FIELD EXPERIMENT HISTORY

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

Experiment: 03DOP **Trial ID** 1549 **Year:** 2000

Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, M. Kral

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

Supported By: HATCH

Site Information

Field: 427 **Previous Crop:** Soybean **Soil Type:** Plano

Soil Test: **Date:** 6 /1 /00 **pH** 6.6 **OM (%)** 3.8 **P (ppm)** 30 **K (ppm)** 109

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325	N/A
	Starter :	6-24-24	150	Each DOP
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	None	

Herbicide: Harness @ 1.5 pt/A
Hornet @ 2.4 oz/A
Banvel @ 2.0 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: none

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

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

Harvest Date: S: 9/12 & 10/10
G: 10/25 & 11/3

Harvest Method: S:New Holland Plot Chopper
G:Kincaid Plot Combine

Experimental Design

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

Plot Size Seeded: 23.2' x 20' **Experiment Size:** 0.24 A

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

Harvest Plant Density: S:27799 **plants per acre**
G:27720

Factors/Treatments:

Date of Planting:

April 18, April 28,
May 15, June 9,
& June 19

Hybrids:

Cargill 4111
Kaltenberg K7001

Results: Tables E-8 and E-9.

Table E-9. Planting Date And Hybrid Influence On Corn Leaf Development Arlington, WI - 2000.

Date of Planting	Hybrid	Observation Day of year	Leaf Developement: Leaf collars	Leaf Developement: Hail adjusters method	Leaf Developement: Total leaves	Plant height
						inches
		144	2.3	3.4	4.0	3.3
		158	3.5	5.0	6.3	5.8
		165	2.9	4.1	5.1	4.7
		173	4.8	6.6	7.6	9.2
		188	7.2	9.9	11.0	30.4
		200	11.4	13.3	14.5	60.9
		213	14.9	16.1	16.8	80.2
		227	16.8	17.2	17.7	96.8
		241	18.7	18.7	18.7	102.8
	Cargill 4111		9.6	11.2	12.1	45.6
	Kaltenberg K7001		9.2	10.8	11.7	44.3
	Cargill 4111	144	2.4	3.5	4.1	3.4
	Cargill 4111	158	3.4	5.2	6.3	6.1
	Cargill 4111	165	2.8	4.2	5.2	4.8
	Cargill 4111	173	4.9	6.8	7.7	9.5
	Cargill 4111	188	7.5	10.0	11.1	31.7
	Cargill 4111	200	11.6	13.6	14.8	61.7
	Cargill 4111	213	15.1	16.5	17.1	80.9
	Cargill 4111	227	17.3	17.5	18.0	97.1
	Cargill 4111	241	18.8	18.8	18.8	102.3
	Kaltenberg K7001	144	2.3	3.3	3.9	3.2
	Kaltenberg K7001	158	3.7	4.9	6.2	5.5
	Kaltenberg K7001	165	3.0	4.0	5.0	4.7
	Kaltenberg K7001	173	4.8	6.5	7.6	8.9
	Kaltenberg K7001	188	7.0	9.7	10.8	29.1
	Kaltenberg K7001	200	11.2	13.1	14.2	60.0
	Kaltenberg K7001	213	14.6	15.8	16.6	79.4
	Kaltenberg K7001	227	16.4	16.9	17.4	96.6
	Kaltenberg K7001	241	18.5	18.5	18.5	103.2
109			9.6	11.2	12.0	43.0
119			9.1	10.6	11.4	43.2
136			8.5	10.4	11.4	39.6
161			9.1	10.8	11.7	47.5
171			10.7	12.2	13.2	52.2
109		144	2.7	3.8	4.1	3.5
109		158	3.6	5.3	6.4	6.0
109		165	-	-	-	-
109		173	6.7	9.2	10.1	14.4

continued

Table E-9. Planting Date And Hybrid Influence On Corn Leaf Development

(continued) **Arlington, WI - 2000.**

Date of Planting	Hybrid	Observation Day of year	Leaf Developement			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
						inches
109		188	10.5	13.9	15.3	48.0
109		200	15.9	16.6	17.8	88.0
109		213	18.3	18.3	18.3	98.0
109		227	-	-	-	-
109		241	-	-	-	-
119		144	2.0	3.1	3.9	3.1
119		158	3.5	4.8	6.1	5.7
119		165	-	-	-	-
119		173	6.2	8.7	9.5	13.5
119		188	9.9	13.0	14.4	49.8
119		200	14.9	15.8	16.4	85.4
119		213	18.2	18.2	18.2	101.4
119		227	-	-	-	-
119		241	-	-	-	-
136		144	-	-	-	-
136		158	-	-	-	-
136		165	2.9	4.1	5.1	4.7
136		173	4.6	6.6	7.3	6.3
136		188	7.5	10.4	11.6	30.4
136		200	11.3	14.2	15.3	64.8
136		213	16.2	16.6	17.4	91.8
136		227	-	-	-	-
136		241	-	-	-	-
161		144	-	-	-	-
161		158	-	-	-	-
161		165	-	-	-	-
161		173	1.9	2.2	3.7	2.6
161		188	5.2	7.7	8.3	16.8
161		200	8.4	11.3	12.8	42.6
161		213	11.9	14.7	15.7	68.3
161		227	18.1	18.1	18.1	107.2
161		241	-	-	-	-
171		144	-	-	-	-
171		158	-	-	-	-
171		165	-	-	-	-
171		173	-	-	-	-
171		188	3.0	4.4	5.2	6.9
171		200	6.5	8.7	10.2	23.5
171		213	9.7	12.9	14.5	41.3
171		227	15.6	16.3	17.3	86.5
171		241	18.7	18.7	18.7	102.8

continued

Table E-9. Planting Date And Hybrid Influence On Corn Leaf Development
(continued) **Arlington, WI - 2000.**

Date of Planting	Hybrid	Observation Day of year	Leaf Developement: Leaf collars	Leaf Developement: Hail adjusters method	Leaf Developement: Total leaves	Plant height
						inches
109	Cargill 4111		9.9	11.4	12.2	44.8
109	Kaltenberg K7001		9.3	10.9	11.8	41.1
119	Cargill 4111		9.4	10.9	11.8	43.7
119	Kaltenberg K7001		8.9	10.3	11.0	42.6
136	Cargill 4111		8.4	10.3	11.3	39.7
136	Kaltenberg K7001		8.6	10.5	11.4	39.5
161	Cargill 4111		9.2	11.1	11.8	46.8
161	Kaltenberg K7001		9.0	10.5	11.6	48.1
171	Cargill 4111		11.0	12.4	13.3	53.2
171	Kaltenberg K7001		10.4	12.0	13.0	51.2
109	Cargill 4111	144	2.8	3.8	4.2	3.7
109	Cargill 4111	158	3.3	5.3	6.3	6.2
109	Cargill 4111	165	-	-	-	-
109	Cargill 4111	173	7.0	9.5	10.2	15.4
109	Cargill 4111	188	11.2	14.3	15.8	51.3
109	Cargill 4111	200	16.3	16.8	18.2	92.3
109	Cargill 4111	213	18.7	18.7	18.7	100.2
109	Cargill 4111	227	-	-	-	-
109	Cargill 4111	241	-	-	-	-
109	Kaltenberg K7001	144	2.5	3.7	4.0	3.3
109	Kaltenberg K7001	158	3.8	5.2	6.5	5.8
109	Kaltenberg K7001	165	-	-	-	-
109	Kaltenberg K7001	173	6.3	8.8	10.0	13.4
109	Kaltenberg K7001	188	9.8	13.5	14.8	44.8
109	Kaltenberg K7001	200	15.5	16.3	17.3	83.7
109	Kaltenberg K7001	213	18.0	18.0	18.0	95.8
109	Kaltenberg K7001	227	-	-	-	-
109	Kaltenberg K7001	241	-	-	-	-
119	Cargill 4111	144	2.0	3.2	4.0	3.2
119	Cargill 4111	158	3.5	5.0	6.3	6.1
119	Cargill 4111	165	-	-	-	-
119	Cargill 4111	173	6.3	9.0	9.8	13.7
119	Cargill 4111	188	10.5	13.2	14.8	51.9
119	Cargill 4111	200	15.2	16.5	17.3	85.0
119	Cargill 4111	213	18.7	18.7	18.7	102.3
119	Cargill 4111	227	-	-	-	-
119	Cargill 4111	241	-	-	-	-
119	Kaltenberg K7001	144	2.0	3.0	3.8	3.0
119	Kaltenberg K7001	158	3.5	4.7	5.8	5.3
119	Kaltenberg K7001	165	-	-	-	-
119	Kaltenberg K7001	173	6.0	8.3	9.2	13.4
119	Kaltenberg K7001	188	9.3	12.8	14.0	47.7

continued

Table E-9. Planting Date And Hybrid Influence On Corn Leaf Development

(continued) **Arlington, WI - 2000.**

Date of Planting	Hybrid	Observation Day of year	Leaf Developement			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
						inches
119	Kaltenberg K7001	200	14.7	15.2	15.5	85.8
119	Kaltenberg K7001	213	17.7	17.7	17.7	100.5
119	Kaltenberg K7001	227	-	-	-	-
119	Kaltenberg K7001	241	-	-	-	-
136	Cargill 4111	144	-	-	-	-
136	Cargill 4111	158	-	-	-	-
136	Cargill 4111	165	2.8	4.2	5.2	4.8
136	Cargill 4111	173	4.3	6.3	7.2	6.3
136	Cargill 4111	188	7.5	10.2	11.3	30.7
136	Cargill 4111	200	11.0	14.0	15.3	65.0
136	Cargill 4111	213	16.2	16.7	17.3	91.8
136	Cargill 4111	227	-	-	-	-
136	Cargill 4111	241	-	-	-	-
136	Kaltenberg K7001	144	-	-	-	-
136	Kaltenberg K7001	158	-	-	-	-
136	Kaltenberg K7001	165	3.0	4.0	5.0	4.7
136	Kaltenberg K7001	173	4.8	6.8	7.5	6.3
136	Kaltenberg K7001	188	7.5	10.7	11.8	30.2
136	Kaltenberg K7001	200	11.5	14.3	15.3	64.7
136	Kaltenberg K7001	213	16.2	16.5	17.5	91.8
136	Kaltenberg K7001	227	-	-	-	-
136	Kaltenberg K7001	241	-	-	-	-
161	Cargill 4111	144	-	-	-	-
161	Cargill 4111	158	-	-	-	-
161	Cargill 4111	165	-	-	-	-
161	Cargill 4111	173	1.8	2.2	3.5	2.6
161	Cargill 4111	188	5.2	7.8	8.2	17.6
161	Cargill 4111	200	8.5	11.8	13.0	41.7
161	Cargill 4111	213	12.2	15.0	16.0	66.8
161	Cargill 4111	227	18.5	18.5	18.5	105.3
161	Cargill 4111	241	-	-	-	-
161	Kaltenberg K7001	144	-	-	-	-
161	Kaltenberg K7001	158	-	-	-	-
161	Kaltenberg K7001	165	-	-	-	-
161	Kaltenberg K7001	173	2.0	2.2	3.8	2.5
161	Kaltenberg K7001	188	5.2	7.5	8.5	16.0
161	Kaltenberg K7001	200	8.3	10.8	12.7	43.5
161	Kaltenberg K7001	213	11.7	14.3	15.3	69.7
161	Kaltenberg K7001	227	17.7	17.7	17.7	109.0
161	Kaltenberg K7001	241	-	-	-	-

continued

Table E-9. Determining Corn Hybrid Maturity - Comparison of Hybrids

(continued) **Arlington, WI - 2000**

Date of Planting	Hybrid	Observation Day of year	Leaf Developement: Leaf collars	Leaf Developement: Hail adjusters method	Leaf Developement: Total leaves	Plant height
						inches
171	Cargill 4111	144	-	-	-	-
171	Cargill 4111	158	-	-	-	-
171	Cargill 4111	165	-	-	-	-
171	Cargill 4111	173	-	-	-	-
171	Cargill 4111	188	3.0	4.7	5.3	7.1
171	Cargill 4111	200	7.0	8.7	10.3	24.6
171	Cargill 4111	213	10.0	13.5	14.7	43.3
171	Cargill 4111	227	16.0	16.5	17.5	88.8
171	Cargill 4111	241	18.8	18.8	18.8	102.3
171	Kaltenberg K7001	144	-	-	-	-
171	Kaltenberg K7001	158	-	-	-	-
171	Kaltenberg K7001	165	-	-	-	-
171	Kaltenberg K7001	173	-	-	-	-
171	Kaltenberg K7001	188	3.0	4.2	5.0	6.7
171	Kaltenberg K7001	200	6.0	8.7	10.0	22.5
171	Kaltenberg K7001	213	9.3	12.3	14.3	39.3
171	Kaltenberg K7001	227	15.2	16.2	17.2	84.2
171	Kaltenberg K7001	241	18.5	18.5	18.5	103.2
	Mean		9.4	11.0	11.9	44.9
Probability(%)						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			7.5	7.5	9.3	31.0
D x H			18.7	45.9	21.9	17.4
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			0.2	18.4	1.1	38.7
D x H x S			51.1	73.8	77.9	37.9
LSD(0.10)						
Date of Planting (D)			0.3	0.3	0.3	1.9
Hybrid (H)			0.2	0.2	0.2	NS
D x H			NS	NS	NS	NS
Sample DOY (S)			0.2	0.2	0.2	1.2
D x S			0.4	0.5	0.4	2.6
H x S			0.3	NS	0.3	NS
D x H x S			NS	NS	NS	NS
CV(%)			4	4	4	6

Table E-10. Date of Planting and Hybrid Influence on Corn Forage Quality
Arlington, WI - 1999

Date of planting	Hybrid	Whole Plant Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Stover Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	GH H2497	7.50	24.3	50.1	70.3	40.8	1397	13754	7.16	36.3	66.3	58.7
	Renk RK617	7.46	22.1	47.4	72.7	42.2	1649	15636	7.27	36.4	67.7	58.8
110		7.65	21.4	46.4	73.1	42.0	1717	17784	7.09	37.9	70.2	57.1
121		6.98	21.7	46.7	72.1	40.1	1645	16588	6.67	38.9	71.0	56.7
135		6.78	21.5	46.2	72.3	40.1	1678	17907	6.67	38.5	71.0	56.0
148		7.10	23.5	47.9	69.9	37.5	1470	15057	6.01	41.3	71.1	53.1
163		8.06	26.5	53.5	69.8	43.6	1214	9199	7.94	30.0	57.3	66.0
176		8.32	24.6	51.9	72.0	46.0	1414	11634	9.13	31.0	60.3	64.4
110	GH H2497	7.77	24.0	49.8	70.7	41.2	1430	15038	7.16	38.1	69.8	57.2
110	Renk RK617	7.53	18.9	42.9	75.5	42.8	2004	20530	7.01	37.7	70.6	57.1
121	GH H2497	7.03	20.8	45.4	73.2	41.0	1763	18400	6.76	37.9	69.2	58.2
121	Renk RK617	6.93	22.5	47.9	70.9	39.3	1527	14777	6.58	39.9	72.8	55.1
135	GH H2497	7.08	23.2	48.5	70.2	38.6	1459	15211	7.00	39.0	70.6	55.7
135	Renk RK617	6.47	19.7	43.9	74.3	41.5	1897	20604	6.34	38.1	71.3	56.3
148	GH H2497	6.78	25.6	50.9	67.6	36.4	1205	12847	5.75	41.6	71.0	52.2
148	Renk RK617	7.42	21.4	44.9	72.3	38.5	1734	17268	6.27	41.0	71.2	54.0
163	GH H2497	7.81	27.7	55.1	68.2	42.2	1053	8401	7.66	29.7	56.3	65.6
163	Renk RK617	8.31	25.4	51.9	71.4	44.9	1375	9997	8.23	30.3	58.3	66.3
176	GH H2497	8.52	24.4	50.8	72.2	45.5	1474	12627	8.61	31.8	60.6	63.4
176	Renk RK617	8.12	24.8	52.9	71.7	46.4	1353	10641	9.84	30.1	60.0	65.6
Mean		7.48	23.2	48.8	71.5	41.5	1523	14695	7.21	36.4	67.0	58.8
Probability (%)												
DOP		0.2	0.61	0.1	11.5	0.0	0.22	0.04	0.0	0.0	0.0	0.0
Hybrid		77.1	0.19	0.3	0.3	6.4	0.24	5.76	27.4	78.9	28.8	68.6
DOP x Hybrid		3.7	2.38	0.9	3.2	50.4	1.40	3.90	20.6	79.2	88.9	51.9
LSD (0.10)												
DOP		0.59	2.3	2.9	NS	2.4	248	2949	0.61	1.5	1.8	1.8
Hybrid		NS	1.0	1.4	1.2	1.2	124	1609	NS	NS	NS	NS
DOP x Hybrid		0.69	2.9	3.7	3.1	NS	328	4057	NS	NS	NS	NS
CV (%)		5	9	6	3	6	16	22	11	7	5	5

Table E-11. Date of Planting and Hybrid Influence on Corn Forage Quality
Ashland, WI - 1999

Date of planting	Hybrid	Whole Plant							Stover			
		Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	GH H227	7.34	22.2	47.9	74.9	47.8	1756	14492	7.01	35.3	67.1	61.9
	P3936	7.45	22.7	47.5	74.0	45.0	1721	12294	5.62	41.0	73.1	56.4
110		6.53	22.8	47.8	72.2	41.9	1603	12898	5.42	40.6	73.5	54.6
120		7.10	21.0	45.2	74.4	43.3	1842	14779	5.80	39.0	72.1	56.3
134		7.10	22.1	47.3	73.2	43.7	1683	14692	5.73	39.1	71.4	57.0
148		7.41	20.7	45.4	75.5	46.2	1900	15614	6.06	39.5	71.7	58.8
158		7.80	20.1	44.6	78.5	51.8	2103	15397	7.32	37.3	68.9	61.3
176		8.44	27.8	55.9	73.0	51.7	1298	6977	7.55	33.5	63.1	66.7
110	GH H227	6.52	22.0	48.0	73.2	44.3	1654	14764	6.18	37.1	69.7	58.5
110	P3936	6.54	23.5	47.7	71.2	39.5	1551	11032	4.67	44.0	77.2	50.7
120	GH H227	6.97	21.3	46.7	73.9	44.2	1750	15002	6.56	35.8	68.5	59.6
120	P3936	7.22	20.7	43.7	74.8	42.5	1934	14555	5.04	42.2	75.6	53.0
134	GH H227	6.94	23.4	49.4	72.0	43.7	1523	13997	6.32	36.7	69.2	59.1
134	P3936	7.26	20.9	45.2	74.4	43.7	1843	15387	5.13	41.6	73.6	55.0
148	GH H227	7.35	19.7	45.0	76.9	48.8	1995	17537	6.47	36.6	68.9	61.3
148	P3936	7.48	21.8	45.8	74.1	43.6	1805	13690	5.64	42.4	74.6	56.2
158	GH H227	7.96	19.1	43.3	80.1	54.0	2255	18304	8.52	33.5	64.9	65.0
158	P3936	7.64	21.0	45.9	76.8	49.6	1951	12490	6.12	41.0	72.9	57.7
176	GH H227	8.31	27.3	55.2	73.5	52.1	1355	7344	8.00	32.1	61.4	67.7
176	P3936	8.56	28.2	56.5	72.5	51.4	1240	6610	7.11	34.9	64.7	65.7
Mean		7.39	22.4	47.7	74.5	46.4	1738	13393	6.31	38.2	70.1	59.1
Probability (%)												
DOP		0.1	0.7	0.2	2.9	0.0	1.8	1.3	0.0	0.0	0.0	0.0
Hybrid		60.8	57.0	70.7	26.6	0.1	74.4	4.8	0.0	0.0	0.0	0.0
DOP x Hybrid		95.7	69.4	60.1	45.5	14.4	53.9	38.0	52.7	14.2	40.8	3.9
LSD (0.10)												
DOP		0.59	3.1	4.0	3.1	2.2	347	3947	0.55	1.5	2.3	1.9
Hybrid		NS	NS	NS	NS	1.2	NS	1791	0.44	0.9	1.3	0.9
DOP x Hybrid		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.5
CV (%)		10	14	9	4	5	21	27	14	5	4	3

Table E-12. Date of Planting and Hybrid Influence on Corn Forage Quality
Hancock, WI - 1999

Date of planting	Hybrid	Whole Plant							Stover			
		Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	DL H1203	7.49	23.5	49.7	73.6	46.6	1599	12838	6.55	38.2	71.7	59.0
	NK N3030	7.36	22.3	48.1	73.5	44.6	1665	11806	6.49	38.0	70.4	58.5
116		7.35	22.8	48.0	71.6	40.9	1561	14688	6.24	41.2	75.0	54.1
123		7.20	21.7	46.4	72.4	40.5	1676	14637	6.24	41.7	75.8	53.8
134		7.79	21.5	46.2	73.4	42.6	1746	16166	6.47	39.6	73.3	56.0
152		7.35	23.1	48.6	72.2	42.8	1570	12186	6.61	40.0	72.6	55.9
165		5.80	23.7	49.7	74.7	49.4	1664	10077	5.10	38.1	72.0	60.5
179		9.05	24.8	54.5	76.8	57.4	1574	6179	8.46	27.9	57.7	72.1
116	DL H1203	7.34	25.2	51.8	70.2	42.7	1319	13359	6.08	40.8	75.1	54.8
116	NK N3030	7.36	20.4	44.3	73.0	39.1	1803	16017	6.40	41.7	75.0	53.4
123	DL H1203	7.35	22.4	46.7	72.6	41.4	1677	15647	6.30	40.3	74.8	55.7
123	NK N3030	7.06	21.0	46.2	72.2	39.7	1676	13627	6.19	43.1	76.7	51.8
134	DL H1203	8.16	19.9	43.6	75.7	44.4	1990	19342	6.66	39.1	72.8	57.3
134	NK N3030	7.42	23.2	48.7	71.1	40.7	1502	12991	6.28	40.2	73.8	54.7
152	DL H1203	7.21	24.3	50.1	70.9	41.9	1428	11349	6.77	40.9	73.6	55.0
152	NK N3030	7.49	21.8	47.1	73.5	43.8	1713	13024	6.45	39.1	71.6	56.8
165	DL H1203	5.83	24.1	49.8	75.0	50.1	1681	10876	5.33	39.7	75.1	58.6
165	NK N3030	5.76	23.3	49.7	74.4	48.6	1647	9277	4.88	36.5	68.8	62.5
179	DL H1203	9.04	25.4	56.3	76.8	59.0	1498	6458	8.19	28.2	58.6	72.4
179	NK N3030	9.05	24.3	52.8	76.7	55.9	1649	5901	8.72	27.7	56.7	71.8
Mean		7.42	22.9	48.9	73.5	45.6	1632	12322	6.52	38.1	71.1	58.7
Probability (%)												
DOP		0.0	22.6	1.6	6.3	0.0	89.5	0.1	0.0	0.0	0.0	0.0
Hybrid		34.5	29.6	31.8	95.2	2.0	60.7	35.8	66.8	70.6	2.9	22.6
DOP x Hybrid		39.4	47.3	34.1	38.2	34.8	36.8	26.7	38.9	0.3	0.3	0.0
LSD (0.10)												
DOP		0.50	NS	3.8	2.9	1.9	NS	3267	0.56	1.4	1.5	1.9
Hybrid		NS	NS	NS	NS	1.3	NS	NS	NS	NS	0.9	NS
DOP x Hybrid		NS	NS	NS	NS	NS	NS	NS	NS	1.8	2.2	2.2
CV (%)		6	17	11	5	6	27	31	8	3	3	2

Table E-13. Date of Planting and Hybrid Influence on Corn Forage Quality
Lancaster, WI - 1999

Date of planting	Hybrid	Whole Plant							Stover			
		Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	GH H2497	7.63	22.6	48.5	72.7	43.8	1602	14163	7.30	35.6	66.8	59.9
	Renk RK617	7.73	23.9	50.1	71.9	43.8	1486	10311	7.46	36.2	68.2	59.9
110		7.80	22.3	48.5	71.3	40.9	1523	11412	7.59	36.6	70.1	59.1
120		7.69	21.0	46.8	73.2	42.9	1704	12407	7.37	37.0	70.8	58.2
134		7.45	20.3	45.2	74.7	44.0	1863	16064	6.87	38.1	70.6	56.9
148		7.88	22.3	48.2	72.8	43.7	1622	13794	7.51	36.6	68.5	59.2
165		7.29	27.7	54.6	70.2	45.4	1194	8656	7.40	32.4	60.7	64.3
176		7.95	26.8	53.8	71.0	46.2	1275	10166	7.59	33.8	63.0	62.7
110	GH H2497	7.89	22.2	48.3	71.0	39.9	1515	12375	7.75	37.6	71.3	57.8
110	Renk RK617	7.71	22.3	48.7	71.6	41.9	1530	10449	7.43	35.5	68.9	60.4
120	GH H2497	7.46	21.7	47.7	72.0	41.2	1596	13530	7.68	36.0	69.1	58.6
120	Renk RK617	7.92	20.3	46.0	74.4	44.5	1811	11283	7.07	38.0	72.5	57.7
134	GH H2497	7.47	19.4	44.3	76.1	46.0	1986	19787	7.03	35.4	66.7	59.8
134	Renk RK617	7.43	21.5	46.3	72.9	41.5	1709	11410	6.67	41.5	75.5	53.4
148	GH H2497	8.06	20.2	45.8	74.8	45.1	1841	17513	7.45	35.6	67.0	59.9
148	Renk RK617	7.70	24.4	50.6	70.8	42.4	1402	10074	7.57	37.6	70.1	58.6
165	GH H2497	7.13	26.4	53.2	71.4	46.2	1322	9957	6.96	32.0	60.1	64.1
165	Renk RK617	7.41	28.6	55.6	69.3	44.8	1097	7681	7.73	32.7	61.2	64.4
176	GH H2497	7.70	27.4	54.3	69.9	44.6	1186	9361	6.90	36.0	65.1	60.6
176	Renk RK617	8.21	26.1	53.3	72.2	47.8	1365	10970	8.28	31.6	61.0	64.9
Mean		7.68	23.2	49.3	72.3	43.8	1544	12237	7.38	35.9	67.5	59.9
Probability (%)												
DOP		25.9	0.0	0.0	11.9	3.0	0.6	1.2	44.9	0.9	0.0	0.1
Hybrid		40.0	10.6	13.9	32.4	97.7	21.1	0.0	26.0	54.7	33.2	94.0
DOP x Hybrid		50.6	9.6	23.6	5.6	2.8	10.4	1.4	2.9	7.9	16.8	5.8
LSD (0.10)												
DOP		NS	1.9	2.8	NS	2.6	249	2684	NS	2.4	3.3	2.4
Hybrid		NS	NS	NS	NS	NS	NS	1337	NS	NS	NS	NS
DOP x Hybrid		NS	2.7	NS	3.2	3.4	NS	3545	0.91	3.8	NS	3.7
CV (%)		7	9	6	3	6	17	22	8	9	7	6

Table E-14. Date of Planting and Hybrid Influence on Corn Forage Quality
Marshfield, WI - 1999

Date of planting	Hybrid	Whole Plant							Stover			
		Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	DL H1203	8.17	24.1	50.1	74.4	48.5	1629	14450	7.70	36.5	67.4	61.6
	NK N3030	7.81	22.5	47.4	75.3	47.8	1798	15858	7.73	36.4	66.4	61.8
117		6.99	20.2	44.7	75.4	44.8	1922	20758	6.81	38.6	70.6	56.7
123		7.52	19.5	43.0	77.3	47.4	2109	21648	6.68	37.3	68.2	59.4
135		7.35	23.1	48.3	73.5	45.5	1657	15324	6.57	39.9	70.1	57.6
152		7.68	23.0	47.5	74.9	47.2	1770	15777	7.80	36.8	67.0	62.3
162		8.75	25.7	51.8	73.5	49.0	1502	11274	8.99	34.8	64.9	64.8
176		9.59	28.2	57.3	74.2	55.0	1304	6078	9.30	31.8	61.0	68.9
117	DL H1203	7.41	21.2	46.1	74.8	45.4	1827	20016	6.68	38.7	70.8	56.7
117	NK N3030	6.57	19.3	43.2	75.9	44.2	2017	21499	6.94	38.5	70.3	56.8
123	DL H1203	7.79	20.4	44.3	76.1	46.2	1982	19387	6.82	37.0	68.3	60.2
123	NK N3030	7.25	18.5	41.7	78.6	48.6	2235	23908	6.54	37.6	68.0	58.5
135	DL H1203	7.37	24.6	50.0	72.4	44.9	1521	14244	6.72	39.8	70.1	58.2
135	NK N3030	7.33	21.1	46.1	75.0	46.2	1839	16764	6.36	40.1	70.1	56.9
152	DL H1203	7.72	24.6	49.3	74.2	47.7	1653	14860	8.14	36.6	67.0	62.2
152	NK N3030	7.64	21.3	45.7	75.5	46.6	1887	16694	7.47	36.9	66.9	62.5
162	DL H1203	9.17	25.5	51.9	74.2	50.4	1538	11835	8.35	35.0	65.2	64.5
162	NK N3030	8.34	26.0	51.8	72.8	47.5	1465	10712	9.64	34.6	64.7	65.0
176	DL H1203	9.59	28.2	58.7	74.4	56.5	1254	6359	9.52	32.2	62.8	68.0
176	NK N3030	9.59	28.2	55.8	73.9	53.4	1355	5796	9.08	31.4	59.3	69.8
Mean		7.99	23.3	48.8	74.8	48.2	1712	15139	7.71	36.5	66.9	61.7
Probability (%)												
DOP		0.0	0.1	0.0	12.8	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Hybrid		2.8	3.6	0.3	29.9	48.8	4.2	28.4	85.7	96.9	37.6	92.0
DOP x Hybrid		57.6	50.0	77.2	67.6	60.4	74.3	73.1	14.7	96.1	73.4	60.5
LSD (0.10)												
DOP		0.44	3.0	3.4	NS	2.2	287	3634	0.71	1.4	1.6	1.9
Hybrid		0.30	1.1	1.2	NS	NS	118	NS	NS	NS	NS	NS
DOP x Hybrid		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV (%)		7	9	5	3	8	14	25	10	5	4	4

Table E-15. Date of Planting and Hybrid Influence on Corn Forage Quality
Spooner, WI - 1999

		Whole Plant							Stover			
Date of planting	Hybrid	Crude protein	ADF	NDF	*In Vitro* digestibility	Cell Wall digestibility	Milk Per ton	Milk Per acre	Crude protein	ADF	NDF	*In Vitro* digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	GH H2279	7.00	22.9	48.2	74.0	46.2	1690	14437	6.24	35.5	66.6	62.0
	P3936	7.52	22.4	47.4	74.2	45.5	1737	13856	6.20	37.8	68.5	60.1
110		7.43	19.4	43.6	75.1	43.0	1956	17206	5.71	37.4	68.6	59.4
123		7.15	22.1	46.7	73.6	43.7	1731	17005	5.83	37.2	68.0	59.4
138		7.32	22.3	47.5	73.7	44.7	1704	14335	6.53	37.4	69.0	59.9
152		7.07	19.4	43.9	76.8	47.5	2040	17202	6.01	39.0	71.1	58.6
165		7.65	23.6	48.9	74.7	48.5	1698	12780	7.08	35.8	66.9	62.5
176		6.96	29.1	56.0	70.6	47.8	1153	6350	6.19	33.1	61.6	66.4
110	GH H2279	7.06	21.2	46.6	73.3	42.8	1724	14737	6.11	34.6	65.9	62.8
110	P3936	7.80	17.6	40.7	76.9	43.3	2188	19674	5.31	40.2	71.3	56.0
123	GH H2279	7.15	19.4	43.6	75.8	44.9	1993	20719	5.57	39.1	70.5	57.0
123	P3936	7.14	24.9	49.8	71.4	42.6	1469	13291	6.08	35.3	65.6	61.7
138	GH H2279	7.07	21.7	46.5	75.0	46.2	1824	15531	6.93	35.7	68.1	61.0
138	P3936	7.56	22.8	48.5	72.4	43.1	1584	13139	6.13	39.2	70.0	58.8
152	GH H2279	6.88	18.9	42.7	78.1	49.1	2170	19058	5.86	37.0	68.7	60.6
152	P3936	7.26	19.8	45.2	75.5	45.9	1910	15345	6.16	40.9	73.6	56.6
165	GH H2279	7.59	24.9	50.5	73.6	47.9	1568	11918	7.07	34.2	65.3	63.7
165	P3936	7.72	22.3	47.4	75.8	49.0	1828	13643	7.09	37.4	68.5	61.4
176	GH H2279	6.28	31.4	59.4	68.1	46.3	861	4658	5.91	32.4	61.4	66.8
176	P3936	7.64	26.8	52.6	73.1	49.3	1446	8041	6.47	33.7	61.9	66.0
Mean		7.26	22.6	47.8	74.1	45.9	1714	14146	6.22	36.7	67.6	61.0
Probability (%)												
DOP		34.3	0.0	0.0	1.1	0.1	0.1	0.0	8.7	0.2	0.0	0.0
Hybrid		1.5	60.9	57.2	86.2	39.7	70.7	67.6	88.9	0.2	10.5	3.8
DOP x Hybrid		40.2	9.5	11.0	10.5	17.3	10.5	12.9	48.0	0.9	11.9	2.7
LSD (0.10)												
DOP		NS	2.1	2.9	2.5	2.2	264	3312	0.81	1.9	2.3	2.2
Hybrid		0.33	NS	NS	NS	NS	NS	NS	NS	1.1	NS	1.5
DOP x Hybrid		NS	3.7	NS	NS	NS	NS	NS	NS	2.7	NS	3.4
CV (%)		9	16	11	5	6	25	34	15	6	6	5

Table E-16. Harvest Date and Hybrid Influence on Corn Forage and Silage Quality
Arlington, WI - 1999

		Whole Plant Quality							Ensiled Whole Plant Quality							Stover Quality			
	Harvest	Crude			*In Vitro*	Cell Wall	Milk		Crude			*In Vitro*	Cell Wall	Milk		Crude			*In Vitro*
Hybrid	Date	Protein	ADF	NDF	Digestibility	Digestibility	Ton	Acre	Protein	ADF	NDF	Digestibility	Digestibility	Ton	Acre	Protein	ADF	NDF	Digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
	193	13.8	33.3	68.0	67.3	51.9	442	1591	12.7	37.1	62.0	65.0	43.7	573	2076	-	-	-	-
	200	12.8	35.8	70.5	61.9	46.0	25	102	13.0	37.6	62.7	63.9	42.5	477	1967	-	-	-	-
	209	10.8	32.7	65.8	66.2	48.7	474	2796	10.0	37.4	63.5	63.8	43.1	437	2583	10.6	34.9	67.1	63.3
	219	9.5	28.7	56.5	72.6	51.7	1248	9713	9.1	36.2	59.4	67.2	44.7	810	6254	9.2	33.8	63.1	65.7
	228	8.7	25.4	51.6	73.4	48.5	1509	13382	8.4	31.1	53.6	68.7	41.6	1154	10208	9.1	34.4	64.7	63.0
	238	8.8	24.1	48.7	70.7	39.9	1477	14168	8.7	23.0	44.4	70.1	32.7	1634	15657	9.2	38.7	69.7	54.8
	247	7.7	23.5	49.4	71.0	41.4	1468	16643	8.5	19.9	39.9	69.4	22.9	1788	20501	7.3	37.9	68.1	55.2
	257	7.4	21.0	44.5	71.9	37.0	1730	19535	7.6	21.8	41.5	68.9	25.0	1692	19143	7.2	38.4	68.5	53.3
DK591		10.2	29.1	58.0	69.0	46.0	978	9861	10.0	31.4	54.7	66.1	36.4	953	9644	8.7	36.0	66.1	60.6
GH H2387		10.1	26.9	55.8	69.8	45.4	1119	10356	9.8	30.3	53.2	67.4	37.3	1097	9921	9.3	36.3	68.1	57.9
GH H2497		9.9	28.7	58.1	68.2	44.6	925	8593	9.4	30.7	54.0	66.6	36.9	1010	9360	8.8	36.8	67.1	58.2
P36H36		9.6	27.6	55.6	70.5	46.6	1165	10155	9.9	29.7	51.6	68.5	37.5	1223	10269	8.3	36.3	66.1	60.2
DK591	193	14.3	33.8	68.0	68.2	53.2	491	1830	13.2	37.1	62.9	64.1	42.8	480	1791	-	-	-	-
DK591	200	13.3	37.1	71.7	61.9	46.8	-30	-120	13.3	38.5	64.2	61.8	40.6	291	1249	-	-	-	-
DK591	209	10.7	34.2	67.6	64.4	47.5	295	1656	10.4	38.8	64.8	61.4	40.5	244	1336	10.9	35.4	67.9	63.6
DK591	219	9.8	29.6	58.6	72.3	52.6	1138	9418	9.1	37.9	62.0	67.2	47.2	697	5837	8.8	34.0	63.5	66.0
DK591	228	8.9	27.3	54.0	72.3	48.6	1340	12146	8.4	32.9	56.8	67.5	42.9	945	8590	8.8	34.6	64.6	63.0
DK591	238	9.2	27.1	51.6	68.3	38.6	1217	12118	8.9	27.0	48.4	67.1	32.0	1282	12718	9.0	38.0	68.4	56.4
DK591	247	7.7	23.4	49.2	71.4	41.7	1497	18021	8.2	20.3	40.4	67.8	19.7	1675	20390	7.3	36.7	65.7	58.8
DK591	257	7.6	20.0	43.3	73.6	39.0	1877	23819	8.3	18.5	37.9	71.8	25.5	2014	25244	7.2	37.1	66.3	55.8
GH H2387	193	13.8	33.5	68.6	65.8	50.2	332	1116	12.3	38.0	62.6	63.9	42.4	484	1653	-	-	-	-
GH H2387	200	13.0	35.9	69.4	61.6	44.7	53	218	13.0	36.8	62.1	66.3	45.7	643	2515	-	-	-	-
GH H2387	209	11.4	31.1	64.5	68.1	50.5	638	3710	9.8	37.5	64.3	65.1	45.7	476	2766	11.1	34.4	66.6	63.7
GH H2387	219	9.4	26.6	54.3	74.4	52.9	1447	11401	9.2	35.4	58.4	66.5	42.7	815	6441	9.0	34.0	63.7	64.3
GH H2387	228	8.7	22.6	48.7	75.6	49.9	1764	15533	8.7	29.7	51.8	69.3	40.7	1264	11064	9.8	33.4	65.1	62.7
GH H2387	238	8.9	22.6	47.2	70.7	38.0	1544	14427	8.8	21.4	42.6	69.5	28.6	1677	15683	10.2	39.4	72.4	52.5
GH H2387	247	8.2	21.8	48.0	72.2	42.2	1594	19053	8.9	18.4	38.4	70.8	23.8	1931	22858	8.0	37.1	68.8	54.2
GH H2387	257	7.5	21.4	45.7	70.1	34.6	1576	17389	7.6	25.3	45.2	68.1	28.9	1484	16386	7.7	39.9	72.4	49.9

continued

Table E-16. Harvest Date and Hybrid Influence on Corn Forage and Silage Quality
(continued) **Arlington, WI - 1999**

		Whole Plant Quality							Ensiled Whole Plant Quality							Stover Quality			
	Harvest	Crude			*In Vitro*	Cell Wall	Milk		Crude			*In Vitro*	Cell Wall	Milk		Crude			*In Vitro*
Hybrid	Date	Protein	ADF	NDF	Digestibility	Digestibility	Ton	Acre	Protein	ADF	NDF	Digestibility	Digestibility	Ton	Acre	Protein	ADF	NDF	Digestibility
		%	%	%	%	%	lbs/T	lbs/A	%	%	%	%	%	lbs/T	lbs/A	%	%	%	%
GH H2497	193	14.0	32.8	68.5	67.9	53.2	455	1642	12.2	36.9	62.5	64.8	43.7	541	1979	-	-	-	-
GH H2497	200	12.8	35.3	71.7	61.5	46.4	-48	-222	12.6	39.0	62.7	61.1	38.0	317	1330	-	-	-	-
GH H2497	209	10.9	33.8	67.5	63.5	45.9	247	1389	9.6	37.9	64.7	61.5	40.5	257	1448	10.5	36.0	69.2	60.6
GH H2497	219	9.7	31.5	60.3	68.4	47.7	842	6051	9.2	36.9	60.8	67.6	46.7	771	5493	9.9	33.9	63.2	65.9
GH H2497	228	8.8	27.0	53.7	71.4	46.8	1302	10999	8.0	31.5	54.8	67.0	39.8	999	8416	9.0	35.4	65.4	61.5
GH H2497	238	8.5	23.5	48.9	71.5	41.6	1515	14356	7.7	24.7	47.1	70.5	37.4	1538	14498	8.9	39.4	69.7	53.8
GH H2497	247	7.7	24.1	49.7	69.6	39.0	1370	15358	8.5	18.8	39.0	70.7	24.4	1900	22072	7.7	38.7	68.7	53.1
GH H2497	257	6.8	21.3	44.5	71.6	36.1	1716	19169	7.1	20.0	40.6	69.3	24.3	1752	19646	7.0	37.5	66.4	54.2
P36H36	193	13.0	33.3	66.8	67.2	50.9	489	1776	13.2	36.2	60.1	67.3	45.7	785	2883	-	-	-	-
P36H36	200	12.3	35.1	69.1	62.7	46.0	126	531	13.2	36.2	61.8	66.3	45.5	657	2774	-	-	-	-
P36H36	209	10.4	31.7	63.6	68.8	50.9	718	4430	10.0	35.5	60.3	67.2	45.5	772	4783	9.9	34.1	64.8	65.3
P36H36	219	9.2	26.9	52.9	75.4	53.5	1565	11983	9.0	34.5	56.4	67.5	42.4	957	7247	9.1	33.2	61.8	66.8
P36H36	228	8.4	24.5	50.0	74.3	48.8	1630	14850	8.5	30.4	50.8	71.1	43.0	1407	12761	8.8	34.4	63.8	64.6
P36H36	238	8.6	23.5	47.3	72.3	41.6	1633	15770	9.6	18.9	39.6	73.5	32.7	2038	19728	8.5	38.0	68.5	56.6
P36H36	247	7.2	24.6	50.5	70.9	42.6	1409	14140	8.6	22.3	41.8	68.3	23.9	1646	16683	6.2	39.1	69.0	54.8
P36H36	257	7.5	21.3	44.7	72.4	38.4	1751	17761	7.4	23.4	42.4	66.6	21.1	1518	15297	7.0	39.0	68.8	53.3
Mean		9.9	28.1	56.9	69.4	45.6	1047	9741	9.8	30.5	53.4	67.1	37.0	1071	9799	8.8	36.4	66.9	59.2
Probability(%)																			
Hybrid		11.5	2.2	3.0	5.5	1.2	4.3	10.1	5.5	12.6	0.5	0.9	85.4	0.1	31.2	2.8	11.4	0.1	0.0
Date of Harvest		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hybrid x Date of Harvest		56.9	18.9	43.6	7.0	1.2	19.2	13.4	22.4	0.0	0.0	0.7	18.2	0.0	0.0	54.2	6.5	0.0	14.4
LSD(0.10)																			
Hybrid		NS	1.1	1.6	1.3	0.9	145	NS	0.4	NS	1.2	1.0	NS	86	NS	0.4	NS	0.5	0.7
Date of Harvest		0.4	1.4	1.9	1.6	1.5	165	1891	0.4	1.3	1.5	1.6	3.0	134	1338	0.5	0.9	0.9	1.5
Hybrid x Date of Harvest		NS	NS	NS	3.2	2.9	NS	NS	NS	2.7	3.0	3.1	NS	264	2644	NS	1.7	1.8	NS
CV(%)		6	5	6	4	5	27	33	7	7	5	4	14	21	23	10	4	2	4