

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID:** 3369 **Year:** 2010
Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS411 **Previous Crop:** Alfalfa **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/21/10 **pH:** 6.2 **OM (%)** 3.9 **P (ppm)** 65 **K (ppm)** 129

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator 2x

Fertilizer:	Preplant Analysis:	NA	Rate lbs/A:	NA	Date:	NA
	Starter Analysis:	10-34-0	Rate lbs/A:	3.0 gal/A	Date:	4 /30/10
	Post plant Analysis:	N/A	Rate lbs/A:	N/A	Date:	N/A
	Manure:	N/A				

Herbicide:	Dual II Mag 24 oz/A Hornet 4 oz/A	Insecticide:	Force 3G 4.4lb/A
Irrigation:	None	Hybrid:	See Factors

Planting Date: 5/3/10 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter
Harvest Date: 10/5/10 **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: 33500 plants per acre

Factors/Treatments:

Hybrids:

Cornelius C591	Dekalb DKC65-44	Renk RK212
Croplan 3114VT3	Great Lakes 4041G3VT3	Renk RK570VT3
Dahlman D4356	Jung 7426VT3	Renk RK880VT3P
Dairyland ST9009	Legacy Seeds L5350GTCBLL	Trelay 5T128
Deka b DKC30-20	Pioneer 35F40	
Deka b DKC36-34(VT3)	Pioneer 37Y14	

Results: Table C-01 and C-02.

**Table C-01. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Arlington, WI - 2010.**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test wt lb/bu	Harvest population plants/A	Grower return \$/A	Silking date	Early dent	Kernel Milk			Black layer	Plant height --inches--	Ear height
									75%	50%	25%			
Dekalb DKC30-20	80	173	12.8	57	34217	777	186	221	228	233	237	242	93	35
Renk RK212	82	206	13.8	56	29924	923	189	219	227	231	236	242	98	34
Dahlman D4356	85	210	13.7	55	32449	943	189	218	227	232	236	241	98	34
Dekalb DKC36-34(VT3)	86	214	13.8	57	36363	960	188	222	225	230	235	241	87	25
Great Lakes 4041G3VT3	90	243	14.1	56	35858	1091	190	224	228	235	241	249	99	39
Croplan 3114VT3	91	236	14.3	56	33459	1061	191	221	229	236	240	248	96	35
Renk RK570VT3	95	214	13.5	54	34595	961	196	227	234	239	244	254	100	44
Jung 7426VT3	96	227	14.3	54	34469	1017	196	228	236	241	246	254	98	40
Pioneer 37Y14	99	231	15.3	55	34090	1038	195	227	233	237	242	251	98	38
Trelay 5T128	101	233	15.8	56	33080	1046	196	230	238	243	249	256	99	38
Legacy Seeds L5350GTCBLL	104	242	17.4	54	33207	1077	194	229	235	241	247	258	107	42
Pioneer 35F40	105	253	18.6	55	31944	1121	195	231	236	244	252	261	103	37
Cornelius C591	109	260	18.2	56	33585	1153	198	234	239	245	252	259	111	50
Dairyland ST9009	111	247	22.2	51	32575	1076	199	235	241	247	256	267	106	39
Renk RK880VT3P	112	270	20.8	52	31818	1182	198	233	240	247	255	264	103	38
Dekalb DKC65-44	115	269	22.4	53	33585	1171	196	233	240	248	257	270	98	44
Mean		233	16.3	55	33451	1037	193	227	233	239	245	254	100	38
Probability(%)														
Hybrid (H)		0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LSD(0.10)														
Hybrid (H)		11	0.7	1	2209	51	2	2	2	2	2	3	6	3

**Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Arlington, WI - 2010.**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		152	4.2	7.1	7.1	7.8
		165	6.8	8.8	10.7	20.5
		179	11.5	13.3	15.9	51.7
		193	17.5	17.3	18.0	95.7
		209	18.7	18.6	18.7	99.7
Dekalb DKC30-20	80		12.1	13.4	14.4	56.8
Renk RK212	82		11.7	13.0	13.9	54.9
Dahlman D4356	85		11.6	13.0	13.8	55.6
Dekalb DKC36-34(VT3)	86		11.9	13.1	14.0	51.0
Great Lakes 4041G3VT3	90		12.1	13.4	14.3	56.9
Croplan 3114VT3	91		12.0	13.3	14.1	54.6
Renk RK570VT3	95		12.4	13.6	14.8	56.2
Jung 7426VT3	96		12.0	13.2	14.3	52.8
Pioneer 37Y14	99		11.2	12.6	13.5	53.2
Trelay 5T128	101		11.5	12.7	13.7	51.7
Legacy Seeds L5350GTCBLL	104		11.4	12.8	13.9	60.4
Pioneer 35F40	105		11.5	12.8	14.0	54.1
Cornelius C591	109		11.5	12.8	13.9	58.0
Dairyland ST9009	111		11.9	13.2	14.7	56.1
Renk RK880VT3P	112		11.0	12.3	13.3	53.4
Dekalb DKC65-44	115		11.9	13.2	14.5	55.5
Dekalb DKC30-20	80	152	4.8	8.0	8.0	8.8
Dekalb DKC30-20	80	165	7.3	9.8	12.0	23.8
Dekalb DKC30-20	80	179	13.3	14.3	17.0	65.2
Dekalb DKC30-20	80	193	17.5	17.5	17.5	93.2
Dekalb DKC30-20	80	209	17.5	17.5	17.5	93.2
Renk RK212	82	152	4.3	7.3	7.3	7.3
Renk RK212	82	165	7.0	9.0	11.2	18.8
Renk RK212	82	179	11.8	13.2	15.7	52.7
Renk RK212	82	193	17.7	17.7	17.7	97.7
Renk RK212	82	209	17.7	17.7	17.7	98.0
Dahlman D4356	85	152	4.2	7.3	7.2	7.3
Dahlman D4356	85	165	7.0	9.2	11.0	20.3
Dahlman D4356	85	179	11.8	13.3	15.7	53.8
Dahlman D4356	85	193	17.5	17.5	17.5	98.2
Dahlman D4356	85	209	17.5	17.5	17.5	98.2

continued

Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Arlington, WI - 2010.

(continued)

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
Dekalb DKC36-34(VT3)	86	152	5.0	7.8	7.8	7.3
Dekalb DKC36-34(VT3)	86	165	7.0	9.2	11.2	20.7
Dekalb DKC36-34(VT3)	86	179	12.5	13.5	16.0	52.5
Dekalb DKC36-34(VT3)	86	193	17.5	17.5	17.5	87.2
Dekalb DKC36-34(VT3)	86	209	17.5	17.5	17.5	87.2
Great Lakes 4041G3VT3	90	152	4.5	7.3	7.3	8.7
Great Lakes 4041G3VT3	90	165	7.0	8.8	11.3	22.3
Great Lakes 4041G3VT3	90	179	12.2	13.8	16.0	55.7
Great Lakes 4041G3VT3	90	193	18.5	18.5	18.5	99.0
Great Lakes 4041G3VT3	90	209	18.5	18.5	18.5	99.0
Croplan 3114VT3	91	152	4.3	7.0	7.0	7.7
Croplan 3114VT3	91	165	6.8	9.0	10.8	20.2
Croplan 3114VT3	91	179	11.8	13.3	15.7	52.5
Croplan 3114VT3	91	193	18.5	18.5	18.5	96.3
Croplan 3114VT3	91	209	18.5	18.5	18.5	96.3
Renk RK570VT3	95	152	4.2	7.0	7.0	8.5
Renk RK570VT3	95	165	7.0	8.8	10.7	22.3
Renk RK570VT3	95	179	12.0	13.8	16.7	52.8
Renk RK570VT3	95	193	18.7	18.2	19.3	97.5
Renk RK570VT3	95	209	20.2	20.2	20.2	99.8
Jung 7426VT3	96	152	4.2	7.2	7.2	7.3
Jung 7426VT3	96	165	7.0	8.5	10.7	21.2
Jung 7426VT3	96	179	11.5	13.5	16.0	47.5
Jung 7426VT3	96	193	17.3	16.7	17.8	90.0
Jung 7426VT3	96	209	20.0	20.0	20.0	98.0
Pioneer 37Y14	99	152	4.0	6.8	6.8	7.7
Pioneer 37Y14	99	165	6.2	8.2	10.0	18.5
Pioneer 37Y14	99	179	10.7	13.2	15.7	46.8
Pioneer 37Y14	99	193	17.2	16.8	17.3	94.7
Pioneer 37Y14	99	209	17.8	17.8	17.8	98.3
Trelay 5T128	101	152	4.0	6.8	6.8	5.8
Trelay 5T128	101	165	7.0	8.3	10.0	17.8
Trelay 5T128	101	179	11.0	13.2	15.3	46.3
Trelay 5T128	101	193	16.8	16.5	17.5	89.7
Trelay 5T128	101	209	18.5	18.5	18.7	98.7
Legacy Seeds L5350GTCBLL	104	152	4.0	6.7	6.5	10.0
Legacy Seeds L5350GTCBLL	104	165	6.0	8.2	10.2	22.2
Legacy Seeds L5350GTCBLL	104	179	11.0	13.3	15.8	55.7
Legacy Seeds L5350GTCBLL	104	193	17.8	17.8	18.3	107.2
Legacy Seeds L5350GTCBLL	104	209	18.3	18.2	18.5	107.2

continued

Table C-02. Determining Corn Hybrid Maturity - Comparison of Hybrids.
 (continued) **Arlington, WI - 2010.**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
Pioneer 35F40	105	152	4.0	6.8	6.8	6.9
Pioneer 35F40	105	165	6.7	8.5	10.5	17.7
Pioneer 35F40	105	179	11.0	13.3	15.5	47.8
Pioneer 35F40	105	193	17.0	16.5	18.0	94.7
Pioneer 35F40	105	209	19.0	19.0	19.0	103.3
Cornelius C591	109	152	4.3	7.0	7.0	8.5
Cornelius C591	109	165	7.0	8.8	10.5	22.3
Cornelius C591	109	179	10.7	12.8	15.3	50.7
Cornelius C591	109	193	16.2	15.7	17.3	97.5
Cornelius C591	109	209	19.5	19.5	19.5	110.8
Dairyland ST9009	111	152	4.0	7.0	7.0	8.0
Dairyland ST9009	111	165	7.0	8.7	10.5	20.8
Dairyland ST9009	111	179	11.0	13.3	16.3	48.2
Dairyland ST9009	111	193	17.8	17.7	19.5	98.2
Dairyland ST9009	111	209	19.5	19.5	20.0	105.5
Renk RK880VT3P	112	152	4.0	6.3	6.3	7.2
Renk RK880VT3P	112	165	6.0	8.2	9.7	18.0
Renk RK880VT3P	112	179	10.2	12.3	14.8	44.8
Renk RK880VT3P	112	193	16.2	16.2	17.0	94.3
Renk RK880VT3P	112	209	18.5	18.5	18.5	102.7
Dekalb DKC65-44	115	152	4.0	7.0	7.0	7.8
Dekalb DKC65-44	115	165	7.0	8.8	11.0	21.5
Dekalb DKC65-44	115	179	11.0	13.2	16.3	54.0
Dekalb DKC65-44	115	193	17.3	16.8	18.0	96.0
Dekalb DKC65-44	115	209	20.0	20.0	20.0	98.3
Mean			11.7	13.0	14.1	55.1
Probability(%)						
Hybrid (H)			0.0	0.0	0.0	0.0
Day Of Year (D)			0.0	0.0	0.0	0.0
H x D			0.0	0.0	0.0	0.0
LSD(0.10)						
Hybrid (H)			0.3	0.3	0.3	1.9
Day Of Year (D)			0.1	0.2	0.1	1.0
H x D			0.6	0.7	0.6	4.2

Table C-03. Hybrid Maturity Effects on Corn Stover Agronomic and Biofuel Measurements. Arlington, WI - 2010. †

Hybrid	Harvest		Moisture	Yield				CP	ADF	NDF	NDFD	ADL	Lignin	Glucan	Xylan	Cell	Hem	
	RM	Density		Stover	TEP	TE	Etoh											
	plants/ A	%	g/plant	T/A	G/T	G/A	g/L	-----%										
Dahlman D4356	85	36507	26.1	70	2.8	98.0	275	4.13	5.5	51.7	80.1	31.4	8.2	19.2	36.9	19.3	44.7	27.2
Great Lakes 4041	90	37752	30.5	77	3.2	97.6	311	3.78	5.6	52.9	78.9	35.2	7.9	18.6	36.4	19.2	44.7	27.0
Renk RK570VT3	95	36507	13.5	67	2.7	95.5	256	3.12	6.7	53.7	78.9	32.3	8.2	19.6	36.3	18.5	45.5	24.1
Pioneer 37Y14	99	36093	21.3	71	2.8	98.8	280	3.77	5.1	54.5	81.2	37.4	8.5	18.8	36.9	19.8	46.8	25.9
Pioneer 35F40	105	33465	54.9	108	4.0	92.2	366	4.35	6.2	49.6	75.8	37.1	6.4	18.1	35.0	18.0	42.5	27.5
Dairyland ST9009	111	35816	54.4	130	5.1	93.1	477	3.92	6.0	49.3	76.8	38.2	6.6	17.7	35.1	18.4	42.4	27.8
Dekalb DKC65-44	115	35539	59.7	120	4.7	89.3	419	4.49	6.3	47.3	73.5	39.0	4.7	17.2	33.5	17.7	41.9	26.9
Mean		35954	37.2	92	3.6	95.0	340	3.94	5.9	51.3	77.9	35.8	7.2	18.5	35.7	18.7	44.1	26.6
Probability (%)																		
Hybrid (H)		11.4	0.0	0.1	0.1	0.8	0.1	6.60	0.9	0.8	0.4	0.8	0.1	2.1	1.7	1.5	1.2	0.6
LSD (0.05)																		
Hybrid (H)		NS	14.7	28	1.1	4.8	90.5	NS	0.7	3.6	3.4	4.0	1.4	1.3	1.9	1.1	2.6	1.7

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF; neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID:** 3370 **Year:** 2010
Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo
Location: Lancaster, WI **County:** Grant
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Lafayette Silt Loam
Soil Test: **Date:** 10/21/10 **pH:** 7.3 **OM (%)** 1.9 **P (ppm)** 31 **K (ppm)** 78

Plot Management

Tillage Operations: Soil Finisher Cultivate 6/10/10
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 160 **Date:** N/A
Starter Analysis: 10-34-0 **Rate lbs/A:** 3.0 gal/A **Date:** 4 /29/10
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: N/A
Herbicide: Lumax 3.0 qt/A **Insecticide:** Force 3G 4.4 b/A
Hybrid: See Factors
Irrigation: None
Planting Date: 4/29/10 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter
Harvest Date: 10/4/10 **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:** 26800 plants per acre

Factors/Treatments:

Hybrids:

Cornelius C591	Dekalb DKC65-44	Renk RK212
Croplan 3114VT3	Great Lakes 4041G3VT3	Renk RK570VT3
Dahlman D4356	Jung 7426VT3	Renk RK880VT3P
Dairyland ST9009	Legacy Seeds L5350GTCBLL	Trelay 5T128
Deka b DKC30-20	Pioneer 35F40	
Deka b DKC36-34(VT3)	Pioneer 37Y14	

Results: Table C-04 and C-05.

**Table C-04. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Lancaster, WI - 2010.**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Grower return \$/A
Dekalb DKC30-20	80	203	15.0	54	911
Renk RK212	82	156	15.1	56	699
Dahlman D4356	85	182	15.7	56	815
Dekalb DKC36-34(VT3)	86	76	15.7	54	339
Great Lakes 4041G3VT3	90	211	17.0	57	940
Croplan 3114VT3	91	197	16.4	56	880
Renk RK570VT3	95	213	15.4	55	955
Jung 7426VT3	96	226	17.3	53	1008
Pioneer 37Y14	99	217	17.3	55	965
Trelay 5T128	101	224	18.2	55	993
Legacy Seeds L5350GTCBLL	104	195	17.4	55	868
Pioneer 35F40	105	218	20.8	55	956
Cornelius C591	109	251	18.1	56	1116
Dairyland ST9009	111	238	24.0	52	1029
Renk RK880VT3P	112	238	22.6	53	1036
Dekalb DKC65-44	115	259	25.9	52	1107
Mean		206	18.2	55	914
Probability(%)					
Hybrid (H)		0.0	0.0	0.1	0.1
LSD(0.10)					
Hybrid (H)		41	2.8	2	180

Table C-05. Hybrid Maturity Effects on Corn Stover Agronomic and Biofuel Measurements. Lancaster, WI - 2010. †

Hybrid	Harvest			Yield					CP	ADF	NDF	NDFD	ADL	Lignin	Glucan	Xylan	Cell	Hem
	RM	Density	Moisture	Stover	TEP	TE	Etoh	-----%-----										
	plants/ A		%	g/plant	T/A	G/T	G/A	g/L										
Dahlman D4356	85	27795	44.5	95	2.9	92.9	271	4.60	5.1	49.3	77.1	30.5	7.2	17.1	35.0	18.3	42.1	28.8
Great Lakes 4041	90	34295	49.8	90	3.4	92.0	311	4.17	5.6	50.5	76.9	35.1	6.7	17.9	34.1	18.7	43.1	27.1
Renk RK570VT3	95	33603	56.6	118	4.4	86.9	379	4.54	5.5	49.3	74.3	30.1	8.0	18.1	32.3	17.7	41.1	26.9
Pioneer 37Y14	99	29317	60.4	93	3.0	92.3	275	3.55	6.0	51.9	78.6	33.8	7.2	17.7	34.7	18.3	44.8	24.4
Pioneer 35F40	105	27519	64.4	165	5.0	84.9	425	5.60	5.9	47.6	73.1	37.7	5.2	16.4	32.0	16.3	41.6	25.3
Dairyland ST9009	111	28072	58.4	126	3.9	93.6	365	3.89	5.4	52.3	79.1	39.8	6.6	17.8	35.0	18.7	44.9	26.4
Dekalb DKC65-44	115	33880	65.6	132	4.9	87.7	432	6.05	6.1	44.7	70.4	36.6	5.2	17.7	33.1	17.2	39.9	24.2
Mean		30640	57.1	117	3.9	90.0	351	4.63	5.6	49.4	75.6	34.8	6.6	17.5	33.7	17.9	42.5	26.2
Probability (%)																		
Hybrid (H)		6.7	5.3	0.0	0.2	0.1	0.7	0.05	40.4	4.3	0.6	0.6	1.5	9.0	0.4	0.3	8.6	0.0
LSD (0.05)																		
Hybrid (H)		NS	NS	19	1.0	3.5	91.0	0.89	NS	4.7	4.2	4.5	1.5	NS	1.5	1.1	NS	1.4

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID:** 3371 **Year:** 2010
Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo
Location: Marshfield, WI **County:** Wood
Supported By: HATCH

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Withee Silt Loam
Soil Test: **Date:** 10/21/10 **pH:** 7 **OM (%)** 3.3 **P (ppm)** 30 **K (ppm)** 104

Plot Management

Tillage Operations: Chisel Plow Field Cultivator 2x Cultivated
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:** 4 /28/10
Post plant Analysis: 28-0-0 **Rate lbs/A:** 80 **Date:** N/A
Manure: N/A
Herbicide: G-Max Lite 2.33 pt/A **Insecticide:** None
Hornet 2.4 oz/A **Hybrid:** See Factors
Irrigation: None
Planting Date: 4/28/10 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter
Harvest Date: 10/14/10 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 0
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.28 Acre
Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 28500 plants per acre

Factors/Treatments:

Hybrids:

Cornelius C591	Dekalb DKC65-44	Renk RK212
Croplan 3114VT3	Great Lakes 4041G3VT3	Renk RK570VT3
Dahlman D4356	Jung 7426VT3	Renk RK880VT3P
Dairyland ST9009	Legacy Seeds L5350GTCBLL	Trelay 5T128
Deka b DKC30-20	Pioneer 35F40	
Deka b DKC36-34(VT3)	Pioneer 37Y14	

Results: Table C-06 and C-07.

**Table C-06. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Marshfield, WI - 2010.**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Grower return \$/A
Dekalb DKC30-20	80	137	17.3	55	610
Renk RK212	82	140	20.0	51	615
Dahlman D4356	85	171	19.2	51	757
Dekalb DKC36-34(VT3)	86	148	18.4	52	658
Great Lakes 4041G3VT3	90	197	20.5	51	866
Croplan 3114VT3	91	173	19.9	51	760
Renk RK570VT3	95	167	22.1	47	727
Jung 7426VT3	96	182	24.0	46	788
Pioneer 37Y14	99	177	22.9	48	770
Trelay 5T128	101	165	29.0	48	695
Legacy Seeds L5350GTCBLL	104	166	30.7	47	697
Pioneer 35F40	105	171	35.0	49	701
Cornelius C591	109	161	32.0	48	671
Dairyland ST9009	111	133	36.2	47	544
Renk RK880VT3P	112	171	36.2	47	698
Dekalb DKC65-44	115	150	38.3	47	607
Mean		163	26.4	49	698
Probability(%)					
Hybrid (H)		0.1	0.0	0.0	0.0
LSD(0.10)					
Hybrid (H)		21	2.3	1	93

Table C-07. Hybrid Maturity Effects on Corn Stover Agronomic and Biofuel Measurements. Marshfield, WI - 2010. †

Hybrid	Harvest		Moisture	Yield					CP	ADF	NDF	NDFD	ADL	Lignin	Glucan	Xylan	Cell	Hem
	RM	Density		Stover	TEP	TE	Etoh	-----%										
	plants/ A	%	g/plant	T/A	G/T	G/A	g/L											
Dahlman D4356	85	29455	56.5	64	2.1	98.8	205	3.67	4.8	49.6	82.7	38.8	5.7	19.2	37.0	19.8	44.7	32.3
Great Lakes 4041	90	34295	60.8	86	3.2	101	326	3.39	5.4	50.5	82.7	44.2	5.2	18.6	37.6	20.1	44.5	32.4
Renk RK570VT3	95	35539	66.6	82	3.2	96.6	309	3.26	5.8	49.4	79.5	41.0	5.6	18.9	36.4	19.1	42.2	32.9
Pioneer 37Y14	99	32774	68.3	80	2.8	97.2	269	3.89	5.8	49.6	80.3	43.8	4.7	19.4	36.7	19.2	45.2	30.3
Pioneer 35F40	105	29870	70.3	134	4.4	93.8	414	4.64	5.8	45.2	78.1	49.1	2.9	18.0	34.7	19.1	41.1	30.6
Dairyland ST9009	111	35539	64.9	149	5.8	93.5	539	5.02	5.7	44.6	76.5	48.9	2.0	18.1	34.6	19.3	40.8	34.1
Dekalb DKC65-44	115	33465	71.7	123	4.5	90.6	409	5.65	4.5	44.6	76.6	47.0	3.7	17.9	33.2	18.8	41.5	31.2
Mean		32991	65.6	103	3.7	95.9	353	4.22	5.4	47.6	79.5	44.7	4.3	18.6	35.7	19.3	42.9	32.0
Probability (%)																		
Hybrid (H)		0.3	0.0	0.0	0.0	1.1	0.3	0.23	55.0	0.0	1.0	0.6	0.2	15.3	0.0	49.5	4.1	41.7
LSD (0.05)																		
Hybrid (H)		3011	3.5	31	1.2	4.9	120	1.06	NS	2.6	3.6	5.1	1.6	NS	1.4	NS	3.2	NS

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID:** 3372 **Year:** 2010
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:** Silt Loam
Soil Test: **Date:** 10/21/10 **pH:** 7 **OM (%)** 2.6 **P (ppm)** 41 **K (ppm)** 116

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/21/10
Fertilizer: **Preplant Analysis:** 21-0-0 **Rate lbs/A:** 150 **Date:** N/A
Starter Analysis: 10-34-0 **Rate lbs/A:** 3.0 gal/A **Date:** 5 /3 /10
Post plant Analysis: 46-0-0 **Rate lbs/A:** 200 **Date:** 6 /21/10
Manure: N/A
Herbicide: Overtime ATZ 1.7 qt/A **Insecticide:** None
Hornet 2.0 oz/A **Hybrid:** See Factors
Irrigation: None
Planting Date: 5/3/10 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter
Harvest Date: 10/13/10 **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:** 29600 plants per acre

Factors/Treatments:

Hybrids:

Cornelius C591	Dekalb DKC65-44	Renk RK212
Croplan 3114VT3	Great Lakes 4041G3VT3	Renk RK570VT3
Dahlman D4356	Jung 7426VT3	Renk RK880VT3P
Dairyland ST9009	Legacy Seeds L5350GTCBLL	Trelay 5T128
Deka b DKC30-20	Pioneer 35F40	
Deka b DKC36-34(VT3)	Pioneer 37Y14	

Results: Table C-08 and C-09.

**Table C-08. Determining Corn Hybrid Maturity - Comparison of Hybrids.
Seymour, WI - 2010.**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Grower return \$/A
Dekalb DKC30-20	80	147	14.4	57	662
Renk RK212	82	170	16.5	55	761
Dahlman D4356	85	174	16.1	55	781
Dekalb DKC36-34(VT3)	86	165	15.5	55	738
Great Lakes 4041G3VT3	90	206	16.8	55	918
Croplan 3114VT3	91	166	16.5	53	744
Renk RK570VT3	95	190	17.0	52	849
Jung 7426VT3	96	194	18.7	50	857
Pioneer 37Y14	99	188	17.4	54	839
Trelay 5T128	101	181	18.6	52	803
Legacy Seeds L5350GTCBLL	104	191	19.8	51	841
Pioneer 35F40	105	222	22.2	52	967
Cornelius C591	109	191	21.0	54	835
Dairyland ST9009	111	192	24.0	49	831
Renk RK880VT3P	112	226	22.5	50	981
Dekalb DKC65-44	115	219	27.4	51	929
Mean		189	19.0	53	834
Probability(%)					
Hybrid (H)		0.8	0.0	0.0	3.0
LSD(0.10)					
Hybrid (H)		31	1.0	1	139

Table C-09. Hybrid Maturity Effects on Corn Stover Agronomic and Biofuel Measurements. Seymour, WI - 2010. †

Hybrid	Harvest		Moisture	Yield					CP	ADF	NDF	NDFD	ADL	Lignin	Glucan	Xylan	Cell	Hem
	RM	Density		Stover	TEP	TE	Etoh	-----%										
	plants/ A	%	g/plant	T/A	G/T	G/A	g/L											
Dahlman D4356	85	31944	45.0	74	2.6	97.7	252	4.24	3.1	50.2	81.9	44.2	4.1	17.9	36.4	19.7	45.7	31.5
Great Lakes 4041	90	34433	51.8	87	3.3	92.6	305	3.78	4.0	50.3	78.7	46.5	3.1	17.9	34.7	18.5	44.7	29.5
Renk RK570VT3	95	37199	57.3	85	3.5	89.4	310	4.24	4.2	50.2	77.8	41.8	4.4	16.9	33.4	17.9	44.6	28.6
Pioneer 37Y14	99	33603	58.1	74	2.7	96.1	261	4.06	3.8	52.4	80.8	45.2	3.9	16.4	36.1	19.0	46.5	27.9
Pioneer 35F40	105	32912	72.3	105	3.8	90.5	344	4.93	3.6	48.5	76.3	43.2	3.7	16.4	34.6	17.4	45.2	25.6
Dairyland ST9009	111	35125	62.7	107	4.1	94.9	394	4.31	4.2	51.0	79.7	48.3	3.2	17.8	35.5	19.0	45.9	31.0
Dekalb DKC65-44	115	36231	70.1	100	4.0	92.9	368	4.41	4.1	49.6	77.6	47.9	4.1	16.8	35.0	18.3	45.3	27.6
Mean		34492	59.6	90	3.4	93.4	319	4.28	3.8	50.3	79.0	45.3	3.8	17.2	35.1	18.5	45.4	28.8
Probability (%)																		
Hybrid (H)		0.3	0.9	1.2	0.1	9.7	0.6	73.4	8.3	47.9	34.7	17.3	36.6	36.4	13.8	7.9	70.6	0.2
LSD (0.05)																		
Hybrid (H)		2200	13.3	20	0.7	NS	69.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.4

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose