

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID** 2347 **Year:** 2002
Personnel: J.G. Lauer, P. J. Flannery, and K. D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 369 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** 11/1 /02 **pH** 6.3 **OM (%)** 3.1 **P (ppm)** 40 **K (ppm)** 141

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher

		<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
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 2.5 pt/A **Insecticide:** None
Hornet 3.0 oz/A **Hybrid:** See Factors

Irrigation: none

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

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

Harvest Date: S: 9/25 & 10/9 **Harvest Method:** S:New Holland Plot Chopper

Notes:

Experimental Design

Design: RCB split plot

Replications: 3

Plot Size Seeded: 25' x 20'

Experiment Size: 0.69 A

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

Harvest Plant Density: S:28358 plants per acre

Factors/Treatments:

Date of Planting:

April 15, April 30,
May 10, May 20,
May 31 & June 10

Hybrids:

Pioneer 35R57
Midwest G7101B

Results: Tables C-29 and C-30.

**Table C-29. Planting Date And Hybrid Influence On Corn Grain And Silage Performance
Arlington, WI - 2002.**

Planting Date	Hybrid	Grain										Plants Silking on Day of Year						
		Yield	Moisture	Test wt	Grower return	Lodged	Harvest pop	Harvest ear pop	Seeds planted	Plants emerged	Flag Leaf height	206	210	213	217	220	224	227
		bu/A	%	lbs/bu	\$/A	%	plants/A	ears/A	seeds/A	plants/A	inches	%						
	Midwest G7101B	187	21.6	54	392	2	29326	29722	41184	34265	102	11	53	65	84	92	96	99
	Pioneer 35R57	185	24.4	52	380	2	28688	28864	41184	33017	103	12	44	59	75	88	94	97
April 15		194	20.4	55	408	1	24750	25278	41184	27291	100	34	75	82	90	95	95	95
April 30		186	21.0	54	391	1	26334	26532	41184	26400	98	15	67	87	98	100	100	100
May 10		210	20.6	54	443	4	29766	29832	41184	34106	102	18	71	94	96	97	97	97
May 20		224	20.5	54	472	4	30954	31350	41184	39468	102	0	78	96	98	98	98	98
May 31		148	27.2	51	298	2	30426	30558	41184	37950	104	0	0	13	85	99	99	99
June 10		146	29.8	50	288	1	31812	32208	41184	36630	108	0	0	0	11	49	82	99
April 15	Midwest G7101B	187	19.3	57	396	1	24948	25740	41184	27522	101	35	80	87	100	100	100	100
April 15	Pioneer 35R57	201	21.4	53	420	1	24552	24816	41184	27060	100	34	70	77	79	89	89	89
April 30	Midwest G7101B	183	20.1	56	386	2	27192	27456	41184	27588	97	9	71	89	97	100	100	100
April 30	Pioneer 35R57	190	21.8	53	396	1	25476	25608	41184	25212	99	20	64	86	99	100	100	100
May 10	Midwest G7101B	205	19.6	55	435	4	28908	28908	41184	34914	102	19	78	94	96	96	96	96
May 10	Pioneer 35R57	216	21.6	53	451	4	30624	30756	41184	33297	103	18	63	94	96	97	97	97
May 20	Midwest G7101B	223	19.8	55	472	6	31284	31812	41184	40062	104	0	88	97	98	98	98	98
May 20	Pioneer 35R57	225	21.2	53	472	3	30624	30888	41184	38874	101	0	68	96	98	98	98	98
May 31	Midwest G7101B	150	25.3	52	305	1	30888	31020	41184	38313	103	0	0	22	92	98	98	98
May 31	Pioneer 35R57	147	29.1	51	291	2	29964	30096	41184	37587	105	0	0	4	77	100	100	100
June 10	Midwest G7101B	171	27.2	51	344	1	32736	33396	41184	37191	108	0	0	0	21	57	82	99
June 10	Pioneer 35R57	129	31.6	49	251	0	30888	31020	41184	36069	108	0	0	0	2	40	82	100
Mean		186	23.0	53	386	2	29007	29293	41184	33641	102	11	49	62	80	90	95	98
Probability(%)																		
Date of Planting (D)		0.8	0.0	0.1	0.3	0.0	0.1	0.1	-	0.0	0.4	3.5	0.0	0.0	0.0	1.9	8.5	71.1
Hybrid (H)		43.6	0.0	0.0	98.1	30.5	35.2	21.2	-	0.5	74.1	50.7	7.4	2.3	4.8	20.1	45.4	49.1
D x H		47.5	0.6	5.9	38.6	24.9	67.5	54.9	-	71.3	37.7	51.4	74.8	12.5	37.1	44.9	50.5	31.2
LSD (0.10)																		
Date of Planting (D)		37	0.9	1.6	74	1.3	2587	2430	-	3381	4	20	26	18	17	27	12	NS
Hybrid (H)		NS	0.3	0.3	NS	NS	NS	NS	-	649	NS	NS	8	4	7	NS	NS	NS
D x H		NS	0.8	0.8	NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)																		
		6	2	1	6	84	7	7	-	3	2	54	28	10	16	11	7	6

continued

Table C-29. Planting Date And Hybrid Influence On Corn Grain And Silage Performance

(continued) **Arlington, WI - 2002.**

Planting Date	Hybrid	Whole Plant												
		Dry Matter		Kernel milk	Harvest		Crude protien	ADF	NDF	<i>In Vitro</i>			Milk per	
		yield	Moisture		plants	ears				Digest	NDFD	Starch	Ton	Acre
tons/A	%	%	plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A		
	Midwest G7101B	8.2	59.0	31	28864	28468	7.9	23.5	46.2	83.2	63.6	32.0	3519	28819
	Pioneer 35R57	8.6	58.2	39	27852	27060	7.9	22.8	46.3	84.2	66.0	31.8	3595	31102
April 15		8.1	56.8	28	23892	24420	7.8	21.7	44.1	84.7	65.4	33.9	3601	29329
April 30		8.0	58.0	29	24816	24552	8.0	21.8	44.4	84.8	65.9	33.4	3636	29169
May 10		9.1	56.8	29	28908	28248	7.5	23.0	46.1	84.2	65.7	32.6	3584	32525
May 20		9.4	57.9	35	30228	29832	7.4	21.7	43.9	85.0	65.7	35.0	3641	34320
May 31		8.1	59.9	39	30096	29568	8.4	24.4	48.1	82.3	63.2	29.7	3471	28319
June 10		7.6	62.5	49	32208	29964	8.3	26.3	50.8	81.1	62.7	26.7	3408	26101
April 15	Midwest G7101B	7.6	57.5	25	22968	24288	7.8	22.1	44.0	84.3	64.3	34.1	3568	27208
April 15	Pioneer 35R57	8.7	56.1	32	24816	24552	7.9	21.4	44.2	85.2	66.6	33.6	3635	31450
April 30	Midwest G7101B	7.9	57.4	27	25872	26400	8.1	22.1	44.4	84.3	64.7	33.6	3590	28402
April 30	Pioneer 35R57	8.1	58.5	32	23760	22704	8.0	21.5	44.5	85.3	67.0	33.2	3681	29937
May 10	Midwest G7101B	8.4	58.3	20	29040	27984	7.5	23.8	46.7	83.2	64.1	31.7	3532	29848
May 10	Pioneer 35R57	9.7	55.2	38	28776	28512	7.5	22.1	45.5	85.2	67.4	33.5	3635	35203
May 20	Midwest G7101B	9.4	58.1	30	31152	30360	7.5	21.7	43.2	84.6	64.3	35.6	3607	34073
May 20	Pioneer 35R57	9.4	57.6	40	29304	29304	7.4	21.8	44.6	85.4	67.1	34.3	3676	34566
May 31	Midwest G7101B	7.9	60.5	38	31152	30888	8.3	24.1	47.0	82.2	62.2	31.0	3472	27582
May 31	Pioneer 35R57	8.3	59.2	40	29040	28248	8.4	24.8	49.3	82.3	64.2	28.4	3470	29056
June 10	Midwest G7101B	7.7	62.2	48	33000	30888	8.1	27.1	51.6	80.4	61.9	25.8	3345	25803
June 10	Pioneer 35R57	7.6	62.7	50	31416	29040	8.5	25.4	49.9	81.8	63.4	27.7	3472	26400
Mean		8.4	58.6	35	28358	27764	7.9	23.2	46.2	83.7	64.8	31.9	3557	29961
Probability(%)														
Date of Planting (D)		17.1	24.2	2.8	0.2	0.1	22.0	2.5	6.1	0.7	2.0	28.3	8.5	11.6
Hybrid (H)		19.4	19.8	2.0	19.1	8.0	52.1	26.2	84.7	2.3	0.0	86.2	1.8	6.8
D x H		79.4	35.7	50.6	59.4	5464	68.9	77.7	74.9	81.8	51.5	73.3	82.3	75.1
LSD (0.10)														
Date of Planting (D)		NS	NS	11.4	3151	2262	NS	2.6	4.4	1.8	1.9	NS	165	NS
Hybrid (H)		NS	NS	4.8	NS	1310	NS	NS	NS	0.7	0.5	NS	49.3	2028
D x H		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)														
		12	3	23	8	8	4	7	6	1	1	9	2	11

**Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development
Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		154	2.4	3.2	4.0	3.2
		168	3.7	4.7	6.3	8.2
		179	5.7	7.7	8.8	19.1
		191	9.5	12.0	13.4	45.5
		206	15.5	15.9	16.9	85.8
		220	18.3	18.4	18.4	100.3
	Midwest G7101B		10.3	11.5	12.5	49.5
	Pioneer 35R57		9.7	10.8	11.8	47.6
	Midwest G7101B	154	2.5	3.2	3.9	3.2
	Midwest G7101B	168	3.8	4.7	6.4	8.3
	Midwest G7101B	179	5.9	7.9	9.1	20.4
	Midwest G7101B	191	9.9	12.6	14.1	46.6
	Midwest G7101B	206	16.2	16.7	17.6	87.4
	Midwest G7101B	220	18.7	18.7	18.7	101.3
	Pioneer 35R57	154	2.4	3.2	4.0	3.2
	Pioneer 35R57	168	3.6	4.7	6.1	8.1
	Pioneer 35R57	179	5.5	7.5	8.6	17.8
	Pioneer 35R57	191	9.1	11.4	12.8	44.4
	Pioneer 35R57	206	14.8	15.2	16.2	84.2
	Pioneer 35R57	220	17.9	18.0	18.1	99.3
April 15			10.5	11.7	12.6	49.4
April 30			10.0	11.1	12.0	44.5
May 10			9.6	10.7	11.7	46.9
May 20			10.9	12.2	13.3	56.8
May 31			9.1	10.3	11.3	45.6
June 10			9.7	11.0	12.0	49.4
April 15		154	3.0	3.7	4.4	3.8
April 15		168	4.4	6.3	7.2	9.9
April 15		179	7.2	9.9	11.0	25.3
April 15		191	11.5	13.9	15.7	58.9
April 15		206	18.5	17.8	18.7	98.9
April 15		220	18.6	18.6	18.6	99.8
April 30		154	2.5	3.4	4.2	3.4
April 30		168	4.5	5.5	6.9	8.9
April 30		179	6.8	8.8	10.2	22.8
April 30		191	10.4	13.0	14.6	48.3
April 30		206	17.1	17.2	17.8	87.9
April 30		220	18.5	18.5	18.6	96.0

continued

Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 10		154	1.8	2.6	3.3	2.4
May 10		168	3.9	4.8	6.7	9.0
May 10		179	6.7	8.7	9.9	22.3
May 10		191	10.1	12.9	14.3	52.4
May 10		206	16.5	16.8	17.6	93.8
May 10		220	18.7	18.7	18.7	101.3
May 20		154	-	-	-	-
May 20		168	3.6	4.6	6.6	9.3
May 20		179	6.3	8.6	9.8	23.8
May 20		191	10.0	13.1	14.3	53.8
May 20		206	16.3	16.5	17.4	95.2
May 20		220	18.4	18.4	18.4	102.0
May 31		154	-	-	-	-
May 31		168	2.0	2.5	4.0	4.1
May 31		179	4.4	6.2	7.2	12.4
May 31		191	8.1	10.1	11.4	34.4
May 31		206	12.9	14.3	15.4	75.5
May 31		220	18.3	18.3	18.3	101.8
June 10		154	-	-	-	-
June 10		168	-	-	-	-
June 10		179	3.0	3.9	5.1	7.9
June 10		191	6.9	9.0	10.3	25.3
June 10		206	11.5	13.2	14.6	63.4
June 10		220	17.4	17.8	17.8	101.0
April 15	Midwest G7101B		10.6	11.8	12.8	48.8
April 15	Pioneer 35R57		10.4	11.6	12.4	50.0
April 30	Midwest G7101B		10.1	11.3	12.2	44.9
April 30	Pioneer 35R57		9.8	10.9	11.9	44.2
May 10	Midwest G7101B		10.1	11.2	12.3	48.0
May 10	Pioneer 35R57		9.2	10.2	11.2	45.7
May 20	Midwest G7101B		11.4	12.8	13.9	58.3
May 20	Pioneer 35R57		10.4	11.7	12.7	55.3
May 31	Midwest G7101B		9.6	10.8	11.9	48.1
May 31	Pioneer 35R57		8.6	9.7	10.6	43.2
June 10	Midwest G7101B		10.0	11.2	12.3	50.6
June 10	Pioneer 35R57		9.4	10.7	11.7	48.2
April 15	Midwest G7101B	154	3.0	3.7	4.5	3.6
April 15	Midwest G7101B	168	4.3	6.0	7.0	9.1
April 15	Midwest G7101B	179	7.2	10.0	11.0	25.0
April 15	Midwest G7101B	191	11.7	14.2	16.2	57.0
April 15	Midwest G7101B	206	18.8	18.2	19.0	99.2
April 15	Midwest G7101B	220	18.8	18.8	18.8	99.2

continued

Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
April 15	Pioneer 35R57	154	3.0	3.7	4.3	3.9
April 15	Pioneer 35R57	168	4.5	6.5	7.3	10.8
April 15	Pioneer 35R57	179	7.2	9.8	11.0	25.5
April 15	Pioneer 35R57	191	11.3	13.7	15.2	60.8
April 15	Pioneer 35R57	206	18.2	17.5	18.3	98.7
April 15	Pioneer 35R57	220	18.3	18.3	18.3	100.3
April 30	Midwest G7101B	154	2.5	3.3	3.8	3.5
April 30	Midwest G7101B	168	4.5	5.5	7.0	9.8
April 30	Midwest G7101B	179	6.8	8.7	10.3	24.7
April 30	Midwest G7101B	191	10.8	13.7	15.2	48.8
April 30	Midwest G7101B	206	17.5	17.7	18.0	86.7
April 30	Midwest G7101B	220	18.7	18.7	18.7	96.0
April 30	Pioneer 35R57	154	2.5	3.5	4.5	3.3
April 30	Pioneer 35R57	168	4.5	5.5	6.8	7.9
April 30	Pioneer 35R57	179	6.7	9.0	10.0	21.0
April 30	Pioneer 35R57	191	10.0	12.3	14.0	47.7
April 30	Pioneer 35R57	206	16.7	16.7	17.5	89.2
April 30	Pioneer 35R57	220	18.3	18.3	18.5	96.0
May 10	Midwest G7101B	154	2.0	2.7	3.5	2.5
May 10	Midwest G7101B	168	4.0	4.7	7.0	8.9
May 10	Midwest G7101B	179	7.0	9.2	10.3	24.0
May 10	Midwest G7101B	191	10.7	13.7	15.2	54.5
May 10	Midwest G7101B	206	17.5	18.0	18.7	96.7
May 10	Midwest G7101B	220	19.2	19.2	19.2	101.3
May 10	Pioneer 35R57	154	1.7	2.5	3.2	2.3
May 10	Pioneer 35R57	168	3.8	4.8	6.3	9.0
May 10	Pioneer 35R57	179	6.3	8.2	9.5	20.7
May 10	Pioneer 35R57	191	9.5	12.2	13.3	50.3
May 10	Pioneer 35R57	206	15.5	15.5	16.5	91.0
May 10	Pioneer 35R57	220	18.2	18.2	18.2	101.2
May 20	Midwest G7101B	154	-	-	-	-
May 20	Midwest G7101B	168	4.0	4.7	7.0	9.7
May 20	Midwest G7101B	179	6.5	9.0	10.2	25.3
May 20	Midwest G7101B	191	10.5	13.8	15.2	55.7
May 20	Midwest G7101B	206	17.2	17.5	18.3	97.5
May 20	Midwest G7101B	220	18.8	18.8	18.8	103.5
May 20	Pioneer 35R57	154	-	-	-	-
May 20	Pioneer 35R57	168	3.2	4.5	6.2	8.8
May 20	Pioneer 35R57	179	6.0	8.2	9.3	22.2
May 20	Pioneer 35R57	191	9.5	12.3	13.5	52.0
May 20	Pioneer 35R57	206	15.5	15.5	16.5	92.8
May 20	Pioneer 35R57	220	18.0	18.0	18.0	100.5

continued

Table C-30. Determining Corn Hybrid Maturity - Comparison of Hybrids
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 31	Midwest G7101B	154	-	-	-	-
May 31	Midwest G7101B	168	2.0	2.7	4.0	4.1
May 31	Midwest G7101B	179	4.8	6.7	7.7	14.8
May 31	Midwest G7101B	191	8.7	10.8	12.5	37.2
May 31	Midwest G7101B	206	14.0	15.2	16.5	80.8
May 31	Midwest G7101B	220	18.7	18.7	18.7	103.7
May 31	Pioneer 35R57	154	-	-	-	-
May 31	Pioneer 35R57	168	2.0	2.3	4.0	4.2
May 31	Pioneer 35R57	179	4.0	5.7	6.7	10.0
May 31	Pioneer 35R57	191	7.5	9.3	10.3	31.7
May 31	Pioneer 35R57	206	11.8	13.3	14.3	70.2
May 31	Pioneer 35R57	220	17.8	17.8	17.8	99.8
June 10	Midwest G7101B	154	-	-	-	-
June 10	Midwest G7101B	168	-	-	-	-
June 10	Midwest G7101B	179	3.0	3.8	5.2	8.5
June 10	Midwest G7101B	191	7.2	9.3	10.5	26.5
June 10	Midwest G7101B	206	12.0	13.7	15.2	63.7
June 10	Midwest G7101B	220	17.8	18.0	18.2	103.8
June 10	Pioneer 35R57	154	-	-	-	-
June 10	Pioneer 35R57	168	-	-	-	-
June 10	Pioneer 35R57	179	3.0	4.0	5.0	7.3
June 10	Pioneer 35R57	191	6.7	8.7	10.2	24.2
June 10	Pioneer 35R57	206	11.0	12.7	14.0	63.2
June 10	Pioneer 35R57	220	17.0	17.5	17.5	98.2
Mean			10.0	11.2	12.1	48.6

Probability(%)

Date of Planting (D)	0.0	0.0	0.0	0.0
Hybrid (H)	0.0	0.0	0.0	0.1
D x H	1.3	0.3	0.0	4.3
Sample DOY (S)	0.0	0.0	0.0	0.0
D x S	0.0	0.0	0.0	0.0
H x S	0.0	0.0	0.0	67.6
D x H x S	99.4	98.3	64.8	90.6

LSD(0.10)

Date of Planting (D)	0.4	0.5	0.4	3.7
Hybrid (H)	0.1	0.1	0.1	0.8
D x H	0.3	0.3	0.3	2.1
Sample DOY (S)	0.2	0.2	0.2	1.5
D x S	0.5	0.5	0.4	3.6
H x S	0.3	0.5	0.3	NS
D x H x S	NS	NS	NS	NS

CV(%)

	5	5	4	8
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