40782	41161
38000	Dekalb DKC52-62	248	19.6	56	0	0	0	0	843	100	44065	43055	43055
43000	Dekalb DKC44-92	235	18.3	55	0	0	0	0	803	98	49115	49494	49747
43000	Dekalb DKC46-60	225	18.2	57	0	0	0	0	771	95	48863	48674	48863
43000	Dekalb DKC52-59	238	19.0	54	0	0	0	0	811	100	50504	50252	50504
43000	Dekalb DKC52-62	241	19.1	55	0	0	0	0	820	104	49873	49115	49242
Mean		224	19.8	55	0	0	0	0	761	99	34980	34822	35437
Probability(%)													
Plant Density (D)		0.5	0.0	0.0	61.2	65.8	48.8	-	0.1	3.6	0.0	0.0	0.0
Hybrid (H)		0.0	0.7	0.0	90.2	87.8	47.6	-	0.0	0.0	75.2	77.7	80.1
D x H		99.2	83.0	63.0	57.9	52.3	56.5	-	99.3	88.3	16.7	41.8	41.1
LSD (0.10)													
Plant Density (D)		10	0.7	0	NS	NS	NS	-	36	2	1459	1498	1368
Hybrid (H)		9	0.6	0	NS	NS	NS	-	29	2	NS	NS	NS
D x H		NS	NS	NS	NS	NS	NS	-	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3186 **Year:** 2008

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

Location: Hancock, WI **County:** Waushara

Supported By: Monsanto

Site Information

Field: K-13 **Previous Crop:** Potatoes **Soil Type:** Plainfield Sand

Soil Test: **Date:** 11/1 /07 **pH:** 6.6 **OM (%)** 1.1 **P (ppm)** 98 **K (ppm)** 107

Plot Management

Tillage Operations: Disk

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	0-0-60	100	4 /8 /08
	Starter :	10-34-0	3.0 gal/A	5 /6 /08
	Post plant :	28-0-0 46-0-0	11.67 gal/A 360	6/11 6/27
	Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 16 oz/A
Aatrex 4L 1.5 pt/A

Insecticide: None
Hybrid: See Factors

Irrigation: 12.7 inches

Planting Date: 5/6/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 10/23/08 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.46 Acre

Harvest Plot Size: 5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)	Hybrid:
18000 23000 28000 33000 38000 43000	Dekalb DKC44-92 Dekalb DKC46-60 Dekalb DKC52-59 Dekalb DKC52-62

Results: Table C-22.

Table C-22. Plant Density and Hybrid Influence on Corn Grain. Hancock, WI - 2008.

Target density	Hybrid	Yield	Moisture	Test weight	Lodged Total	Lodged Stalk	Lodged Root	Lodged Due to Borers	Grower return	V4 population	Harvest population
plants/A		bu/A	%	lbs/bu	%	%	%	%	$/A	plants/A	plants/A
	Dekalb DKC44-92	221	21.3	56	0	0	0	0	745	35458	34806
	Dekalb DKC46-60	220	21.4	57	0	0	0	0	740	35416	34953
	Dekalb DKC52-59	230	22.5	55	0	0	0	0	770	34806	34469
	Dekalb DKC52-62	235	22.3	56	1	1	0	0	785	36258	35311
18000		198	22.5	56	0	0	0	0	660	20486	20833
23000		218	22.1	56	0	0	0	0	730	27241	26799
28000		233	21.7	56	1	1	0	0	781	32481	32323
33000		236	21.8	56	0	0	0	0	792	37878	36837
38000		239	21.7	56	0	0	0	0	802	44854	43749
43000		236	21.5	56	1	1	0	0	794	49968	48768
18000	Dekalb DKC44-92	192	21.7	56	0	0	0	0	645	20328	20833
18000	Dekalb DKC46-60	188	21.7	57	0	0	0	0	629	20328	20959
18000	Dekalb DKC52-59	204	23.4	54	0	0	0	0	676	20707	20833
18000	Dekalb DKC52-62	207	22.9	56	1	1	0	0	690	20581	20707
23000	Dekalb DKC44-92	211	21.3	56	0	0	0	0	709	26767	26894
23000	Dekalb DKC46-60	208	21.6	57	0	0	0	0	698	27525	26010
23000	Dekalb DKC52-59	223	23.3	54	0	0	0	0	741	26894	26641
23000	Dekalb DKC52-62	231	22.2	55	1	1	0	0	773	27777	27651
28000	Dekalb DKC44-92	230	21.3	57	1	1	0	0	772	32449	32197
28000	Dekalb DKC46-60	223	21.3	57	0	0	0	0	751	31565	32323
28000	Dekalb DKC52-59	245	22.2	55	0	0	0	0	820	33333	32702
28000	Dekalb DKC52-62	233	22.0	56	1	1	0	0	779	32575	32070
33000	Dekalb DKC44-92	230	21.3	56	0	0	0	0	775	40277	38257
33000	Dekalb DKC46-60	237	21.0	58	0	0	0	0	800	39646	38510
33000	Dekalb DKC52-59	233	22.9	55	0	0	0	0	777	32575	32702
33000	Dekalb DKC52-62	243	22.0	56	0	0	0	0	816	39015	37878
38000	Dekalb DKC44-92	234	21.4	55	0	0	0	0	785	43560	42550
38000	Dekalb DKC46-60	232	21.4	57	0	0	0	0	780	44191	43434
38000	Dekalb DKC52-59	241	21.9	55	0	0	0	0	807	45454	44318
38000	Dekalb DKC52-62	250	22.2	56	2	2	0	0	837	46211	44696
43000	Dekalb DKC44-92	232	21.1	56	1	1	0	0	781	49368	48105
43000	Dekalb DKC46-60	232	21.2	57	0	0	0	0	779	49242	48484
43000	Dekalb DKC52-59	238	21.1	55	0	0	0	0	801	49873	49621
43000	Dekalb DKC52-62	244	22.5	55	2	2	0	0	814	51388	48863
Mean		227	21.9	56	0	0	0	0	760	35485	34885
Probability(%)											
Plant Density (D)		0.0	0.0	18.2	77.2	77.2	-	-	0.0	0.0	0.0
Hybrid (H)		0.0	0.0	0.0	0.2	0.2	-	-	0.0	22.2	71.8
D x H		53.5	0.0	2.1	95.4	95.4	-	-	53.3	3.9	39.2
LSD (0.10)											
Plant Density (D)		6	0.3	NS	NS	NS	-	-	20	1404	1511
Hybrid (H)		5	0.2	0	0	0	-	-	16	NS	NS
D x H		NS	0.5	1	NS	NS	-	-	NS	2808	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3181 **Year:** 2008

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

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

Supported By: Pioneer

Site Information

Field: ARS 407 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 110

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	138	N/A
	Starter :	10-34-0	3.0 gal/A	5 /9 /08
	Post plant :	46-0-0	50	6 /17/08
	Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: Force 3G 4.4 lb/A
Hybrid: See Factors

Irrigation: None

Planting Date: 5/9/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: S: 9/18/08
G: 10/17/08

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

Experimental Design

Design: RCB **Replications:** 3

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

Harvest Plot Size: S: 2.5' x 23'
G: 5' x 23'

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

Factors/Treatments:

Target Plant Density: (plants/A)

14000 20000 26000
32000 38000 44000
50000 56000

Hybrid:

Pioneer 34A20
Pioneer 34A89
Pioneer 35A30
Pioneer 35F44

Results: Tables C-23 and C-24.

Table C-23. Plant Density and Hybrid Influence on Corn Grain.

Arlington, WI - 2008.

Target density	Hybrid	Grain Yield	Moisture	Test weight	Lodged Total	Lodged Stalk	Lodged Root	Grower return	Harvest plants	Harvest ears	Silk date	Plant height	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	doy	inches	%	%	%	gallons	gallons
	Pioneer 34A20	232	33.0	56	6	6	0	725	37058	38715	212	117	3.5	60.4	7.4	2.89	669
	Pioneer 34A89	218	36.9	54	1	0	0	666	37263	37042	214	124	3.5	59.5	8.0	2.85	623
	Pioneer 35A30	227	28.6	57	5	5	0	731	33585	33933	211	115	3.3	60.7	7.5	2.91	661
	Pioneer 35F44	214	32.1	55	0	0	0	674	31565	31834	210	111	3.5	60.0	7.6	2.89	619
14000		176	33.1	54	2	2	0	551	14267	20044	210	114	3.4	60.0	8.0	2.87	505
20000		202	34.3	55	0	0	0	625	20928	22064	211	117	3.4	59.7	8.0	2.85	575
26000		231	34.0	55	1	1	0	718	27746	28314	211	116	3.5	60.0	7.8	2.87	663
32000		236	33.5	56	1	1	0	736	33459	33617	212	118	3.5	60.2	7.5	2.89	681
38000		238	32.3	56	5	5	0	748	38983	38794	212	117	3.5	60.3	7.4	2.90	689
44000		233	30.7	56	5	5	0	740	44097	43560	212	115	3.5	60.4	7.4	2.90	676
50000		233	32.0	56	5	5	1	736	49147	48358	212	120	3.5	60.4	7.4	2.89	676
56000		233	31.3	56	4	4	0	739	50315	48295	213	117	3.5	60.3	7.5	2.90	677
14000	Pioneer 34A20	196	34.1	55	0	0	0	609	14899	25883	211	119	3.3	60.3	7.7	2.88	564
14000	Pioneer 34A89	177	36.5	53	0	0	0	540	14899	16161	212	119	3.5	59.3	8.4	2.83	500
14000	Pioneer 35A30	187	30.2	55	7	7	0	596	14520	21212	210	112	3.4	60.7	7.5	2.90	542
14000	Pioneer 35F44	145	31.6	54	0	0	0	458	12752	16919	208	107	3.4	59.7	8.2	2.86	415
20000	Pioneer 34A20	209	35.2	55	0	0	0	646	22474	24873	211	121	3.4	59.7	8.0	2.85	597
20000	Pioneer 34A89	210	36.9	53	0	0	0	641	22348	22222	213	126	3.5	59.3	8.1	2.84	597
20000	Pioneer 35A30	206	31.7	55	0	0	0	649	19823	22096	210	113	3.4	60.2	8.0	2.87	590
20000	Pioneer 35F44	181	33.3	55	0	0	0	565	19065	19065	208	107	3.5	59.7	8.1	2.85	516
26000	Pioneer 34A20	238	35.3	56	1	0	0	735	31060	31944	211	118	3.5	60.0	8.0	2.85	680
26000	Pioneer 34A89	236	37.0	54	0	0	0	718	28787	28787	214	121	3.4	59.4	7.8	2.85	672
26000	Pioneer 35A30	248	30.9	56	2	2	0	786	27020	27525	210	114	3.3	60.7	7.6	2.90	718
26000	Pioneer 35F44	202	32.8	55	0	0	0	634	24116	25000	209	111	3.5	59.9	7.7	2.87	581
32000	Pioneer 34A20	250	34.2	56	0	0	0	776	34848	35353	211	121	3.4	60.5	7.3	2.89	722
32000	Pioneer 34A89	233	36.8	55	0	0	0	712	35984	35858	214	124	3.5	59.6	7.9	2.86	668
32000	Pioneer 35A30	242	30.2	57	2	2	0	771	32954	33459	211	117	3.4	60.7	7.5	2.90	702
32000	Pioneer 35F44	218	32.8	55	0	0	0	683	30050	29798	210	112	3.5	60.0	7.5	2.90	632
38000	Pioneer 34A20	241	30.9	56	11	11	0	763	39015	39393	211	116	3.5	60.8	7.2	2.90	697
38000	Pioneer 34A89	233	37.7	55	0	0	0	707	43181	42929	214	127	3.5	59.6	7.9	2.86	666
38000	Pioneer 35A30	240	28.3	57	9	9	0	774	38636	38636	211	113	3.3	60.6	7.4	2.92	701
38000	Pioneer 35F44	238	32.5	56	0	0	0	747	35101	34217	210	111	3.5	60.0	7.4	2.91	693
44000	Pioneer 34A20	239	30.9	56	14	14	1	759	46717	46085	213	109	3.4	60.8	6.9	2.92	699
44000	Pioneer 34A89	231	36.5	55	1	1	1	706	48232	47979	214	121	3.6	59.8	7.9	2.86	660
44000	Pioneer 35A30	229	24.3	57	6	6	0	756	41287	40025	211	118	3.3	60.9	7.6	2.91	667
44000	Pioneer 35F44	233	31.3	56	0	0	0	739	40151	40151	211	112	3.6	60.1	7.3	2.91	679
50000	Pioneer 34A20	241	31.5	56	13	13	0	762	54166	53661	213	119	3.5	60.9	6.9	2.91	701
50000	Pioneer 34A89	213	36.9	54	4	2	2	651	51767	50631	215	128	3.5	59.4	8.1	2.84	607
50000	Pioneer 35A30	238	27.2	57	4	4	1	772	45454	44696	211	118	3.2	61.0	7.3	2.93	697
50000	Pioneer 35F44	241	32.4	56	0	0	0	757	45201	44444	210	114	3.6	60.3	7.3	2.90	698
56000	Pioneer 34A20	238	31.7	56	10	10	0	750	53282	52525	214	116	3.6	60.6	7.2	2.90	689
56000	Pioneer 34A89	215	37.2	55	1	0	1	655	52903	51767	215	123	3.5	59.5	8.0	2.84	611
56000	Pioneer 35A30	228	26.3	58	6	6	0	743	48989	43813	211	116	3.3	60.9	7.3	2.93	668
56000	Pioneer 35F44	254	30.0	56	0	0	0	808	46085	45075	211	113	3.6	60.4	7.3	2.91	738
Mean		223	32.7	55	3	3	0	699	34868	35381	212	117	3.5	60.2	7.6	2.88	643
Probability(%)																	
Plant Density (D)		0.0	0.0	0.0	2.6	4.1	41.2	0.0	0.0	0.0	0.0	3.0	1.6	0.0	0.0	0.0	0.0
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D x H		0.0	4.6	59.1	30.9	26.7	85.7	0.0	7.4	0.0	2.3	6.4	0.1	18.8	0.0	0.2	0.0
LSD (0.10)																	
Plant Density (D)		8	1.2	0	3	3	NS	25	1435	1305	0	3	0.0	0.2	0.1	0.01	24
Hybrid (H)		6	0.8	0	2	2	NS	18	1015	923	0	2	0.0	0.1	0.1	0.01	17
D x H		16	2.3	NS	NS	NS	NS	51	2870	2609	1	5	0.1	NS	0.2	0.02	48

continued

Table C-23. Plant Density and Hybrid Influence on Silage Preformance.

(continued) **Arlington, WI - 2008.**

										Whole Plant										
Target		Harvest		V4	Dry Matter		Kernel	Plant	Plant	KMR	SMR	VMR	Crude			*in vitro*			Milk per	
density	Hybrid	plants	ears	population	Yield	Moisture	milk	lodging	height	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
plants/A		plants/A	ears/A	plants/A	T/A	%	%	%	inches				%	%	%	%	%	%	lbs/T	lbs/A
	Pioneer 34A20	36837	39551	37768	10.3	69.1	85	0	117	4.3	2.4	6.6	7.1	25.2	46.2	79.2	55.0	27.5	3089	32034
	Pioneer 34A89	37058	37468	37563	10.5	69.5	78	1	124	3.9	1.4	5.4	7.2	26.5	48.6	78.6	56.0	24.1	3033	31750
	Pioneer 35A30	33017	35763	33491	10.2	65.2	78	0	115	3.9	2.0	5.9	7.2	24.2	45.2	80.0	55.8	30.0	3158	32032
	Pioneer 35F44	31218	32891	31597	8.6	69.2	80	0	111	4.0	2.6	6.6	7.5	24.6	45.5	79.9	56.0	28.6	3148	27050
14000		14583	23485	14204	8.1	67.9	79	0	114	4.0	3.1	7.1	7.7	22.3	43.4	81.7	57.8	29.5	3253	26229
20000		21906	25631	20581	8.5	68.7	80	0	117	4.0	2.9	6.9	7.7	23.8	45.0	80.6	57.0	26.6	3167	26955
26000		27651	29229	26894	9.9	68.6	81	0	116	4.0	2.5	6.5	7.2	24.5	45.6	80.3	56.8	28.5	3171	31360
32000		33585	33838	33649	10.4	68.5	81	0	118	4.1	2.2	6.2	7.2	24.7	45.8	79.9	56.1	28.5	3143	32808
38000		40530	40656	40340	10.8	67.9	80	0	117	4.0	1.4	5.3	7.1	25.8	47.1	78.8	55.1	27.8	3071	33175
44000		42866	43118	44949	9.9	68.1	77	0	115	3.8	1.6	5.4	7.1	27.5	49.3	77.3	54.0	25.5	2970	29344
50000		46211	46717	49778	10.6	69.2	82	1	120	4.1	1.7	5.8	7.0	26.5	47.8	78.4	54.9	26.6	3040	32350
56000		48926	48674	50441	11.0	67.4	83	1	117	4.2	1.5	5.7	7.1	25.9	47.0	78.4	54.1	27.4	3041	33511
14000	Pioneer 34A20	15656	27525	15151	8.4	69.5	83	0	119	4.2	3.2	7.4	7.3	23.5	44.3	80.6	56.2	28.5	3171	26669
14000	Pioneer 34A89	14899	18939	15151	8.7	69.2	77	0	119	3.8	2.9	6.8	7.8	23.7	46.4	81.3	59.7	24.4	3189	27877
14000	Pioneer 35A30	13889	25252	13510	8.3	65.9	78	0	112	3.9	3.2	7.1	7.6	21.0	41.0	82.6	57.5	33.9	3338	27597
14000	Pioneer 35F44	13889	22222	13005	6.9	66.8	78	0	107	3.9	3.1	7.0	7.9	21.1	41.8	82.2	57.6	31.3	3312	22772
20000	Pioneer 34A20	25000	31060	22222	8.8	70.4	83	0	121	4.2	3.1	7.2	7.7	25.9	47.9	78.3	54.7	22.9	2952	25918
20000	Pioneer 34A89	21717	22474	21843	9.8	67.9	77	0	126	3.8	2.0	5.8	7.5	23.5	44.7	81.3	58.1	27.4	3226	31506
20000	Pioneer 35A30	18182	23737	18939	8.4	66.8	82	0	113	4.1	3.2	7.3	7.7	22.2	42.7	81.8	57.3	29.6	3275	27707
20000	Pioneer 35F44	22727	25252	19318	7.0	69.5	77	0	107	3.8	3.3	7.2	7.7	23.8	44.7	81.2	58.0	26.5	3214	22688
26000	Pioneer 34A20	28787	30555	29545	11.0	68.1	85	0	118	4.2	2.7	6.9	7.0	23.4	43.3	81.0	56.1	30.7	3232	35602
26000	Pioneer 34A89	30808	30808	28156	10.3	69.1	77	0	121	3.8	1.3	5.1	6.9	26.3	48.8	79.3	57.5	25.3	3083	31792
26000	Pioneer 35A30	26515	29293	26641	9.6	67.4	78	0	114	3.9	2.6	6.5	7.5	24.1	45.6	80.3	56.7	28.4	3168	30342
26000	Pioneer 35F44	24495	26262	23232	8.7	69.6	83	0	111	4.2	3.3	7.5	7.6	24.1	44.6	80.7	56.8	29.4	3201	27705
32000	Pioneer 34A20	36363	36868	36237	11.2	69.2	87	0	121	4.3	2.3	6.7	7.2	23.7	44.1	80.6	56.0	29.2	3200	35980
32000	Pioneer 34A89	36111	36111	35858	10.2	70.8	78	0	124	3.9	1.4	5.3	7.0	27.9	50.1	77.5	55.1	23.9	2973	30394
32000	Pioneer 35A30	32828	32828	32954	11.4	64.6	78	0	117	3.9	1.8	5.7	7.0	23.3	44.0	81.4	57.7	31.3	3244	37129
32000	Pioneer 35F44	29040	29545	29545	8.8	69.3	82	0	112	4.1	3.2	7.2	7.5	24.1	45.2	80.0	55.6	29.7	3153	27728
38000	Pioneer 34A20	43434	43686	42802	11.1	67.4	83	0	116	4.2	1.7	5.9	6.9	25.6	46.4	78.8	54.4	28.4	3082	34421
38000	Pioneer 34A89	41919	41919	42424	11.0	70.3	82	0	127	4.1	0.8	4.9	7.2	27.5	50.0	77.1	54.1	24.5	2949	32350
38000	Pioneer 35A30	39898	40151	39141	11.0	65.6	77	0	113	3.8	1.3	5.2	7.0	25.2	46.3	79.2	55.3	29.4	3105	34169
38000	Pioneer 35F44	36868	36868	36994	10.1	68.1	77	0	111	3.8	1.5	5.4	7.3	24.9	45.9	80.0	56.4	29.0	3149	31761
44000	Pioneer 34A20	46211	47727	48484	10.5	69.0	83	0	109	4.2	1.9	6.1	6.9	27.0	48.9	77.2	53.3	26.5	2967	31222
44000	Pioneer 34A89	46717	46211	48610	10.3	71.1	73	0	121	3.7	1.0	4.7	7.2	29.3	51.5	76.6	54.4	20.6	2901	29868
44000	Pioneer 35A30	42424	42424	43434	10.9	60.1	68	0	118	3.4	1.1	4.5	6.9	25.3	46.8	78.7	54.5	29.9	3071	33432
44000	Pioneer 35F44	36111	36111	39267	7.8	72.1	82	0	112	4.1	2.4	6.4	7.5	28.2	49.8	76.9	53.7	24.9	2943	22853
50000	Pioneer 34A20	48232	48484	53535	10.5	70.5	87	0	119	4.3	1.9	6.2	6.9	26.7	47.8	78.5	55.2	26.2	3053	31911
50000	Pioneer 34A89	50757	50757	52903	11.9	68.2	80	3	128	4.0	1.0	5.0	6.9	26.3	48.2	78.4	55.5	24.3	3026	36537
50000	Pioneer 35A30	44444	45454	46717	10.5	68.3	78	0	118	3.9	1.8	5.7	7.0	27.4	48.9	77.5	53.9	27.0	2984	31205
50000	Pioneer 35F44	41414	42171	45959	9.5	69.7	82	0	114	4.1	2.0	6.1	7.4	25.5	46.5	79.1	55.1	28.9	3097	29749
56000	Pioneer 34A20	51009	50504	54166	11.3	69.0	90	2	116	4.5	2.0	6.5	7.1	25.8	46.8	78.3	53.9	27.3	3051	34553
56000	Pioneer 34A89	53535	52525	55555	11.5	69.3	83	2	123	4.2	1.1	5.2	7.0	27.8	49.4	77.2	53.9	22.7	2916	33677
56000	Pioneer 35A30	45959	46969	46590	11.2	62.6	80	0	116	4.0	1.1	5.1	7.0	25.2	46.0	78.7	53.8	30.4	3082	34672
56000	Pioneer 35F44	45201	44696	45454	10.0	68.8	80	0	113	4.0	1.9	5.9	7.2	25.0	45.6	79.3	54.7	29.0	3116	31144
Mean		34532	36418	35104	9.9	68.3	80	0	117	4.0	2.1	6.1	7.3	25.1	46.4	79.4	55.7	27.5	3107	30717
Probability(%)																				
Plant Density (D)		0.0	0.0	0.0	0.0	72.0	9.0	26.6	3.0	9.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	22.1	0.0	0.0
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	27.5	0.0	0.0	0.0	0.0	0.0	0.4	0.2	3.2	19.6	0.0	1.0	0.0
D x H		36.5	10.4	0.1	55.5	3.8	60.6	74.6	6.4	60.6	6.5	0.7	62.9	74.8	84.5	71.7	79.1	77.6	57.9	57.3
LSD (0.10)																				
Plant Density (D)		2185	2345	1063	0.6	NS	3	NS	3	0.2	0.3	0.3	0.2	1.5	2.2	1.3	1.3	NS	96	2780
Hybrid (H)		1545	1658	751	0.5	1.2	2	NS	2	0.1	0.2	0.2	0.2	1.1	1.5	0.9	NS	1.8	68	1966
D x H		NS	NS	2125	NS	3.3	NS	NS	5	NS	0.6	0.7	NS	NS	NS	NS	NS	NS	NS	NS

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development. Arlington, WI - 2008.

Plant density	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
		156	1.9	3.2	4.2	4.4
		171	4.7	6.2	7.9	5.9
		184	7.4	10.7	12.3	32.0
		198	11.9	14.4	15.6	69.7
		212	20.0	20.1	20.3	115.6
	Pioneer 34A20		9.7	11.4	12.4	47.0
	Pioneer 34A89		9.0	10.7	12.0	46.4
	Pioneer 35A30		9.3	11.1	12.2	45.7
	Pioneer 35F44		8.9	10.5	11.6	43.0
	Pioneer 34A20	156	2.0	3.6	4.2	4.7
	Pioneer 34A20	171	5.0	6.5	8.0	6.4
	Pioneer 34A20	184	7.8	10.8	12.5	34.4
	Pioneer 34A20	198	12.1	14.6	15.8	70.8
	Pioneer 34A20	212	21.6	21.6	21.7	118.7
	Pioneer 34A89	156	2.0	3.1	4.2	5.1
	Pioneer 34A89	171	4.6	6.1	7.9	6.3
	Pioneer 34A89	184	7.1	10.2	11.9	32.7
	Pioneer 34A89	198	11.3	13.9	15.1	70.1
	Pioneer 34A89	212	20.1	20.3	20.8	117.6
	Pioneer 35A30	156	2.0	3.5	4.4	4.1
	Pioneer 35A30	171	4.8	6.4	8.0	5.9
	Pioneer 35A30	184	7.7	11.3	12.6	33.2
	Pioneer 35A30	198	12.4	14.8	16.0	70.7
	Pioneer 35A30	212	19.7	19.7	19.7	114.9
	Pioneer 35F44	156	1.8	2.7	3.9	3.6
	Pioneer 35F44	171	4.5	5.8	7.6	5.1
	Pioneer 35F44	184	7.2	10.5	12.2	27.5
	Pioneer 35F44	198	12.0	14.5	15.6	67.3
	Pioneer 35F44	212	18.8	18.8	18.9	111.4
14000			9.4	11.2	12.3	45.6
20000			9.2	11.0	12.1	45.2
26000			9.0	10.7	11.8	45.3
32000			9.1	10.8	12.0	46.1
38000			8.9	10.7	11.7	44.8
44000			9.5	11.1	12.3	44.7
50000			8.9	10.6	11.7	46.4
56000			9.7	11.4	12.5	46.1
14000		156	2.0	3.3	4.3	4.3
14000		171	4.8	6.2	8.0	6.0
14000		184	7.7	11.4	13.0	31.2
14000		198	12.9	15.3	16.5	70.8
14000		212	19.9	19.9	19.9	115.7

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
20000		156	1.9	3.4	4.3	4.1
20000		171	4.7	6.2	7.8	5.7
20000		184	7.6	10.8	12.5	31.4
20000		198	12.1	15.0	16.1	68.8
20000		212	19.7	19.7	19.7	116.1
26000		156	2.0	3.3	4.1	4.5
26000		171	4.6	6.0	7.8	5.8
26000		184	7.4	10.7	12.3	31.4
26000		198	11.9	14.3	15.5	69.3
26000		212	19.1	19.2	19.4	115.3
32000		156	1.9	3.3	4.3	4.5
32000		171	4.8	6.3	7.8	6.0
32000		184	7.5	10.6	12.4	32.0
32000		198	11.9	14.6	15.8	70.7
32000		212	19.3	19.4	19.5	117.1
38000		156	1.9	3.2	4.0	4.3
38000		171	4.8	6.5	7.9	5.7
38000		184	7.4	10.5	12.2	31.4
38000		198	11.9	14.2	15.3	68.1
38000		212	18.8	18.9	19.3	114.5
44000		156	2.0	3.1	4.3	4.5
44000		171	4.5	6.2	7.7	5.6
44000		184	7.4	10.5	11.9	31.7
44000		198	11.5	14.0	15.1	69.0
44000		212	21.8	22.0	22.3	112.9
50000		156	2.0	3.3	4.1	4.5
50000		171	4.8	6.3	8.0	6.3
50000		184	7.2	10.4	12.1	33.0
50000		198	11.6	14.0	15.3	70.7
50000		212	19.0	19.0	19.2	117.7
56000		156	2.0	3.2	4.2	4.4
56000		171	4.8	6.1	7.9	6.4
56000		184	7.4	10.6	12.1	33.6
56000		198	11.8	14.2	15.4	70.2
56000		212	22.5	22.8	23.0	115.9
14000	Pioneer 34A20		9.7	11.7	12.7	48.1
14000	Pioneer 34A89		9.3	11.1	12.2	46.6
14000	Pioneer 35A30		9.6	11.5	12.6	45.7
14000	Pioneer 35F44		9.1	10.7	11.9	42.0
20000	Pioneer 34A20		9.6	11.4	12.4	47.1
20000	Pioneer 34A89		9.3	11.1	12.3	47.5
20000	Pioneer 35A30		9.1	11.1	12.1	43.8
20000	Pioneer 35F44		8.8	10.5	11.6	42.5

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
26000	Pioneer 34A20		9.4	11.1	12.2	48.4
26000	Pioneer 34A89		8.4	10.0	11.4	44.0
26000	Pioneer 35A30		9.3	11.2	12.1	45.7
26000	Pioneer 35F44		8.9	10.5	11.6	42.9
32000	Pioneer 34A20		9.2	10.9	12.0	47.8
32000	Pioneer 34A89		8.8	10.4	11.7	47.0
32000	Pioneer 35A30		9.4	11.5	12.5	46.8
32000	Pioneer 35F44		8.9	10.6	11.7	42.7
38000	Pioneer 34A20		9.1	10.9	11.7	44.6
38000	Pioneer 34A89		8.5	10.3	11.6	46.3
38000	Pioneer 35A30		9.4	11.3	12.1	46.2
38000	Pioneer 35F44		8.7	10.2	11.5	42.1
44000	Pioneer 34A20		11.8	13.5	14.6	44.5
44000	Pioneer 34A89		8.2	9.9	11.1	45.6
44000	Pioneer 35A30		9.0	10.8	11.8	45.6
44000	Pioneer 35F44		8.8	10.4	11.6	43.2
50000	Pioneer 34A20		9.2	10.9	11.9	47.6
50000	Pioneer 34A89		8.4	9.9	11.3	47.7
50000	Pioneer 35A30		9.1	10.9	11.9	45.3
50000	Pioneer 35F44		8.9	10.6	11.7	45.1
56000	Pioneer 34A20		9.4	11.0	12.0	47.9
56000	Pioneer 34A89		11.3	13.1	14.3	46.3
56000	Pioneer 35A30		9.3	11.0	12.2	46.9
56000	Pioneer 35F44		8.8	10.3	11.5	43.4
14000	Pioneer 34A20	156	2.0	3.7	4.3	5.0
14000	Pioneer 34A20	171	5.0	6.7	8.3	6.2
14000	Pioneer 34A20	184	8.0	11.7	13.3	34.0
14000	Pioneer 34A20	198	12.8	15.7	16.7	73.8
14000	Pioneer 34A20	212	20.7	20.7	20.7	121.7
14000	Pioneer 34A89	156	2.0	3.3	4.3	4.7
14000	Pioneer 34A89	171	4.8	6.3	8.0	6.2
14000	Pioneer 34A89	184	7.5	11.0	12.3	32.3
14000	Pioneer 34A89	198	12.5	15.0	16.3	70.8
14000	Pioneer 34A89	212	19.8	19.8	19.8	118.8
14000	Pioneer 35A30	156	2.0	3.7	4.5	4.3
14000	Pioneer 35A30	171	4.8	6.2	8.3	6.1
14000	Pioneer 35A30	184	7.8	11.8	13.5	32.7
14000	Pioneer 35A30	198	13.5	15.7	16.8	72.5
14000	Pioneer 35A30	212	20.0	20.0	20.0	113.0
14000	Pioneer 35F44	156	1.8	2.5	3.8	3.3
14000	Pioneer 35F44	171	4.5	5.5	7.5	5.4
14000	Pioneer 35F44	184	7.3	11.2	12.7	26.0
14000	Pioneer 35F44	198	12.7	15.0	16.3	66.2
14000	Pioneer 35F44	212	19.2	19.2	19.2	109.3

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
20000	Pioneer 34A20	156	2.0	3.8	4.2	4.4
20000	Pioneer 34A20	171	5.0	6.7	8.0	6.2
20000	Pioneer 34A20	184	8.0	10.7	12.7	34.2
20000	Pioneer 34A20	198	12.5	15.2	16.5	70.0
20000	Pioneer 34A20	212	20.5	20.5	20.5	120.8
20000	Pioneer 34A89	156	2.0	3.3	4.5	5.0
20000	Pioneer 34A89	171	4.7	6.3	8.0	6.5
20000	Pioneer 34A89	184	7.7	10.8	12.5	33.0
20000	Pioneer 34A89	198	12.3	15.3	16.3	71.5
20000	Pioneer 34A89	212	19.8	19.8	20.0	121.5
20000	Pioneer 35A30	156	1.8	3.5	4.5	3.7
20000	Pioneer 35A30	171	4.7	6.2	7.8	5.3
20000	Pioneer 35A30	184	7.5	11.3	12.7	31.8
20000	Pioneer 35A30	198	12.0	15.0	16.0	67.0
20000	Pioneer 35A30	212	19.5	19.5	19.5	111.0
20000	Pioneer 35F44	156	1.8	2.8	4.0	3.3
20000	Pioneer 35F44	171	4.3	5.7	7.5	4.7
20000	Pioneer 35F44	184	7.3	10.3	12.2	26.5
20000	Pioneer 35F44	198	11.7	14.7	15.7	66.8
20000	Pioneer 35F44	212	18.8	18.8	18.8	111.0
26000	Pioneer 34A20	156	2.0	3.3	4.0	4.9
26000	Pioneer 34A20	171	5.0	6.7	8.0	6.6
26000	Pioneer 34A20	184	8.0	11.0	12.7	35.0
26000	Pioneer 34A20	198	12.2	14.5	16.0	73.3
26000	Pioneer 34A20	212	20.0	20.0	20.2	122.2
26000	Pioneer 34A89	156	2.0	3.0	4.0	4.9
26000	Pioneer 34A89	171	4.2	5.7	7.7	5.7
26000	Pioneer 34A89	184	7.0	9.8	11.8	29.8
26000	Pioneer 34A89	198	10.8	13.5	14.8	65.3
26000	Pioneer 34A89	212	17.8	18.0	18.8	114.2
26000	Pioneer 35A30	156	2.0	3.8	4.5	4.0
26000	Pioneer 35A30	171	4.8	6.2	8.0	5.8
26000	Pioneer 35A30	184	7.5	11.3	12.3	33.7
26000	Pioneer 35A30	198	12.3	14.7	15.8	71.0
26000	Pioneer 35A30	212	19.8	19.8	19.8	114.2
26000	Pioneer 35F44	156	1.8	2.8	3.8	4.1
26000	Pioneer 35F44	171	4.5	5.7	7.7	5.1
26000	Pioneer 35F44	184	7.2	10.5	12.2	27.0
26000	Pioneer 35F44	198	12.2	14.5	15.5	67.7
26000	Pioneer 35F44	212	18.8	18.8	18.8	110.8
32000	Pioneer 34A20	156	2.0	3.5	4.2	4.8
32000	Pioneer 34A20	171	5.0	6.0	7.8	6.5
32000	Pioneer 34A20	184	7.7	10.7	12.5	34.2
32000	Pioneer 34A20	198	11.7	14.5	15.8	71.8
32000	Pioneer 34A20	212	19.7	19.7	19.8	121.8

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
32000	Pioneer 34A89	156	2.0	3.0	4.2	5.6
32000	Pioneer 34A89	171	4.7	6.2	7.8	6.9
32000	Pioneer 34A89	184	7.2	10.0	12.0	32.3
32000	Pioneer 34A89	198	11.3	14.0	15.0	72.3
32000	Pioneer 34A89	212	18.8	19.0	19.3	118.0
32000	Pioneer 35A30	156	2.0	3.8	4.7	4.2
32000	Pioneer 35A30	171	5.0	7.0	8.3	5.9
32000	Pioneer 35A30	184	8.0	11.3	13.0	33.7
32000	Pioneer 35A30	198	12.5	15.3	16.7	72.8
32000	Pioneer 35A30	212	19.7	19.8	19.8	117.2
32000	Pioneer 35F44	156	1.7	3.0	4.0	3.3
32000	Pioneer 35F44	171	4.5	5.8	7.3	4.8
32000	Pioneer 35F44	184	7.2	10.5	12.2	27.8
32000	Pioneer 35F44	198	12.0	14.5	15.7	66.0
32000	Pioneer 35F44	212	19.0	19.2	19.2	111.3
38000	Pioneer 34A20	156	2.0	3.8	4.0	4.3
38000	Pioneer 34A20	171	5.0	6.7	7.8	6.3
38000	Pioneer 34A20	184	7.5	10.7	12.0	33.0
38000	Pioneer 34A20	198	11.7	14.0	15.2	65.2
38000	Pioneer 34A20	212	19.5	19.5	19.7	114.2
38000	Pioneer 34A89	156	1.8	2.8	3.8	5.1
38000	Pioneer 34A89	171	4.7	6.5	8.0	6.2
38000	Pioneer 34A89	184	7.0	10.0	12.0	31.3
38000	Pioneer 34A89	198	11.3	13.8	14.8	71.2
38000	Pioneer 34A89	212	17.8	18.2	19.2	117.8
38000	Pioneer 35A30	156	2.0	3.7	4.2	3.9
38000	Pioneer 35A30	171	5.0	7.0	8.2	6.0
38000	Pioneer 35A30	184	8.0	11.5	12.7	34.3
38000	Pioneer 35A30	198	12.7	14.8	15.8	71.0
38000	Pioneer 35A30	212	19.5	19.5	19.5	116.0
38000	Pioneer 35F44	156	1.7	2.5	4.0	3.8
38000	Pioneer 35F44	171	4.3	5.8	7.5	4.5
38000	Pioneer 35F44	184	7.2	10.0	12.0	27.0
38000	Pioneer 35F44	198	11.8	14.2	15.5	65.2
38000	Pioneer 35F44	212	18.3	18.5	18.7	110.0
44000	Pioneer 34A20	156	2.0	3.7	4.3	4.7
44000	Pioneer 34A20	171	4.8	6.7	8.0	6.0
44000	Pioneer 34A20	184	7.8	10.8	12.2	34.3
44000	Pioneer 34A20	198	11.8	14.0	15.5	67.5
44000	Pioneer 34A20	212	32.3	32.3	32.8	110.0
44000	Pioneer 34A89	156	2.3	3.0	4.7	5.3
44000	Pioneer 34A89	171	4.3	5.8	7.5	5.9
44000	Pioneer 34A89	184	6.7	9.8	11.2	32.8
44000	Pioneer 34A89	198	10.7	13.2	14.2	68.7
44000	Pioneer 34A89	212	17.2	17.5	18.2	115.5

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
44000	Pioneer 35A30	156	2.0	3.2	4.3	4.4
44000	Pioneer 35A30	171	4.5	6.3	7.7	5.6
44000	Pioneer 35A30	184	7.5	10.8	12.2	32.5
44000	Pioneer 35A30	198	11.7	14.2	15.3	70.0
44000	Pioneer 35A30	212	19.5	19.5	19.5	115.3
44000	Pioneer 35F44	156	1.5	2.5	3.8	3.5
44000	Pioneer 35F44	171	4.5	6.0	7.7	4.9
44000	Pioneer 35F44	184	7.5	10.3	12.2	27.2
44000	Pioneer 35F44	198	12.0	14.5	15.5	69.7
44000	Pioneer 35F44	212	18.3	18.7	18.7	110.7
50000	Pioneer 34A20	156	2.0	3.7	4.2	4.3
50000	Pioneer 34A20	171	5.0	6.5	8.2	6.6
50000	Pioneer 34A20	184	7.5	10.5	12.2	35.2
50000	Pioneer 34A20	198	11.7	14.2	15.3	72.7
50000	Pioneer 34A20	212	19.8	19.8	19.8	119.5
50000	Pioneer 34A89	156	2.0	3.0	4.2	5.1
50000	Pioneer 34A89	171	4.7	5.8	7.8	6.7
50000	Pioneer 34A89	184	6.8	9.8	11.7	35.7
50000	Pioneer 34A89	198	10.8	13.2	14.7	71.3
50000	Pioneer 34A89	212	17.8	17.8	18.3	119.8
50000	Pioneer 35A30	156	1.8	3.3	4.0	4.1
50000	Pioneer 35A30	171	4.7	6.3	7.8	5.9
50000	Pioneer 35A30	184	7.3	10.8	12.3	31.2
50000	Pioneer 35A30	198	12.0	14.3	15.7	68.8
50000	Pioneer 35A30	212	19.5	19.5	19.7	116.3
50000	Pioneer 35F44	156	2.0	3.0	4.0	4.3
50000	Pioneer 35F44	171	4.8	6.3	8.0	5.8
50000	Pioneer 35F44	184	7.0	10.5	12.3	30.2
50000	Pioneer 35F44	198	11.8	14.3	15.5	70.0
50000	Pioneer 35F44	212	18.8	18.8	18.8	115.0
56000	Pioneer 34A20	156	2.0	3.7	4.3	4.9
56000	Pioneer 34A20	171	5.0	6.0	8.0	7.2
56000	Pioneer 34A20	184	7.7	10.7	12.2	35.7
56000	Pioneer 34A20	198	12.3	14.5	15.5	72.0
56000	Pioneer 34A20	212	20.0	20.0	20.0	119.7
56000	Pioneer 34A89	156	2.0	3.2	4.2	5.2
56000	Pioneer 34A89	171	4.8	6.5	8.0	6.6
56000	Pioneer 34A89	184	7.0	10.0	11.8	34.5
56000	Pioneer 34A89	198	10.8	13.5	14.7	70.0
56000	Pioneer 34A89	212	31.7	32.5	33.0	115.0

continued

Table C-24. Plant Density and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

Plant density	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
56000	Pioneer 35A30	156	2.0	3.3	4.5	4.3
56000	Pioneer 35A30	171	4.8	6.0	8.0	6.3
56000	Pioneer 35A30	184	7.7	11.3	12.5	35.8
56000	Pioneer 35A30	198	12.3	14.5	15.8	72.2
56000	Pioneer 35A30	212	19.8	19.8	20.0	116.0
56000	Pioneer 35F44	156	1.8	2.5	3.7	3.3
56000	Pioneer 35F44	171	4.7	5.8	7.7	5.3
56000	Pioneer 35F44	184	7.2	10.5	12.0	28.5
56000	Pioneer 35F44	198	11.8	14.2	15.5	66.8
56000	Pioneer 35F44	212	18.7	18.7	18.8	113.0
Mean			9.2	10.9	12.1	45.5
Probability(%)						
Plant Density (D)			63.7	65.1	61.9	0.0
Hybrid (H)			8.2	2.5	13.0	0.0
D x H			37.9	19.4	26.9	0.0
Sample Day of Year (S)			0.0	0.0	0.0	0.0
D x S			80.0	59.0	59.1	35.5
H x S			48.9	50.4	32.5	0.0
D x H x S			46.1	41.9	36.8	38.4
LSD(0.10)						
Plant Density (D)			NS	NS	NS	0.7
Hybrid (H)			0.6	0.6	NS	0.5
D x H			NS	NS	NS	1.5
Sample Day of Year (S)			0.6	0.6	0.6	0.6
D x S			NS	NS	NS	NS
H x S			NS	NS	NS	1.2
D x H x S			NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3183 **Year:** 2008

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

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

Supported By: Pioneer

Site Information

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

Soil Test: **Date:** 10/23/08 **pH:** 6.7 **OM (%)** 4.6 **P (ppm)** 17 **K (ppm)** 95

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	10-34-0	3.0 gal/A	5 /8 /08
	Post plant :	28-0-0	120	N/A
	Manure:	N/A	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
Hybrid: See Factors

Irrigation: None

Planting Date: 5/8/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 9/23/08: **Harvest Method:** New Holland 707

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.45 Acre

Harvest Plot Size: 2.5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)	Hybrid:
14000 20000 26000	Pioneer 34A20
32000 38000 44000	Pioneer 34A89
50000 56000	Pioneer 35F44

Results: Table C-25.

Table C-25. Plant Density and Hybrid Influence on Silage Preformance.
Fond du Lac, WI - 2008.

													Whole Plant							
Target		Harvest		V4	Dry Matter		Kernel	Plant	Plant	KMR	SMR	VMR	Crude			*in vitro*			Milk per	
density	Hybrid	plants	ears	population	Yield	Moist	milk	lodging	height	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
plants/A		plants/A	ears/A	plants/A	T/A	%	%	%	inches				%	%	%	%	%	%	lbs/T	lbs/A
	Pioneer 34A20	37657	38194	38399	8.3	61.4	64	0	107	3.2	2.5	5.7	5.0	23.9	45.3	80.5	56.9	31.5	3208	26669
	Pioneer 34A89	37405	36868	36868	8.5	62.5	64	0	114	3.2	1.7	4.9	4.8	25.4	47.8	79.2	56.5	27.9	3108	26372
	Pioneer 35F44	33686	33918	34085	7.4	62.0	55	0	103	2.7	2.4	5.1	5.3	23.2	44.1	81.4	57.9	33.0	3270	24437
14000		14562	17929	14478	6.6	62.4	56	0	112	2.8	2.7	5.4	5.9	23.4	46.1	80.8	58.5	29.3	3215	21414
20000		20959	22138	24915	7.7	61.3	55	0	108	2.8	2.5	5.2	5.4	22.7	44.0	82.1	59.2	32.6	3306	25516
26000		28198	28114	28198	7.7	61.2	62	0	107	3.1	1.9	5.0	4.9	23.1	44.4	80.5	56.3	33.2	3220	24758
32000		33922	33838	33670	8.5	61.2	64	0	110	3.2	2.0	5.3	4.7	24.2	45.5	80.1	56.4	31.4	3185	26948
38000		39478	39225	39267	8.3	62.0	63	0	107	3.2	2.3	5.4	4.9	24.3	45.6	80.2	56.7	31.2	3192	26623
44000		46380	45875	45243	8.7	62.2	63	0	107	3.2	2.2	5.4	4.8	25.1	46.5	79.9	57.0	30.0	3167	27625
50000		52861	51430	51725	8.9	62.5	64	0	107	3.2	1.9	5.1	4.9	24.7	46.4	80.0	56.8	30.0	3168	28043
56000		53634	52066	54108	8.3	63.2	60	0	107	3.0	2.1	5.1	4.8	25.7	47.3	79.3	56.2	28.7	3111	25678
14000	Pioneer 34A20	15909	20202	15783	7.5	61.3	60	0	112	3.0	2.9	5.9	5.8	22.6	45.2	81.5	59.2	30.0	3261	24472
14000	Pioneer 34A89	14899	15404	14899	6.8	61.9	55	0	119	2.8	2.0	4.8	5.2	24.2	46.9	80.1	57.6	28.5	3171	21740
14000	Pioneer 35F44	12879	18182	12752	5.5	63.9	52	0	104	2.6	3.1	5.7	6.7	23.5	46.2	80.8	58.7	29.3	3212	18031
20000	Pioneer 34A20	21717	22979	22853	7.6	64.0	70	0	108	3.5	2.9	6.4	5.5	24.3	46.1	81.0	58.8	29.6	3224	24698
20000	Pioneer 34A89	22222	22222	22853	8.2	60.5	60	0	112	3.0	2.1	5.1	5.3	21.7	42.3	82.4	58.4	33.9	3341	27571
20000	Pioneer 35F44	18939	21212	29040	7.2	59.5	35	0	103	1.8	2.4	4.2	5.4	22.0	43.4	82.8	60.4	34.2	3352	24279
26000	Pioneer 34A20	28787	29545	30681	8.0	61.8	67	0	104	3.3	2.1	5.4	4.8	23.8	45.1	79.4	54.3	32.4	3153	25180
26000	Pioneer 34A89	29798	29545	29545	8.6	60.6	58	0	112	2.9	1.4	4.3	4.6	23.9	46.1	79.6	55.8	31.6	3153	27135
26000	Pioneer 35F44	26010	25252	24368	6.6	61.2	62	0	105	3.1	2.2	5.3	5.3	21.6	42.1	82.6	58.7	35.7	3354	21958
32000	Pioneer 34A20	36363	36363	36868	9.0	60.5	67	0	111	3.3	2.4	5.7	4.6	23.1	43.8	81.0	56.5	33.8	3249	29262
32000	Pioneer 34A89	34595	34595	33712	8.6	63.0	70	0	117	3.5	1.7	5.2	4.6	26.5	48.9	77.9	54.9	26.2	3026	26150
32000	Pioneer 35F44	30808	30555	30429	7.7	60.1	57	0	103	2.8	2.0	4.8	4.8	22.9	43.7	81.5	57.7	34.1	3281	25431
38000	Pioneer 34A20	40403	39898	42297	8.4	61.5	63	0	104	3.2	2.5	5.7	4.9	24.7	46.2	79.7	56.0	30.9	3156	26328
38000	Pioneer 34A89	39898	39898	38888	8.7	61.4	67	0	115	3.3	2.0	5.3	4.6	25.5	48.0	79.6	57.5	28.2	3135	27214
38000	Pioneer 35F44	38131	37878	36616	8.0	63.0	60	0	102	3.0	2.3	5.3	5.2	22.7	42.6	81.4	56.6	34.4	3285	26327
44000	Pioneer 34A20	48232	48232	47979	8.5	61.2	67	0	106	3.3	2.5	5.9	4.9	25.1	46.6	79.9	57.0	30.0	3165	26897
44000	Pioneer 34A89	47222	46717	47853	8.9	63.2	63	0	114	3.2	1.5	4.7	4.3	26.7	49.1	78.0	55.3	26.8	3040	27072
44000	Pioneer 35F44	43686	42676	39898	8.7	62.1	60	0	101	3.0	2.7	5.7	5.1	23.4	43.9	81.8	58.7	33.3	3295	28906
50000	Pioneer 34A20	54292	53787	54545	9.2	59.9	62	0	106	3.1	2.1	5.2	4.8	22.7	43.4	81.1	56.4	34.0	3260	29851
50000	Pioneer 34A89	55302	52272	53661	9.3	63.5	70	0	110	3.5	1.4	4.9	4.6	27.1	50.6	77.9	56.2	25.0	3015	28007
50000	Pioneer 35F44	48989	48232	46969	8.1	64.1	60	0	104	3.0	2.3	5.3	5.2	24.2	45.2	80.9	57.7	31.1	3230	26272
56000	Pioneer 34A20	55555	54545	56186	8.3	61.3	58	0	102	2.9	2.5	5.5	4.7	24.5	45.8	80.3	57.1	31.1	3195	26659
56000	Pioneer 34A89	55302	54292	53535	8.7	65.8	68	0	114	3.4	1.8	5.2	5.0	27.5	50.4	78.1	56.6	22.9	2984	26085
56000	Pioneer 35F44	50044	47360	52604	7.7	62.6	53	0	106	2.6	2.1	4.7	4.7	24.9	45.5	79.5	55.0	32.1	3153	24289
Mean		36249	36327	36451	8.1	62.0	61	0	108	3.0	2.2	5.3	5.0	24.1	45.7	80.4	57.1	30.8	3195	25826
Probability(%)																				
Plant Density (D)		0.0	0.0	0.0	0.0	33.8	10.4	-	1.1	10.4	0.7	78.1	0.0	5.2	40.4	14.0	0.9	6.3	16.3	0.8
Hybrid (H)		0.0	0.0	0.2	0.1	17.9	0.0	-	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	4.3	0.0	0.0	7.7
D x H		67.9	16.1	23.3	87.9	2.0	7.4	-	11.8	7.4	77.8	9.1	4.5	38.7	39.3	54.9	41.2	7.0	47.3	80.1
LSD (0.10)																				
Plant Density (D)		1440	1764	3179	0.7	NS	NS	-	3	NS	0.4	NS	0.3	1.6	NS	NS	1.5	2.6	NS	2823
Hybrid (H)		882	1080	1947	0.5	NS	4	-	2	0.2	0.2	0.3	0.2	1.0	1.5	0.9	0.9	1.6	64	1729
D x H		NS	NS	NS	NS	2.7	12	-	NS	0.6	NS	0.9	0.5	NS	NS	NS	NS	4.4	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3184 **Year:** 2008

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

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

Supported By: Pioneer

Site Information

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

Soil Test: **Date:** 10/21/08 **pH:** 6.1 **OM (%)** 3.6 **P (ppm)** 22 **K (ppm)** 140

Plot Management

Tillage Operations: Fall Zone Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	10-34-0	3.0 gal/A	5 /12/08
	Post plant :	28-0-0	120	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: 5/12/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 9/17/08: **Harvest Method:** New Holland 707

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.45 Acre

Harvest Plot Size: 2.5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)	Hybrid:
14000 20000 26000	Pioneer 34A20
32000 38000 44000	Pioneer 34A89
50000 56000	Pioneer 35F44

Results: Table C-26.

Table C-26. Plant Density and Hybrid Influence on Silage Preformance. Galesville, WI - 2008.

													Whole Plant							
Target		Harvest		V4	Dry Matter		Kernel	Plant	Plant	KMR	SMR	VMR	Crude			*in vitro*			Milk per	
density	Hybrid	plants	ears	population	Yield	Moist	milk	lodging	height	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
plants/A		plants/A	ears/A	plants/A	T/A	%	%	%	inches				%	%	%	%	%	%	lbs/T	lbs/A
	Pioneer 34A20	38951	40435	38036	8.6	70.7	89	0	126	4.5	2.8	7.3	6.9	27.6	49.6	77.1	54.0	23.1	2919	25034
	Pioneer 34A89	36868	36489	36742	9.3	71.1	88	0	130	4.4	2.8	7.2	7.0	28.1	50.4	77.1	54.7	21.8	2895	26846
	Pioneer 35F44	33459	33017	31455	7.2	71.5	85	0	120	4.2	2.9	7.2	7.4	26.7	48.2	78.1	54.5	25.9	3005	21510
14000		14562	18602	13847	6.5	71.2	87	0	124	4.3	3.1	7.4	7.7	25.3	47.0	79.0	55.3	26.6	3066	19931
20000		21717	24074	20917	7.9	70.0	85	0	125	4.3	3.2	7.4	7.3	25.8	47.4	78.8	55.3	26.4	3056	24038
26000		26936	26431	25589	7.8	71.9	88	0	127	4.4	2.8	7.3	7.3	27.7	49.5	77.3	54.3	23.7	2935	22831
32000		35016	35521	33038	9.8	70.1	86	0	126	4.3	2.7	7.0	6.9	26.8	48.5	77.8	54.2	24.7	2986	29111
38000		40824	40656	40866	8.4	70.8	87	0	126	4.4	2.9	7.3	6.9	28.1	50.2	77.0	54.1	23.1	2901	24331
44000		46296	45622	47053	8.5	71.8	89	0	128	4.4	2.8	7.2	6.8	28.5	50.5	76.9	54.4	21.8	2886	24589
50000		52945	51683	50378	8.9	71.7	88	0	122	4.4	2.6	7.0	6.9	28.8	51.0	76.2	53.4	21.5	2843	25313
56000		53114	50589	51599	9.0	71.3	88	1	125	4.4	2.7	7.1	7.1	28.7	51.2	76.5	54.1	21.2	2846	25564
14000	Pioneer 34A20	15151	26515	15025	6.4	71.8	90	0	130	4.5	3.2	7.7	7.3	25.7	47.2	78.3	54.0	26.1	3028	19465
14000	Pioneer 34A89	14141	14899	14899	8.1	69.3	87	0	124	4.3	2.8	7.1	7.6	24.0	45.3	80.1	56.2	28.2	3147	25596
14000	Pioneer 35F44	14394	14394	11616	4.9	72.6	83	0	117	4.2	3.2	7.4	8.1	26.3	48.4	78.5	55.6	25.5	3023	14731
20000	Pioneer 34A20	22979	28030	21969	7.9	69.2	87	0	124	4.3	3.2	7.5	7.2	25.8	47.7	78.5	55.0	26.1	3037	23994
20000	Pioneer 34A89	22727	22727	22474	9.0	71.1	87	0	131	4.3	3.2	7.5	7.1	26.7	48.3	78.6	55.7	25.4	3036	27334
20000	Pioneer 35F44	19444	21464	18308	6.7	69.8	82	0	121	4.1	3.1	7.2	7.5	24.8	46.2	79.3	55.4	27.6	3094	20788
26000	Pioneer 34A20	29798	27777	27272	7.9	70.5	90	0	127	4.5	2.8	7.3	7.4	26.0	47.9	79.0	56.2	23.7	3010	23664
26000	Pioneer 34A89	28282	28282	26641	9.1	72.6	88	0	132	4.4	2.7	7.1	7.1	29.1	51.2	76.0	53.1	22.2	2861	26065
26000	Pioneer 35F44	22727	23232	22853	6.4	72.8	87	0	123	4.3	3.1	7.4	7.6	27.9	49.5	77.0	53.5	25.2	2933	18764
32000	Pioneer 34A20	39141	40403	36616	10.5	70.3	87	1	125	4.3	2.7	7.0	6.8	27.2	49.0	76.6	52.3	24.3	2920	30851
32000	Pioneer 34A89	35606	35606	34722	10.0	69.8	88	0	133	4.4	2.4	6.8	7.1	27.2	48.9	78.0	55.1	22.8	2987	29930
32000	Pioneer 35F44	30303	30555	27777	8.7	70.0	83	0	121	4.2	2.9	7.1	6.9	26.1	47.7	78.8	55.4	27.0	3050	26553
38000	Pioneer 34A20	42676	42424	42929	9.1	70.2	90	0	127	4.5	2.9	7.4	6.7	28.6	50.9	76.1	53.1	22.0	2859	25912
38000	Pioneer 34A89	41666	41666	41792	9.4	71.1	87	0	133	4.3	2.8	7.1	6.6	29.5	51.9	76.1	53.9	20.3	2798	26328
38000	Pioneer 35F44	38131	37878	37878	6.8	71.3	85	0	119	4.3	3.1	7.3	7.5	26.2	47.8	78.7	55.4	26.9	3044	20752
44000	Pioneer 34A20	47727	47979	49242	8.2	71.5	90	0	127	4.5	2.8	7.3	6.7	29.0	51.2	76.5	54.5	20.5	2840	23458
44000	Pioneer 34A89	48737	47979	49368	9.2	72.2	90	0	134	4.5	2.8	7.3	6.9	29.3	52.2	76.1	54.3	19.3	2809	25684
44000	Pioneer 35F44	42424	40909	42550	8.2	71.7	87	0	122	4.3	2.8	7.1	6.9	27.1	48.1	78.1	54.5	25.5	3009	24625
50000	Pioneer 34A20	56312	54545	56439	9.3	71.4	90	0	124	4.5	2.4	6.9	6.8	29.1	51.3	76.2	53.6	21.6	2869	26686
50000	Pioneer 34A89	51514	50252	49621	9.9	71.4	90	0	126	4.5	2.8	7.3	6.7	29.3	52.4	75.8	53.8	18.5	2742	27174
50000	Pioneer 35F44	51009	50252	45075	7.6	72.4	84	0	117	4.2	2.7	6.9	7.2	28.0	49.4	76.7	52.8	24.4	2919	22080
56000	Pioneer 34A20	57827	55807	54797	9.4	71.1	90	0	125	4.5	2.7	7.2	6.8	29.5	51.6	75.8	53.1	20.4	2790	26240
56000	Pioneer 34A89	52272	50504	54418	9.6	71.6	88	2	130	4.4	2.8	7.2	7.3	29.6	53.4	76.2	55.5	17.8	2782	26661
56000	Pioneer 35F44	49242	45454	45580	8.0	71.1	87	0	119	4.3	2.7	7.0	7.2	27.2	48.7	77.4	53.7	25.3	2966	23790
Mean		36426	36647	35411	8.3	71.1	87	0	126	4.4	2.9	7.2	7.1	27.5	49.4	77.4	54.4	23.6	2940	24464
Probability(%)																				
Plant Density (D)		0.0	0.0	0.0	0.0	1.6	50.3	17.2	49.0	50.3	0.0	9.8	0.0	0.1	0.9	0.7	46.0	0.1	0.0	0.1
Hybrid (H)		0.0	0.0	0.0	0.0	18.5	0.1	40.5	0.0	0.1	11.7	44.5	0.2	4.5	2.7	9.9	39.7	0.0	0.6	0.0
D x H		31.3	42.6	39.5	89.9	25.2	99.7	4.6	88.7	99.7	23.8	64.0	44.3	49.6	69.0	47.0	42.8	51.3	36.8	82.6
LSD (0.10)																				
Plant Density (D)		2175	3055	2287	0.9	1.1	NS	NS	NS	NS	0.2	0.3	0.3	1.5	2.2	1.3	NS	2.4	94	3037
Hybrid (H)		1332	1871	1401	0.6	NS	2	NS	3	0.1	NS	NS	0.2	0.9	1.3	0.8	NS	1.5	57	1859
D x H		NS	NS	NS	NS	NS	NS	1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 02Plant Density **Trial ID:** 3182 **Year:** 2008

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

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

Supported By: Pioneer

Site Information

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

Soil Test: **Date:** 10/20/08 **pH:** 7.4 **OM (%)** 2.1 **P (ppm)** 26 **K (ppm)** 78

Plot Management

Tillage Operations: Field Cultivator Cultivate

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	160	N/A
	Starter :	10-34-0	3.0 gal/A	5 /15/08
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	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
Hybrid: See Factors

Irrigation: None

Planting Date: 5/15/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 9/15/08 **Harvest Method:** New Holland 707

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.45 Acre

Harvest Plot Size: 2.5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)	Hybrid:
14000 20000 26000	Pioneer 34A20
32000 38000 44000	Pioneer 34A89
50000 56000	Pioneer 35F44

Results: Table C-27.

Table C-27. Plant Density and Hybrid Influence on Silage Preformance.
Lancaster, WI - 2008.

										Whole Plant										
Target		Harvest		V4	Dry Matter		Kernel	Plant	Plant	KMR	SMR	VMR	Crude			*in vitro*			Milk per	
density	Hybrid	plants	ears	population	Yield	Moist	milk	lodging	height	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
plants/A		plants/A	ears/A	plants/A	T/A	%	%	%	inches				%	%	%	%	%	%	lbs/T	lbs/A
	Pioneer 34A20	34753	36268	38431	9.6	67.3	82	0	121	4.1	2.3	6.4	6.1	25.5	47.8	79.0	56.1	29.3	3091	29509
	Pioneer 34A89	33712	33112	36868	9.4	68.3	78	0	126	3.9	2.0	5.9	6.3	26.2	49.8	78.2	56.1	26.0	3018	28409
	Pioneer 35F44	28924	29704	30350	8.0	68.5	76	0	115	3.8	2.8	6.7	6.9	24.8	46.7	79.8	56.9	30.5	3142	25086
14000		12879	19613	14604	6.3	69.8	79	0	119	4.0	3.2	7.2	7.4	24.9	48.2	80.3	59.2	26.8	3139	19800
20000		19865	21717	19192	8.0	67.8	73	0	120	3.7	3.0	6.7	6.8	24.6	47.4	79.9	57.6	28.1	3140	25140
26000		24915	25336	27525	8.7	69.0	80	0	120	4.0	2.5	6.5	6.9	25.2	47.7	79.3	56.6	28.4	3104	26945
32000		31144	30892	32870	9.1	68.3	79	0	119	4.0	2.4	6.4	6.4	25.6	48.5	79.2	57.1	28.3	3091	28091
38000		36111	35774	38762	9.7	68.0	79	0	122	4.0	2.1	6.1	6.1	26.4	49.1	78.2	55.7	28.3	3032	29529
44000		41498	40909	45580	10.0	66.4	79	0	121	3.9	2.0	5.9	6.0	24.7	46.4	79.4	55.8	31.2	3128	31161
50000		47642	45370	51136	10.2	67.5	80	0	123	4.0	1.9	5.9	6.0	26.2	48.3	78.0	54.5	29.3	3030	30863
56000		45648	44616	52062	9.9	67.3	80	0	120	4.0	1.8	5.7	6.0	26.4	49.1	77.7	54.6	28.6	3006	29816
14000	Pioneer 34A20	13636	24747	16540	7.3	69.0	80	0	121	4.0	3.2	7.2	6.8	25.2	48.3	80.5	59.7	27.5	3161	23098
14000	Pioneer 34A89	15404	15909	15783	7.2	71.0	80	0	124	4.0	3.1	7.1	7.4	25.4	49.2	79.5	58.3	23.4	3061	21922
14000	Pioneer 35F44	9596	18182	11490	4.5	69.4	78	0	113	3.9	3.3	7.3	7.9	24.2	47.1	80.9	59.6	29.4	3193	14379
20000	Pioneer 34A20	21717	23990	19697	8.4	67.2	83	0	123	4.2	2.9	7.1	6.9	23.7	45.7	79.9	56.0	29.7	3157	26656
20000	Pioneer 34A89	20454	20707	21591	8.7	67.8	75	0	124	3.8	2.6	6.4	6.4	25.6	49.1	79.1	57.4	26.7	3080	26942
20000	Pioneer 35F44	17424	20454	16288	6.8	68.6	62	0	114	3.1	3.5	6.6	7.2	24.5	47.4	80.7	59.4	27.8	3183	21821
26000	Pioneer 34A20	27272	27777	32323	9.8	68.9	85	0	122	4.3	2.7	7.0	7.2	24.3	46.2	79.4	55.4	29.7	3122	30643
26000	Pioneer 34A89	25252	25252	27020	8.9	68.2	77	0	124	3.8	2.0	5.8	6.0	25.9	49.1	78.4	56.0	27.0	3041	27122
26000	Pioneer 35F44	22222	22979	23232	7.3	69.9	78	0	114	3.9	2.9	6.9	7.4	25.5	47.8	80.2	58.6	28.6	3148	23069
32000	Pioneer 34A20	34343	35353	35984	9.3	68.3	82	0	118	4.1	2.0	6.1	6.0	26.8	49.5	78.4	56.3	27.1	3039	28105
32000	Pioneer 34A89	32575	31060	35732	10.0	68.4	80	0	123	4.0	2.0	6.0	6.7	26.0	50.0	78.5	57.1	27.1	3039	30465
32000	Pioneer 35F44	26515	26262	26894	8.0	68.3	77	0	116	3.8	3.2	7.0	6.4	24.1	45.9	80.7	57.9	30.7	3196	25704
38000	Pioneer 34A20	38888	38888	42424	10.4	66.7	80	0	124	4.0	1.8	5.8	5.4	26.1	48.3	78.6	55.6	30.1	3065	31981
38000	Pioneer 34A89	37121	36616	40782	9.9	68.9	78	0	129	3.9	1.7	5.6	6.0	28.3	52.7	76.6	55.6	23.3	2910	28860
38000	Pioneer 35F44	32323	31818	33080	8.8	68.4	80	0	114	4.0	2.8	6.8	6.8	24.9	46.3	79.4	55.7	31.5	3122	27746
44000	Pioneer 34A20	42929	42171	48232	9.9	65.9	83	0	119	4.2	1.8	6.0	5.7	24.7	46.3	80.0	56.7	31.1	3158	31231
44000	Pioneer 34A89	42929	41919	46338	10.3	67.4	77	0	127	3.8	1.6	5.4	6.5	26.1	49.3	77.5	54.4	27.6	2992	30757
44000	Pioneer 35F44	38636	38636	42171	9.7	65.7	77	0	116	3.8	2.6	6.4	5.9	23.3	43.6	80.9	56.1	34.9	3233	31493
50000	Pioneer 34A20	50757	49242	55681	10.5	66.5	82	0	121	4.1	1.6	5.7	5.6	25.4	47.0	79.1	55.6	32.0	3107	32610
50000	Pioneer 34A89	47979	46464	53913	10.3	68.0	80	0	130	4.0	1.5	5.5	5.8	27.2	50.9	77.1	55.0	24.4	2956	30315
50000	Pioneer 35F44	44191	40403	43813	9.8	68.1	78	0	118	3.9	2.5	6.4	6.6	25.9	47.1	77.8	52.8	31.5	3026	29665
56000	Pioneer 34A20	48484	47979	56565	10.9	65.8	82	0	120	4.1	1.9	6.0	5.5	28.2	51.0	76.4	53.7	27.4	2920	31750
56000	Pioneer 34A89	47979	46969	53787	10.1	66.7	77	0	125	3.8	1.4	5.2	5.8	24.7	47.8	78.5	55.0	28.7	3064	30887
56000	Pioneer 35F44	40482	38899	45833	8.8	69.2	81	0	114	4.0	2.0	6.0	6.7	26.2	48.6	78.2	55.2	29.7	3033	26810
Mean		32463	33028	35216	9.0	68.0	79	0	120	3.9	2.4	6.3	6.4	25.5	48.1	79.0	56.4	28.6	3084	27668
Probability(%)																				
Plant Density (D)		0.0	0.0	0.0	0.0	2.4	51.7	-	65.8	51.7	0.0	0.0	0.0	19.7	51.8	2.1	0.0	30.7	11.4	0.0
Hybrid (H)		0.0	0.0	0.0	0.0	10.1	2.1	-	0.0	2.1	0.0	0.0	0.0	5.6	0.3	0.6	24.9	0.0	0.3	0.0
D x H		77.8	8.4	11.8	7.7	90.0	61.2	-	93.5	61.2	35.3	51.4	0.8	30.3	48.9	66.3	27.1	50.1	65.3	33.1
LSD (0.10)																				
Plant Density (D)		1773	2041	1923	0.6	1.6	NS	-	NS	NS	0.3	0.4	0.4	NS	NS	1.4	1.5	NS	NS	2301
Hybrid (H)		1086	1250	1178	0.3	NS	3	-	2	0.2	0.2	0.3	0.2	0.9	1.4	0.8	NS	1.7	58	1409
D x H		NS	3533	NS	1	NS	NS	-	NS	NS	NS	NS	0.6	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 03DOP **Trial ID:** 3177 **Year:** 2008

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

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

Supported By: NCIS

Site Information

Field: ARS392 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /08 **pH:** 6.4 **OM (%)** 3.3 **P (ppm)** 38 **K (ppm)** 102

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 /18/08
	Starter :	10-34-0	3 gal	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: Force 3G 4.4 lb/A

Hybrid: See Factors

Irrigation: none

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

Target Plant Density: 30000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: S: 9/9, 9/19 & 10/1
G: 10/31

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

Experimental Design

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

Plot Size Seeded: 25' x 20' - 4/24, 5/15 & 6/15 DOPs
25' x 40' - 5/1 & 6/2 DOPs

Experiment Size: 1.3 Acre

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

Harvest Plant Density: S: 28898 **plants per acre**
G: 29341

Factors/Treatments:

Date of Planting:	Hybrids:	Silage Harvest Timing:
April 24, May 01, May 15, June 02 & June 15	NK Brand N58-D1 Pioneer 37R71	25% Milk - 9/9 50% Milk - 9/19 75% Milk - 10/1

Results: Tables C-28 , C-29 and C-30.

Table C-28. Planting Date and Hybrid Influence on Corn Grain and Silage Performance. Arlington, WI - 2008.

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	134	8.9	67.4	82	4.1	3.1	7.2	28928	30301	7.4	24.5	46.3	80.1	57.0	25.7	3085	27550
		50% Milk	145	7.9	64.5	64	3.2	2.7	5.9	26895	27606	7.6	23.8	45.9	78.8	53.7	28.2	3064	24317
		25% Milk	165	8.3	59.6	29	1.5	1.8	3.2	27657	28928	6.9	23.1	44.6	79.1	53.2	28.9	3077	25733
	NK Brand N58-D1		144	8.3	66.1	68	3.4	2.8	6.2	27013	27284	7.3	25.7	48.4	78.1	54.6	24.4	2965	24671
	Pioneer 37R71		152	8.4	61.6	49	2.4	2.2	4.7	28640	30606	7.3	21.9	42.8	80.6	54.7	30.8	3186	27063
	NK Brand N58-D1	75% Milk	127	8.6	70.4	91	4.6	3.3	7.9	28674	29386	7.4	27.0	50.0	78.4	56.8	20.6	2897	25296
	NK Brand N58-D1	50% Milk	144	7.2	67.8	75	3.8	3.0	6.7	24810	24302	7.7	26.2	49.5	77.1	53.8	23.9	2930	21290
	NK Brand N58-D1	25% Milk	162	9.0	60.1	38	1.9	2.2	4.1	27555	28166	6.9	23.9	45.8	78.7	53.2	28.7	3066	27428
	Pioneer 37R71	75% Milk	141	9.1	64.5	73	3.7	2.8	6.5	29182	31216	7.4	21.9	42.6	81.8	57.3	30.8	3273	29805
	Pioneer 37R71	50% Milk	146	8.6	61.2	53	2.6	2.5	5.1	28979	30911	7.6	21.3	42.2	80.4	53.6	32.6	3198	27345
	Pioneer 37R71	25% Milk	169	7.6	59.1	20	1.0	1.4	2.4	27759	29691	6.9	22.4	43.5	79.5	53.2	29.1	3088	24038
May 01			168	9.5	60.0	40	2.0	1.9	3.9	28877	30369	7.0	23.1	44.3	79.1	53.1	30.0	3092	29594
June 02			128	7.2	67.7	77	3.8	3.1	7.0	26776	27522	7.6	24.5	46.9	79.5	56.2	25.2	3059	22140
May 01		75% Milk	151	9.9	64.2	69	3.5	2.7	6.2	28776	30403	6.9	23.1	44.0	80.9	56.8	29.9	3212	31814
May 01		50% Milk	162	10.0	59.2	38	1.9	2.0	3.9	30403	31826	7.1	22.6	43.8	78.7	51.4	32.2	3089	31003
May 01		25% Milk	191	8.5	56.7	12	0.6	1.0	1.6	27454	28877	6.8	23.5	45.2	77.8	51.0	28.0	2975	25965
June 02		75% Milk	117	7.8	70.7	95	4.7	3.4	8.1	29081	30199	7.8	25.9	48.6	79.3	57.3	21.5	2958	23287
June 02		50% Milk	128	5.8	69.8	89	4.5	3.5	7.9	23387	23387	8.1	24.9	47.9	78.9	56.0	24.3	3039	17631
June 02		25% Milk	140	8.0	62.5	46	2.3	2.6	4.9	27861	28979	7.0	22.7	44.1	80.4	55.4	29.8	3179	25501
May 01	NK Brand N58-D1		173	9.7	62.6	50	2.5	2.4	4.9	28877	29894	6.9	24.7	46.4	78.1	52.7	28.3	3032	29324
May 01	Pioneer 37R71		164	9.3	57.5	29	1.5	1.5	2.9	28877	30843	7.0	21.5	42.3	80.2	53.4	31.7	3152	29864
June 02	NK Brand N58-D1		116	6.9	69.6	86	4.3	3.3	7.6	25149	24675	7.8	26.7	50.5	78.0	56.5	20.4	2897	20018
June 02	Pioneer 37R71		140	7.5	65.7	68	3.4	3.0	6.4	28403	30369	7.5	22.2	43.2	81.0	56.0	29.9	3221	24261
May 01	NK Brand N58-D1	75% Milk	152	9.9	68.0	82	4.1	3.1	7.2	29487	30708	6.8	25.9	47.6	78.9	55.7	25.7	3065	30446
May 01	Pioneer 37R71	75% Milk	150	9.9	60.4	56	2.8	2.4	5.2	28064	30097	7.0	20.2	40.4	82.9	57.9	34.1	3358	33183
May 01	NK Brand N58-D1	50% Milk	172	9.2	63.4	50	2.5	2.6	5.1	29487	30301	7.0	24.7	46.6	77.4	51.6	29.3	2992	27513
May 01	Pioneer 37R71	50% Milk	153	10.8	54.9	26	1.3	1.5	2.8	31318	33351	7.3	20.6	41.1	80.0	51.3	35.0	3186	34493
May 01	NK Brand N58-D1	25% Milk	194	9.9	56.2	19	0.9	1.4	2.3	27657	28674	6.9	23.4	44.9	78.0	50.9	30.1	3040	30014
May 01	Pioneer 37R71	25% Milk	188	7.2	57.2	5	0.3	0.6	0.8	27250	29081	6.7	23.7	45.4	77.6	51.0	26.0	2911	21915
June 02	NK Brand N58-D1	75% Milk	103	7.4	72.7	100	5.0	3.5	8.5	27861	28064	8.0	28.1	52.5	77.9	57.9	15.5	2730	20146
June 02	Pioneer 37R71	75% Milk	132	8.3	68.7	90	4.5	3.3	7.8	30301	32334	7.7	23.7	44.7	80.7	56.7	27.5	3187	26427
June 02	NK Brand N58-D1	50% Milk	116	5.2	72.2	100	5.0	3.4	8.4	20133	18303	8.3	27.8	52.5	76.9	56.0	18.5	2868	15066
June 02	Pioneer 37R71	50% Milk	139	6.3	67.4	79	3.9	3.5	7.4	26640	28471	7.9	22.0	43.4	80.9	55.9	30.1	3210	20197
June 02	NK Brand N58-D1	25% Milk	129	8.0	64.0	57	2.9	3.0	5.8	27454	27657	7.0	24.4	46.6	79.3	55.5	27.3	3093	24842
June 02	Pioneer 37R71	25% Milk	150	8.0	61.0	35	1.8	2.2	4.0	28267	30301	7.0	21.0	41.5	81.5	55.4	32.3	3266	26161
Mean			148	8.3	63.8	58	2.9	2.5	5.4	27827	28945	7.3	23.8	45.6	79.3	54.7	27.6	3076	25867
Probability(%)																			
Date of Planting (D)			0.6	1.2	0.3	0.1	0.1	0.4	0.1	24.5	20.3	2.3	17.4	11.3	61.7	2.7	3.4	62.4	1.7
Hybrid (H)			4.1	70.2	0.0	0.0	0.0	0.0	0.0	7.6	1.8	60.3	0.0	0.0	0.1	80.0	0.0	0.2	6.6
D x H			0.0	16.8	50.8	27.6	27.6	3.4	3.7	7.6	8.1	19.5	42.5	16.7	47.9	19.8	3.0	10.9	14.6
Havest Timing (T)			0.2	21.2	0.0	0.0	0.0	0.0	0.0	53.4	47.7	0.2	41.9	47.8	27.3	0.4	14.7	96.0	26.4
D x T			37.7	1.1	7.5	0.9	0.9	6.7	2.1	9.8	11.9	5.9	17.9	12.1	6.7	10.1	1.3	3.1	1.5
H x T			41.6	1.7	2.7	39.9	39.9	50.7	72.7	14.3	22.0	99.1	15.5	13.8	24.4	77.5	1.5	7.8	1.2
D x H x T			66.8	20.0	13.6	1.0	1.0	30.5	10.6	69.9	74.3	37.6	46.9	67.7	49.3	16.0	68.7	85.0	19.7
LSD (0.10)																			
Date of Planting (D)			13	1.0	2.0	7	0.3	0.4	0.6	NS	NS	0.4	NS	NS	NS	1.9	3.1	NS	3607
Hybrid (H)			6	NS	1.5	3	0.1	0.2	0.3	1498	2224	NS	1.4	2.0	1.2	NS	2.3	105	2115
D x H			10	NS	NS	NS	NS	0.3	0.5	2666	3558	NS	NS	NS	NS	NS	3.2	NS	NS
Havest Timing (T)			12	NS	1.8	6	0.3	0.3	0.6	NS	NS	0.3	NS	NS	NS	1.7	NS	NS	NS
D x T			NS	1.3	2.6	9	0.4	0.5	0.8	4502	NS	0.4	NS	NS	2.1	NS	4.0	188	4731
H x T			NS	1.1	2.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	3.9	183	4061
D x H x T			NS	NS	NS	9	0.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table C- 29. Planting Date and Hybrid Influence on Corn Grain and Silage Performance. Arlington, WI - 2008.

		Grain																					
Planting				Test	Lodged		Grower	Harvest	Silking	Plant	Early	Kernel Milk			Black	Grain Composition			Ethanol		MPCI	
date	Hybrid	Yield	Moisture	weight	Total	Stalk	Root	return	plants	date	height	dent	75%	50%	25%	layer	Oil	Starch	Protein	per bu	per A	yield	Moisture
		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	doy	inches	doy	doy	doy	doy	doy	%	%	%	gallons	gallons	bu/A	%
	NK Brand N58-D1	187	28.8	53.2	7	2	5	611	28978	215	103	257	268	274	-	-	3.4	61.2	7.9	2.85	534	156	22.9
	Pioneer 37R71	201	23.3	54.9	12	1	11	671	29704	211	97	247	258	265	272	281	3.7	60.4	8.2	2.81	565	162	20.7
April 24		214	20.1	57.0	2	2	0	725	26499	204	99	241	252	259	266	277	3.6	60.6	8.1	2.84	608		
May 01		220	19.7	57.5	4	4	0	746	27173	204	98	242	255	261	268	278	3.5	60.8	8.0	2.84	624	180	18.7
May 15		226	20.7	56.5	2	1	1	764	31581	208	100	245	256	263	270	279	3.4	61.0	8.3	2.84	643		
June 02		179	28.8	52.2	2	1	1	578	28936	218	100	260	269	277	283	292	3.4	60.9	7.8	2.84	510	137	24.9
June 15		130	40.7	47.0	40	1	39	392	32514	230	105	271	283	290	-	-	3.6	60.7	8.2	2.81	364		
April 24	NK Brand N58-D1	227	21.7	56.2	2	2	0	761	27069	205	104	243	255	263	270	278	3.4	61.0	7.9	2.86	647		
April 24	Pioneer 37R71	202	18.6	57.7	1	1	0	690	25929	203	93	239	249	255	261	275	3.8	60.2	8.3	2.82	568		
May 01	NK Brand N58-D1	227	21.4	57.0	5	4	0	764	27692	206	102	244	259	264	273	282	3.3	61.4	7.6	2.88	654	185	19.7
May 01	Pioneer 37R71	212	18.0	58.1	3	3	0	728	26655	202	94	240	251	257	263	273	3.8	60.2	8.3	2.80	595	175	17.8
May 15	NK Brand N58-D1	226	22.3	55.4	2	1	2	754	31114	211	103	250	261	269	275	284	3.3	61.6	8.1	2.87	647		
May 15	Pioneer 37R71	227	19.0	57.6	1	1	0	774	32048	206	97	241	250	257	264	274	3.6	60.5	8.5	2.81	639		
June 02	NK Brand N58-D1	156	31.0	51.6	3	2	1	496	27381	219	100	266	276	281	287	299	3.3	61.1	7.7	2.85	446	127	26.1
June 02	Pioneer 37R71	202	26.7	52.8	1	0	0	659	30492	216	99	254	263	273	280	286	3.6	60.7	7.9	2.83	573	148	23.6
June 15	NK Brand N58-D1	98	47.4	45.9	25	2	23	280	31633	232	106	280	288	296	-	-	3.5	61.0	8.3	2.82	276.4		
June 15	Pioneer 37R71	162	34.1	48.1	55	0	55	504	33396	227	104	263	277	285	291	299	3.6	60.5	8.1	2.80	452		
Mean		194	26.0	54.0	10	2	8	641	29341	213	100	252	263	270	273	283	3.5	60.8	8.1	2.83	550	159	21.8
Probability(%)																							
Date of Planting (D)		0.0	0.0	0.0	1.2	14.0	1.2	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	11.2	17.4	49.4	16.1	0.0	1.0	1.3
Hybrid (H)		0.2	0.0	0.0	4.2	16.4	0.8	0.0	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.2	0.0	1.3	42.0	0.2
D x H		0.0	0.0	54.2	0.1	82.9	0.0	0.0	2.6	27.3	6.2	0.0	27.4	48.2	10.3	15.3	23.6	21.7	54.3	25.8	0.0	4.2	46.2
LSD (0.10)																							
Date of Planting (D)		17	2.7	2.0	19	NS	19	56	1810	2	4	2	3	3	5	5	NS	NS	NS	NS	49	17	2.7
Hybrid (H)		7	0.7	0.5	4	NS	3	23	NS	1	2	1	2	2	-	-	0.1	0	NS	0.02	19	NS	0.8
D x H		19	2.7	NS	18	NS	18	64	2077	NS	5	2	NS	NS	NS	NS	NS	NS	NS	NS	56	17	NS

continued

Table C- 29. Planting Date and Hybrid Influence on Corn Grain and Silage Performance.

(continued) **Arlington, WI - 2008.**

				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	8.3	66.0	74.5	3.7	2.8	6.6	28145	28267	7.4	25.5	48.4	77.8	54.1	24.8	2955	24700
	Pioneer 37R71	8.7	59.3	45.3	2.3	2.4	4.7	29650	31196	7.4	21.2	42.2	80.9	54.7	32.2	3224	27978
April 24		9.4	56.4	35.0	1.8	2.2	3.9	27657	29182	7.2	20.5	41.5	80.7	53.6	33.2	3223	30159
May 01		10.0	59.2	38.1	1.9	2.0	3.9	30403	31826	7.1	22.6	43.8	78.7	51.4	32.2	3089	31003
May 15		9.2	59.4	51.3	2.6	2.7	5.3	30911	31623	7.1	23.9	45.7	78.3	52.5	29.6	3047	28166
June 02		5.8	69.8	89.4	4.5	3.5	7.9	23387	23387	8.1	24.9	47.9	78.9	56.0	24.3	3039	17631
June 15		8.0	68.4	85.6	4.3	2.7	7.0	32131	32639	7.4	24.9	47.5	80.3	58.4	23.3	3051	24735
April 24	NK Brand N58-D1	10.2	59.2	55.0	2.8	2.6	5.3	27250	27861	6.9	21.9	43.5	79.3	52.7	31.3	3128	31911
April 24	Pioneer 37R71	8.5	53.7	15.0	0.7	1.8	2.5	28064	30504	7.5	19.0	39.5	82.1	54.6	35.1	3319	28408
May 01	NK Brand N58-D1	9.2	63.4	50.0	2.5	2.6	5.1	29487	30301	7.0	24.7	46.6	77.4	51.6	29.3	2992	27513
May 01	Pioneer 37R71	10.8	54.9	26.3	1.3	1.5	2.8	31318	33351	7.3	20.6	41.1	80.0	51.3	35.0	3186	34493
May 15	NK Brand N58-D1	9.4	64.1	72.5	3.6	3.0	6.6	30911	31521	7.1	26.5	49.5	76.2	51.9	25.4	2896	27177
May 15	Pioneer 37R71	9.1	54.8	30.0	1.5	2.5	4.0	30911	31724	7.1	21.2	41.9	80.3	53.0	33.9	3197	29154
June 02	NK Brand N58-D1	5.2	72.2	100.0	5.0	3.4	8.4	20133	18303	8.3	27.8	52.5	76.9	56.0	18.5	2868	15066
June 02	Pioneer 37R71	6.3	67.4	78.8	3.9	3.5	7.4	26640	28471	7.9	22.0	43.4	80.9	55.9	30.1	3210	20197
June 15	NK Brand N58-D1	7.5	71.2	95.0	4.8	2.7	7.5	32945	33351	7.6	26.5	49.8	79.2	58.3	19.6	2893	21831
June 15	Pioneer 37R71	8.6	65.6	76.3	3.8	2.7	6.5	31318	31928	7.3	23.4	45.1	81.3	58.6	26.9	3209	27639
Mean		8.5	62.7	59.9	3.0	2.6	5.6	28898	29731	7.4	23.4	45.3	79.4	54.4	28.5	3090	26339
Probability(%)																	
Date of Planting (D)		0.0	0.2	0.0	0.0	0.1	0.0	0.1	1.2	2.0	0.6	1.2	7.4	0.0	0.1	20.8	0.0
Hybrid (H)		24.9	0.0	0.0	0.0	0.3	0.0	15.0	6.7	70.4	0.0	0.0	0.0	28.3	0.0	0.0	1.1
D x H		3.1	20.5	5.3	5.3	5.7	1.0	15.9	18.3	14.8	61.1	55.8	72.5	68.1	40.1	82.5	6.8
LSD (0.10)																	
Date of Planting (D)		0.9	5.4	10.3	0.5	0.4	0.7	2792	4179	0.5	1.9	3.0	1.6	1.8	3.6	NS	3210
Hybrid (H)		NS	1.2	5.0	0.3	0.2	0.3	NS	2600	NS	1.2	1.8	1.0	NS	2.2	92	1997
D x H		1.2	NS	12.7	0.6	0.6	0.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	4465

Table C-30. Planting Date and Hybrid Influence on Corn Leaf Development. Arlington, WI - 2008.

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
		156	2.4	3.5	4.9	4.8
		171	5.4	7.6	9.0	19.0
		182	5.1	8.1	9.6	20.8
		197	9.4	11.7	13.2	46.9
		212	15.7	16.8	17.3	91.1
		224	17.3	17.5	17.7	97.3
	NK Brand N58-D1		10.1	11.9	12.8	51.5
	Pioneer 37R71		9.9	11.5	12.6	52.5
	NK Brand N58-D1	156	2.4	3.6	4.7	4.2
	NK Brand N58-D1	171	6.1	8.3	9.3	21.3
	NK Brand N58-D1	182	5.0	8.0	9.3	19.7
	NK Brand N58-D1	197	9.2	11.6	13.2	43.9
	NK Brand N58-D1	212	15.8	17.1	17.7	90.2
	NK Brand N58-D1	224	17.6	18.0	18.3	98.6
	Pioneer 37R71	156	2.4	3.5	5.1	5.3
	Pioneer 37R71	171	4.8	6.9	8.7	16.8
	Pioneer 37R71	182	5.2	8.3	9.9	21.9
	Pioneer 37R71	197	9.7	11.9	13.2	49.9
	Pioneer 37R71	212	15.7	16.5	17.0	92.0
	Pioneer 37R71	224	16.9	16.9	17.2	96.1
April 24			10.5	12.2	13.1	54.0
May 01			10.6	12.3	13.3	53.9
May 15			10.1	11.6	12.6	52.8
June 02			10.7	12.4	13.4	57.2
June 15			7.7	9.6	10.8	40.0
April 24		156	2.9	4.2	5.4	5.3
April 24		171	5.3	7.7	9.1	17.3
April 24		182	6.6	10.6	12.4	32.4
April 24		197	11.8	14.0	15.3	65.2
April 24		212	18.6	18.6	18.6	104.8
April 24		224	17.9	17.9	17.9	98.9
May 01		156	3.0	4.1	5.6	5.2
May 01		171	5.1	7.6	9.1	17.1
May 01		182	6.8	10.9	12.6	33.1
May 01		197	12.3	14.2	15.7	65.8
May 01		212	18.6	18.6	18.6	104.3
May 01		224	18.2	18.2	18.2	98.0

continued

Table C-30. Planting Date and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

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 15		156	1.4	2.4	3.6	3.7
May 15		171	5.9	7.4	8.8	22.7
May 15		182	5.9	9.4	10.9	22.7
May 15		197	10.7	13.2	14.8	55.3
May 15		212	17.6	17.8	18.1	105.6
May 15		224	18.0	18.0	18.0	100.9
June 02		156	-	-	-	-
June 02		171	-	-	-	-
June 02		182	3.9	6.3	7.6	10.4
June 02		197	7.3	9.9	11.6	31.2
June 02		212	14.1	15.8	16.8	86.1
June 02		224	17.6	17.8	17.8	101.1
June 15		156	-	-	-	-
June 15		171	-	-	-	-
June 15		182	2.1	3.3	4.4	5.3
June 15		197	5.1	7.4	8.4	16.9
June 15		212	9.8	13.3	14.5	54.8
June 15		224	14.6	15.5	16.7	87.7
April 24	NK Brand N58-D1		10.5	12.1	13.1	54.6
April 24	Pioneer 37R71		10.5	12.2	13.2	53.4
May 01	NK Brand N58-D1		10.9	12.6	13.6	54.9
May 01	Pioneer 37R71		10.4	11.9	13.0	52.9
May 15	NK Brand N58-D1		10.2	11.7	12.6	52.2
May 15	Pioneer 37R71		10.0	11.4	12.5	53.4
June 02	NK Brand N58-D1		10.7	12.5	13.5	53.7
June 02	Pioneer 37R71		10.8	12.3	13.4	60.7
June 15	NK Brand N58-D1		7.7	10.1	11.0	38.3
June 15	Pioneer 37R71		7.7	9.2	10.6	41.7
April 24	NK Brand N58-D1	156	2.9	4.3	5.1	4.4
April 24	NK Brand N58-D1	171	5.3	7.6	8.6	16.0
April 24	NK Brand N58-D1	182	6.4	10.1	12.3	31.0
April 24	NK Brand N58-D1	197	11.4	13.8	15.4	62.0
April 24	NK Brand N58-D1	212	18.6	18.6	18.6	109.9
April 24	NK Brand N58-D1	224	18.5	18.5	18.6	104.4
April 24	Pioneer 37R71	156	2.9	4.1	5.8	6.2
April 24	Pioneer 37R71	171	5.4	7.8	9.5	18.5
April 24	Pioneer 37R71	182	6.8	11.1	12.6	33.9
April 24	Pioneer 37R71	197	12.3	14.3	15.3	68.4
April 24	Pioneer 37R71	212	18.6	18.6	18.6	99.8
April 24	Pioneer 37R71	224	17.3	17.3	17.3	93.5

continued

Table C-30. Planting Date and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

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 01	NK Brand N58-D1	156	3.0	4.3	5.5	5.0
May 01	NK Brand N58-D1	171	5.1	7.9	9.1	15.8
May 01	NK Brand N58-D1	182	6.8	11.3	12.6	33.1
May 01	NK Brand N58-D1	197	12.1	14.1	16.1	64.0
May 01	NK Brand N58-D1	212	19.3	19.3	19.3	108.4
May 01	NK Brand N58-D1	224	19.1	19.1	19.1	103.0
May 01	Pioneer 37R71	156	3.0	4.0	5.6	5.4
May 01	Pioneer 37R71	171	5.0	7.4	9.1	18.4
May 01	Pioneer 37R71	182	6.8	10.5	12.6	33.1
May 01	Pioneer 37R71	197	12.4	14.3	15.3	67.6
May 01	Pioneer 37R71	212	18.0	18.0	18.0	100.1
May 01	Pioneer 37R71	224	17.3	17.3	17.3	93.0
May 15	NK Brand N58-D1	156	1.4	2.4	3.5	3.3
May 15	NK Brand N58-D1	171	7.9	9.3	10.1	32.0
May 15	NK Brand N58-D1	182	5.5	8.9	10.1	21.1
May 15	NK Brand N58-D1	197	10.1	12.8	14.5	49.9
May 15	NK Brand N58-D1	212	17.8	18.3	18.9	104.0
May 15	NK Brand N58-D1	224	18.6	18.6	18.6	103.1
May 15	Pioneer 37R71	156	1.3	2.3	3.8	4.3
May 15	Pioneer 37R71	171	4.0	5.5	7.5	13.4
May 15	Pioneer 37R71	182	6.4	10.0	11.8	24.3
May 15	Pioneer 37R71	197	11.3	13.6	15.0	60.6
May 15	Pioneer 37R71	212	17.4	17.4	17.4	107.1
May 15	Pioneer 37R71	224	17.4	17.4	17.4	98.6
June 02	NK Brand N58-D1	156	-	-	-	-
June 02	NK Brand N58-D1	171	-	-	-	-
June 02	NK Brand N58-D1	182	4.0	6.1	7.4	8.5
June 02	NK Brand N58-D1	197	7.3	9.9	11.4	27.6
June 02	NK Brand N58-D1	212	13.8	16.0	17.0	76.9
June 02	NK Brand N58-D1	224	17.8	18.0	18.1	101.6
June 02	Pioneer 37R71	156	-	-	-	-
June 02	Pioneer 37R71	171	-	-	-	-
June 02	Pioneer 37R71	182	3.9	6.4	7.8	12.3
June 02	Pioneer 37R71	197	7.4	10.0	11.9	34.8
June 02	Pioneer 37R71	212	14.4	15.5	16.5	95.3
June 02	Pioneer 37R71	224	17.5	17.5	17.5	100.5

continued

Table C-30. Planting Date and Hybrid Influence on Corn Leaf Development.
(continued) **Arlington, WI - 2008.**

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	156	-	-	-	-
June 15	NK Brand N58-D1	171	-	-	-	-
June 15	NK Brand N58-D1	182	2.1	3.4	4.1	4.9
June 15	NK Brand N58-D1	197	5.0	7.6	8.4	15.9
June 15	NK Brand N58-D1	212	9.6	13.5	14.6	51.9
June 15	NK Brand N58-D1	224	14.0	15.8	16.9	80.6
June 15	Pioneer 37R71	156	-	-	-	-
June 15	Pioneer 37R71	171	-	-	-	-
June 15	Pioneer 37R71	182	2.0	3.3	4.6	5.8
June 15	Pioneer 37R71	197	5.1	7.1	8.5	18.0
June 15	Pioneer 37R71	212	10.0	13.1	14.4	57.6
June 15	Pioneer 37R71	224	15.3	15.3	16.5	94.8
Mean			10.0	11.7	12.7	52.0
Probability(%)						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			34.0	1.1	17.7	20.0
D x H			52.9	46.5	29.9	6.3
Sample DOY (S)			0.0	0.0	0.0	0.0
D x S			0.0	0.0	0.0	0.0
H x S			12.9	1.4	0.3	20.6
D x H x S			17.5	31.5	29.4	1.2
LSD(0.10)						
Date of Planting (D)			0.6	0.6	0.6	3.1
Hybrid (H)			NS	0.2	NS	NS
D x H			NS	NS	NS	3.7
Sample DOY (S)			0.5	0.4	0.4	2.9
D x S			1.0	0.9	0.9	6.4
H x S			NS	0.6	0.5	NS
D x H x S			NS	NS	NS	9.1
CV(%)			13	10	8	15

FIELD EXPERIMENT HISTORY

Title: **Bayer Crop Science Fungicide/Rootworm Study.**

Experiment: 08 Bayer **Trial ID:** 3116 **Year:** 2008

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

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

Supported By: Bayer Crop Science

Site Information

Field: ARS502 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 7.1 **OM (%)** 2.9 **P (ppm)** 73 **K (ppm)** 242

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivate 6/18/08

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:**	152	**Date:**	4 /30/08
Starter Analysis:	10-34-0	**Rate lbs/A:**	3.0 gal/A	**Date:**	5 /14/08
Post plant Analysis:	46-0-0	**Rate lbs/A:**	50	**Date:**	6 /17/08

Manure: 4300 gal

Herbicide: Dual II Mag 24 oz/A
Hornet 4 oz/A
Accent 0.33 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/14/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/27/08 **Harvest Method:** Massey 8XP

Notes: Trial ID:SP08NARYKAUHN2

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 50' x 10' **Experiment Size:** 0.34 A

Harvest Plot Size: 47' x 5' **Harvest Plant Density:** 30696 **plants per acre**

Factors/Treatments:

Treatments:

1) Maxim XL 3.5 G A/100 kg
Apron XL 1 G A/100 kg
Poncho FS 0.25 mg a/seed
Proized red colorant 19.6 ml/100kg
L1463-B 130ml/100 kg
Talc 62.5 g/100 kg

2) Confidential (EXP7)

Hybrids:

1) Growmark FSFS47S33
2) Growmark FS4189VT3

Results: Table C-31.

Table C-31. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Arlington, WI - 2008.

Hybrid	Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	Grower return
		bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	$/A
	1	190	17.8	57	30742	0	0	30923	6	30674	651
	2	193	17.8	57	30651	0	0	31082	6	30401	663
FS47S33		197	17.5	57	30084	0	0	30583	6	30038	677
FS4189VT3		186	18.1	57	31309	0	0	31422	6	31037	637
FS4189VT3	1	185	18.2	57	31581	0	0	31626	6	31808	634
FS4189VT3	2	186	18.0	58	31037	0	0	31218	6	30265	640
FS47S33	1	194	17.4	57	29902	0	0	30220	6	29539	669
FS47S33	2	200	17.7	57	30265	0	0	30946	6	30537	686
Mean		191	17.8	57	30696	0	0	31002	6	30537	657
Probability(%)											
Hybrid (H)		10.1	19.4	12.3	4.7	0.0	34.3	4.7	100	3.2	7.1
Treatment (T)		61.0	97.6	4.1	86.8	1.1	34.3	67.4	100	50.7	57.8
H x T		75.7	56.8	48.1	41.6	0.5	34.3	15.5	100	1.0	77.1
LSD(0.10)											
Hybrid (H)		NS	NS	NS	975	0	NS	670	NS	722	36
Treatment (T)		NS	NS	0.4	NS	0	NS	NS	NS	NS	NS
H x T		NS	NS	NS	NS	0	NS	NS	NS	1021	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 08 Bayer **Trial ID:** 3117 **Year:** 2008

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:** 11/7 /08 **pH:** 6.7 **OM (%)** 4.6 **P (ppm)** 17 **K (ppm)** 95

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/26/08

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:**	N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3.0 gal/A	**Date:**	5 /8 /08
Post plant Analysis:	46-0-0 28-0-0	**Rate lbs/A:**	50 120	**Date:**	6/26/08 6/17/08

Manure: N/A

Herbicide: Lumax 5.0 pt/A **Insecticide:** None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/8/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/23/08 **Harvest Method:** Massey Ferguson 8XP

Notes: Trial ID:SP08NARYKAUHN2

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 50' x 10' **Experiment Size:** 0.34 A

Harvest Plot Size: 47' x 5' **Harvest Plant Density:** 31479 **plants per acre**

Factors/Treatments:

Treatment

1) Maxim XL 3.5 G A/100 kg
   Apron XL 1 G A/100 kg
   Poncho FS 0.25 mg a/seed
   Proized red colorant 19.6 ml/100kg
   L1463-B 130ml/100 kg
   Talc 62.5 g/100 kg

2) Confidential (EXP7)

Hybrids:

1) Growmark FSFS47S33
2) Growmark FS4189VT3

Results: Table C-32.

Table C-32. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Fond du Lac, WI - 2008.

Hybrid	Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	Grower return
		bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	$/A
	1	186	21.3	54	31400	0	0	31717	5	31989	625
	2	188	22.0	54	31558	0	0	30787	5	32080	631
FS47S33		188	18.6	55	31105	0	0	31513	5	31808	642
FS4189VT3		187	24.7	53	31853	0	0	30991	5	32262	615
FS4189VT3	1	183	24.1	53	31853	0	0	31899	5	32035	606
FS4189VT3	2	190	25.3	53	31853	0	0	30084	5	32489	623
FS47S33	1	188	18.6	55	30946	0	0	31536	5	31944	644
FS47S33	2	187	18.6	55	31263	0	0	31490	5	31672	640
Mean		187	21.6	54	31479	0	0	31252	5	32035	628
Probability(%)											
Hybrid (H)		79.0	0.0	0.0	5.5	65.4	8.4	57.0	100	22.6	12.3
Treatment (T)		56.5	11.3	57.7	65.1	68.2	52.0	31.8	100	80.3	69.7
H x T		39.9	12.6	39.8	65.1	6.3	52.0	34.1	100	32.7	51.1
LSD(0.10)											
Hybrid (H)		NS	0.7	0.6	621	NS	0	NS	NS	NS	NS
Treatment (T)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
H x T		NS	NS	NS	NS	0	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 08 Bayer **Trial ID:** 3118 **Year:** 2008

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

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

Supported By: Bayer Crop Science

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Downs

Soil Test: **Date:** 10/21/08 **pH:** 6.0 **OM (%)** 3.3 **P (ppm)** 76 **K (ppm)** 121

Plot Management

Tillage Operations: Fall Zone Builder

Fertilizer:

Preplant Analysis:	28-0-0	**Rate lbs/A:**	160	**Date:**	N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3.0 gal/A	**Date:**	5 /12/08
Post plant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:**	N/A

Manure: N/A

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

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/12/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/21/08 **Harvest Method:** Massey Ferguson 8XP

Notes: Trial ID:SP08NARYKAUHN2

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 25' x 10' **Experiment Size:** 0.2 A

Harvest Plot Size: 23' x 10' **Harvest Plant Density:** 31392 **plants per acre**

Factors/Treatments:

Treatment

1) Maxim XL 3.5 G A/100 kg
   Apron XL 1 G A/100 kg
   Poncho FS 0.25 mg a/seed
   Proized red colorant 19.6 ml/100kg
   L1463-B 130ml/100 kg
   Talc 62.5 g/100 kg

2) Confidential (EXP7)

Hybrids:

1) Growmark FSFS47S33
2) Growmark FS4189VT3

Results: Table C-33.

Table C-33. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Galesville, WI - 2008.

Hybrid	Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	Grower return
		bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	$/A
	1	202	20.9	56	31297	0	0	31676	7	31060	681
	2	202	21.1	56	31486	0	0	31297	6	29782	680
FS47S33		195	19.4	57	31439	0	0	31534	7	30587	662
FS4189VT3		210	22.6	55	31344	0	0	31439	6	30255	700
FS4189VT3	1	211	22.5	55	31628	0	0	32007	6	31344	705
FS4189VT3	2	208	22.7	56	31060	0	0	30871	6	29166	695
FS47S33	1	193	19.3	57	30965	0	0	31344	7	30776	658
FS47S33	2	196	19.6	57	31912	0	0	31723	7	30397	665
Mean		202	21.0	56	31392	0	0	31486	6	30421	681
Probability(%)											
Hybrid (H)		0.1	0.0	0.0	84.5	26.1	-	83.2	0.5	46.4	0.6
Treatment (T)		97.6	34.8	48.8	69.6	99.1	-	40.2	5.7	1.3	91.8
H x T		47.9	95.5	32.3	14.1	56.7	-	10.8	48.5	6.3	46.6
LSD(0.10)											
Hybrid (H)		6	0.4	0	NS	NS	-	NS	0	781	20
Treatment (T)		NS	NS	NS	NS	NS	-	NS	0	NS	NS
H x T		NS	NS	NS	NS	NS	-	NS	NS	1105	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 08 Bayer **Trial ID:** 3119 **Year:** 2008

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

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

Supported By: Bayer Crop Science

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Plano

Soil Test: **Date:** 10/16/08 **pH:** 6.8 **OM (%)** 3.5 **P (ppm)** 49 **K (ppm)** 124

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/12/08

Fertilizer:

Preplant Analysis:	28-0-0	**Rate lbs/A:**	130	**Date:**	N/A
Starter Analysis:	10-34-0	**Rate lbs/A:**	3.0 gal/A	**Date:**	5 /8 /08
Post plant Analysis:	N/A	**Rate lbs/A:**	N/A	**Date:**	N/A

Manure: N/A

Herbicide: Dual II Mag 24 oz/A
Atrazine 4L 1.0 qt/A
Status 5.0 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/8/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/16/08 **Harvest Method:** Massey Ferguson 8XP

Notes: Trial ID:SP08NARYKAUHN2

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 50' x 10' **Experiment Size:** 0.34 A

Harvest Plot Size: 47' x 5' **Harvest Plant Density:** 30583 **plants per acre**

Factors/Treatments:

Treatment

1) Maxim XL 3.5 G A/100 kg
Apron XL 1 G A/100 kg
Poncho FS 0.25 mg a/seed
Proized red colorant 19.6 ml/100kg
L1463-B 130ml/100 kg
Talc 62.5 g/100 kg

2) Confidential (EXP7)

Hybrids:

1) Growmark FSFS47S33
2) Growmark FS4189VT3

Results: Table C-34.

Table C-34. Bayer Crop Science Commercial Fungicide/Corn Rootworm Study. Janesville, WI - 2008

Hybrid	Treatment	Grain yield	Grain moisture	Test weight	Harvest population	Root lodging	Stalk lodging	V5 population	V5 vigor	V2 population	Grower return
		bu/A	%	lb/bu	plants/A	%	%	plants/A	1-9	plants/A	$/A
	1	164	16.4	57	30810	0	0	31944	7	31400	568
	2	163	16.0	57	30356	0	0	32216	7	32057	564
FS47S33		165	14.2	56	30583	0	0	31694	7	31263	574
FS4189VT3		163	18.3	58	30583	0	0	32466	7	32194	557
FS4189VT3	1	164	18.4	58	31263	0	0	32443	7	31899	560
FS4189VT3	2	162	18.1	58	29902	0	0	32489	7	32489	555
FS47S33	1	165	14.4	56	30356	0	0	31445	7	30900	576
FS47S33	2	164	14.0	56	30810	0	0	31944	7	31626	572
Mean		164	16.2	57	30583	0	0	32080	7	31728	566
Probability(%)											
Hybrid (H)		45.5	0.0	0.1	100	-	-	1.7	10.5	3.0	11.8
Treatment (T)		66.7	19.9	75.2	70.9	-	-	34.9	56.3	10.1	69.6
H x T		90.9	72.7	57.1	46.1	-	-	43.2	56.3	85.4	94.6
LSD(0.10)											
Hybrid (H)		NS	0.4	0.7	NS	-	-	497	NS	661	NS
Treatment (T)		NS	NS	NS	NS	-	-	NS	NS	NS	NS
H x T		NS	NS	NS	NS	-	-	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 09CS **Trial ID** 3192 **Year:** 2008

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

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/20/08 **pH:** 6.1 **OM (%)** 3.7 **P (ppm)** 13 **K (ppm)** 126

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	6 /1 /08
	Manure:	N/A	N/A	

Herbicide: Honcho plus 24 oz/A 18-Jun-08
Dual II Mag 24 oz/A 30-Apr
Liberty 32 oz/A 30-Apr-08

Insecticide: Force 3G 4.4 lbs/A, 5/5/08
Rodenticide: Zinc phosphate: 5lbs/A, 5/5/08

Irrigation: None

Hybrid: See Factors

Planting Date: Corn: 5/5/08
Soybean: 5/6/08

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: 10/14/08
Soybean: 10/22/08

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

Notes:

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	Rotation	Hybrids/Varieties:
No-Till	Continuous Corn or Soybean	C: DekalbDKC5139
Conventional	Alternating Corn - Soybean	Dekalb DKC5020
	Corn 5yrs. / Soybean 5 yrs.	Pioneer P38B87
		S: Latham 2620RX
		Pioneer 92Y20
		Pioneer 92M33

Results: Tables C-35 and C-36.

Table C-35. Corn/Soybean Rotation and Tillage Study - Corn.
Arlington, WI - 2008.

Rotation	Variety	Tillage	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
		Conv	235	22	55	787	1	0	1	31762	3.3	61.4	7.1	2.93	689
		No-Till	213	27	52	694	0	0	0	30766	3.3	61.3	7.3	2.91	620
	Dekalb DKC50-20		235	24	53	775	0	0	0	31731	3.3	61.6	6.8	2.92	686
	Dekalb DKC51-39		235	26	53	771	1	0	1	32104	3.3	61.6	6.9	2.91	685
	Pioneer 38B87		203	22	54	675	0	0	0	29957	3.1	60.9	7.9	2.93	593
	Dekalb DKC50-20	Conv	246	22	54	825	0	0	0	32393	3.3	61.7	6.7	2.93	723
	Dekalb DKC50-20	No-Till	223	27	52	726	0	0	0	31070	3.3	61.5	6.8	2.91	649
	Dekalb DKC51-39	Conv	244	23	54	815	2	0	2	32214	3.3	61.7	6.8	2.93	716
	Dekalb DKC51-39	No-Till	226	29	52	727	1	0	1	31993	3.3	61.4	7.0	2.89	654
	Pioneer 38B87	Conv	214	21	57	721	0	0	0	30679	3.1	60.9	7.9	2.93	628
	Pioneer 38B87	No-Till	191	24	52	630	0	0	0	29236	3.2	61.0	7.9	2.92	558
1C			256	22	55	857	0	0	0	32042	3.3	61.2	7.4	2.92	747
1CC			216	25	53	711	0	0	0	31250	3.3	61.5	7.3	2.91	629
1CS			239	24	54	793	0	0	0	32028	3.2	61.4	7.3	2.93	701
2C			228	24	54	754	1	0	1	31417	3.3	61.4	6.9	2.92	667
3C			204	23	51	675	2	0	2	30958	3.3	61.4	7.1	2.92	595
4C			211	26	53	689	1	0	1	30125	3.3	61.3	7.2	2.92	615
5C			215	26	53	705	0	0	0	31028	3.3	61.3	7.0	2.92	628
1C		Conv	255	20	56	862	1	1	0	32500	3.3	61.1	7.4	2.92	745
1C		No-Till	257	23	54	853	0	0	0	31583	3.3	61.2	7.4	2.91	748
1CC		Conv	237	22	55	792	0	0	0	31833	3.2	61.4	7.2	2.92	692
1CC		No-Till	195	28	52	631	0	0	0	30667	3.3	61.5	7.3	2.90	565
1CS		Conv	247	22	55	828	0	0	0	32167	3.2	61.4	7.3	2.94	726
1CS		No-Till	232	26	52	757	0	0	0	31890	3.2	61.4	7.3	2.92	676
2C		Conv	235	22	55	785	1	0	1	31167	3.3	61.5	6.8	2.93	688
2C		No-Till	221	26	53	723	0	0	0	31667	3.3	61.4	7.1	2.91	645
3C		Conv	221	22	55	741	2	0	2	31667	3.3	61.6	7.0	2.93	649
3C		No-Till	187	24	48	608	2	0	2	30250	3.3	61.2	7.3	2.91	542

continued

Table C-35. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Tillage	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
4C		Conv	222	22	55	742	1	0	1	31750	3.3	61.5	7.3	2.94	651
4C		No-Till	199	30	52	637	1	0	1	28500	3.3	61.2	7.2	2.90	578
5C		Conv	228	23	54	757	1	0	1	31250	3.2	61.5	6.9	2.94	669
5C		No-Till	202	28	52	652	0	0	0	30807	3.3	61.2	7.2	2.90	586
1C	Dekalb DKC50-20		270	22	54	905	0	0	0	32750	3.3	61.5	7.1	2.92	789
1C	Dekalb DKC51-39		265	23	54	882	0	0	0	32375	3.4	61.5	7.1	2.91	771
1C	Pioneer 38B87		234	21	57	786	0	0	0	31000	3.2	60.5	8.0	2.91	680
1CC	Dekalb DKC50-20		244	25	52	808	0	0	0	33000	3.3	61.7	6.6	2.92	713
1CC	Dekalb DKC51-39		216	27	52	703	0	0	0	32000	3.3	61.8	7.1	2.89	624
1CC	Pioneer 38B87		187	23	55	624	1	0	1	28750	3.2	60.9	8.0	2.92	548
1CS	Dekalb DKC50-20		250	24	53	825	0	0	0	31424	3.3	61.7	7.0	2.93	731
1CS	Dekalb DKC51-39		250	25	52	823	0	0	0	33236	3.3	61.5	7.0	2.93	732
1CS	Pioneer 38B87		219	22	56	731	0	0	0	31424	3.1	61.0	8.0	2.93	641
2C	Dekalb DKC50-20		230	24	52	761	0	0	0	31750	3.3	61.6	6.4	2.92	672
2C	Dekalb DKC51-39		243	25	53	796	2	0	2	33000	3.3	61.6	6.8	2.92	709
2C	Pioneer 38B87		212	23	56	705	0	0	0	29500	3.1	61.1	7.6	2.92	619
3C	Dekalb DKC50-20		219	24	53	723	0	0	0	31250	3.4	61.6	6.8	2.92	638
3C	Dekalb DKC51-39		225	25	53	740	7	0	7	30750	3.3	61.6	6.8	2.91	655
3C	Pioneer 38B87		168	20	48	561	0	0	0	30875	3.1	61.0	7.9	2.93	493
4C	Dekalb DKC50-20		206	26	53	674	0	0	0	30000	3.3	61.4	7.1	2.92	601
4C	Dekalb DKC51-39		223	27	53	722	2	0	2	31125	3.3	61.6	6.9	2.91	649
4C	Pioneer 38B87		203	24	54	672	0	0	0	29250	3.2	61.0	7.6	2.93	595
5C	Dekalb DKC50-20		224	26	52	732	1	0	1	31944	3.3	61.6	6.4	2.93	655
5C	Dekalb DKC51-39		226	28	52	732	0	0	0	32238	3.3	61.4	6.7	2.91	656
5C	Pioneer 38B87		196	24	55	650	0	0	0	28903	3.1	61.1	8.0	2.93	573
1C	Dekalb DKC50-20	Conv	266	20	55	900	0	0	0	32250	3.3	61.3	7.3	2.92	779
1C	Dekalb DKC50-20	No-Till	273	23	53	909	0	0	0	33250	3.3	61.7	7.0	2.92	799
1C	Dekalb DKC51-39	Conv	263	21	55	887	1	1	0	32750	3.3	61.5	7.0	2.92	769

continued

Table C-35. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Tillage	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
1C	Dekalb DKC51-39	No-Till	266	25	53	877	0	0	0	32000	3.4	61.4	7.3	2.90	773
1C	Pioneer 38B87	Conv	236	20	57	797	1	1	0	32500	3.2	60.5	8.0	2.92	687
1C	Pioneer 38B87	No-Till	232	22	56	774	0	0	0	29500	3.2	60.6	8.0	2.90	672
1CC	Dekalb DKC50-20	Conv	277	22	54	930	0	0	0	33250	3.3	61.6	6.5	2.93	814
1CC	Dekalb DKC50-20	No-Till	211	27	51	685	0	0	0	32750	3.3	61.7	6.8	2.90	613
1CC	Dekalb DKC51-39	Conv	233	23	53	775	0	0	0	31750	3.3	61.8	7.0	2.91	678
1CC	Dekalb DKC51-39	No-Till	198	30	52	631	0	0	0	32250	3.3	61.8	7.3	2.87	570
1CC	Pioneer 38B87	Conv	199	21	57	671	0	0	0	30500	3.1	60.9	8.0	2.93	584
1CC	Pioneer 38B87	No-Till	175	25	54	576	1	0	1	27000	3.2	61.0	8.0	2.92	512
1CS	Dekalb DKC50-20	Conv	256	22	54	855	0	0	0	32500	3.3	61.8	7.0	2.94	752
1CS	Dekalb DKC50-20	No-Till	244	26	51	794	0	0	0	30348	3.3	61.5	7.0	2.91	710
1CS	Dekalb DKC51-39	Conv	259	22	53	865	0	0	0	33500	3.3	61.6	7.0	2.94	762
1CS	Dekalb DKC51-39	No-Till	241	27	51	780	0	0	0	32973	3.3	61.3	7.0	2.91	701
1CS	Pioneer 38B87	Conv	227	21	57	764	1	0	1	30500	3.1	60.7	8.0	2.93	664
1CS	Pioneer 38B87	No-Till	211	24	54	697	0	0	0	32348	3.1	61.3	8.0	2.93	618
2C	Dekalb DKC50-20	Conv	239	22	53	801	0	0	0	31500	3.3	61.7	6.3	2.93	701
2C	Dekalb DKC50-20	No-Till	221	26	51	721	0	0	0	32000	3.4	61.6	6.5	2.91	643
2C	Dekalb DKC51-39	Conv	247	23	54	820	3	0	3	32750	3.3	61.8	6.5	2.94	724
2C	Dekalb DKC51-39	No-Till	239	28	52	772	0	0	0	33250	3.3	61.4	7.0	2.91	693
2C	Pioneer 38B87	Conv	219	22	57	736	1	0	1	29250	3.2	61.0	7.5	2.92	640
2C	Pioneer 38B87	No-Till	204	24	55	675	0	0	0	29750	3.1	61.2	7.8	2.93	598
3C	Dekalb DKC50-20	Conv	229	22	54	767	0	0	0	32000	3.3	61.9	6.5	2.93	672
3C	Dekalb DKC50-20	No-Till	209	27	52	678	0	0	0	30500	3.4	61.3	7.0	2.90	605
3C	Dekalb DKC51-39	Conv	238	22	55	794	7	0	7	31000	3.4	61.7	6.8	2.92	695
3C	Dekalb DKC51-39	No-Till	212	28	52	685	6	0	6	30500	3.3	61.5	6.8	2.90	615
3C	Pioneer 38B87	Conv	197	21	56	662	0	0	0	32000	3.2	61.1	7.8	2.94	580
3C	Pioneer 38B87	No-Till	139	18	40	460	0	0	0	29750	3.1	60.9	8.0	2.93	407

continued

Table C-35. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Tillage	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
4C	Dekalb DKC50-20	No-Till	193	31	52	615	0	0	0	27250	3.3	61.3	7.0	2.89	559
4C	Dekalb DKC51-39	Conv	232	23	54	775	2	0	2	31000	3.3	61.9	6.8	2.94	682
4C	Dekalb DKC51-39	No-Till	213	32	51	670	2	0	2	31250	3.3	61.3	7.0	2.89	615
4C	Pioneer 38B87	Conv	214	21	56	719	1	0	1	31500	3.2	61.1	7.8	2.94	629
4C	Pioneer 38B87	No-Till	192	27	53	624	0	0	0	27000	3.2	61.0	7.5	2.92	561
5C	Dekalb DKC50-20	Conv	237	24	53	785	2	0	2	32500	3.3	61.8	6.3	2.94	698
5C	Dekalb DKC50-20	No-Till	211	28	51	679	0	0	0	31388	3.3	61.4	6.6	2.91	612
5C	Dekalb DKC51-39	Conv	239	24	53	790	1	0	1	32750	3.4	61.5	6.5	2.93	700
5C	Dekalb DKC51-39	No-Till	212	31	51	673	0	0	0	31727	3.3	61.2	7.0	2.89	612
5C	Pioneer 38B87	Conv	208	22	56	695	0	0	0	28500	3.1	61.1	8.0	2.94	610
5C	Pioneer 38B87	No-Till	184	25	53	604	0	0	0	29306	3.1	61.0	8.0	2.92	535
Mean			224	24	53	741	1	0	1	31264	3.3	61.4	7.2	2.92	654
Probability(%)															
Rotation (R)			0.4	9.5	31.3	0.1	8.5	46.1	6.5	18.5	23.4	12.7	1.9	28.5	0.4
Variety (V)			0.0	0.0	8.1	0.0	1.0	53.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Tillage (T)			0.0	0.0	0.0	0.0	8.8	12.1	14.0	0.7	21.3	2.7	1.5	0.0	0.0
R x V			19.5	64.3	35.1	18.2	0.9	81.6	0.8	45.4	51.7	22.8	10.6	2.9	18.9
R x T			10.1	0.7	30.2	7.4	76.0	2.7	69.1	16.7	91.4	8.7	30.0	2.0	8.7
V x T			86.4	0.1	28.2	94.8	63.8	53.9	68.2	31.1	86.7	3.2	28.1	0.0	91.2
R x V x T			93.9	78.3	37.5	94.0	91.7	81.6	91.2	25.7	28.7	46.3	80.4	80.1	92.9
LSD(0.10)															
Rotation (R)			21	2	NS	63	1	NS	1	NS	NS	NS	0.2	NS	61
Variety (V)			8	1	1	28	1	NS	1	826	0.0	0.1	0.1	0.00	24
Tillage (T)			7	1	1	23	0	NS	NS	594	NS	0.1	0.1	0.00	20
R x V			NS	NS	NS	NS	2	NS	2	NS	NS	NS	NS	0.01	NS
R x T			NS	3	NS	73	NS	0	NS	NS	NS	0.2	NS	0.01	68
V x T			NS	1	NS	NS	NS	NS	NS	NS	NS	0.1	NS	0.01	NS
R x V x T			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table C-36. Corn/Soybean Rotation Study - Soybean
Arlington, WI - 2008

			Grain		Grower		Seed Composition		Total		
Rotation	Variety	Tillage	Yield	Moisture	return	Lodging	Protein	Oil	Protein	Oil	Pro+oil
			bu/a	%	$/A	1- 5	---- % ----		---- lbs/acre ----		
		Conv	63	13.1	538	1	34.3	19.4	1297	735	2032
		No-Till	62	13.3	531	1	34.6	19.3	1294	725	2020
	Latham 2620RX		64	13.0	545	1	35.1	19.1	1346	732	2077
	Pioneer 92M33		66	13.1	559	1	33.3	20.4	1308	803	2111
	Pioneer 92Y20		59	13.5	501	1	34.9	18.6	1232	656	1889
	Latham 2620RX	Conv	64	13.0	546	1	35.0	19.0	1342	733	2075
	Latham 2620RX	No-Till	64	13.1	544	1	35.3	19.1	1349	731	2080
	Pioneer 92M33	Conv	66	13.0	563	1	33.0	20.5	1306	812	2118
	Pioneer 92M33	No-Till	65	13.2	554	1	33.6	20.3	1311	794	2105
	Pioneer 92Y20	Conv	59	13.4	506	1	34.9	18.5	1242	661	1903
	Pioneer 92Y20	No-Till	58	13.5	496	1	34.9	18.6	1223	652	1875
1st Year Soybean			71	13.1	607	1	34.3	19.3	1467	827	2294
2nd Year Soybean			69	13.3	591	1	34.3	19.3	1425	804	2229
3rd Year Soybean			60	13.3	514	1	34.8	19.2	1261	698	1959
4th Year Soybean			62	13.1	532	1	34.4	19.4	1288	729	2017
5th Year Soybean			53	13.2	447	1	34.6	19.4	1090	612	1703
Soybean/Corn			65	13.2	555	1	34.1	19.2	1330	755	2085
Cont.Soybean			58	13.1	497	1	34.6	19.6	1208	687	1895
1st Year Soybean		Conv	76	13.1	644	1	34.0	19.3	1542	875	2417
1st Year Soybean		No-Till	67	13.2	571	1	34.7	19.3	1393	778	2170
2nd Year Soybean		Conv	70	13.2	599	1	34.0	19.3	1437	818	2254
2nd Year Soybean		No-Till	68	13.3	582	1	34.5	19.3	1413	791	2204
3rd Year Soybean		Conv	61	13.3	522	1	34.5	19.3	1267	713	1980
3rd Year Soybean		No-Till	60	13.4	507	1	35.1	19.1	1254	683	1938
4th Year Soybean		Conv	63	13.1	536	1	34.2	19.4	1290	733	2023
4th Year Soybean		No-Till	62	13.2	527	1	34.7	19.4	1287	724	2011
5th Year Soybean		Conv	51	13.2	433	1	34.7	19.4	1054	593	1647
5th Year Soybean		No-Till	54	13.2	462	1	34.6	19.4	1126	632	1758

continued

Table C-36. Corn/Soybean Rotation Study - Soybean
(continued) **Arlington, WI - 2008**

			Grain		Grower		Seed Composition		Total		
Rotation	Variety	Tillage	Yield	Moisture	return	Lodging	Protein	Oil	Protein	Oil	Pro+oil
			bu/a	%	$/A	1- 5	---- % ----		---- lbs/acre ----		
Soybean/Corn		Conv	67	13.1	573	1	33.7	19.3	1356	781	2137
Soybean/Corn		No-Till	63	13.3	537	1	34.5	19.2	1303	729	2032
Cont.Soybean		Conv	54	12.9	461	1	34.9	19.5	1130	633	1764
Cont.Soybean		No-Till	63	13.3	533	1	34.3	19.7	1285	741	2026
1st Year Soybean	Latham 2620RX		73	12.9	622	1	35.0	19.0	1533	834	2366
1st Year Soybean	Pioneer 92M33		72	13.1	609	1	32.9	20.4	1411	878	2289
1st Year Soybean	Pioneer 92Y20		69	13.4	591	1	35.0	18.5	1458	768	2226
2nd Year Soybean	Latham 2620RX		72	13.0	615	1	34.4	19.4	1491	840	2330
2nd Year Soybean	Pioneer 92M33		72	13.3	617	1	33.5	20.1	1455	872	2327
2nd Year Soybean	Pioneer 92Y20		64	13.5	540	1	34.9	18.4	1329	701	2031
3rd Year Soybean	Latham 2620RX		63	13.2	532	1	35.5	18.8	1332	707	2038
3rd Year Soybean	Pioneer 92M33		66	13.1	561	1	33.7	20.4	1329	807	2136
3rd Year Soybean	Pioneer 92Y20		53	13.7	450	1	35.3	18.3	1121	581	1702
4th Year Soybean	Latham 2620RX		63	13.1	536	1	35.1	19.1	1323	723	2046
4th Year Soybean	Pioneer 92M33		63	13.1	539	1	33.8	20.0	1280	763	2043
4th Year Soybean	Pioneer 92Y20		61	13.3	520	1	34.4	19.1	1262	699	1961
5th Year Soybean	Latham 2620RX		54	13.0	463	1	35.7	18.9	1163	617	1780
5th Year Soybean	Pioneer 92M33		54	13.1	456	1	33.4	20.6	1070	663	1733
5th Year Soybean	Pioneer 92Y20		50	13.5	423	1	34.8	18.7	1038	557	1595
Soybean/Corn	Latham 2620RX		66	13.0	564	1	34.9	18.8	1388	749	2137
Soybean/Corn	Pioneer 92M33		70	13.1	595	1	32.5	20.5	1359	858	2217
Soybean/Corn	Pioneer 92Y20		60	13.4	507	1	34.8	18.4	1242	658	1900
Cont.Soybean	Latham 2620RX		56	13.1	479	1	35.3	19.3	1191	653	1843
Cont.Soybean	Pioneer 92M33		63	12.9	535	1	33.3	20.7	1255	780	2035
Cont.Soybean	Pioneer 92Y20		56	13.3	476	1	35.1	18.7	1177	628	1806
1st Year Soybean	Latham 2620RX	Conv	77	12.8	652	1	34.8	19.0	1597	871	2468
1st Year Soybean	Latham 2620RX	No-Till	70	13.0	593	1	35.2	19.1	1468	797	2265
1st Year Soybean	Pioneer 92M33	Conv	77	13.0	658	1	32.3	20.6	1499	956	2455

continued

Table C-36. Corn/Soybean Rotation Study - Soybean
(continued) **Arlington, WI - 2008**

			Grain		Grower		Seed Composition		Total		
Rotation	Variety	Tillage	Yield	Moisture	return	Lodging	Protein	Oil	Protein	Oil	Pro+oil
			bu/a	%	$/A	1- 5	---- % ----		---- lbs/acre ----		
1st Year Soybean	Pioneer 92M33	No-Till	66	13.2	560	1	33.5	20.3	1322	800	2122
1st Year Soybean	Pioneer 92Y20	Conv	73	13.4	622	1	34.9	18.2	1529	800	2329
1st Year Soybean	Pioneer 92Y20	No-Till	66	13.4	559	1	35.2	18.7	1387	737	2124
2nd Year Soybean	Latham 2620RX	Conv	73	13.0	623	1	34.1	19.4	1497	851	2348
2nd Year Soybean	Latham 2620RX	No-Till	71	13.0	608	1	34.7	19.3	1485	829	2313
2nd Year Soybean	Pioneer 92M33	Conv	74	13.3	632	1	33.3	20.1	1481	894	2375
2nd Year Soybean	Pioneer 92M33	No-Till	71	13.3	601	1	33.7	20.1	1429	850	2278
2nd Year Soybean	Pioneer 92Y20	Conv	64	13.5	543	1	34.8	18.5	1332	708	2040
2nd Year Soybean	Pioneer 92Y20	No-Till	63	13.6	537	1	35.0	18.3	1327	694	2021
3rd Year Soybean	Latham 2620RX	Conv	63	13.2	539	1	35.1	19.0	1332	724	2056
3rd Year Soybean	Latham 2620RX	No-Till	62	13.1	526	1	35.9	18.6	1331	690	2020
3rd Year Soybean	Pioneer 92M33	Conv	68	12.9	576	1	33.3	20.5	1350	834	2184
3rd Year Soybean	Pioneer 92M33	No-Till	64	13.3	545	1	34.0	20.3	1308	781	2088
3rd Year Soybean	Pioneer 92Y20	Conv	53	13.7	450	1	35.2	18.3	1118	582	1700
3rd Year Soybean	Pioneer 92Y20	No-Till	53	13.8	450	1	35.4	18.3	1124	580	1704
4th Year Soybean	Latham 2620RX	Conv	64	13.1	549	1	34.8	19.1	1346	739	2085
4th Year Soybean	Latham 2620RX	No-Till	61	13.1	523	1	35.3	19.2	1300	707	2007
4th Year Soybean	Pioneer 92M33	Conv	62	13.0	528	1	33.7	19.9	1249	745	1993
4th Year Soybean	Pioneer 92M33	No-Till	65	13.2	550	1	34.0	20.1	1312	782	2094
4th Year Soybean	Pioneer 92Y20	Conv	62	13.2	531	1	34.1	19.1	1275	716	1991
4th Year Soybean	Pioneer 92Y20	No-Till	60	13.3	509	1	34.8	19.0	1249	683	1931
5th Year Soybean	Latham 2620RX	Conv	52	12.9	443	1	35.9	18.8	1117	589	1706
5th Year Soybean	Latham 2620RX	No-Till	57	13.0	484	1	35.5	18.9	1210	645	1855
5th Year Soybean	Pioneer 92M33	Conv	52	13.1	440	1	33.3	20.7	1024	643	1667
5th Year Soybean	Pioneer 92M33	No-Till	55	13.2	472	1	33.5	20.5	1115	683	1798
5th Year Soybean	Pioneer 92Y20	Conv	49	13.6	415	1	34.9	18.7	1021	547	1569
5th Year Soybean	Pioneer 92Y20	No-Till	51	13.4	431	1	34.7	18.7	1054	567	1620
Soybean/Corn	Latham 2620RX	Conv	67	12.9	569	1	34.5	18.9	1384	756	2140
Soybean/Corn	Latham 2620RX	No-Till	66	13.2	559	1	35.4	18.8	1391	742	2133

continued

Table C-36. Corn/Soybean Rotation Study - Soybean
(continued) **Arlington, WI - 2008**

			Grain		Grower		Seed Composition		Total		
Rotation	Variety	Tillage	Yield	Moisture	return	Lodging	Protein	Oil	Protein	Oil	Pro+oil
			bu/a	%	$/A	1- 5	---- % ----		---- lbs/acre ----		
Soybean/Corn	Pioneer 92M33	Conv	73	13.0	622	1	31.9	20.6	1396	902	2298
Soybean/Corn	Pioneer 92M33	No-Till	67	13.2	568	1	33.1	20.3	1322	814	2136
Soybean/Corn	Pioneer 92Y20	Conv	62	13.3	528	1	34.6	18.4	1289	685	1974
Soybean/Corn	Pioneer 92Y20	No-Till	57	13.5	486	1	34.9	18.5	1195	632	1827
Cont.Soybean	Latham 2620RX	Conv	52	12.9	446	1	35.7	19.1	1121	601	1722
Cont.Soybean	Latham 2620RX	No-Till	60	13.2	513	1	34.9	19.5	1261	704	1965
Cont.Soybean	Pioneer 92M33	Conv	57	12.6	487	1	33.2	20.8	1141	712	1854
Cont.Soybean	Pioneer 92M33	No-Till	68	13.1	583	1	33.3	20.6	1368	848	2216
Cont.Soybean	Pioneer 92Y20	Conv	53	13.1	449	1	35.6	18.6	1129	587	1716
Cont.Soybean	Pioneer 92Y20	No-Till	59	13.6	502	1	34.6	18.9	1226	670	1896
Mean			63	13.2	535	1	34.4	19.3	1295	730	2026
Probability(%)											
Rotation (R)			0.0	15.1	0.0	-	19.7	45.7	0.0	0.0	0.0
Variety (V)			0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Tillage (T)			35.6	0.0	34.9	-	0.2	70.5	90.0	36.1	66.5
R x V			10.2	11.7	9.9	-	14.6	28.7	11.2	16.5	10.2
R x T			0.0	4.9	0.0	-	0.4	31.8	0.1	0.0	0.0
V x T			90.8	42.8	90.6	-	11.4	17.7	79.7	83.5	89.2
R x V x T			97.0	70.0	97.0	-	92.7	51.8	98.5	91.8	97.3
LSD(0.10)											
Rotation (R)			5	NS	40	-	NS	NS	90	55	143
Variety (V)			2	0.1	15	-	0.3	0.2	36	25	57
Tillage (T)			NS	0.1	NS	-	0.2	NS	NS	NS	NS
R x V			NS	NS	49	-	NS	NS	NS	NS	NS
R x T			5	0.2	44	-	0.6	NS	100	61	159
V x T			NS	0.1	NS	-	NS	NS	NS	NS	NS
R x V x T			NS	NS	NS	-	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

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

Experiment: 09CSW **Trial ID** 3194 **Year:** 2008

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

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 10/20/08 **pH:** 6.2 **OM (%)** 3.3 **P (ppm)** 23 **K (ppm)** 127

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 :	C:28-0-0,W:33-0-0	210/70	6 /1 /08
	Manure:	N/A	N/A	

Herbicide: Honcho plus 24 oz/A 18-Jun-08
Dual II Mag 24 oz/A 30-Apr

Insecticide: none

Rodenticide: Zinc phosphide 5lbs/A, 5/6/08

Irrigation: None

Hybrid: C: DKC5449 DKC5779
S: NK-S25R78
W: Kaskakia,Pioneer 25R78

Planting Date: C:5/6/08,S:5/6/08
Wheat: 10/5/08

Planting Depth: C: 1.5"
S: 1"

Row Width: 30"

Target Plant Density: C: 32500,S: 150000,W: 150 lb/a

Planting Method: Kinze 2000 Interplant planter

Harvest Date: C: 10/14/08,Sil: 9/10/08
S: 10/1/08,W: 7/24/08

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

Notes:

Experimental Design

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

Plot Size Seeded 10' x60' **Experiment Size:** 4.5 acres

Harvest Plot Size: C: 5' x 56',S: 5' x 56',W: 5' x 26'

Factors/Treatments:

Tillage	Rotation	Fongicide
No-Till	Continuous Corn- Soybean or Wheat	C:UTC,Headline SBR,Quadris,-Quilt
Conventional	Alternating Corn - Soybean-Wheat	S:UTC,Headline SBR,Quadris,Quilt
		W:UTC,Quilt @ GS 9.0,Quilt Q GS 10.51
		Proline@ GS 10.51

Results:Tables C-37, C-38, C-39 and C-40.

Table C-37. Corn, Soybean and Wheat Rotation - Corn
Arlington, WI - 2008.

Rotation	Variety	Fungicide	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
		Headline SBR	194	27.3	54	630	1.0	0.7	0.2	31151	3.5	61.0	7.3	2.88	560
		Quadris	201	26.6	54	652	2.9	2.6	0.3	30600	3.5	61.1	7.2	2.89	579
		Quilt	199	27.5	54	643	1.2	0.9	0.3	30801	3.5	61.0	7.6	2.87	572
		UTC	191	25.6	54	626	2.9	2.7	0.2	30774	3.4	61.0	7.3	2.89	553
	DKC54-49		201	28.7	54	646	1.3	0.9	0.4	31050	3.5	61.0	7.2	2.88	578
	DKC57-79		192	24.8	54	630	2.6	2.5	0.2	30613	3.4	61.0	7.5	2.89	554
	DKC54-49	Headline SBR	198	29.7	54	632	0.3	0.0	0.3	31191	3.5	60.9	7.2	2.87	568
	DKC54-49	Quadris	207	28.7	54	665	3.4	2.8	0.6	30680	3.5	61.2	7.0	2.89	591
	DKC54-49	Quilt	203	29.0	54	651	0.5	0.3	0.3	31299	3.5	61.0	7.6	2.86	586
	DKC54-49	UTC	196	27.4	54	635	1.0	0.7	0.3	31030	3.4	61.1	7.2	2.89	567
	DKC57-79	Headline SBR	191	25.0	55	628	1.6	1.5	0.2	31110	3.5	61.1	7.4	2.89	552
	DKC57-79	Quadris	195	24.6	55	640	2.3	2.3	0.0	30519	3.4	61.0	7.5	2.89	566
	DKC57-79	Quilt	194	25.9	54	634	1.9	1.5	0.4	30304	3.4	61.0	7.6	2.88	558
	DKC57-79	UTC	187	23.8	55	617	4.8	4.7	0.1	30519	3.4	60.9	7.4	2.89	540
CC			178	29.2	53	569	0.8	0.4	0.4	30021	3.5	61.0	7.1	2.88	511
CS			197	25.4	54	645	2.7	2.2	0.5	30411	3.5	60.9	7.2	2.89	569
CSW			202	20.2	56	681	4.4	4.3	0.1	31110	3.4	61.0	7.5	2.89	585
CWS			209	32.3	53	656	0.0	0.0	0.0	31783	3.5	61.2	7.6	2.87	598
CC		Headline SBR	168	30.0	54	535	0.4	0.0	0.4	30653	3.5	60.9	7.2	2.87	480
CC		Quadris	190	28.7	54	609	0.7	0.4	0.3	30169	3.4	61.0	7.0	2.88	547
CC		Quilt	179	29.6	53	571	0.9	0.2	0.7	29739	3.4	61.2	7.2	2.87	514
CC		UTC	174	28.5	53	562	1.1	0.9	0.2	29524	3.5	60.9	6.9	2.89	503
CS		Headline SBR	198	25.7	55	646	1.8	1.4	0.4	30922	3.5	60.9	7.0	2.89	572
CS		Quadris	201	24.7	55	661	3.5	2.7	0.9	30062	3.5	61.1	7.1	2.90	582
CS		Quilt	189	25.5	54	619	2.8	2.6	0.2	30062	3.5	60.7	7.4	2.88	544
CS		UTC	200	25.6	54	655	2.6	2.1	0.5	30600	3.4	60.9	7.3	2.89	579
CSW		Headline SBR	205	20.3	57	692	1.7	1.5	0.2	31352	3.4	61.1	7.3	2.90	595
CSW		Quadris	201	21.5	56	672	7.2	7.2	0.0	30600	3.5	61.1	7.5	2.89	588
CSW		Quilt	210	19.8	55	709	1.0	0.7	0.3	31352	3.5	60.8	7.9	2.88	602
CSW		UTC	192	19.5	56	650	7.8	7.8	0.0	31137	3.4	61.1	7.3	2.91	557
CWS		Headline SBR	207	33.4	53	646	0.0	0.0	0.0	31675	3.5	61.2	7.7	2.86	592
CWS		Quadris	212	31.7	53	668	0.0	0.0	0.0	31568	3.5	61.3	7.4	2.88	598
CWS		Quilt	217	35.1	53	671	0.0	0.0	0.0	32052	3.5	61.2	7.8	2.85	628

continued

Table C-37. Corn, Soybean and Wheat Rotation - Corn
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Fungicide	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
CWS		UTC	199	28.9	53	637	0.0	0.0	0.0	31836	3.4	61.0	7.6	2.88	574
CC	DKC54-49		180	31.0	53	570	0.7	0.3	0.4	30519	3.5	61.0	7.0	2.87	516
CC	DKC57-79		175	27.3	54	568	0.8	0.5	0.4	29524	3.4	61.0	7.2	2.89	506
CS	DKC54-49		203	26.9	54	658	1.8	1.0	0.9	31621	3.5	60.9	7.0	2.89	586
CS	DKC57-79		191	23.9	55	632	3.5	3.4	0.1	29201	3.5	60.9	7.3	2.89	552
CSW	DKC54-49		216	22.1	56	724	2.6	2.5	0.1	30626	3.5	61.1	7.3	2.89	626
CSW	DKC57-79		187	18.4	56	638	6.2	6.1	0.2	31594	3.4	61.0	7.7	2.90	544
CWS	DKC54-49		205	34.9	52	631	0.0	0.0	0.0	31433	3.5	61.1	7.7	2.86	584
CWS	DKC57-79		213	29.6	53	680	0.0	0.0	0.0	32132	3.5	61.2	7.6	2.88	613
CC	DKC54-49	Headline SBR	169	33.1	52	528	0.7	0.0	0.7	31191	3.6	60.7	7.2	2.85	480
CC	DKC54-49	Quadris	196	31.0	53	622	0.7	0.0	0.7	30976	3.4	61.1	6.9	2.87	563
CC	DKC54-49	Quilt	191	30.0	53	607	0.4	0.0	0.4	30761	3.4	61.1	6.9	2.87	547
CC	DKC54-49	UTC	164	30.0	52	523	1.1	1.1	0.0	29148	3.5	61.0	6.9	2.88	472
CC	DKC57-79	Headline SBR	167	26.8	55	542	0.0	0.0	0.0	30116	3.4	61.0	7.2	2.89	481
CC	DKC57-79	Quadris	183	26.3	54	596	0.8	0.8	0.0	29363	3.5	60.9	7.2	2.90	530
CC	DKC57-79	Quilt	167	29.1	53	535	1.5	0.4	1.1	28717	3.4	61.3	7.6	2.88	481
CC	DKC57-79	UTC	185	27.0	54	600	1.1	0.7	0.4	29900	3.4	60.9	7.0	2.89	534
CS	DKC54-49	Headline SBR	202	28.1	54	650	0.4	0.0	0.4	31406	3.5	60.7	6.8	2.89	584
CS	DKC54-49	Quadris	206	26.3	54	670	3.6	1.8	1.8	31191	3.5	61.1	6.8	2.90	597
CS	DKC54-49	Quilt	199	25.7	54	651	1.4	1.0	0.3	32052	3.5	60.9	7.3	2.87	573
CS	DKC54-49	UTC	204	27.4	53	660	2.1	1.1	1.0	31836	3.4	60.9	7.2	2.89	590
CS	DKC57-79	Headline SBR	193	23.2	55	641	3.2	2.8	0.4	30438	3.5	61.1	7.1	2.90	560
CS	DKC57-79	Quadris	196	23.0	55	651	3.5	3.5	0.0	28932	3.5	61.1	7.3	2.89	567
CS	DKC57-79	Quilt	179	25.3	54	586	4.2	4.2	0.0	28072	3.4	60.5	7.5	2.88	514
CS	DKC57-79	UTC	196	23.9	55	649	3.2	3.2	0.0	29363	3.5	60.9	7.5	2.89	568
CSW	DKC54-49	Headline SBR	223	22.4	56	745	0.0	0.0	0.0	30868	3.5	61.1	7.1	2.90	648
CSW	DKC54-49	Quadris	218	22.8	56	728	9.5	9.5	0.0	29685	3.5	61.2	7.2	2.89	632
CSW	DKC54-49	Quilt	208	21.9	55	696	0.3	0.0	0.3	30868	3.5	60.6	8.1	2.86	594
CSW	DKC54-49	UTC	216	21.3	57	727	0.7	0.7	0.0	31084	3.4	61.5	6.9	2.92	631

continued

Table C-37. Corn, Soybean and Wheat Rotation - Corn
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Fungicide	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Stalk	Lodged Root	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
CSW	DKC57-79	Headline SBR	187	18.2	57	639	3.3	3.0	0.3	31836	3.4	61.1	7.5	2.90	542
CSW	DKC57-79	Quadris	183	20.2	56	617	4.9	4.9	0.0	31514	3.4	60.9	7.8	2.90	543
CSW	DKC57-79	Quilt	211	17.7	55	723	1.7	1.4	0.3	31836	3.4	61.1	7.7	2.89	609
CSW	DKC57-79	UTC	167	17.6	56	573	15.0	15.0	0.0	31191	3.4	60.7	7.8	2.89	483
CWS	DKC54-49	Headline SBR	197	35.2	52	604	0.0	0.0	0.0	31299	3.4	61.0	7.8	2.85	561
CWS	DKC54-49	Quadris	207	34.6	53	638	0.0	0.0	0.0	30868	3.5	61.3	7.1	2.88	572
CWS	DKC54-49	Quilt	216	38.6	53	651	0.0	0.0	0.0	31514	3.5	61.2	8.0	2.82	628
CWS	DKC54-49	UTC	200	31.2	52	629	0.0	0.0	0.0	32052	3.4	61.0	7.8	2.87	574
CWS	DKC57-79	Headline SBR	218	31.6	53	688	0.0	0.0	0.0	32052	3.5	61.3	7.7	2.86	624
CWS	DKC57-79	Quadris	217	28.8	53	697	0.0	0.0	0.0	32267	3.4	61.3	7.7	2.88	624
CWS	DKC57-79	Quilt	219	31.5	53	691	0.0	0.0	0.0	32589	3.4	61.2	7.5	2.87	628
CWS	DKC57-79	UTC	198	26.6	53	646	0.0	0.0	0.0	31621	3.4	61.0	7.4	2.90	575
Mean			196	26.8	54	638	2.0	1.7	0.3	30831	3.5	61.0	7.4	2.88	566
Probability (%):															
Rotation (R)			15	0.1	0	8	10.5	7.7	0.3	11	95.0	40.7	3.4	1.05	15
Variety (V)			6	0.1	1	21	28.0	21.2	5.9	40	17.5	90.7	5.4	1.71	9
Fungicide (F)			14	0.7	15	23	37.7	35.7	72.8	54	32.0	73.5	0.3	0.00	20
R x V			8	77.2	39	2	68.0	66.8	1.2	10	43.5	86.2	43.3	9.74	7
R x F			21	0.8	75	23	68.5	61.2	27.2	90	24.0	65.6	16.5	10.04	18
V x F			93	55.3	33	91	40.5	47.2	8.7	62	13.8	26.1	9.9	8.64	97
R x V x F			4	26.6	48	2	47.7	45.1	10.1	46	47.0	57.7	3.2	6.59	3
LSD(0.10)															
Rotation (R)			NS	2.9	1	68	NS	2.9	0.2	NS	NS	NS	0.3	0.01	NS
Variety (V)			8	1.4	0	NS	NS	NS	0.2	NS	NS	NS	0.2	0.01	23
Fungicide (F)			NS	0.9	NS	NS	NS	NS	NS	NS	NS	NS	0.2	0.01	NS
R x V			23	NS	NS	67	NS	NS	0.3	NS	NS	NS	NS	0.01	66
R x F			NS	2.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
V x F			NS	NS	NS	NS	NS	NS	0.3	NS	NS	NS	0.2	0.01	NS
R x V x F			27	NS	NS	82	NS	NS	NS	NS	NS	NS	0.5	0.02	78

Table C-38. Corn, Soybean and Wheat Rotation - Silage
Arlington, WI - 2008.

			Whole Plant										
		Plant	Dry Matter		Kernel	Crude			*In Vitro*			Milk per	
Variety	Fungicide	population	Yield	Moisture	milk	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
		plants/A	tons/A	%	%	%	%	%	%	%	%	lbs/T	lbs/T
	Headline SBR	33167	6.7	63.5	75.8	6.2	24.3	47.3	80.7	59.3	27.5	3204.8	21551
	Quadris	34000	7.1	63.3	81.7	6.2	23.2	44.8	81.8	59.5	29.3	3254.9	23346
	Quilt	34000	6.9	65.3	86.7	6.2	24.5	46.8	80.7	58.8	26.7	3185.6	21919
	UTC	34833	7.1	63.5	75.0	6.0	25.3	47.2	78.8	55.2	28.5	3106.8	22233
DKC54-49		33667	7.2	63.6	82.1	6.1	23.1	44.8	81.3	58.4	29.8	3246.2	23557
DKC57-79		34333	6.7	64.1	77.5	6.2	25.6	48.3	79.7	58.0	26.2	3129.8	20967
DKC54-49	Headline SBR	33333	6.8	64.0	80.0	6.3	23.0	45.7	82.3	61.3	29.3	3310.6	22678
DKC54-49	Quadris	33333	7.3	63.5	78.3	6.0	22.3	43.3	82.3	59.2	30.3	3260.2	23907
DKC54-49	Quilt	32667	7.5	63.4	86.7	6.0	22.7	44.7	81.3	58.2	30.0	3266.7	24657
DKC54-49	UTC	35333	7.3	63.6	83.3	6.0	24.3	45.7	79.3	54.8	29.7	3147.6	22985
DKC57-79	Headline SBR	33000	6.6	62.9	71.7	6.0	25.7	49.0	79.0	57.2	25.7	3099.1	20423
DKC57-79	Quadris	34667	7.0	63.1	85.0	6.3	24.0	46.3	81.3	59.7	28.3	3249.7	22786
DKC57-79	Quilt	35333	6.2	67.1	86.7	6.3	26.3	49.0	80.0	59.4	23.3	3104.5	19181
DKC57-79	UTC	34333	7.0	63.4	66.7	6.0	26.3	48.7	78.3	55.6	27.3	3066.1	21480
Mean		34000	7.0	63.9	79.8	6.1	24.3	46.5	80.5	58.2	28.0	3188	22262
Probability (%):													
Variety (V)		33.4	34.0	75.5	10.4	50.6	0.9	1.4	3.1	57.5	2.9	3.0	10.2
Fungicide (F)		65.1	85.1	79.0	2.4	71.0	65.5	68.4	35.0	6.6	71.7	56.4	84.7
V x F		14.5	75.1	37.1	3.8	21.0	78.4	96.7	54.3	8.7	63.9	43.9	72.8
LSD(0.10)													
Variety (V)		NS	NS	NS	NS	NS	1.4	2.0	1.2	NS	2.6	82.189	NS
Fungicide (F)		NS	NS	NS	6.6	NS	NS	NS	NS	2.8	NS	NS	NS
V x F		NS	NS	NS	9.3	NS	NS	NS	NS	3.1	NS	NS	NS

Table C-39. Corn, Soybean and Wheat Rotation - Soybean Arlington, WI - 2008.

Rotation	Fungicide	Yield	Moisture	Grower return	Lodging	Seed Composition Protein	Seed Composition Oil	Total Protein	Total Oil	Protein + Oil
		bu/A	%	$/A	1 to 5	%	%	lbs/A	lbs/A	lbs/A
	Headline SBR 7.8 fl oz/a @ R3	50	14.8	424	1	32.8	20.8	980	621	1601
	Quadris 6 fl oz/a @ R3	50	14.5	420	1	32.6	20.8	967	616	1583
	Quilt 14 fl oz/a @ R3	50	14.6	424	1	32.2	20.9	964	625	1589
	UTC	49	14.6	415	1	32.8	20.8	958	609	1567
SC		44	14.5	378	1	32.4	21.0	863	560	1423
SCeW		54	15.1	457	1	32.5	20.6	1044	667	1711
SS		40	13.9	340	1	32.5	21.2	780	509	1289
SWC		60	15.1	508	1	33.0	20.5	1182	736	1918
SC	Headline SBR 7.8 fl oz/a @ R3	44	14.8	375	1	32.6	20.8	862	553	1415
SC	Quadris 6 fl oz/a @ R3	44	14.0	373	1	32.5	21.0	853	552	1405
SC	Quilt 14 fl oz/a @ R3	43	14.7	363	1	31.9	21.1	820	543	1363
SC	UTC	47	14.4	400	1	32.5	21.0	915	592	1507
SCeW	Headline SBR 7.8 fl oz/a @ R3	55	14.9	464	1	32.7	20.5	1066	675	1742
SCeW	Quadris 6 fl oz/a @ R3	53	15.4	451	1	32.4	20.7	1031	660	1691
SCeW	Quilt 14 fl oz/a @ R3	55	15.1	468	1	32.3	20.5	1061	683	1744
SCeW	UTC	52	14.8	444	1	32.6	20.7	1019	650	1669
SS	Headline SBR 7.8 fl oz/a @ R3	40	14.0	341	1	33.0	21.1	794	509	1303
SS	Quadris 6 fl oz/a @ R3	40	13.6	344	1	32.5	21.1	788	511	1299
SS	Quilt 14 fl oz/a @ R3	42	13.8	354	1	31.8	21.4	793	536	1329
SS	UTC	38	14.1	322	1	32.8	21.1	745	479	1224
SWC	Headline SBR 7.8 fl oz/a @ R3	61	15.5	514	1	32.9	20.5	1196	747	1944
SWC	Quadris 6 fl oz/a @ R3	61	15.0	514	1	33.0	20.4	1196	742	1939
SWC	Quilt 14 fl oz/a @ R3	60	14.9	509	1	32.9	20.5	1181	738	1919
SWC	UTC	58	15.0	494	1	33.2	20.5	1153	716	1869
Mean		50	14.6	421	1	32.6	20.8	967	618	1585
Probability (%):										
Rotation (R)		8.4	0.0	8.6	-	90.1	6.3	4.7	12.4	6.9
Fungicide (F)		93.8	69.0	94.1	-	48.0	70.3	91.6	92.9	94.3
R x F		95.7	31.2	95.6	-	99.3	89.2	90.9	96.7	93.5
LSD(0.10)										
Rotation (R)		13	0.3	112	-	NS	0.4	233	NS	398
Fungicide (F)		NS	NS	NS	-	NS	NS	NS	NS	NS
R x F		NS	NS	NS	-	NS	NS	NS	NS	NS

Table C-40. Corn, Soybean and Wheat Rotation - Wheat
Arlington, WI - 2008.

Rotation	Variety	Fungicide	Yield	Moisture	Test weight	Grower return	Height	Lodging
			bu/A	%	lbs/bu	S/A	inches	1 to 5
		Proline @ Feekes GS 10.51	77	14.2	59	345	33	1
		Proline @ Feekes GS 7.5	70	13.3	58	311	33	1
		Proline @ Feekes GS 8	71	13.3	58	315	33	1
		UTC	69	13.4	58	306	33	1
	Kaskaskia		67	13.9	60	298	34	1
	P25R47		76	13.1	57	341	31	1
	Kaskaskia	Proline @ Feekes GS 10.51	71	14.6	61	318	34	1
	Kaskaskia	Proline @ Feekes GS 7.5	65	13.6	59	289	34	1
	Kaskaskia	Proline @ Feekes GS 8	66	13.7	59	294	34	1
	Kaskaskia	UTC	65	13.7	60	290	34	1
	P25R47	Proline @ Feekes GS 10.51	84	13.7	58	373	31	1
	P25R47	Proline @ Feekes GS 7.5	74	12.9	57	333	31	1
	P25R47	Proline @ Feekes GS 8	75	12.9	57	337	32	1
	P25R47	UTC	72	13.0	57	322	31	1
WCS			87	13.9	59	387	35	1
WSC			64	13.2	58	287	32	1
WW			57	13.5	59	253	31	1
WsSCs			79	13.4	58	351	33	1
WCS		Proline @ Feekes GS 10.51	88	14.3	60	391	35	1
WCS		Proline @ Feekes GS 7.5	87	13.5	58	390	35	1
WCS		Proline @ Feekes GS 8	89	13.9	60	399	35	1
WCS		UTC	82	13.9	59	367	35	1
WSC		Proline @ Feekes GS 10.51	72	13.9	59	322	32	1
WSC		Proline @ Feekes GS 7.5	59	13.0	58	262	32	1
WSC		Proline @ Feekes GS 8	61	13.0	57	270	32	1
WSC		UTC	66	13.1	58	294	32	1
WW		Proline @ Feekes GS 10.51	58	14.1	60	257	30	1
WW		Proline @ Feekes GS 7.5	59	13.4	59	262	31	1
WW		Proline @ Feekes GS 8	56	13.4	59	250	31	1
WW		UTC	54	13.3	59	242	31	1
WsSCs		Proline @ Feekes GS 10.51	92	14.3	59	411	33	1
WsSCs		Proline @ Feekes GS 7.5	74	13.2	58	330	33	1
WsSCs		Proline @ Feekes GS 8	76	13.0	57	342	33	1
WsSCs		UTC	72	13.2	57	322	33	1
WCS	Kaskaskia		81	14.3	60	359	38	1
WCS	P25R47		93	13.5	58	415	33	1
WSC	Kaskaskia		60	13.7	59	269	33	1
WSC	P25R47		68	12.8	57	305	31	1
WW	Kaskaskia		55	14.2	61	244	32	1
WW	P25R47		58	12.9	58	261	29	1
WsSCs	Kaskaskia		71	13.5	59	319	34	1
WsSCs	P25R47		86	13.3	57	384	32	1

continued

Table C-40. Corn, Soybean and Wheat Rotation - Wheat
(continued) **Arlington, WI - 2008.**

Rotation	Variety	Fungicide	Yield	Moisture	Test weight	Grower return	Height	Lodging
			bu/A	%	lbs/bu	S/A	inches	1 to 5
WCS	Kaskaskia	Proline @ Feekes GS 10.51	83	14.8	62	370	37	1
WCS	Kaskaskia	Proline @ Feekes GS 7.5	74	14.0	60	329	38	1
WCS	Kaskaskia	Proline @ Feekes GS 8	85	14.2	60	380	38	1
WCS	Kaskaskia	UTC	80	14.1	60	356	37	1
WCS	P25R47	Proline @ Feekes GS 10.51	92	13.7	58	412	33	1
WCS	P25R47	Proline @ Feekes GS 7.5	101	13.1	57	451	32	1
WCS	P25R47	Proline @ Feekes GS 8	94	13.5	59	419	33	1
WCS	P25R47	UTC	85	13.7	58	378	32	1
WSC	Kaskaskia	Proline @ Feekes GS 10.51	67	14.5	61	298	33	1
WSC	Kaskaskia	Proline @ Feekes GS 7.5	53	13.2	59	236	33	1
WSC	Kaskaskia	Proline @ Feekes GS 8	63	13.5	59	280	33	1
WSC	Kaskaskia	UTC	59	13.5	59	263	33	1
WSC	P25R47	Proline @ Feekes GS 10.51	78	13.4	58	347	31	1
WSC	P25R47	Proline @ Feekes GS 7.5	64	12.7	57	287	31	1
WSC	P25R47	Proline @ Feekes GS 8	58	12.5	55	261	31	1
WSC	P25R47	UTC	73	12.7	57	325	31	1
WW	Kaskaskia	Proline @ Feekes GS 10.51	54	14.7	61	241	32	1
WW	Kaskaskia	Proline @ Feekes GS 7.5	56	13.8	60	248	32	1
WW	Kaskaskia	Proline @ Feekes GS 8	53	14.0	60	237	32	1
WW	Kaskaskia	UTC	56	14.1	61	250	32	1
WW	P25R47	Proline @ Feekes GS 10.51	61	13.6	58	273	29	1
WW	P25R47	Proline @ Feekes GS 7.5	62	13.1	58	276	29	1
WW	P25R47	Proline @ Feekes GS 8	59	12.7	57	262	30	1
WW	P25R47	UTC	52	12.4	57	233	30	1
WsSCs	Kaskaskia	Proline @ Feekes GS 10.51	81	14.3	60	363	34	1
WsSCs	Kaskaskia	Proline @ Feekes GS 7.5	76	13.6	59	341	34	1
WsSCs	Kaskaskia	Proline @ Feekes GS 8	62	13.0	58	279	34	1
WsSCs	Kaskaskia	UTC	65	13.3	58	292	34	1
WsSCs	P25R47	Proline @ Feekes GS 10.51	103	14.3	58	459	32	1
WsSCs	P25R47	Proline @ Feekes GS 7.5	71	12.9	57	318	32	1
WsSCs	P25R47	Proline @ Feekes GS 8	90	13.0	56	404	32	1
WsSCs	P25R47	UTC	79	13.1	56	353	32	1
Mean			72	13.5	59	319	33	1
Probability (%):								
Rotation (R)			2.5	4.0	13.6	2.5	1.9	-
Variety (V)			0.3	0.0	0.0	0.3	0.0	-
Fungicide (F)			2.1	0.0	0.0	2.4	41.4	-
R x V			41.5	12.0	35.2	42.5	4.2	-
R x F			26.0	43.7	14.2	25.9	90.7	-
V x F			87.8	97.8	56.7	86.5	28.1	-
R x V x F			10.6	49.2	68.9	10.4	63.5	-
LSD(0.10)								
Rotation (R)			15	0.3	NS	65	2	-
Variety (V)			4	0.2	0	19	1	-
Fungicide (F)			5	0.2	0	23	NS	-
R x V			NS	NS	NS	NS	NS	-
R x F			NS	NS	NS	NS	NS	-
V x F			NS	NS	NS	NS	NS	-
R x V x F			NS	NS	NS	NS	NS	-

FIELD EXPERIMENT HISTORY

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

Experiment: 09 CSW Rotation **Trial ID:** 08V90 **Year:** 2008

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: Spring chisel plow, Field cultivator
W: Fall chisel plow, Field cultivator
C: Cultivated

Fertilizer:

	Analysis	Rate	Date	Crop
Preplant	9-11-30	150 lb/A	5/19/2008	Soybean and Wheat
Starter	9-11-30	150 lb/A	Planting	Corn
Post plant	28-0-0	27 gal/A	7/3/2008	Corn- Alternating
Post plant	28-0-0	40 gal/A	7/3/2008	Corn- Continuous & GSI
Post plant	46-0-0	100 lb/A	5/16/2008	Wheat- GSI
Post plant	46-0-0	165 lb/A	5/16/2008	Wheat- Continuous
Manure	none	N/A	N/A	

Herbicide:
C,S Dual II Magnum 1.33 pt
C,S Roundup WeatherMax 21 oz, 20 oz
S Fusilade 4 oz
W 2,4-D Amine 1 pt

Insecticide: None

Irrigation: None

Hybrid: Corn: Croplan 364 VT3 (97 BT,RR,CR)
Soybean: Dahlco 6100RR (1.0)
Wheat: Kaltenberg KW62

Planting Date: C,S: 5/16/2008 W: 10/30/2007 **Planting Depth:** C: 1.5" S,W: 1" **Row Width:** C: 30" S,W: 6"

Target Plant Density: C: 33,500 S: 200,000 W: 1,330,000 **Planting Method:** C: John Deere 1750 planter S,W: John Deere 450 Drill

Harvest Date: C: 11/4/2008 CS: 10/2/2008 S: 10/9/2008 W: 8/5/2008 **Harvest Method:** C,CS: hand harvested S,W: John Deere plot combine

Notes: Third 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: Tables C-41, C-42, C-43 and C-44.

Table C-41. Corn, Soybean, and Wheat Rotation- Corn. Marshfield, WI - 2008.

Rotation	Yield	Moisture	Test weight	Harvest population	Stalk lodging
	bu/A	%	in.	ppa	%
Continuous Corn	164.2	27.4	50.1	31,750	0.0
Alternating	169.9	26.3	50.4	32,234	0.1
Grain System I	175.6	26.8	50.0	32,815	0.0
Mean	169.9	26.8	50.2	32,267	0.0
Probability (%)					
Treatment	23.1	35.0	>50	17.9	38.4
LSD 10%					
Treatment	NS	NS	NS	948	NS
CV (%)	8	5	2	4	519

Table C-42. Corn, Soybean, and Wheat Rotation- Corn Silage. Marshfield, WI - 2008.

Rotation	Yield	Moisture	Kernel milk	Harvest population	CP	ADF	NDF	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
	tn dm/A	%	%	ppa	%	%	%	%	%	%	%	lb	lb
Continuous	7.9	62.9	53	31,944	7.9	19.8	41.1	65.0	46.9	38.0	68.3	3378	26,829
Alternating	8.2	64.1	52	32,815	7.5	21.2	42.9	65.3	45.3	36.2	67.9	3346	27,268
Grain System I	8.2	63.8	52	31,654	7.9	19.7	40.8	65.2	47.1	38.2	68.4	3386	27,710
Mean	8.1	63.6	52	32,138	7.8	20.2	41.6	65.2	46.5	37.5	68.2	3370	27,269
Probability (%)													
Treatment	>50	>50	>50	>50	1.3	30.4	28.1	>50	46.6	>50	>50	>50	>50
LSD 10%													
Treatment	NS	NS	NS	NS	0.2	NS	NS	NS	NS	NS	NS	NS	NS
CV (%)	11	4	16	7	1	6	4	2	4	6	1	2	13

Table C-43. Corn, Soybean, and Wheat Rotation- Soybean. Marshfield, WI - 2008.

Rotation	Yield	Moisture	Test weight	Height	Lodging
	bu/A	%	lb/bu	in.	1 to 5
Continuous Soybean	26.9	14.7	57.9	25	1.1
Alternating	33.4	14.8	57.4	30	1.6
Grain System I	34.3	14.9	58.3	27	1.3
Mean	31.5	14.8	57.9	27	1.3
Probability (%)					
Treatment	0.2	1.1	<0.1	4.1	8.6
LSD 10%					
Treatment	3.4	0.1	0.3	3	0.3
CV (%)	14	1	1	14	30

Table C-44. Corn, Soybean, and Wheat Rotation- Wheat. Marshfield, WI - 2008.

Rotation	Yield	Moisture	Test weight
	bu/A	%	lb/bu
Continuous Wheat	42.3	21.1	52.7
Grain System I	58.1	19.5	55.3
Mean	50.2	20.3	54.0
Probability (%)			
Treatment	<0.1	1.6	<0.1
LSD 10%			
Treatment	4.3	1.0	0.9
CV (%)	10	6	2

FIELD EXPERIMENT HISTORY

Title: **Foliar Fungicide Timing**

Experiment: 10 Fungicides **Year:** 2008

Personnel: J.G. Lauer, K.D. Kohn and T. Diallo **Trial ID:** 3115

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

Supported By: Syngenta Crop Protection

Site Information

Field: ARS375 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 7.2 **OM (%)** 2.1 **P (ppm)** 38 **K (ppm)** 175

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/17/08

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: Dual II Mag 1.5 pt/A
Hornet 4.0 oz/A

Insecticide: None

Hybrid: Dekalb DKC50-20

Irrigation: None

Planting Date: 5/6/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 30000 **plants per acre** **Planting Method:** Kinze 3000 Row Planter

Harvest Date: 9/12/08 **Harvest Method:** New Holland 707 Chopper

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

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.2 Acre

Harvest Plot Size: 2.5' x 23' **Harvest Plant Density:** 29390 **plants per acre**

Factors/Treatments:

Observation Ratings:	Application:	Application Dates:	Temp, Humidity, Clouds, Wind Speed & Direction
Disease (% leaf area affected).	1). A15909 @ 14 oz/A at V5	V5 - June 13	V5 - 76, 30%, 49%, 4-6 W
0. Best (healthy)	2). A15909 @ 7 oz/A at V5	V7 - June 23	V7 - 72, 30%, 53%, 0-5 NW
5. Moderate	3). A15909 @ 14 oz/A at V7	R1 - July 24	R1 - 79, 50%, 47%, 8-10 S-SE
10. Poor (diseased)	4). A15909 @ 7 oz/A at V7		
	5). A15909 @ 14 oz/A at R1		
Stalk Quality	6). A15909 @ 7 oz/A at V5 & 14 oz/A at R1		
0. Weak	7). UTC		
5. Strong			

Results: Table C-45.

Table C-45. A15909 Foliar Fungicide Timing and the Effect on Silage Performance. Arlington, WI - 2008.

Treatment	Dry Matter yield	Moisture	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Harvest Plants	Harvest Ears	Lodged stalk	Stalk quality
	tons/A	%	%				plants/A	ears/A	%	0-5
14 oz/A at V5	8.9	63.7	63	3.1	1.2	4.3	29894	31380	1	4.8
7 oz/A at V5	9.1	63.8	69	3.4	1.3	4.7	30080	31751	0	5.0
14 oz/A at V7	9.1	64.8	63	3.1	1.5	4.6	28594	30080	0	4.8
7 oz/A at V7	8.8	64.0	69	3.4	1.2	4.6	29151	30265	0	5.0
14 oz/A at R1	8.4	63.6	56	2.8	1.2	4.0	28594	29708	0	5.0
7 oz/A at V5 & 14 oz/A at R1	8.6	64.3	69	3.4	1.3	4.7	28966	30265	0	5.0
UTC	9.2	61.8	69	3.4	1.2	4.6	30451	31565	0	5.0
Mean	8.9	63.7	65	3.3	1.2	4.5	29390	30716	0	4.9
Probability(%)										
Treatment	71.4	78.2	60.7	60.7	50.8	66.2	0.4	0.4	45.5	45.5
LSD (0.10)										
Treatment	NS	NS	NS	NS	NS	NS	833	911	1	NS

continued

Table C-45. A15909 Foliar Fungicide Timing and the Effect on Silage Performance.

(continued) **Arlington, WI - 2008.**

Treatment	Crude protein	ADF	NDF	*In Vitro* Digest	NDFD	Starch	Milk per Ton	Milk per Acre	Disease Severity (observation day of year) 165	179	193	207	221	235	249
	%	%	%	%	%	%	lbs/T	lbs/A	----------	----------	----------	0-10	----------	----------	----------
14 oz/A at V5	5.9	22.2	41.7	80.4	53.1	36.7	3198	28539	0.0	0.0	0.0	1.5	2.5	4.0	5.5
7 oz/A at V5	6.1	21.6	41.5	80.6	53.2	36.6	3209	29290	0.0	0.0	0.0	1.0	2.0	3.8	6.0
14 oz/A at V7	5.9	23.2	43.4	79.9	53.8	34.9	3151	28803	0.0	0.0	0.0	1.3	2.5	4.0	5.3
7 oz/A at V7	5.7	23.7	44.0	79.2	52.8	33.8	3108	27495	0.0	0.0	0.0	1.3	2.5	4.0	6.0
14 oz/A at R1	5.4	23.0	43.5	80.0	53.9	34.9	3159	26594	0.0	0.0	0.0	0.8	1.8	4.0	5.3
7 oz/A at V5 & 14 oz/A at R1	6.0	22.9	43.6	80.3	54.8	33.9	3173	27175	0.0	0.0	0.0	1.8	2.3	4.3	5.0
UTC	6.0	21.9	41.4	80.5	52.9	36.9	3205	29481	0.0	0.0	0.0	1.8	2.5	4.3	6.0
Mean	5.8	22.6	42.7	80.1	53.5	35.4	3172	28197	0.0	0.0	0.0	1.3	2.3	4.0	5.6
Probability(%)															
Treatment	26.3	73.6	61.7	89.5	54.6	48.1	86.6	76.9	-	-	-	49.9	45.5	78.8	11.7
LSD (0.10)															
Treatment	NS	NS	NS	NS	NS	NS	NS	NS	-	-	-	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **Corn Foliar Photosynthetic Upregulator Study**

Experiment: 11 Misc **Trial ID:** 3120 **Year:** 2008

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

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

Supported By: BiAgro Western

Site Information

Field: ARS375 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/4 /08 **pH:** 7.2 **OM (%)** 2.1 **P (ppm)** 38 **K (ppm)** 175

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/17/08

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: Dual II Mag 1.5 pt/A
Hornet 4.0 oz/A

Insecticide: None

Hybrid: Dekalb DKC50-20

Irrigation: None

Planting Date: 5/6/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 30000 **plants per acre** **Planting Method:** Kinze 3000 Row Planter

Harvest Date: 10/10/08 **Harvest Method:** Massey 8XP

Experimental Design

Design: RCB **Replications:** 6

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.26 Acre

Harvest Plot Size: 5' x 23' **Harvest Plant Density:** 30334 **plants per acre**

Factors/Treatments:

Application Dates:

V5 - June 13
V10 - July 8
R1 - July 24

Application of Take Off:

1) 3.0 l/a @ V4-5
2) 3.0 l/a @ V4-5 & 3.0 l/a @ V8-10
3) 3.0 l/a @ V4-5 & 3.0 l/a @ V8-10 & 3.0 l/a @ R1
4) UTC

Results: Table C-46.

Table C-46. BiAgro Corn Foliar Photosynthetic Upregulator Study. Arlington, WI - 2008.

Treatment	Harvest population	Grain yield	Grain moisture	Test weight	Root lodging	Stalk lodging	Grower return
	plants/A	bu/A	%	lb/bu	%	%	$/A
3.0 l/a @ V4-5	30303	207	22.0	54	0.0	0.0	693
3.0 l/a @ V4-5 & 3.0 l/a @ V8-10	30050	197	22.1	54	0.2	0.0	659
3.0 l/a @ V4-5 & 3.0 l/a @ V8-10 & 3.0 l/a @ R1	30303	209	22.8	54	0.0	0.2	695
UTC	30681	204	21.6	54	0.2	0.0	685
Mean	30334	204	22.1	54	0.1	0.1	683
Probability(%)							
Treatment (T)	67.8	53.6	14.9	59.1	58.5	42.0	53.9
LSD(0.10)							
Treatment (T)	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Evaluation**

Experiment: Low Starch Study **Trial ID:** 08C57 **Year:** 2008

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

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

Supported by: Marshfield Ag. Research Station, UWEX Team Forage

Site Information

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

Soil Test : **Date:** 10/1/08 **pH** 7.1 **SOM (%)** 2.9 **P (ppm)** 73 **K (ppm)** 242

Plot Management

Tillage Operations: Fall Chisel plow Field Cultivator Cultivate 6/17/08

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	330 lb/A	4/30/2008
Starter	10-34-0	3 gal/A	Planting
Post plant	none	N/A	N/A
Manure	Liquid Dairy	4,300 gal/A	10/31/2007

Herbicide: Hornet WDG 4 oz/A
Dual II Magnum 1.5 pt/A
Accent SP 0.33 oz/A

Insecticide: Force 3G 4.4lbs/A

Irrigation: None **Hybrid:** varies

Planting Date: 5/20/2008 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 10/14/2008 **Harvest Method:** Hew Holland 707 Plot Chopper

Notes:

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 25' x 10' **Experiment Size:** 0.28 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
Dekalb DKC50-44	Check (100 RM)	35,000 ppa

Results: Table C-47.

Table C-47. Low Starch Corn Silage Evaluation.
Arlington, WI 2008.

Treatment		Yield	Moist	Plant height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
		tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Dekalb	DKB393	9.3	76.6	12.1	0	7.4	35.1	60.8	4.6	63.4	26.5	3.9	56.3	2,522	23,342
Dekalb	DKB499	7.9	74.8	12.6	0	6.9	35.7	62.0	5.3	61.2	26.1	3.3	54.5	2,353	18,488
Dekalb	DKB789	8.4	75.5	12.3	3	6.6	35.4	60.4	5.3	59.7	27.8	4.7	53.7	2,266	19,146
Agroceres	AG1051	7.3	78.2	13.3	1	6.6	38.5	65.4	5.7	59.5	23.1	2.7	54.5	2,333	17,121
Agroceres	AG2060	7.5	75.0	12.8	1	6.4	34.8	61.2	5.2	60.4	27.5	5.1	54.5	2,342	17,523
Pioneer	30F34	6.6	75.2	11.0	1	7.3	29.1	53.8	4.2	64.0	33.4	9.0	56.6	2,549	16,709
Hytest	HT92-90W	8.8	75.1	12.4	0	6.7	35.5	62.2	5.4	61.1	26.1	3.8	54.6	2,362	20,719
Kaltenberg	KB105LF (Leafy)	7.9	46.3	10.5	0	6.9	23.3	41.4	4.0	57.1	46.8	34.5	64.5	2,999	23,717
Kaltenberg	Male Sterile	2.2	64.0	7.9	0	10.4	28.0	51.9	3.7	62.4	32.2	5.6	54.4	2,370	5,317
Dekalb	DKC50-44 (Check)	8.4	45.3	9.5	0	6.9	18.9	34.1	3.2	59.2	54.1	43.6	67.2	3,225	26,944
Mean		7.4	68.6	11.4	1	7.2	31.4	55.3	4.6	60.8	32.4	11.6	57.1	2,532	18,902
Probability (%)															
Treatment		<0.1	<0.1	<0.1	28.1	<0.1	<0.1	<0.1	6.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
LSD 10%															
Treatment		0.8	3.6	0.5	NS	0.5	1.2	1.9	0.3	2.0	1.9	1.6	1.1	109	2,113
CV (%)		9	4	3	280	6	3	3	5	3	5	12	2	4	9

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Evaluation**

Experiment: Low Starch Study **Trial ID:** 08C56 **Year:** 2008

Personnel: M.G. Bertram

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

Supported by: Marshfield Ag. Research Station, UWEX Team Forage

Site Information

Field: W8 **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam

Soil Test : **Date:** 10/30/06 **pH** 6.7 **SOM (%)** 3.2 **P (ppm)** 32 **K (ppm)** 79

Plot Management

Tillage Operations: Fall Chisel Plow Spring Field Cultivator Cultivated

Fertilizer:

	Analysis	Rate	Date
Preplant	none	N/A	N/A
Starter	10-34-0	3 gal/A	Planting
Post plant	28-0-0	40 gal/A	7/1/2008
Manure	none	N/A	N/A

Herbicide: G-Max Lite 2.33 pt/A
Hornet 2.4 oz/A
Atrazine 0.2 qt/A

Insecticide: None

Irrigation: None **Hybrid:** varies

Planting Date: 5/19/2008 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: varies **plants per acre** **Planting Method:** Almaco Precision 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	10/23/2008
Dekalb DKB499	Brazil- Tropical	35,000 ppa	10/20/2008
Dekalb DKB789	Brazil- Tropical	35,000 ppa	10/17/2008
Agroceres AG1051	Brazil- Tropical	35,000 ppa	10/23/2008
Agroceres AG2060	Brazil- Tropical	35,000 ppa	10/20/2008
Pioneer 30F34	Southern US- 132 RM	35,000 ppa	10/23/2008
Hytest HT92-90W	Mexican- 135 RM	35,000 ppa	10/23/2008
Kaltenberg KB105LF	Leafy (105 RM)	45,000 ppa	10/10/2008
Kaltenberg LH227	Male Sterile	35,000 ppa	10/17/2008
Garst 8922YG	Check (90 RM)	35,000 ppa	10/3/2008

Results: Table C-48.

Table C-48. Low Starch Corn Silage Evaluation.
Marshfield, WI 2008.

Treatment		Yield	Moist	Plant height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
		tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Dekalb	DKB393	4.8	79.2	8.5	1	8.6	31.5	58.9	3.8	62.4	27.3	4.2	56.0	2,479	12,019
Dekalb	DKB499	5.1	77.6	9.1	0	8.2	33.5	61.5	4.5	61.0	25.4	2.8	54.9	2,377	12,218
Dekalb	DKB789	4.9	79.3	8.5	0	9.2	32.2	59.0	4.2	60.7	26.8	3.2	54.8	2,363	11,476
Agroceres	AG1051	4.3	79.4	9.4	7	8.3	34.4	62.8	4.7	60.3	24.1	3.5	55.8	2,423	10,486
Agroceres	AG2060	4.7	75.4	9.4	1	7.7	31.9	59.9	4.8	61.8	27.6	4.3	55.1	2,404	11,337
Pioneer	30F34	4.3	76.7	8.3	0	9.1	29.0	55.6	3.9	62.5	29.5	5.2	55.5	2,441	10,536
Hytest	HT92-90W	5.0	75.3	9.1	1	7.9	33.5	61.4	4.9	60.8	26.0	3.7	55.1	2,381	11,938
Kaltenberg	KB105LF (Leafy)	6.3	69.1	8.8	0	7.3	25.1	47.5	3.8	60.9	40.2	23.0	62.9	2,927	18,520
Kaltenberg	Male Sterile	1.3	76.9	6.5	0	10.2	28.1	54.0	3.8	64.1	30.3	4.5	55.4	2,464	3,116
Garst	8922YG (Check)	7.5	59.9	8.4	0	7.2	20.2	37.7	3.2	59.8	50.1	37.4	66.8	3,200	23,955
Mean		4.8	74.9	8.6	1	8.4	29.9	55.8	4.2	61.4	30.7	9.2	57.2	2,546	12,560
Probability (%)															
Treatment		<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
LSD 10%															
Treatment		0.5	1.0	0.6	2	0.4	1.3	1.9	0.3	1.5	1.6	1.3	0.9	83	1,486
CV (%)		9	1	6	207	4	4	3	7	2	4	12	1	3	10

FIELD EXPERIMENT HISTORY

Title: **Low Energy Corn Silage Demonstration**

Experiment: Low Starch Study **Trial ID:** 08C55 **Year:** 2008

Personnel: M.G. Bertram

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

Supported by: Marshfield Ag. Research Station, UWEX Team Forage

Site Information

Field: 413 **Previous Crop:** Alfalfa/Grass **Soil Type:** Withee Silt Loam

Soil Test : **Date:** 10/1/07 **pH** 6.5 **SOM (%)** 3.5 **P (ppm)** 26 **K (ppm)** 57

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	150 lb/A	Planting
Post plant	28-0-0	40 gal/A	7/3/2008
Manure	none	N/A	N/A

Herbicide: G-Max Lite 2.33 pt/A
Hornet 2.4 oz/A
Atrazine 0.2 qt/A

Insecticide: None

Irrigation: None **Hybrid:** varies

Planting Date: 5/19/2008 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/27/2008 **Harvest Method:** Case forage chopper

Notes:

Experimental Design

Design: Demo strips **Replications:** 2

Plot Size Seeded: 600' x 15' **Experiment Size:** 3.72 A

Harvest Plot size: 595' x 15'

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
Spangler 324G	Check (92 RM)
Pioneer 34N44	Check (110 RM)

Results: Table C-49.

Table C-49. Low Starch Corn Silage Evaluation.
Stratford, WI - 2008.

Treatment		Yield	Moist	Plant height	Lodging	CP	ADF	NDF	Lignin	NDFD	NFC	Starch	TDN	Milk per Ton	Milk per Acre
		tn/A	%	ft	%	%	%	%	%	%	%	%	%	lb	lb
Dekalb	DKB393	3.9	80.6	9.2	0	8.3	35.8	65.1	4.6	57.3	22.2	3.0	54.9	2,358	9,140
Dekalb	DKB499	3.7	78.2	10.3	3	7.8	37.4	66.4	5.3	55.7	21.6	3.0	53.7	2,244	8,294
Dekalb	DKB789	3.6	78.4	9.1	0	8.6	35.8	63.9	5.1	55.5	23.0	2.8	52.9	2,177	7,743
Agroceres	AG1051	2.9	79.8	10.1	9	8.9	36.8	66.2	5.5	53.7	20.8	3.0	53.8	2,213	6,372
Agroceres	AG2060	3.5	76.8	10.7	1	7.6	35.1	64.5	5.1	55.4	23.9	3.4	52.9	2,177	7,681
Pioneer	30F34	2.9	76.9	9.7	4	9.0	32.9	61.5	4.4	58.1	24.9	2.9	54.0	2,313	6,681
Hytest	HT92-90W	3.3	75.6	10.2	0	8.3	36.8	66.1	5.3	56.4	21.6	2.2	53.8	2,265	7,542
Spangler	324G (Check)	4.1	55.2	8.5	1	7.6	22.9	42.5	3.3	57.5	45.0	33.5	64.1	3,028	12,485
Pioneer	34N44 (Check)	4.3	61.3	8.7	0	7.7	25.4	47.0	3.6	57.4	40.7	26.6	63.1	2,949	12,765
Mean		3.6	73.6	9.6	2	8.2	33.2	60.4	4.7	56.3	27.1	8.9	55.9	2,414	8,745
Probability (%)															
Treatment		<0.1	<0.1	<0.1	0.1	0.3	<0.1	<0.1	6.5	9.4	<0.1	<0.1	<0.1	<0.1	<0.1
LSD 10%															
Treatment		0.2	1.0	0.5	NS	0.5	1.4	1.9	0.3	2.3	1.7	1.9	1.3	136	838
CV (%)		3	1	3	69	3	2	2	3	2	3	12	1	3	5

FIELD EXPERIMENT HISTORY

Title: **The Response of Bt-CRW Hybrids to Nitrogen Rate**

Experiment: 12NxBt-CR **Trial ID:** 3199 **Year:** 2008

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

Location: Arlington **County:** Columbia

Supported By: Wisconsin Fertilizer Council

Site Information

Field: ARS 330A **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 5 /9 /08 **pH:** 7.1 **OM (%) :** 4.1 **P (ppm) :** 107 **K (ppm) :** 347

Plot Management

Tillage Operations: Chisel Plow Soil Finisher Cultivate 6/23/08

Fertilizer:

Preplant Analysis	N/A	**Rate lbs/A:** N/A	**Date:** N/A
Starter Analysis	10-34-0	**Rate lbs/A:** 3.0 gal/	**Date:** 5 /5 /08
Post plant Analysi	34-0-0	**Rate lbs/A:** see Factors	**Date:** 5 /16/08
Manure:	N/A	**Rate lbs/A:** N/A	**Date:** N/A

Herbicide: Callisto 5 oz/A
Surpass EC 2.5 pt/A
Accent 0.67 oz/A

Insecticide: Force 3G 4.4 lbs/A

Irrigation: None

Planting Date: 5/5/08 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 30500 **plants per acre** **Planting Method:** Almaco Precision Planter

Harvest Date: 11/11/08 **Harvest Method:** Massey Ferguson 8XP-Soils

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 1.44 Acre

Harvest Plot Size: 5' x 20' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Nitrogen rate (lbs N/A)

1- 0
2- 40
3- 80
4- 120
5- 160
6- 200

Hybrids

1- Bt-CR1: Pioneer 35F44
2- Isoline1: Pioneer 35F37
3- Bt-CR2: Dekalb DKC52-59
4- Isoline2: Dekalb DKC52-62
5- Standart Bt-CB: NK Brand N58-D1
6- Standart nontransgenic: Pioneer 34A30
7- Bt-CR (Mon863) 1: Renk 698RRYGRW
8- Bt-CR (Mon863) 2: Dairyland ST400

Results: Table C-50.

Table C- 50. The Response of Bt-CRW Hybrids to Nitrogen Rates. Arlington, WI - 2008.

		Grain																	Whole Plant							
	Nitrogen			Test	Grower	Grain Composition			Ethanol		Nitrogen Uptake				Minerals (% of DM)				Dry Matter	Crude					Milk per	
Hybrid	rate	Yield	Moisture	weight	return	Oil	Starch	Protein	per A	per bu	Grain	Stover	Cob	Total	P	Ca	K	Mg	yield	protein	ADF	NDF	NDFD	Starch	Ton	Acre
	lbs/A	bu/A	%	lbs/bu	$/A	%	%	%	gallons	gallons	lb/a	lb/a	lb/a	lb/a	%	%	%	%	tons/A	%	%	%	%	%	lbs/T	lbs/A
	0	158	19.1	53	540	2.9	59.7	6.5	2.93	463	81.2	51.7	6.4	139.3	0.20	0.38	0.83	0.20	8.1	5.3	23.7	47.2	64.5	31.1	3318	26962
	40	187	18.6	54	640	2.8	59.4	6.6	2.94	550	99.6	61.7	7.7	169.1	0.21	0.38	0.86	0.20	9.4	5.5	23.5	47.2	63.8	31.6	3292	30945
	80	210	18.0	54	721	2.7	59.0	6.8	2.93	615	118.5	63.9	8.8	191.1	0.21	0.38	0.90	0.21	9.9	5.7	24.3	48.7	63.3	30.5	3249	32136
	120	227	17.3	54	781	2.7	59.2	6.9	2.92	662	133.3	70.2	9.8	213.3	0.22	0.39	0.90	0.21	10.6	6.0	24.5	49.7	62.4	30.1	3199	34015
	160	231	17.7	54	793	2.7	58.5	7.1	2.92	674	140.5	77.1	10.4	228.0	0.23	0.39	1.01	0.21	10.8	6.4	24.4	49.3	61.9	30.2	3176	34315
	200	233	17.7	54	801	2.8	58.4	7.3	2.91	679	151.6	88.9	11.5	252.1	0.24	0.39	1.07	0.21	11.0	6.8	25.0	50.5	61.5	28.7	3136	34432
Dairyland ST400		207	17.9	53	710	2.5	58.9	7.0	2.94	607	126.2	64.5	9.2	199.9	0.22	0.38	0.99	0.21	9.8	5.8	25.1	49.2	62.4	30.6	3181	31019
Dekalb DKC52-59		224	16.2	52	776	2.9	59.2	6.8	2.92	654	124.9	71.7	9.4	206.1	0.22	0.39	0.90	0.21	10.5	5.9	23.6	47.5	62.5	32.2	3206	33603
Dekalb DKC52-62		207	16.2	52	719	2.9	59.3	6.5	2.94	609	115.9	65.7	8.7	190.3	0.21	0.41	0.81	0.22	9.7	5.7	23.8	48.3	62.9	31.3	3230	31171
NK Brand N58-D1		194	18.5	54	662	2.6	59.5	6.8	2.92	566	108.6	67.9	8.5	185.0	0.21	0.39	0.78	0.21	9.6	5.8	24.6	49.7	63.1	29.3	3219	30853
Pioneer 34A30		209	20.7	56	705	2.8	59.1	6.8	2.93	611	122.1	74.5	9.4	206.1	0.23	0.37	1.06	0.20	10.5	6.3	24.2	49.1	63.4	29.1	3250	34224
Pioneer 35F37		211	19.3	56	720	2.8	58.8	6.9	2.92	617	123.4	72.1	9.4	204.8	0.22	0.38	0.97	0.20	10.1	6.0	24.3	49.0	63.0	30.0	3245	32784
Pioneer 35F44		204	19.3	55	696	2.9	58.7	7.0	2.92	596	125.0	71.0	9.4	205.4	0.23	0.37	1.00	0.20	9.8	6.5	23.7	48.2	62.5	30.0	3250	31669
Renk 698RRYGRW		206	16.6	53	711	2.9	58.7	7.1	2.90	598	120.0	64.1	8.8	193.0	0.22	0.39	0.92	0.21	9.8	5.7	24.6	49.1	63.3	30.4	3246	31752
Dairyland ST400	0	152	18.7	52	519	2.7	59.2	7.1	2.94	446	79.5	42.1	5.8	127.4	0.21	0.38	0.80	0.20	7.4	5.3	23.2	46.4	63.6	33.1	3295	24339
Dairyland ST400	40	186	18.5	53	637	2.3	58.9	7.3	2.96	552	106.5	63.2	8.1	177.8	0.20	0.38	0.89	0.21	9.5	5.0	25.8	49.6	62.2	30.8	3163	29853
Dairyland ST400	80	214	17.8	54	735	2.5	59.3	6.6	2.94	628	125.7	63.4	9.1	198.1	0.23	0.38	0.92	0.21	10.1	5.8	23.4	47.2	62.6	32.7	3222	32292
Dairyland ST400	120	221	16.9	54	763	2.3	59.4	6.9	2.95	653	136.6	58.4	9.4	204.4	0.23	0.38	0.93	0.21	10.0	6.0	23.4	47.7	62.9	32.4	3249	32424
Dairyland ST400	160	235	17.3	53	808	2.8	59.3	6.8	2.93	688	148.0	70.9	10.5	229.5	0.22	0.38	1.15	0.22	10.6	6.2	26.9	51.3	61.8	28.4	3120	33348
Dairyland ST400	200	233	18.2	54	799	2.6	57.6	7.6	2.90	677	161.1	88.7	12.0	261.9	0.23	0.38	1.28	0.21	11.1	6.4	27.9	53.2	61.1	26.0	3035	33861
Dekalb DKC52-59	0	175	16.6	50	604	3.0	60.0	6.1	2.91	510	85.7	59.1	6.9	151.7	0.18	0.39	0.69	0.20	9.0	4.9	21.9	43.8	64.6	35.5	3349	30439
Dekalb DKC52-59	40	202	17.0	52	696	3.0	59.7	6.0	2.94	593	98.0	62.2	7.7	168.0	0.21	0.36	0.92	0.20	9.6	5.7	23.4	46.4	63.2	32.2	3252	31505
Dekalb DKC52-59	80	221	15.9	52	766	2.5	59.3	6.7	2.92	646	119.2	63.1	8.8	191.1	0.21	0.38	0.82	0.21	10.0	5.6	24.0	47.8	62.7	32.8	3211	32398
Dekalb DKC52-59	120	248	16.1	52	860	3.0	59.5	6.9	2.92	725	144.0	73.6	10.4	228.1	0.23	0.40	0.93	0.22	11.2	6.1	24.8	49.7	61.6	30.3	3131	34942
Dekalb DKC52-59	160	247	16.1	53	854	2.4	58.4	7.2	2.93	721	149.3	82.8	11.1	243.3	0.23	0.40	1.10	0.22	11.2	6.4	25.1	50.0	61.9	29.0	3137	35112
Dekalb DKC52-59	200	252	15.4	52	875	3.2	58.2	7.7	2.90	730	153.4	89.6	11.7	254.6	0.24	0.41	0.92	0.22	11.8	6.6	22.6	47.6	61.3	33.5	3158	37223
Dekalb DKC52-62	0	167	16.7	51	578	3.2	60.3	6.0	2.94	492	85.8	44.8	6.3	137.0	0.19	0.40	0.75	0.21	7.7	5.0	24.1	48.0	63.1	31.3	3219	25002
Dekalb DKC52-62	40	189	16.5	52	655	3.1	59.7	6.1	2.97	562	95.0	61.9	7.5	164.5	0.20	0.39	0.83	0.21	9.5	5.3	22.3	44.9	63.9	34.2	3302	31513
Dekalb DKC52-62	80	213	16.3	52	737	2.8	58.9	6.7	2.92	621	111.6	64.4	8.4	184.4	0.20	0.43	0.83	0.22	9.9	5.5	24.6	49.4	64.0	29.0	3262	32363
Dekalb DKC52-62	120	218	16.1	53	755	3.0	59.4	6.5	2.93	638	120.9	60.2	8.7	189.7	0.21	0.39	0.70	0.21	9.7	5.4	22.9	47.3	62.9	33.3	3263	31694
Dekalb DKC52-62	160	235	16.0	53	817	2.7	58.5	7.0	2.92	688	145.8	78.8	10.8	235.4	0.23	0.41	0.96	0.22	10.7	6.2	24.6	50.1	61.8	30.2	3156	33680
Dekalb DKC52-62	200	222	15.7	53	771	2.7	59.2	6.8	2.94	654	136.4	84.1	10.6	231.0	0.23	0.44	0.79	0.23	10.3	6.5	24.0	50.2	61.9	30.0	3176	32776
NK Brand N58-D1	0	142	19.4	53	484	2.8	60.3	6.4	2.93	417	66.9	57.7	6.0	130.5	0.18	0.37	0.74	0.20	7.8	5.1	25.3	49.8	65.9	26.8	3312	25981
NK Brand N58-D1	40	185	19.2	54	631	2.4	59.7	6.5	2.92	541	98.6	60.7	7.6	167.0	0.20	0.39	0.72	0.20	9.6	5.3	23.8	48.2	64.0	30.7	3287	31618
NK Brand N58-D1	80	198	18.7	54	678	2.5	58.5	7.1	2.91	577	108.5	59.2	8.1	175.8	0.21	0.37	0.76	0.21	9.4	5.5	24.3	49.0	62.8	30.8	3224	30187
NK Brand N58-D1	120	209	17.8	55	719	2.4	60.3	6.3	2.91	610	118.6	74.9	9.3	202.9	0.21	0.40	0.68	0.21	10.2	5.8	25.3	51.5	62.8	29.2	3184	32580
NK Brand N58-D1	160	210	17.7	55	722	2.6	59.3	7.0	2.93	616	120.7	71.4	9.2	201.3	0.22	0.42	0.80	0.21	10.2	6.0	24.4	49.5	61.8	30.1	3168	32259
NK Brand N58-D1	200	216	18.0	55	741	2.9	58.8	7.3	2.93	632	138.4	83.2	10.6	232.3	0.24	0.40	0.99	0.22	10.4	7.0	24.6	50.3	61.5	28.1	3138	32495

continued

Table C- 50. The Response of Bt-CRW Hybrids to Nitrogen Rates.
(continued) **Arlington, WI - 2008.**

		Grain																	Whole Plant							
	Nitrogen			Test	Grower	Grain Composition			Ethanol		Nitrogen Uptake				Minerals (% of DM)				Dry Matter	Crude					Milk per	
Hybrid	rate	Yield	Moisture	weight	return	Oil	Starch	Protein	per A	per bu	Grain	Stover	Cob	Total	P	Ca	K	Mg	yield	protein	ADF	NDF	NDFD	Starch	Ton	Acre
	lbs/A	bu/A	%	lbs/bu	$/A	%	%	%	gallons	gallons	lb/a	lb/a	lb/a	lb/a	%	%	%	%	tons/A	%	%	%	%	%	lbs/T	lbs/A
Pioneer 34A30	0	144	22.2	55	482	2.8	60.0	6.5	2.93	422	75.0	49.5	6.0	130.5	0.20	0.38	1.02	0.19	8.1	5.5	23.7	47.6	66.3	29.0	3402	27810
Pioneer 34A30	40	184	21.8	56	618	2.8	59.3	6.8	2.92	537	102.1	64.4	8.0	174.5	0.21	0.36	1.02	0.19	9.3	5.6	25.0	49.3	64.3	28.2	3276	30538
Pioneer 34A30	80	208	21.1	56	701	2.7	59.0	6.8	2.93	610	122.9	71.0	9.3	203.2	0.21	0.37	1.11	0.19	10.5	6.0	26.1	51.1	63.8	26.2	3216	33704
Pioneer 34A30	120	238	19.3	56	809	2.7	59.1	6.8	2.94	699	136.0	81.7	10.5	228.2	0.24	0.40	0.98	0.20	11.7	6.4	24.8	50.9	61.7	29.0	3155	36909
Pioneer 34A30	160	239	20.2	57	810	2.7	58.7	6.7	2.93	701	140.9	75.2	10.4	226.5	0.26	0.38	1.02	0.20	11.7	7.3	21.3	45.7	62.1	32.9	3269	38234
Pioneer 34A30	200	240	19.5	56	814	2.8	58.4	7.2	2.91	698	155.9	105.3	12.5	273.7	0.26	0.36	1.22	0.19	12.0	7.3	24.5	50.2	62.3	29.0	3182	38149
Pioneer 35F37	0	168	21.7	56	566	3.1	59.3	6.6	2.91	492	87.8	64.8	7.3	159.9	0.20	0.39	0.88	0.20	8.8	5.5	23.3	46.4	64.0	32.1	3326	29322
Pioneer 35F37	40	192	20.1	55	651	2.8	59.4	6.6	2.93	562	102.4	61.0	7.8	171.2	0.22	0.38	0.93	0.19	9.3	6.1	21.7	45.6	64.5	32.7	3373	31542
Pioneer 35F37	80	206	18.1	55	706	2.7	59.4	6.4	2.96	610	111.5	71.4	8.8	191.7	0.20	0.35	0.87	0.21	10.1	5.3	25.1	49.4	64.0	29.8	3284	33008
Pioneer 35F37	120	232	18.6	56	794	2.8	58.3	7.3	2.89	672	140.8	70.2	10.1	221.2	0.22	0.39	0.99	0.21	10.7	6.1	24.2	49.6	63.1	29.5	3241	34835
Pioneer 35F37	160	234	19.0	56	799	2.9	57.8	7.3	2.91	682	145.9	78.2	10.8	234.9	0.25	0.38	1.11	0.20	10.9	6.5	25.5	50.7	61.4	28.9	3123	34091
Pioneer 35F37	200	234	18.3	56	802	2.8	58.3	7.1	2.91	682	151.8	86.8	11.5	250.1	0.23	0.40	1.03	0.22	10.8	6.5	26.3	52.2	61.3	27.0	3123	33904
Pioneer 35F44	0	155	20.9	55	524	2.6	59.4	6.8	2.95	458	85.0	51.1	6.5	142.5	0.20	0.34	0.95	0.19	8.0	5.7	24.2	48.1	64.6	29.8	3337	26695
Pioneer 35F44	40	185	19.3	55	631	3.1	59.6	6.6	2.93	543	100.1	55.9	7.5	163.4	0.22	0.40	0.80	0.20	9.1	5.7	22.4	46.1	64.6	32.2	3380	30917
Pioneer 35F44	80	209	19.8	56	709	3.0	58.7	6.8	2.92	611	128.3	65.2	9.3	202.8	0.24	0.35	1.12	0.20	9.7	6.6	23.9	48.6	63.1	29.7	3268	31748
Pioneer 35F44	120	223	17.4	54	767	3.0	58.7	6.9	2.90	647	137.1	81.0	10.5	228.6	0.23	0.37	0.98	0.20	10.6	6.4	24.4	49.3	61.8	29.0	3206	34066
Pioneer 35F44	160	224	19.0	56	765	2.9	57.8	7.4	2.89	649	143.0	80.4	10.7	234.2	0.24	0.40	0.98	0.21	10.5	6.9	24.2	49.0	60.7	29.2	3160	33386
Pioneer 35F44	200	229	19.7	56	779	2.8	57.9	7.3	2.92	669	156.5	92.4	11.9	260.8	0.26	0.38	1.17	0.21	10.6	7.7	23.0	48.0	60.2	30.2	3147	33200
Renk 698RRYGRW	0	163	17.1	52	560	3.0	59.0	6.7	2.89	469	84.3	44.5	6.2	135.0	0.20	0.38	0.84	0.20	7.9	5.1	23.5	47.7	63.9	31.3	3306	26112
Renk 698RRYGRW	40	174	16.7	52	600	3.0	59.1	6.8	2.92	508	94.4	64.7	7.6	166.7	0.20	0.40	0.77	0.22	9.1	5.2	23.9	47.7	64.0	31.6	3303	30076
Renk 698RRYGRW	80	213	16.4	52	738	3.3	59.0	7.1	2.90	619	120.3	53.3	8.3	182.0	0.22	0.39	0.81	0.21	9.5	5.5	23.0	47.0	63.7	32.9	3308	31391
Renk 698RRYGRW	120	224	16.3	53	777	2.7	58.5	7.2	2.90	650	132.2	61.9	9.3	203.4	0.22	0.41	0.99	0.22	11.0	5.8	26.2	51.8	62.5	28.4	3161	34670
Renk 698RRYGRW	160	221	16.4	53	766	2.6	58.3	7.3	2.91	645	130.1	79.0	10.0	219.1	0.23	0.37	0.92	0.20	10.5	6.0	23.4	47.7	63.5	32.6	3272	34410
Renk 698RRYGRW	200	239	16.7	53	827	2.9	58.4	7.6	2.90	694	159.0	81.5	11.5	252.0	0.22	0.37	1.19	0.21	10.8	6.6	27.3	52.9	62.2	25.7	3128	33851
Mean		208	18.1	54	712	2.8	59.0	6.9	2.92	607	120.8	68.9	9.1	198.8	0.22	0.39	0.93	0.21	10.0	6.0	24.2	48.8	62.9	30.4	3228	32134
Probability(%)																										
Nitrogen Rate (N)		0.0	0.0	0.0	0.0	17.5	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.6	0.1	0.0	11.2	0.0	0.0
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.4	0.5	0.2	0.0	0.0	13.6	1.0	1.0	0.0	0.6	0.0	0.0	0.0	0.0	53.9	52.2	4.2	19.1	12.9	0.0
N x H		92.1	0.5	15.9	92.8	6.4	45.9	28.4	13.8	95.8	71.7	95.2	96.1	96.1	23.4	58.4	16.9	24.7	91.6	40.9	38.8	56.9	11.2	46.3	24.6	94.7
LSD(0.10)																										
Nitrogen Rate (N)		7	0.4	0	23	NS	0.3	0.2	0.01	21	5.4	6.3	0.5	10.1	0.01	NS	0.07	0.00	0.4	0.2	NS	1.5	0.5	NS	39	1250
Hybrid (H)		8	0.4	0	27	0.2	0.4	0.3	0.01	24	6.2	NS	0.5	11.6	0.01	0.02	0.08	0.00	0.4	0.2	NS	NS	0.6	NS	NS	1443
N x H		NS	1.0	NS	NS	0.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

FIELD EXPERIMENT HISTORY

Title: **Plant Density and Nitrogen Rate Influence on Corn Grain**

Experiment: 12 PD x N **Trial ID:** 3189 **Year:** 2008

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

Location: Hancock, WI **County:** Waushara

Supported By: HATCH

Site Information

Field: C-07 **Previous Crop:** Potatoes **Soil Type:** Plainfield Sand

Soil Test: **Date:** 11/1 /07 **pH:** 6.6 **OM (%)** 1.1 **P (ppm)** 98 **K (ppm)** 107

Plot Management

Tillage Operations: Disk

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	0-0-60	100	4 /8 /08
	Starter :	10-34-0	3.0 gal/A	5 /6 /08
	Post plant :	21-0-0-24S 46-0-0	6/24 7/1	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 16 oz/A
Aatrex 4L 1.5 pt/A

Insecticide: None
Hybrid: Dekalb DKC50-44(VT3)

Irrigation: None

Planting Date: 5/6/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Almaco Precision Planter

Harvest Date: 10/23/08 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.3 Acre

Harvest Plot Size: 5' x 23' **Harvest Plant Density:** N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)	Nitrogen Rate (lbs/A)
16000	90 lbs
22000	130 lbs
28000	
34000	

Results: Table C-51.

Table C-51. Plant Density and Nitrogen Rate Influence on Corn Grain. Hancock, WI - 2008.

Target density	Nitrogen rate	V4 population	Yield	Moisture	Test weight	Lodged Total	Lodged Stalk	Lodged Root	Grower return
plants/A	lbs/A	plants/A	bu/A	%	lbs/bu	%	%	%	$/A
	90	28906	71	16.4	56	32	32	0	244
	130	28890	69	16.4	56	40	40	0	240
16000		18197	62	15.0	57	49	49	0	216
22000		25378	68	15.2	56	37	37	0	237
28000		33238	73	17.4	56	35	35	0	252
34000		38778	76	17.9	56	24	24	0	262
16000	90	18087	53	15.6	57	56	56	0	184
22000	90	25000	73	14.7	55	34	34	0	252
28000	90	33617	69	18.0	56	26	26	0	236
34000	90	38920	87	17.2	56	13	13	0	302
16000	130	18308	71	14.4	57	41	41	0	248
22000	130	25757	64	15.7	56	41	41	0	222
28000	130	32859	78	16.9	56	44	44	0	268
34000	130	38636	65	18.7	56	35	35	0	222
Mean		28898	70	16.4	56	36	36	0	242
Probability(%)									
Plant Density (D)		0.0	8.8	0.5	7.9	7.2	7.2	-	13.3
Nitrogen (N)		96.4	77.2	93.4	90.9	18.2	18.2	-	78.3
D x N		44.4	0.8	31.8	64.5	19.4	19.4	-	0.7
LSD (0.10)									
Plant Density (D)		839	9	1.5	1	15	15	-	NS
Nitrogen (N)		NS	NS	NS	NS	NS	NS	-	NS
D x N		NS	13	NS	NS	NS	NS	-	45

FIELD EXPERIMENT HISTORY

Title: **Influence of Clipping on Corn Grain Yield**

Experiment: 16 Clip **Trial ID:** 3188 **Year:** 2008

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

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

Supported By: HATCH

Site Information

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

Soil Test: **Date:** 11/4 /08 **pH:** 7.2 **OM (%)** 2.1 **P (ppm)** 38 **K (ppm)** 175

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated

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

Herbicide: Dual II Mag 1.5 pt/A
Hornet 4.0 oz/A

Insecticide: None
Hybrid: Dekalb DKC50-20

Irrigation: None

Planting Date: 5/6/08 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 30000 **plants per acre** **Planting Method:** Kinze 3000 Row Planter

Harvest Date: 10/10/08 **Harvest Method:** Massey 8XP

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.7 Acre

Harvest Plot Size: 5' x 23' **Harvest Plant Density:** 30031 **plants per acre**

Factors/Treatments:

Growth Stage:	Percent Clipped:
V1	0
V2	25
V3	50
V4	75
	100

Results: Table C-52.

Table C-52. Influence of Clipping on Corn Grain Yield. Arlington, WI - 2008.

Growth stage	Percent clipped	Harvest population	Grain yield	Grain moisture	Test weight	Lodging Total	Lodging Stalk	Lodging Root	Grower return
	%	plants/A	bu/A	%	lb/bu	%	%	%	$/A
V1		29905	226	25.4	53	0	0	0	740
V2		30429	222	26.2	53	0	0	0	725
V3		30094	213	27.0	52	1	0	1	691
V4		29697	208	27.0	52	1	0	1	678
	0	29900	220	25.1	53	0	0	0	723
	25	29687	225	25.6	53	0	0	0	739
	50	29798	218	26.2	53	1	1	1	711
	75	30208	203	27.2	52	0	0	0	659
	100	30563	220	27.8	52	0	0	0	711
V1	0	29640	220	24.7	53	0	0	0	726
V1	25	30113	229	24.8	53	0	0	0	754
V1	50	30397	229	24.9	53	0	0	0	754
V1	75	29829	215	26.1	53	0	0	0	705
V1	100	29545	234	26.3	53	0	0	0	764
V2	0	30492	228	25.8	53	0	0	0	745
V2	25	30303	229	25.0	53	0	0	0	752
V2	50	29798	224	26.7	52	1	1	0	731
V2	75	30681	200	26.3	53	0	0	0	655
V2	100	30871	228	27.1	52	0	0	0	741
V3	0	29545	218	25.3	53	0	0	0	717
V3	25	29450	226	26.1	53	1	0	1	738
V3	50	29640	207	26.9	52	3	0	2	675
V3	75	30681	200	27.9	52	0	0	0	647
V3	100	31155	211	28.7	52	0	0	0	680
V4	0	29924	213	24.7	53	0	0	0	703
V4	25	28882	218	26.3	53	0	0	0	711
V4	50	29356	209	26.3	53	3	2	1	683
V4	75	29640	196	28.3	52	1	0	1	631
V4	100	30681	206	29.2	52	1	0	1	660
Mean		30031	217	26.4	53	1	0	0	709
Probability(%)									
Growth Stage (S)		11.3	0.5	0.0	21.1	6.8	14.4	4.6	0.2
Percent Clipped (C)		28.7	94.1	10.4	93.7	42.0	34.5	6.0	93.9
S x C		7.7	0.5	0.0	1.1	1.5	1.2	17.4	0.3
LSD (0.10)									
Growth Stage (S)		NS	8.7	0.5	NS	0.6	NS	0.4	29.6
Percent Clipped (C)		NS	NS	NS	NS	NS	NS	1.0	NS
S x C		565	9.8	0.6	0	0.7	0.3	NS	33.1

FIELD EXPERIMENT HISTORY

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

Experiment: 17Tillage **Trial ID** 3198 **Year:** 2008

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

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 /17/07 **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	Fall 2007
	Starter :	9-23-30	200	5/8/2008
	Post plant :	28-0-0	210	6/12/2008
	Manure:	N/A	N/A	N/A

Herbicide: Honcho 24 oz/A **Insecticide:** none

Irrigation: None **Hybrid/Variety:** Corn: Dekalb DKC5020
Soybean: Kaltenberg KB248

Planting Date: Corn: 4/21/08
Soybean: 5/6/08 **Row Width:** 30"

Planting Method: Kinze 2000 Interplant planter **Planting Depth:** Corn: 1.5"
Soybean: 1"

Harvest Date: Corn: 10/13/08
Soybean: 10/23/08 **Harvest Method:** C: MF 8 XP Plot Harvester
S: Almaco plot combine

Experimental Design

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

Plot Size Seeded 10' x 50' **Experiment Size:** 4.5 Acres

Harvest Plot Size: 5' x 46'

Factors/Treatments:

Rotation:	Tillage For All Rotation:	Starter Fertilizer Timing
Continuous Corn	1-CP: Fall chisel plow +1 spring field cultivator	Fall
Corn / Soybean	2-T1: Fall Strip-Till, knife 9in., Full Berm	Spring
Soybean / Corn	3-T2: Fall Strip-Till, knife 9in., No Berm	
	4-T3: Fall Strip-Till, knife 6in., Full Berm	
	5-T4: Fall Strip-Till, knife 6in., No Berm	
	6- NT	

Results: Tables C-53 and C-54.

Table C-53.Tillage, Rotation, and Fertilizer in Corn and Soybean Production Systems - Corn. Arlington, WI - 2008.

					Test	Grower	Lodged			Harvest	Grain Composition			Ethanol	
Rotation	Tillage	Fertilizer	Yield	Moisture	weight	return	Total	Root	Stalk	plants	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
		Fall	183	25.4	53	600	0	0	0	30500	3.3	61.4	6.6	2.94	537
		Spring	175	25.1	52	576	0	0	0	31167	3.3	61.4	6.6	2.93	513
	CP		191	22.0	54	641	0	0	0	30688	3.3	61.5	6.6	2.95	565
	NT		163	28.5	51	525	0	0	0	30313	3.3	61.4	6.6	2.91	475
	T1		180	23.9	53	594	0	0	0	31750	3.3	61.3	6.6	2.93	527
	T2		188	25.7	53	615	0	0	0	31063	3.3	61.5	6.5	2.94	552
	T3		184	25.8	53	601	0	0	0	30500	3.3	61.5	6.6	2.93	538
	T4		168	25.5	53	552	0	0	0	30688	3.3	61.5	6.6	2.93	494
	CP	Fall	198	22.1	54	663	0	0	0	31125	3.3	61.6	6.5	2.96	587
	CP	Spring	185	21.9	53	618	0	0	0	30250	3.3	61.4	6.6	2.95	544
	NT	Fall	171	29.2	52	546	0	0	0	29125	3.3	61.4	6.7	2.91	497
	NT	Spring	156	27.8	51	504	0	0	0	31500	3.3	61.4	6.6	2.90	454
	T1	Fall	175	23.8	54	579	1	1	0	31250	3.3	61.2	6.8	2.93	514
	T1	Spring	184	24.1	53	608	0	0	0	32250	3.3	61.5	6.4	2.94	540
	T2	Fall	198	25.7	53	649	0	0	0	30500	3.3	61.5	6.5	2.94	583
	T2	Spring	177	25.8	52	581	0	0	0	31625	3.3	61.4	6.5	2.94	521
	T3	Fall	180	25.7	53	587	0	0	0	30375	3.3	61.5	6.6	2.94	527
	T3	Spring	188	25.9	52	614	0	0	0	30625	3.3	61.5	6.6	2.93	549
	T4	Fall	175	25.6	53	575	0	0	0	30625	3.3	61.4	6.5	2.94	516
	T4	Spring	161	25.3	52	529	0	0	0	30750	3.3	61.5	6.6	2.93	472
CC			161	27.4	52	520	0	0	0	29688	3.3	61.5	6.5	2.92	470
SC			197	23.1	54	656	0	0	0	31979	3.3	61.4	6.6	2.94	581
CC		Fall	169	27.7	52	548	1	0	0	29750	3.3	61.5	6.5	2.93	496
CC		Spring	152	27.1	51	493	0	0	0	29625	3.3	61.4	6.6	2.92	443
SC		Fall	196	23.0	54	652	0	0	0	31250	3.3	61.3	6.7	2.94	578
SC		Spring	198	23.2	53	659	0	0	0	32708	3.3	61.4	6.6	2.94	584

continued

Table C-53.Tillage, Rotation, and Fertilizer in Corn and Soybean Production Systems - Corn.
(continued) **Arlington, WI - 2008.**

					Test	Grower	Lodged			Harvest	Grain Composition			Ethanol	
Rotation	Tillage	Fertilizer	Yield	Moisture	weight	return	Total	Root	Stalk	plants	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
CC	CP		180	23.6	53	598	0	0	0	30250	3.3	61.7	6.4	2.96	533
CC	NT		149	32.2	50	468	0	0	0	28375	3.3	61.5	6.6	2.89	431
CC	T1		162	25.8	52	528	1	1	0	31500	3.3	61.3	6.5	2.93	473
CC	T2		169	27.7	52	546	0	0	0	29750	3.3	61.4	6.6	2.93	494
CC	T3		169	27.2	52	548	0	0	0	30000	3.3	61.5	6.6	2.92	495
CC	T4		135	28.1	51	433	1	1	0	28250	3.3	61.4	6.7	2.92	393
SC	CP		203	20.5	55	684	0	0	0	31125	3.3	61.2	6.7	2.95	598
SC	NT		178	24.8	53	582	0	0	0	32250	3.3	61.2	6.7	2.92	519
SC	T1		198	22.1	54	659	0	0	0	32000	3.3	61.4	6.7	2.94	581
SC	T2		207	23.8	53	684	0	0	0	32375	3.3	61.5	6.5	2.95	610
SC	T3		198	24.4	53	654	0	0	0	31000	3.3	61.5	6.6	2.94	582
SC	T4		201	22.9	54	670	0	0	0	33125	3.3	61.5	6.5	2.95	594
CC	CP	Fall	193	23.7	54	641	1	0	0	32000	3.3	62.0	6.3	2.96	572
CC	CP	Spring	167	23.5	53	555	0	0	0	28500	3.3	61.5	6.4	2.95	494
CC	NT	Fall	157	33.0	51	490	0	0	0	27000	3.3	61.5	6.6	2.90	454
CC	NT	Spring	141	31.5	50	446	0	0	0	29750	3.2	61.5	6.6	2.88	407
CC	T1	Fall	165	26.7	53	537	2	2	0	31000	3.3	61.1	6.7	2.92	484
CC	T1	Spring	158	24.8	52	519	0	0	0	32000	3.2	61.5	6.4	2.93	462
CC	T2	Fall	189	27.0	53	614	0	0	0	29250	3.3	61.5	6.5	2.93	554
CC	T2	Spring	148	28.4	52	478	1	0	0	30250	3.3	61.3	6.6	2.92	433
CC	T3	Fall	170	28.3	52	548	0	0	0	30500	3.3	61.7	6.4	2.94	500
CC	T3	Spring	168	26.0	52	548	1	1	0	29500	3.3	61.3	6.7	2.91	489
CC	T4	Fall	142	27.8	52	457	1	1	0	28750	3.3	61.4	6.7	2.92	414
CC	T4	Spring	128	28.3	51	410	1	1	0	27750	3.3	61.5	6.6	2.91	372
SC	CP	Fall	203	20.6	55	685	0	0	0	30250	3.3	61.2	6.7	2.96	601
SC	CP	Spring	202	20.4	54	682	0	0	0	32000	3.3	61.2	6.7	2.94	594
SC	NT	Fall	185	25.5	53	603	0	0	0	31250	3.3	61.3	6.7	2.92	539
SC	NT	Spring	171	24.1	52	562	0	0	0	33250	3.3	61.2	6.7	2.92	500
SC	T1	Fall	185	21.0	54	621	0	0	0	31500	3.3	61.3	6.8	2.94	545
SC	T1	Spring	210	23.3	53	698	0	0	0	32500	3.3	61.5	6.5	2.94	618

continued

Table C-53.Tillage, Rotation, and Fertilizer in Corn and Soybean Production Systems - Corn.
(continued) **Arlington, WI - 2008.**

Rotation	Tillage	Fertilizer	Yield	Moisture	Test weight	Grower return	Lodged Total	Lodged Root	Lodged Stalk	Harvest plants	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
SC	T2	Fall	207	24.4	53	684	0	0	0	31750	3.3	61.6	6.6	2.95	611
SC	T2	Spring	206	23.2	53	684	0	0	0	33000	3.3	61.5	6.5	2.95	608
SC	T3	Fall	189	23.1	54	627	1	0	0	30250	3.3	61.3	6.8	2.94	555
SC	T3	Spring	208	25.7	53	681	0	0	0	31750	3.3	61.7	6.4	2.94	610
SC	T4	Fall	209	23.4	54	693	0	0	0	32500	3.3	61.5	6.3	2.96	617
SC	T4	Spring	194	22.3	53	648	0	0	0	33750	3.3	61.5	6.6	2.95	572
Mean			179	25.2	53	588	0	0	0	30833	3.3	61.4	6.6	2.93	525
Probability(%)															
Rotation (R)			4.1	6.1	4.2	2.3	18.2	19.9	-	4.1	62.4	44.9	31.9	11.9	3.7
Tillage (T)			0.3	0.0	0.0	0.1	85.5	66.0	-	83.7	79.5	80.3	97.9	0.0	0.2
Fertilizer (F)			3.0	63.1	0.0	3.3	45.9	62.0	-	15.0	14.2	97.7	36.1	5.3	2.6
R x T			6.9	43.3	36.6	7.0	79.5	66.0	-	30.5	76.3	3.0	35.6	23.6	6.4
R x F			0.7	40.2	90.5	0.7	98.4	62.0	-	8.9	50.0	22.9	24.3	40.5	0.7
T x F			6.8	93.1	84.5	5.2	57.1	35.2	-	43.9	95.2	27.2	12.2	91.4	7.2
R x T x F			49.7	17.9	78.4	42.3	21.1	35.2	-	43.6	91.4	14.9	10.2	63.3	48.8
LSD(0.10)															
Rotation (R)			25	3.5	1	74	NS	NS	-	1564	NS	NS	NS	NS	73
Tillage (T)			12	2.1	1	42	NS	NS	-	NS	NS	NS	NS	0.01	37
Fertilizer (F)			6	NS	0	18	NS	NS	-	NS	NS	NS	NS	0.01	17
R x T			21	NS	NS	68	NS	NS	-	NS	NS	0.3	NS	NS	63
R x F			15	NS	NS	46	NS	NS	-	1266	NS	NS	NS	NS	45
T x F			16	NS	NS	51	NS	NS	-	NS	NS	NS	NS	NS	47
R x T x F			NS	NS	NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS

Table C-54. Tillage and Fertilizer in Corn and Soybean Systems - Soybean Arlington, WI - 2008.

Tillage treatment	Fertilizer	Yield	Moisture	Grower return
		bu/A	%	$/A
	Fall	52.5	12.7	448
	Spring	52.6	12.6	448
CP		52.1	12.8	444
NT		53.1	12.5	452
T1		51.3	12.7	437
T2		51.6	12.5	440
T3		55.1	12.7	470
T4		52.2	12.6	444
CP	Fall	51.8	12.8	441
CP	Spring	52.4	12.7	447
NT	Fall	52.8	12.6	450
NT	Spring	53.4	12.5	455
T1	Fall	49.9	12.9	425
T1	Spring	52.6	12.6	449
T2	Fall	51.1	12.6	435
T2	Spring	52.2	12.4	445
T3	Fall	55.9	12.8	476
T3	Spring	54.3	12.6	463
T4	Fall	53.8	12.6	458
T4	Spring	50.6	12.6	431
Mean		52.6	12.6	448
Probability(%)				
Tillage		81.1	25.8	81
Fertilizer (F)		98.7	17.3	99
T x F		93.3	68.7	93
Tillage(T)		NS	NS	NS
Fertilizer (F)		NS	NS	NS
T x F		NS	NS	NS