

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01 Growth and Development **Trial ID:** 2578 **Year:** 2004
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
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 /04 **pH** 6.9 **OM (%)** 4.1 **P (ppm)** 95 **K (ppm)** 143

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/14/04
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /15/04
 Starter Analysis: 9-24-24 **Rate lbs/A:** 150 **Date:** 4 /29/04
 Post plant Analysis: 34-0-0 **Rate lbs/A:** 150 **Date:** 6 /14/04
 Manure: N/A
Herbicide: Harness 2.5 pt/A **Insecticide:** None
 Hornet 3.0 oz/A **Hybrid:** See Factors
Irrigation: None
Planting Date: 4/29/04 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 30000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/18/04 **Harvest Method:** Kincaid Plot Combine

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:** 29200 plants per acre

Factors/Treatments:

Hybrids:

Brunner S2055RR	Dekalb DKC4442	Pioneer 35R58
NK Brand N17R3	NK Brand N32L9	Deka b DKC5878
Carharts Blue Top CX8500A	Pioneer 37R71	DynaGro DG5467
Renk RK232	Pioneer 36B08	Jung 2710
Dahlman D4515	AgriGold A6333Bt	Pioneer 33R78
NK Brand N2555Bt		

Results: Table C-1 and C-2.

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2004**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Grower return \$/A	Silking doy
Brunner S2055RR	82	171	18.2	54	0	308	201
NK Brand N17R3	82	162	17.3	58	0	296	203
Carharts Blue Top CX8500A	85	195	18.0	58	0	353	206
Renk RK232	85	198	18.2	57	0	358	206
Dahlman D4515	90	199	17.6	57	0	362	205
NK Brand N2555Bt	90	199	17.6	58	1	363	203
Dekalb DKC4442	94	212	19.6	54	0	377	205
NK Brand N32L9	94	207	18.7	54	1	372	205
Pioneer 37R71	97	219	21.9	50	0	379	205
Pioneer 36B08	103	214	23.9	52	0	362	206
AgriGold A6333Bt	104	225	26.9	49	0	367	210
Pioneer 35R58	105	205	25.0	51	0	342	210
Dekalb DKC5878	108	231	26.2	51	0	381	208
DynaGro DG5467	109	217	29.8	50	3	342	211
Jung 2710	112	219	29.4	50	0	346	209
Pioneer 33R78	115	207	35.8	50	1	301	215
Mean		205	22.8	53	0	351	207
Probability(%)							
Hybrid (H)		0.0	0.0	0.0	61.7	0.0	0.0
LSD(0.10)							
Hybrid (H)		13	1.1	1	NS	24	2
CV(%)							
		4	3	1	314	5	1

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2004**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		147	2.0	2.9	3.9	3.6
		161	3.8	5.7	6.8	9.7
		174	6.2	7.9	9.3	23.0
		190	10.0	13.3	14.4	48.3
		202	15.0	15.0	16.6	87.4
		218	18.5	18.5	18.5	100.6
Brunner S2055RR	82		8.6	9.6	10.4	39.4
NK Brand N17R3	82		8.8	9.8	10.9	41.1
Carharts Blue Top CX8500A	85		9.5	10.8	11.7	47.6
Renk RK232	85		8.9	10.1	11.1	43.6
Dahlman D4515	90		9.7	11.1	12.1	45.9
NK Brand N2555Bt	90		9.7	10.8	12.0	45.9
Dekalb DKC4442	94		9.3	10.8	11.7	44.3
NK Brand N32L9	94		9.2	10.6	11.6	43.9
Pioneer 37R71	97		9.3	10.5	11.8	47.3
Pioneer 36B08	103		9.5	10.5	11.6	45.2
AgriGold A6333Bt	104		9.6	11.1	12.0	48.7
Pioneer 35R58	105		8.8	10.1	11.2	46.1
Dekalb DKC5878	108		9.6	11.1	12.2	48.3
DynaGro DG5467	109		8.9	10.3	11.3	45.9
Jung 2710	112		9.4	10.8	11.8	47.6
Pioneer 33R78	115		9.2	10.9	11.9	46.0
Brunner S2055RR	82	147	2.0	3.0	4.0	3.8
Brunner S2055RR	82	161	3.3	5.2	6.3	9.5
Brunner S2055RR	82	174	5.2	6.7	7.7	21.9
Brunner S2055RR	82	190	9.7	12.3	13.2	45.8
Brunner S2055RR	82	202	14.8	14.2	15.0	76.8
Brunner S2055RR	82	218	16.3	16.3	16.3	78.3
NK Brand N17R3	82	147	2.0	2.8	3.8	3.0
NK Brand N17R3	82	161	3.5	5.2	6.2	7.7
NK Brand N17R3	82	174	5.5	6.8	8.2	18.6
NK Brand N17R3	82	190	9.7	12.5	14.0	41.7
NK Brand N17R3	82	202	14.8	14.3	15.8	86.0
NK Brand N17R3	82	218	17.2	17.2	17.2	89.5
Carharts Blue Top CX8500A	85	147	2.0	3.0	4.0	3.5
Carharts Blue Top CX8500A	85	161	3.8	6.3	7.2	10.8
Carharts Blue Top CX8500A	85	174	6.3	8.0	9.5	27.4
Carharts Blue Top CX8500A	85	190	10.7	13.5	14.8	51.3
Carharts Blue Top CX8500A	85	202	15.8	15.5	16.5	95.7
Carharts Blue Top CX8500A	85	218	18.3	18.3	18.3	96.8

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
 (continued) **Arlington, WI - 2004**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	inches
Renk RK232	85	147	2.0	3.0	4.0	3.5
Renk RK232	85	161	3.8	5.7	7.2	9.8
Renk RK232	85	174	6.0	8.0	9.3	23.2
Renk RK232	85	190	9.5	12.5	13.5	47.0
Renk RK232	85	202	14.5	13.8	15.3	86.5
Renk RK232	85	218	17.5	17.5	17.5	91.5
Dahlman D4515	90	147	2.0	3.0	4.0	4.1
Dahlman D4515	90	161	4.0	6.3	7.3	10.5
Dahlman D4515	90	174	6.7	9.0	10.2	23.2
Dahlman D4515	90	190	10.7	14.0	15.2	49.2
Dahlman D4515	90	202	16.0	15.7	17.3	87.7
Dahlman D4515	90	218	18.8	18.8	18.8	101.0
NK Brand N2555Bt	90	147	2.0	2.7	3.7	3.5
NK Brand N2555Bt	90	161	3.8	5.8	7.0	10.0
NK Brand N2555Bt	90	174	6.8	8.5	10.2	22.9
NK Brand N2555Bt	90	190	10.7	13.5	15.3	48.7
NK Brand N2555Bt	90	202	16.3	15.7	17.5	90.3
NK Brand N2555Bt	90	218	18.3	18.3	18.3	100.2
Dekalb DKC4442	94	147	2.0	3.0	4.0	3.4
Dekalb DKC4442	94	161	3.7	6.0	7.0	9.3
Dekalb DKC4442	94	174	6.5	8.5	9.7	24.0
Dekalb DKC4442	94	190	9.7	13.3	14.3	49.0
Dekalb DKC4442	94	202	15.0	14.8	16.2	84.8
Dekalb DKC4442	94	218	19.0	19.0	19.0	95.5
NK Brand N32L9	94	147	2.0	3.0	4.0	3.2
NK Brand N32L9	94	161	3.7	5.5	6.7	8.8
NK Brand N32L9	94	174	6.2	8.2	9.3	19.7
NK Brand N32L9	94	190	9.8	13.5	14.5	44.0
NK Brand N32L9	94	202	15.3	15.2	17.0	86.5
NK Brand N32L9	94	218	18.3	18.3	18.3	101.2
Pioneer 37R71	97	147	2.0	2.7	3.8	3.5
Pioneer 37R71	97	161	3.8	5.3	6.8	10.0
Pioneer 37R71	97	174	6.2	8.0	9.8	20.7
Pioneer 37R71	97	190	10.2	13.5	14.8	48.8
Pioneer 37R71	97	202	15.2	15.2	16.8	92.8
Pioneer 37R71	97	218	18.5	18.5	18.3	108.0
Pioneer 36B08	103	147	2.0	2.7	4.0	4.5
Pioneer 36B08	103	161	4.0	5.7	6.8	10.0
Pioneer 36B08	103	174	6.3	8.2	9.5	25.0
Pioneer 36B08	103	190	10.5	13.2	14.2	48.8
Pioneer 36B08	103	202	15.7	14.7	16.7	87.5
Pioneer 36B08	103	218	18.7	18.7	18.7	95.2
AgriGold A6333Bt	104	147	2.0	3.2	4.0	3.8
AgriGold A6333Bt	104	161	4.0	6.3	7.2	10.8
AgriGold A6333Bt	104	174	6.3	7.8	9.3	26.7
AgriGold A6333Bt	104	190	10.3	14.0	15.2	55.5
AgriGold A6333Bt	104	202	15.8	15.8	17.2	90.7
AgriGold A6333Bt	104	218	19.3	19.3	19.3	104.7

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
 (continued) **Arlington, WI - 2004**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
Pioneer 35R58	105	147	2.0	2.8	3.7	3.3
Pioneer 35R58	105	161	4.0	5.5	7.0	10.0
Pioneer 35R58	105	174	5.8	7.2	8.8	23.2
Pioneer 35R58	105	190	9.2	12.8	13.5	47.0
Pioneer 35R58	105	202	13.5	14.0	15.7	86.3
Pioneer 35R58	105	218	18.3	18.3	18.3	107.0
Dekalb DKC5878	108	147	2.0	2.8	4.0	3.9
Dekalb DKC5878	108	161	3.8	6.3	7.3	11.2
Dekalb DKC5878	108	174	6.7	8.7	10.2	26.3
Dekalb DKC5878	108	190	10.5	14.0	15.0	53.3
Dekalb DKC5878	108	202	15.3	15.3	17.3	89.8
Dekalb DKC5878	108	218	19.3	19.3	19.3	105.5
DynaGro DG5467	109	147	2.0	3.0	3.7	3.4
DynaGro DG5467	109	161	3.7	5.3	6.7	8.5
DynaGro DG5467	109	174	5.8	7.3	8.7	22.7
DynaGro DG5467	109	190	9.2	12.7	13.7	46.5
DynaGro DG5467	109	202	13.8	14.3	16.0	86.2
DynaGro DG5467	109	218	19.0	19.0	19.0	107.8
Jung 2710	112	147	2.0	2.8	3.5	3.8
Jung 2710	112	161	4.0	5.2	6.3	9.3
Jung 2710	112	174	6.2	7.8	9.3	21.1
Jung 2710	112	190	10.2	13.7	14.7	51.0
Jung 2710	112	202	14.7	15.8	17.8	90.0
Jung 2710	112	218	19.3	19.3	19.3	110.3
Pioneer 33R78	115	147	2.0	2.7	4.0	3.5
Pioneer 33R78	115	161	4.0	5.2	6.2	9.5
Pioneer 33R78	115	174	6.0	8.2	9.7	21.1
Pioneer 33R78	115	190	9.3	13.0	14.2	44.8
Pioneer 33R78	115	202	13.5	15.8	17.3	80.7
Pioneer 33R78	115	218	20.3	20.3	20.3	116.7
Mean			9.3	10.5	11.6	45.4
Probability(%)						
Hybrid (H)			1.5	0.3	0.2	0.2
Day Of Year (D)			0.0	0.0	0.0	0.0
H x D			0.0	0.0	0.0	0.0
LSD(0.10)						
Hybrid (H)			0.5	0.6	0.6	3.3
Day Of Year (D)			0.1	0.2	0.2	0.9
H x D			0.6	0.7	0.7	3.6
CV(%)						
			5	5	4	6

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01 Growth and Development **Trial ID:** 2577 **Year:** 2004
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Hancock, WI **County:** Waushara
Supported By: HATCH

Site Information

Field: K28 **Previous Crop:** Soybean **Soil Type:** Plainfield Sand
Soil Test: **Date:** 20/03/ **pH** 6.8 **OM (%)** 0.7 **P (ppm)** 98 **K (ppm)** 96

Plot Management

Tillage Operations: Moldboard Disk

Fertilizer: **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A
 Starter Analysis: 9-24-24 **Rate lbs/A:** 150 **Date:** 4 /23/04
 Post plant Analysis: 34-0-0 **Rate lbs/A:** 600 **Date:** 6/21/04 & 6/28/04
 Manure: N/A

Herbicide: Aatrex 4L 0.75 lbs/A **Insecticide:** None
 Lasso 2.0 qt/A **Hybrid:** See Factors

Irrigation: 10.3 inches

Planting Date: 4/23/04 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/13/04 **Harvest Method:** Kincaid Plot Combine

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:** 30250 plants per acre

Factors/Treatments:

Hybrids:

Brunner S2055RR	Dekalb DKC4442	Pioneer 35R58
NK Brand N17R3	NK Brand N32L9	Deka b DKC5878
Carharts Blue Top CX8500A	Pioneer 37R71	DynaGro DG5467
Renk RK232	Pioneer 36B08	Jung 2710
Dahlman D4515	AgriGold A6333Bt	Pioneer 33R78
NK Brand N2555Bt		

Results: Table C-3.

Table C-8. Determining Corn Hybrid Maturity - Comparison of Hybrids
Hancock, WI - 2004

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

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01 Growth and Development **Trial ID:** 2576 **Year:** 2004
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Marshfield, WI **County:** Wood
Supported By: HATCH

Site Information

Field: W5-04C50 **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam
Soil Test: **Date:** 10/15/04 **pH** 6.5 **OM (%)** 2.9 **P (ppm)** 38 **K (ppm)** 103

Plot Management

Tillage Operations: Chisel Plow Soil Finisher (2x) Cultivated 6/22/04
Fertilizer: **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A
 Starter Analysis: 9-24-24 **Rate lbs/A:** 150 **Date:** 4/29/04
 Post plant Analysis: 28-0-0 **Rate lbs/A:** 27 gal/A **Date:** 6/22/04
 Manure: N/A
Herbicide: Lumax 2.25 qt/A **Insecticide:** None
Irrigation: None **Hybrid:** See Factors
Planting Date: 4/29/04 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 30000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 11/3/04 **Harvest Method:** Kincaid Plot Combine

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:** 29620 plants per acre

Factors/Treatments:

Hybrids:

Brunner S2055RR	Dekalb DKC4442	Pioneer 35R58
NK Brand N17R3	NK Brand N32L9	Deka b DKC5878
Carharts Blue Top CX8500A	Pioneer 37R71	DynaGro DG5467
Renk RK232	Pioneer 36B08	Jung 2710
Dahlman D4515	AgriGold A6333Bt	Pioneer 33R78
NK Brand N2555Bt		

Results: Table C-4.

Table C-9. Determining Corn Hybrid Maturity - Comparison of Hybrids**Marshfield, WI - 2004**

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