

Corn Silage

Craig Sheaffer, Paul Peterson and Doug Swanson



The Minnesota Hybrid Corn Silage Evaluation Program evaluates the silage potential of corn hybrids in Minnesota. The goal of the program is to provide unbiased forage yield and quality information for educational and marketing programs.

The program is financed in part by entry fees from private seed companies that chose to enter hybrids for testing. These companies are listed in this publication. Results presented are from corn silage performance trials in regions of extensive corn silage use: southeastern, central and west-central Minnesota. The locations are in important dairy regions of Minnesota.

Test Sites

Silage hybrids entered in the southeast or central region trials were tested at two sites within each region. Hybrids entered in the west-central region were tested at one site. Sites within regions were as follows:

Southeast Dairy Region:
La Crescent (Houston County)
Rochester (Olmsted County)

Central Dairy Region:
Paynesville (Stearns County)
Melrose (Stearns County)

West-Central Dairy Region:
Ottertail (Otter Tail County)

TEST PROCEDURE

Southeast and Central

Design: Plots were established at La Crescent, Rochester, Paynesville and Melrose in randomized complete block designs with four replications. Hybrids were planted at 33,000 seed per acre with 30-inch row spacing on April 30 at the SE sites (La Crescent and Rochester) and May 15 at the Central sites (Paynesville and Melrose). Plant nutrients as manure or inorganic fertilizer were applied according to University of Min-

nesota recommendation. Cultivation and herbicides applied by University of Minnesota recommendation were used to control weeds.

Harvesting: Plots were harvested and whole-plant herbage sampled for dry matter and forage quality at each site. Each test site was harvested when the average whole-plant moisture across entries was estimated to be 65%. In 2007, harvest dates at La Crescent, Rochester, Paynesville and Melrose were September 4, September 5, September 11 and September 12, respectively.

West-Central

Design: Plots were established May 1 near Ottertail under center-pivot irrigation in a randomized complete block design with three replications. Hybrids were planted at a 31,700 seeds per acre with 30-inch row spacing. Fertilizer was fall applied at 28 tons of compost dairy manure per acre. Pre-emergent herbicide was applied to control weeds.

Harvesting: Plots were harvested and whole-plant herbage sampled for yield and forage quality on September 6.

Companies participating in 2007 hybrid corn silage performance trials.

Dairyland Seed Co, Inc.	P.O. Box 958, West Bend, WI 53095	www.dairylandseed.com
Dekalb (Monsanto Co)	800 N Lindberg Blvd., St Louis, MO 63167	www.dekalb.com
Fielder's Choice Direct	306 North Main, P.O. Box 898, Monticello, IN 47960	www.fielderschoicedirect.com
Garst Seed Company	2369 330th St, Slater, IA 50244	www.garst.seed
Gold Country Seed, Inc.	16506 Hwy 15 North, P.O. Box 604, Hutchinson, MN 55350	www.goldcountryseed.com
Golden Harvest Seeds, Inc.	100 JC Robinson Blvd, P.O. Box 307, Waterloo, NE 68069	www.goldenharvestseeds.com
Heartland Hybrids	850 1st St North, P.O. Box J, Dassel, MN 55325	www.heartlandhybrids.com
Hyland Seeds	2 Hyland Drive, Blenheim, Ontario Canada N0P 1A0	www.hylandseeds.com
Legacy Seeds, Inc.	210 Pine Street, Waupaca, WI 54981	www.legacyseeds.com
Mycogen Seeds	9330 Zionsville Rd, Indianapolis, IN 46268	www.mycogen.com
NuTech Seed Co.	307 3rd Street, Alice, ND 58031	www.yieldleader.com
Pioneer Hi-Bred International	7000 NW 62nd Ave, Johnston, IA 50131	www.pioneer.com
Producers Hybrids	P.O. Box C, Battle Creek, NE 68715	www.producershybrids.com
Renk Seed Co.	6800 Wilburn Road, Sun Prairie, WI 53590	www.renkseed.com
Trelay Seeds	11623 State Road 80N, Livingston, WI 53554	www.trelay.com
Wensman Seed Co.	Box 190, Wadena, MN 56482	www.wensmanseed.com

Results Provided

Tables 1-5 summarize hybrid yield and forage quality results from La Crescent, Rochester, Paynesville, Melrose and Ottertail, respectively. Moisture content, whole-plant dry matter (DM) yield and silage yield are listed, and hybrids are ranked in descending order of milk yield per acre (Milk Yield, lb/acre). Genetic trait information is supplied by companies entered in the hybrid corn silage performance trial.

Whole-plant forage quality traits listed include crude protein (CP), neutral detergent fiber (NDF), 48-hour *in vitro* digestibility (IVD), 48-hour neutral detergent fiber digestibility (NDFD), and starch concentration. Except for NDFD, all forage quality traits are expressed as a percent of dry matter. NDFD is expressed as a percent of NDF.

Milk production potentials per ton (lb milk/ton forage) and per acre (lb milk/acre forage) of forage were calculated using the MILK2006 spreadsheet developed by the University of Wisconsin. MILK2006

approximates animal performance based on a standard cow weight and milk production level (1,350-lb body weight and 90 lb/day at 3.8% fat). Values based on field calculations for hybrid moisture and DM yield; laboratory values for CP, NDF, NDFD, starch and ash concentration; and book values for NDFCP (1.3%) and ether extract (3.2%) concentration were used for spreadsheet calculations. For MILK2006 predictions, we assumed that kernel processing occurred.

How to Use Results

NDF is a negative indicator of forage intake potential; higher NDF concentration generally implies lower animal performance potential. IVD provides an estimate of forage dry matter digestibility, and NDFD estimates digestibility of the fiber fraction. Starch concentration is positively associated with digestibility because it is assumed to be 100% digestible. Relatively higher IVD, NDFD and/or starch concentrations generally imply greater animal performance potential. Milk yield per

acre represents the combined effects of yield and quality.

Corn hybrids differed in yield, forage quality and milk production potential at all sites. Means and least significant difference (LSD) values at the 10% probability level are shown for each parameter at each site. Where the difference between two hybrids for a particular trait and site is greater than the LSD value, there is a 90% probability that there is a difference between the two hybrids for that parameter (i.e. moisture, yield, quality concentration, or milk production).

Test Plot Research

Test plot establishment and management were supervised by Tom Hovorstad, Jim Halgerson, Matt Bickell, Lisa Behnken, Fritz Breitenbach, Doug Holen, Vince Crary and Dan Martens.

Table 1. Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at La Crescent (Houston County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Mycogen TMF2Q716	CB CRW GLY LL	110	66.4	13.3	39.5	8.7	44	76	45	31	3,480	46,200
Pioneer 34A89	CB CRW GLY LL	108	66.8	13.8	41.7	8.4	46	75	46	28	3,330	46,100
Dekalb DKC63-62(RR2)	GLY	113	67.4	12.7	39.0	8.6	43	76	44	31	3,450	43,700
Dekalb DKC61-73(RR2/YGCB)	CB GLY	111	66.6	12.2	36.6	9.3	43	76	43	28	3,370	41,300
Heartland Hybrids NG 6686	CB CRW GLY	107	62.8	12.4	33.2	8.7	42	75	40	34	3,320	41,000
Legacy Seeds L6600HX	CB LL	105	69.7	12.1	40.0	8.9	44	75	43	28	3,300	39,900
Renk RK888RRYGPL	CB CRW GLY	113	66.1	11.8	34.7	9.1	46	75	47	24	3,340	39,400
Trelay 6T226	CB CRW GLY	106	61.1	12.0	30.9	8.5	42	75	41	33	3,270	39,300
Pioneer 33A88	CB CRW GLY	115	70.2	11.6	38.8	8.7	44	76	46	27	3,390	39,200
Garst 8581 YP1/RR	CB CRW GLY	108	60.6	12.1	30.7	8.1	41	76	41	33	3,230	39,100
NuTech 3T-310 VT3	CB CRW GLY	110	70.6	12.1	41.1	8.8	46	73	43	24	3,200	38,700
Legacy Seeds L4797RR	GLY	108	65.7	11.3	33.0	8.4	43	76	44	27	3,410	38,600
Dairyland HiDF 3008-4		108	69.4	12.3	40.0	8.7	48	72	42	22	3,120	38,300
Renk RK703RRYGRW NDS	CRW GLY	110	68.9	11.3	36.2	9.3	42	76	43	28	3,410	38,300
Pioneer 35A34	CB CRW GLY LL	107	67.5	11.5	35.3	8.8	44	76	45	26	3,310	38,100
Trelay 7K941	CB CRW GLY	109	67.2	11.6	35.8	8.9	46	74	43	27	3,240	37,700
Dekalb DKC58-16(VT3)	CB CRW GLY	108	65.6	11.7	33.9	8.3	45	74	41	28	3,220	37,600
Fielders Choice 4206 ND		106	66.0	11.3	33.4	9.6	43	75	42	28	3,320	37,600
Dekalb DKC57-47(RR2)	GLY	107	67.0	11.1	33.6	8.4	42	75	40	32	3,330	37,000
Dairyland HiDF 3007		107	67.6	11.1	34.1	8.7	45	76	46	27	3,320	36,800
Producers Hybrids 6463 YGCBRR	CB GLY	104	61.8	11.7	30.7	8.1	47	73	43	30	3,150	36,800
Pioneer 33T59	CB CRW LL	109	68.6	11.2	35.8	8.8	45	75	44	24	3,230	36,300
Dekalb DKC61-66(RR2/YGPL)	CB CRW GLY	111	69.0	11.3	36.4	8.9	45	74	42	25	3,170	35,800
Fielders Choice NG 6685	CB GLY	107	61.3	11.2	29.0	7.8	43	74	40	31	3,180	35,700
Gold Country 105-05 CBR	CB GLY	105	65.4	11.3	32.5	7.9	46	73	41	29	3,170	35,700
Mycogen TMF2M696	CB LL	110	64.7	11.6	32.8	8.5	49	71	42	24	3,070	35,500
Garst 8688 GT	GLY	104	64.3	10.9	30.6	9.1	41	76	43	27	3,170	34,600
Garst 8725		102	60.2	10.7	27.0	8.9	41	77	44	30	3,210	34,500

Table 1 (continued). Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at La Crescent (Houston County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Golden Harvest H-8318 CB/LL	CB LL	106	63.3	10.2	28.0	8.3	40	77	42	33	3,350	34,100
Pioneer 35F40	CB GLY LL	106	67.3	10.8	33.2	8.5	43	77	46	25	3,130	34,000
Wensman W6374BtRR	CB GLY	104	63.0	10.6	28.8	8.6	42	74	37	35	3,200	34,000
Heartland Hybrids HTL200RR	GLY	100	67.9	10.4	32.5	8.7	45	75	45	25	3,220	33,400
Dekalb DKC55-82(RR2)	GLY	105	67.5	10.6	32.6	8.9	49	72	43	25	3,120	33,100
Fielders Choice 7580 WPR	CB CRW GLY	102	64.3	10.9	30.6	9.4	45	73	41	23	3,020	33,000
Epley Bros. Hybrids E5111SR		111	66.8	10.2	30.7	8.5	43	75	41	29	3,240	32,900
Renk RK662YGCB NDS	CB	105	62.8	10.1	27.0	9.6	45	74	43	26	3,260	32,800
Gold Country 100-04 CBR	CB GLY	100	65.8	10.9	31.7	8.8	44	76	44	23	3,010	32,700
Epley Bros. Hybrids E5112		112	63.6	10.2	28.1	8.7	44	73	40	29	3,140	32,200
Dekalb DKC57-79(RR2/YGPL)	CB CRW GLY	107	69.7	10.3	33.9	9.1	47	72	42	23	3,120	32,100
Legacy Seeds L3987		97	63.7	10.0	27.7	9.4	47	74	44	22	3,180	32,000
Renk RK852LLYGCB	CB LL	112	68.8	9.7	31.2	8.9	48	73	44	22	3,170	30,800
Dekalb DKC54-46(RR2/YGPL)	CB CRW GLY	104	69.0	9.7	31.2	9.3	47	73	43	22	3,120	30,200
Dekalb DKC51-39(RR2/YGPL)	CB CRW GLY	101	69.4	9.6	31.5	9.8	46	75	46	21	3,100	29,900
Wensman W6266BtRR	CB GLY	97	63.7	9.5	26.2	8.8	43	72	36	21	3,040	28,900
Heartland Hybrids 4204 NDR	GLY	104	66.9	9.4	28.3	9.1	50	72	45	22	3,060	28,700
Producers Hybrids 6053 YGCBBR	CB GLY	100	66.4	9.6	28.6	9.3	46	73	41	23	2,920	28,000
Dekalb DKC53-18(RR2)	GLY	103	69.6	9.0	29.5	9.0	46	75	45	21	2,990	26,800
Wensman W6307RR	GLY	100	70.9	9.1	31.4	9.1	49	74	47	17	2,870	26,200
Mean			66.2	11.0	32.9	8.8	45	74	43	27	3,210	35,500
LSD (0.10)			2.6	1.1	2.6	0.6	4.0	2	3	5	210	4,900
CV			3	8	7	6	8	3	7	17	6	12

¹ CB, CRW, GLY, LL traits contain genes for European corn borer tolerance, corn rootworm tolerance, and glyphosate and Liberty Link R (glufosinate-ammonium) herbicide resistance, respectively.

² DM yield is whole-plant corn yield at 100% dry matter; Silage yield is whole-plant corn yield at harvest moisture.

³ Quality concentration expressed as a % of DM, except NDFD which is expressed as a % of NDF. Refer to Results Provided text for additional information.

⁴ Milk production was estimated using spreadsheet MILK2006 developed at the University of Wisconsin. Refer to Results Provided text for additional information.

Table 2. Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at Rochester (Olmsted County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Pioneer 35A34	CB CRW GLY LL	107	64.6	9.8	27.5	7.9	40	78	44	37	3,610	35,200
NuTech 3T-310 VT3	CB CRW GLY	110	67.5	9.3	28.6	8.3	43	77	46	33	3,540	32,900
Pioneer 34A89	CB CRW GLY LL	108	67.5	9.6	29.5	7.4	45	75	44	31	3,360	32,100
Mycogen TMF2Q716	CB CRW GLY LL	110	68.2	9.6	30.1	7.7	49	73	46	24	3,300	31,600
Dekalb DKC57-47(RR2)	GLY	107	66.9	9.3	28.0	7.6	44	74	42	32	3,340	31,000
Gold Country 100-04 CBR	CB GLY	100	64.1	9.0	25.0	7.5	42	76	43	34	3,470	31,000
Dekalb DKC63-62(RR2)	GLY	113	68.4	8.9	28.2	8.1	47	76	48	28	3,450	30,700
Fielders Choice NG 6685	CB GLY	107	63.7	9.0	24.9	7.7	43	75	42	35	3,400	30,700
Dekalb DKC57-79(RR2/YGPL)	CB CRW GLY	107	66.7	8.9	26.8	8.0	42	75	40	35	3,400	30,300
Renk RK703RRYGRW NDS	CRW GLY	110	68.4	8.7	27.6	8.7	44	76	44	32	3,470	30,200
Dekalb DKC58-16(VT3)	CB CRW GLY	108	64.5	9.0	25.3	7.2	44	75	43	31	3,360	30,100
Trelay 6T226	CB CRW GLY	106	62.8	8.9	24.0	7.7	43	75	42	35	3,350	30,000
Wensman W6307RR	GLY	100	65.5	8.6	25.1	8.0	40	77	42	36	3,480	30,000
Dekalb DKC61-66(RR2/YGPL)	CB CRW GLY	111	66.1	8.9	26.2	7.7	44	75	43	32	3,360	29,800
Dekalb DKC61-73(RR2/YGCB)	CB GLY	111	66.4	8.8	26.3	7.4	43	75	42	32	3,360	29,700
Garst 8688 GT	GLY	104	64.9	8.6	24.5	7.4	40	77	42	36	3,450	29,700
Pioneer 35F40	CB GLY LL	106	66.8	8.6	26.0	7.4	44	75	44	33	3,440	29,700
Garst 8581 YP1/RR	CB CRW GLY	108	66.8	8.8	26.5	7.4	42	75	41	34	3,380	29,600
Renk RK888RRYGPL	CB CRW GLY	113	66.6	8.6	25.9	7.9	43	76	44	32	3,430	29,600
Wensman W6374BtRR	CB GLY	104	65.6	8.5	24.6	7.8	43	76	44	34	3,470	29,300
Heartland Hybrids HTL200RR	GLY	100	65.7	8.4	24.3	7.6	40	77	43	37	3,490	29,100
Dekalb DKC51-39(RR2/YGPL)	CB CRW GLY	101	64.8	8.7	24.6	7.6	41	75	40	34	3,350	29,000
Epley Bros. Hybrids E5112		112	67.0	8.3	25.0	8.3	41	77	42	36	3,510	29,000
Garst 8725		102	61.6	8.7	22.6	7.2	41	77	44	37	3,350	29,000

Table 2 (continued). Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at Rochester (Olmsted County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Dairyland HiDF 3008-4		108	67.7	8.5	26.4	7.7	46	75	45	29	3,400	28,900
Fielders Choice 7580 WPR	CB CRW GLY	102	63.7	8.6	23.8	7.8	44	74	41	33	3,330	28,800
Trelay 7K941	CB CRW GLY	109	67.5	8.6	26.4	7.6	47	74	46	28	3,320	28,500
Dekalb DKC55-82(RR2)	GLY	105	67.6	8.2	25.1	8.4	42	76	44	35	3,470	28,400
Golden Harvest H-8318 CB/LL	CB LL	106	66.4	8.0	23.8	7.4	40	78	46	37	3,530	28,200
Producers Hybrids 6463 YGCBRR	CB GLY	104	64.8	8.5	24.1	7.4	45	74	41	33	3,290	27,900
Dairyland HiDF 3007		107	69.8	8.5	28.0	7.9	47	73	44	28	3,260	27,700
Gold Country 105-05 CBR	CB GLY	105	65.5	8.4	24.4	7.2	48	73	43	29	3,250	27,300
Heartland Hybrids 4204 NDR	GLY	104	65.6	8.0	23.1	8.9	47	75	46	30	3,430	27,300
Legacy Seeds L3987		97	62.1	8.6	22.6	7.5	48	73	43	28	3,170	27,200
Renk RK852LLYGCB	CB LL	112	69.8	8.0	26.6	8.3	44	75	44	31	3,390	27,200
Pioneer 33A88	CB CRW GLY	115	71.2	8.4	29.1	8.0	49	73	46	22	3,220	27,000
Heartland Hybrids NG 6686	CB CRW GLY	107	65.6	8.3	24.0	7.2	48	72	43	29	3,230	26,700
Pioneer 33T59	CB CRW LL	109	68.8	7.8	25.1	7.5	46	76	47	29	3,430	26,700
Dekalb DKC54-46(RR2/YGPL)	CB CRW GLY	104	68.1	7.9	24.8	7.7	45	74	43	31	3,340	26,500
Mycogen TMF2M696	CB LL	110	66.6	7.9	23.6	8.0	49	74	46	24	3,300	25,900
Dekalb DKC53-18(RR2)	GLY	103	65.9	7.7	22.6	8.0	43	75	42	32	3,320	25,400
Fielders Choice 4206 ND		106	68.7	7.5	24.1	8.3	46	73	42	31	3,310	25,000
Legacy Seeds L4797RR	GLY	108	68.8	8.2	26.4	7.6	50	73	46	18	3,040	25,000
Producers Hybrids 6053 YGCBRR	CB GLY	100	64.2	7.6	21.2	7.6	42	75	40	35	3,300	25,000
Legacy Seeds L6600HX	CB LL	105	70.3	7.8	26.3	7.8	49	74	47	30	3,160	24,700
Wensman W6266BtRR	CB GLY	97	64.0	7.5	20.7	8.1	42	75	40	34	3,300	24,600
Renk RK662YGCB NDS	CB	105	66.7	7.1	21.1	8.8	48	73	44	28	3,320	23,500
Epley Bros. Hybrids E5111SR		111	69.4	7.0	23.1	7.7	46	73	41	30	3,230	22,600
Mean			66.5	8.5	25.3	7.8	44	75	43	32	3,360	28,400
LSD (0.10)			1.9	1.0	2.9	3.2	4	2	2	5	180	4,200
CV			3	10	10	7	8	3	5	13	4	13

¹ CB, CRW, GLY, LL traits contain genes for European corn borer tolerance, corn rootworm tolerance, and glyphosate and Liberty Link R (glufosinate-ammonium) herbicide resistance, respectively.

² DM yield is whole-plant corn yield at 100% dry matter; Silage yield is whole-plant corn yield at harvest moisture.

³ Quality concentration expressed as a % of DM, except NDFD which is expressed as a % of NDF. Refer to Results Provided text for additional information.

⁴ Milk production was estimated using spreadsheet MILK2006 developed at the University of Wisconsin. Refer to Results Provided text for additional information.

Table 3. Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield and quality traits for corn hybrids planted at Paynesville (Stearns County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Pioneer 38H72	CB CRW GLY LL	99	58.3	8.8	21.1	9.0	36	81	49	36	3,620	31,900
Dekalb DKC54-46(RR2/YGPL)	CB CRW GLY	104	64.8	8.6	24.5	9.0	35	82	48	34	3,610	31,200
Dairyland HiDF 3002		102	64.8	8.8	25.0	9.5	39	80	48	30	3,530	31,100
Fielders Choice 7580 WPR	CB CRW GLY	102	62.1	8.9	23.3	9.6	38	80	47	31	3,490	31,000
Producers Hybrids 6463 YGCBRR	CB GLY	104	60.7	9.0	22.8	8.5	40	78	45	31	3,440	30,800
Trelay 6T226	CB CRW GLY	106	59.6	8.9	22.1	8.7	42	78	48	32	3,440	30,700
Renk RK669		105	62.4	8.5	22.5	8.9	37	80	48	35	3,600	30,500
Dairyland HiDF 3098		98	61.1	8.4	21.6	8.1	39	79	45	34	3,430	28,900
Dairyland HiDF 3005-7		105	64.7	8.2	23.2	9.6	39	80	49	30	3,510	28,900
Heartland Hybrids HTL200RR	GLY	100	65.7	8.3	24.0	8.8	41	78	48	30	3,470	28,700
Pioneer 35A34	CB CRW GLY LL	107	64.7	8.6	24.2	8.7	43	78	48	25	3,330	28,600
Dekalb DKC55-82(RR2)	GLY	105	65.2	8.4	24.2	9.2	40	79	48	27	3,370	28,400
Renk RK488RRYGPL	CB CRW GLY	96	60.4	7.9	20.0	8.6	37	80	46	36	3,560	28,000
Pioneer 38B87	CB CRW GLY LL	97	56.4	8.3	18.9	8.9	37	79	43	35	3,380	27,900
Fielders Choice NG 6685	CB GLY	107	61.6	7.9	20.7	8.9	42	79	48	31	3,490	27,700
Heartland Hybrids NG 6686	CB CRW GLY	107	60.5	8.0	20.3	8.9	43	78	49	30	3,460	27,700
Renk RK632RRYGPL	CB CRW GLY	103	63.6	8.0	21.8	10.1	39	81	50	28	3,470	27,600
Wensman W6194BtRR	CB GLY	95	59.2	8.2	19.8	9.3	39	79	45	33	3,330	27,200
Heartland Hybrids 4204 NDR	GLY	104	64.8	7.8	22.1	10.8	42	79	50	23	3,380	26,500
Legacy Seeds L6600HX	CB LL	105	68.5	7.7	24.6	9.2	42	78	48	25	3,340	25,800

Table 3 (continued). Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield and quality traits for corn hybrids planted at Paynesville (Stearns County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Garst 8866 RR	GLY	90	61.5	7.4	19.1	9.5	41	79	49	28	3,490	25,700
Dekalb DKC48-46(RR2/YGPL)	CB CRW GLY	98	59.6	7.7	19.1	9.3	39	78	44	33	3,310	25,600
Hyland Seeds HL 2515		100	65.0	8.2	22.9	9.3	46	76	48	24	3,130	25,500
Wensman W6266BtRR	CB GLY	97	60.3	7.6	19.1	9.5	40	78	46	31	3,360	25,500
Gold Country 100-04 CBR	CB GLY	100	65.0	7.7	22.1	9.2	42	79	49	24	3,300	25,300
Hyland Seeds HL B43R	CB GLY	97	58.6	7.8	18.8	9.2	44	76	46	28	3,260	25,300
Pioneer 34A89	CB CRW GLY LL	108	66.4	7.8	22.9	9.6	43	79	52	22	3,230	25,100
Dekalb DKC53-18(RR2)	GLY	103	63.9	7.7	21.5	9.3	41	79	49	27	3,230	25,000
Hyland Seeds HL S058		101	68.2	8.4	26.4	9.4	44	79	52	18	2,970	25,000
Hyland Seeds HL 2677		103	67.1	7.8	23.6	9.6	42	79	50	23	3,190	24,800
Hyland Seeds HL B52R	CB GLY	101	63.8	7.4	20.3	9.2	42	78	47	27	3,360	24,700
Garst 8725		102	58.7	7.3	17.7	9.2	38	80	47	35	3,360	24,600
Trelay 5K626	CB CRW GLY	100	62.9	7.3	19.6	9.3	39	80	48	29	3,360	24,600
Producers Hybrids 5623 YGCBRR	CB GLY	96	59.5	7.2	17.7	9.4	37	79	43	36	3,400	24,400
Wensman W5105Bt	CB	91	57.6	7.3	17.2	9.4	38	79	45	35	3,340	24,400
Dekalb DKC51-39(RR2/YGPL)	CB CRW GLY	101	63.0	7.3	19.6	8.8	37	79	45	32	3,300	24,200
NuTech 3T-393 VT3	CB CRW GLY	93	63.0	7.1	19.2	9.7	36	80	45	32	3,380	24,100
Dekalb DKC41-64(RR2/YGCB)	CB GLY	91	60.7	7.5	19.0	8.8	38	80	47	30	3,190	24,000
Dekalb DKC45-82(RR2)	GLY	95	62.8	7.5	20.2	8.2	42	77	46	27	3,130	23,600
Hyland Seeds HL S067		103	69.0	7.8	25.0	10.1	49	77	54	14	3,020	23,600
Hyland Seeds HL B337	CB	103	67.6	8.3	25.5	9.9	41	79	50	19	2,860	23,600
Pioneer 35F40	CB GLY LL	106	65.4	6.9	19.9	9.6	39	81	50	28	3,330	23,000
Hyland Seeds HL S047		100	60.4	7.3	18.3	8.9	45	75	45	25	3,150	22,800
Dekalb DKC43-31(RR2/YGCB)	CB GLY	93	58.7	6.6	16.0	9.1	37	81	47	36	3,420	22,700
Fielders Choice 4206 ND		106	69.5	6.9	22.7	10.6	45	78	50	20	3,260	22,600
Dekalb DKC49-35(RR2)	GLY	99	63.7	6.7	18.4	9.9	38	79	45	31	3,270	22,000
Hyland Seeds HL B295	CB	100	65.1	7.1	20.2	9.5	43	78	49	21	3,050	21,700
Dekalb DKC55-12(YGCB)	CB	105	65.6	7.5	21.6	9.6	44	77	47	22	2,860	21,600
Legacy Seeds L4797RR	GLY	108	69.3	7.7	25.0	9.4	42	80	53	17	2,730	21,000
Mycogen TMF2N422	GLY	94	59.6	7.1	17.5	9.2	43	76	45	25	2,890	20,500
Mycogen TMF2N494	GLY	97	66.2	6.6	19.5	9.7	46	78	51	19	3,000	19,900
Garst 8688 GT	GLY	104	67.2	6.4	19.7	9.8	42	79	50	19	2,830	18,200
Mean			63.2	7.7	21.1	9.3	41	79	48	28	3,280	25,400
LSD (0.10)			3.1	ns	2.6	0.6	4	2	3	7	350	5,900
CV			4	14	10	6	8	2	5	22	9	19

¹ CB, CRW, GLY, LL traits contain genes for European corn borer tolerance, corn rootworm tolerance, and glyphosate and Liberty Link R (glufosinate-ammonium) herbicide resistance, respectively.

² DM yield is whole-plant corn yield at 100% dry matter; Silage yield is whole-plant corn yield at harvest moisture.

³ Quality concentration expressed as a % of DM, except NDFD which is expressed as a % of NDF. Refer to Results Provided text for additional information.

⁴ Milk production was estimated using spreadsheet MILK2006 developed at the University of Wisconsin. Refer to Results Provided text for additional information.

Table 4. Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at Melrose (Stearns County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Pioneer 34A89	CB CRW GLY LL	108	64.5	9.3	26.2	9.6	39	82	55	29	3,680	34,200
Pioneer 35A34	CB CRW GLY LL	107	64.4	9.3	26.1	9.5	39	82	54	29	3,680	34,000
Renk RK632RRYGPL	CB CRW GLY	103	63.3	8.7	23.7	10.2	40	81	51	30	3,670	31,900
Fielders Choice 7580 WPR	CB CRW GLY	102	64.9	8.8	25.1	10.1	42	80	53	26	3,550	31,300
Heartland Hybrids NG 6686	CB CRW GLY	107	62.0	8.7	22.9	9.4	42	80	52	29	3,560	31,000
Pioneer 35F40	CB GLY LL	106	64.5	8.5	23.8	9.7	38	82	51	35	3,650	30,900
Hyland Seeds HL 2515		100	66.7	8.8	26.6	10.0	43	81	55	25	3,460	30,600
Dekalb DKC54-46(RR2/YGPL)	CB CRW GLY	104	65.4	8.6	25.0	9.2	40	81	51	28	3,510	30,300
Dairyland HiDF 3005-7		105	67.2	8.4	25.5	10.4	41	81	54	29	3,590	30,100
Dekalb DKC51-39(RR2/YGPL)	CB CRW GLY	101	61.9	8.6	22.6	9.5	38	80	48	34	3,500	30,100
Dekalb DKC53-18(RR2)	GLY	103	63.8	8.3	23.0	9.8	39	80	50	32	3,590	29,800
Gold Country 100-04 CBR	CB GLY	100	63.9	8.6	24.0	9.8	41	80	52	28	3,470	29,800

Table 4 (continued). Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at Melrose (Stearns County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Dekalb DKC55-12(YGCB)	CB	105	64.1	8.4	23.5	9.8	40	79	48	33	3,490	29,500
Heartland Hybrids HTL200RR	GLY	100	67.0	8.3	25.3	9.7	39	81	52	32	3,540	29,500
Trelay 6T226	CB CRW GLY	106	62.4	8.3	21.9	9.4	42	80	52	28	3,550	29,300
Fielders Choice NG 6685	CB GLY	107	61.9	8.1	21.2	9.8	41	81	52	31	3,590	29,000
Garst 8866 RR	GLY	90	63.3	7.9	21.4	10.0	40	82	55	28	3,660	28,800
Garst 8725		102	59.6	8.2	20.3	9.7	38	81	50	35	3,500	28,600
Dekalb DKC55-82(RR2)	GLY	105	66.7	8.4	25.0	9.6	42	80	53	24	3,410	28,500
Hyland Seeds HL B337	CB	103	68.7	8.3	26.4	11.0	42	81	56	23	3,430	28,400
Hyland Seeds HL S047		100	61.8	8.2	21.6	9.6	41	81	53	29	3,460	28,300
Pioneer 38H72	CB CRW GLY LL	99	61.3	7.9	20.4	9.9	39	82	54	30	3,580	28,300
Garst 8688 GT	GLY	104	64.5	7.8	22.1	9.6	37	82	52	31	3,590	28,200
Wensman W6266BtRR	CB GLY	97	63.8	7.8	21.7	10.4	39	81	50	32	3,590	28,100
Hyland Seeds HL S058		101	68.9	8.5	27.4	9.9	41	82	55	22	3,260	27,800
Dairyland HiDF 3098		98	63.7	7.9	21.9	9.4	41	81	53	29	3,490	27,700
Dekalb DKC45-82(RR2)	GLY	95	65.8	8.1	23.7	9.0	41	79	48	30	3,420	27,700
Dekalb DKC48-46(RR2/YGPL)	CB CRW GLY	98	63.4	7.8	21.4	10.0	41	80	51	29	3,470	27,200
Mycogen TMF2N494	GLY	97	64.5	7.4	20.9	10.7	38	82	53	33	3,690	27,200
Hyland Seeds HL B52R	CB GLY	101	65.2	7.7	22.3	9.6	43	80	51	27	3,510	27,100
Renk RK488RRYGPL	CB CRW GLY	96	63.5	7.8	21.2	9.6	42	79	50	31	3,480	27,000
Hyland Seeds HL B295	CB	100	65.4	7.8	22.5	10.3	41	81	53	24	3,450	26,900
Producers Hybrids 6463 YGCBRR	CB GLY	104	66.3	8.1	24.1	9.0	45	77	49	24	3,310	26,900
Legacy Seeds L6600HX	CB LL	105	70.0	7.9	26.2	10.4	41	82	57	23	3,400	26,700
Hyland Seeds HL S067		103	66.8	7.7	23.4	10.2	43	81	55	24	3,430	26,500
NuTech 3T-393 VT3	CB CRW GLY	93	63.8	7.4	20.5	10.1	39	81	50	30	3,570	26,500
Mycogen TMF2N422	GLY	94	60.9	7.7	19.7	9.3	42	78	48	30	3,430	26,400
Renk RK669		105	65.7	7.2	21.2	9.5	37	83	53	32	3,650	26,400
Dekalb DKC41-64(RR2/YGCB)	CB GLY	91	61.5	7.5	19.5	9.4	42	80	51	29	3,480	26,300
Heartland Hybrids 4204 NDR	GLY	104	66.1	7.1	21.0	11.8	41	82	56	27	3,670	26,100
Trelay 5K626	CB CRW GLY	100	62.7	7.6	20.5	9.6	42	79	50	28	3,430	26,100
Hyland Seeds HL B43R	CB GLY	97	61.7	7.7	19.9	9.7	43	79	50	30	3,400	26,000
Producers Hybrids 5623 YGCBRR	CB GLY	96	64.4	7.3	20.4	10.6	40	80	51	32	3,550	25,900
Hyland Seeds HL 2677		103	68.7	7.5	23.9	10.7	42	82	57	22	3,450	25,800
Pioneer 38B87	CB CRW GLY LL	97	55.6	7.5	16.9	9.5	38	80	46	35	3,360	25,200
Wensman W6194BtRR	CB GLY	95	64.4	7.1	20.0	10.7	38	80	49	33	3,560	25,200
Dekalb DKC43-31(RR2/YGCB)	CB GLY	93	59.9	7.3	18.1	9.9	38	81	50	35	3,460	25,100
Legacy Seeds L4797RR	GLY	108	69.6	8.6	28.2	9.5	43	82	57	18	2,930	25,100
Dekalb DKC49-35(RR2)	GLY	99	62.7	7.1	19.0	9.9	40	80	51	30	3,490	24,700
Fielders Choice 4206 ND		106	68.4	7.1	22.4	10.6	41	81	55	25	3,450	24,500
Dairyland HiDF 3002		102	67.2	6.8	21.0	10.3	42	81	55	25	3,590	24,400
Wensman W5105Bt	CB	91	62.1	7.1	18.8	9.8	40	79	48	30	3,410	24,300
Mean			64.4	7.9	22.3	9.9	41	81	52	29	3,500	28,000
LSD (0.10)			2.3	0.9	2.4	0.6	ns	2	3	5	190	3,700
CV			3	10	9	5	8	2	5	16	5	11

¹ CB, CRW, GLY, LL traits contain genes for European corn borer tolerance, corn rootworm tolerance, and glyphosate and Liberty Link R (glufosinate-ammonium) herbicide resistance, respectively.

² DM yield is whole-plant corn yield at 100% dry matter; Silage yield is whole-plant corn yield at harvest moisture.

³ Quality concentration expressed as a % of DM, except NDFD which is expressed as a % of NDF. Refer to Results Provided text for additional information.

⁴ Milk production was estimated using spreadsheet MILK2006 developed at the University of Wisconsin. Refer to Results Provided text for additional information.

Table 5. Relative maturity (RM), whole-plant moisture (Moist), dry matter and silage yield, and quality traits for corn hybrids planted at Ottertail (Otter Tail County) in 2007.

Brand/ Hybrid Entry	Traits ¹	RM, Rating	Moist %	Yield, Ton/Acre ²		Quality (concentration), % ³					Milk Yield ⁴	
				DM	Silage	CP	NDF	IVD	NDFD	Starch	Lb/ Ton	Lb/ Acre
Pioneer 35A30	GLY LL	107	60.8	7.4	18.8	7.0	44	73	39	35	3,120	23,000
DeKalb 45-82	CB CRW GLY	95	55.5	6.7	15.0	7.0	40	75	37	39	3,020	20,200
NuTech 3A-306	GLY LF	106	67.4	6.7	20.5	7.3	51	69	40	25	2,930	19,600
DeKalb 46-22	CB CRW GLY	96	54.0	6.5	14.2	6.8	42	75	39	38	2,980	19,400
NuTech EXP88	GLY LF	88	56.4	6.4	14.7	7.5	46	72	39	32	2,990	19,100
DeKalb 42-95	CB CRW GLY	92	54.6	6.2	13.6	7.0	40	76	39	40	3,060	18,800
Pioneer 37N15	GLY LL	96	54.1	6.2	13.5	7.0	42	75	41	37	3,010	18,600
Hyland Seeds HL S047	LF	95	56.5	6.1	14.0	7.3	44	73	39	35	2,970	18,100
Pioneer 38B86	GLY LL	97	53.7	5.9	12.7	7.5	40	75	37	38	2,990	17,500
Pioneer 38N87	GLY LL	90	54.2	5.8	12.7	7.2	41	75	39	38	3,000	17,500
Dairyland 3094	GLY	94	57.6	5.9	13.9	7.1	45	72	39	34	2,970	17,400
Hyland Seeds HL SR35	GLY LF	88	57.1	5.6	13.0	7.6	47	73	43	31	2,990	16,700
NuTech 3A-998	GLY LF	98	57.7	5.8	13.7	6.9	48	71	39	30	2,850	16,500
Hyland Seeds HL S041	LF	94	60.2	5.0	12.5	8.1	46	74	42	31	3,080	15,300
Mean			57.1	6.1	14.5	7.2	44	73	39	35	3,000	18,400
LSD (0.10)			2.1	0.7	1.6	0.4	3	2	2	3	80	2,500
CV			3	9	8	4	4	1	4	6	2	10

¹ CB, CRW, GLY, LL traits contain genes for European corn borer tolerance, corn rootworm tolerance, and glyphosate and Liberty Link R (glufosinate-ammonium) herbicide resistance, respectively. The LF trait denotes leafy silage.

² DM yield is whole-plant corn yield at 100% dry matter; Silage yield is whole-plant corn yield at harvest moisture.

³ Quality concentration expressed as a % of DM, except NDFD which is expressed as a % of NDF. Refer to Results Provided text for additional information.

⁴ Milk production was estimated using spreadsheet MILK2006 developed at the University of Wisconsin. Refer to Results Provided text for additional information.