

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID:** 3673 **Year:** 2013
Personnel: J.G. Lauer, K.D. Kohn, and T. Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS358 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/1 /13 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 27 **K (ppm)** 161

Plot Management

Tillage Operations: Spring Chisel Field Cultivator

		<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:	Preplant :	46-0-0	325	N/A
	Starter :	9-23-30	150	See Factors
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Dual II 1.5 pt/A **Insecticide:** Force 3G 4.4 lb/A
 Hornet 4.0 oz/A **Hybrid:** See Factors

Irrigation: none

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

Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter

Harvest Date: S: 9/18/13 & 9/30/13 **Harvest Method:** S: New Holland 707
 G: 11/4/13 G: Massey Ferguson 8XP

Notes: Silage Harvest: DOP's 4/26, 5/02, 5/16 chopped on 9/18. DOP's 6/3, 6/17 chopped on 9/30.

Experimental Design

Design: RCB split-plot

Replications: 4

Plot Size Seeded: 20 x 25

Experiment Size: 1.1 A

Harvest Plot Size: S: 25' x 2.5'
 G: 25' x 5'

Harvest Plant Density: 32295 plants per acre

Factors/Treatments:

Date of Planting:

April 26
 May 02
 May 16
 June 03
 June 17

Hybrids:

1) Pioneer 0705XR
 2) Dairyland DS9501RA

Results: Tables 1303-01, 02 & 03.

Table: 1303-01. Planting Date and Hybrid Influence on Corn Grain and Silage Performance.
Arlington, WI - 2013.

Planting date	Hybrid	Grain									Return \$/A
		Plants emerged	Density		Yield	Moisture	Test weight	Lodged			
		plants/A	plants/A	ears/A	bu/A	%	lbs/bu	%	%	%	
April 26		39868	32626	34107	258	19.0	58	0	0	0	964
May 02		40195	32234	33672	243	19.1	57	0	0	0	908
May 16		39792	33759	35066	243	20.5	55	1	1	0	901
June 03		40565	33149	34107	228	29.8	51	3	3	0	805
June 17		41513	29708	30666	167	40.1	49	1	1	1	555
	Dairyland DS9501RA	43556	33768	33959	236	24.3	54	0	0	0	860
	Pioneer P0705AM1	37218	30823	33088	220	27.1	55	2	2	0	793
April 26	Dairyland DS9501RA	43299	34848	35022	260	18.3	57	0	0	0	974
April 26	Pioneer P0705AM1	36438	30405	33193	256	19.7	59	0	0	0	954
May 02	Dairyland DS9501RA	43952	34848	34848	245	18.3	56	0	0	0	920
May 02	Pioneer P0705AM1	36438	29621	32496	241	20.0	59	0	0	0	896
May 16	Dairyland DS9501RA	43059	34325	34587	245	19.3	54	0	0	0	916
May 16	Pioneer P0705AM1	36525	33193	35545	240	21.6	56	2	2	0	885
June 03	Dairyland DS9501RA	43299	34935	35196	237	27.7	50	0	0	0	845
June 03	Pioneer P0705AM1	37832	31363	33018	220	31.8	51	6	5	0	766
June 17	Dairyland DS9501RA	44170	29882	30144	192	37.9	50	1	0	1	644
June 17	Pioneer P0705AM1	38856	29534	31189	143	42.3	49	2	2	0	466
Mean		40387	32295	33524	228	25.7	54	1	1	0	827
Probability(%)											
Date of Planting (D)		8.1	0.8	0.2	0.0	0.0	0.0	31.8	31.7	52.4	0.0
Hybrid (H)		0.0	0.0	12.2	0.0	0.0	0.0	6.2	4.2	62.8	0.0
D x H		24.1	7.3	13.1	0.2	0.1	0.0	23.7	25.6	29.9	0.3
LSD (0.10)											
Date of Planting (D)		1073	1631	1496	17	1.0	0	NS	NS	NS	59
Hybrid (H)		591	1015	NS	6	0.4	0	2	1	NS	20
D x H		NS	2269	NS	18	1.1	1	NS	NS	NS	64

continued

**Table: 1303-03. Planting Date and Hybrid Influence on Corn Leaf Development.
Arlington, WI - 2013.**

Date of planting	Hybrid	Observation date day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		154	2.7	3.8	4.7	7.1
		168	4.5	6.0	6.8	15.7
		182	6.4	8.2	9.5	32.7
		198	11.6	12.8	13.9	80.0
		212	15.8	16.5	17.2	98.8
		225	18.0	18.0	18.3	111.5
	Dairyland DS9501RA		10.3	11.1	12.0	62.7
	Pioneer P0705AM1		10.9	12.0	12.9	63.1
	Dairyland DS9501RA	154	2.5	3.4	4.3	7.4
	Dairyland DS9501RA	168	4.3	5.7	6.5	16.3
	Dairyland DS9501RA	182	6.2	7.9	9.3	33.5
	Dairyland DS9501RA	198	11.6	12.5	13.5	81.4
	Dairyland DS9501RA	212	15.5	16.0	16.5	98.4
	Dairyland DS9501RA	225	17.2	17.2	17.4	108.0
	Pioneer P0705AM1	154	2.9	4.1	5.1	6.7
	Pioneer P0705AM1	168	4.8	6.3	7.1	15.0
	Pioneer P0705AM1	182	6.7	8.4	9.8	31.9
	Pioneer P0705AM1	198	11.7	13.2	14.3	78.6
	Pioneer P0705AM1	212	16.1	17.0	17.8	99.3
	Pioneer P0705AM1	225	18.8	18.7	19.1	115.0
April 26			12.1	13.0	13.8	69.2
May 02			11.4	12.3	13.1	62.9
May 16			10.8	11.7	12.6	62.5
June 03			9.3	10.5	11.4	61.5
June 17			8.3	9.4	10.5	55.8
April 26		154	3.6	4.7	5.6	8.2
April 26		168	6.3	7.9	9.0	22.9
April 26		182	9.0	11.3	13.0	52.5
April 26		198	15.8	16.0	17.0	107.5
April 26		212	19.1	19.1	19.1	112.2
April 26		225	19.1	19.1	19.1	112.2
May 02		154	3.0	3.9	5.0	7.7
May 02		168	5.9	7.4	8.1	20.8
May 02		182	8.4	10.6	12.4	45.1
May 02		198	14.6	14.9	15.9	97.2
May 02		212	18.3	18.4	18.5	103.4
May 02		225	18.3	18.4	18.5	103.4
May 16		154	1.5	2.6	3.6	5.4
May 16		168	4.6	6.0	6.8	14.4
May 16		182	7.5	9.3	10.8	36.7
May 16		198	12.9	14.3	15.7	90.3
May 16		212	18.7	18.7	19.3	111.7
May 16		225	19.6	19.5	19.6	116.6
June 03		154	-	-	-	-
June 03		168	1.4	2.8	3.5	4.6
June 03		182	4.8	6.2	7.3	21.3
June 03		198	8.9	11.3	12.2	65.7
June 03		212	13.4	14.6	15.6	94.1
June 03		225	17.9	17.9	18.3	122.0

continued

Table: 1303-03. Planting Date and Hybrid Influence on Corn Leaf Development.

(continued)

Arlington, WI - 2013.

Date of planting	Hybrid	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
		day of year	no./plant	no./plant	no./plant	inches
June 17		154	-	-	-	-
June 17		168	-	-	-	-
June 17		182	2.5	3.4	4.1	7.9
June 17		198	6.1	7.8	8.8	39.2
June 17		212	9.6	11.7	13.3	72.8
June 17		225	14.9	14.9	15.8	103.3
April 26	Dairyland DS9501RA		11.7	12.6	13.4	68.5
April 26	Pioneer P0705AM1		12.5	13.4	14.2	70.0
May 02	Dairyland DS9501RA		11.3	12.0	12.8	63.9
May 02	Pioneer P0705AM1		11.5	12.5	13.3	62.0
May 16	Dairyland DS9501RA		10.3	11.2	11.9	60.7
May 16	Pioneer P0705AM1		11.3	12.3	13.3	64.3
June 03	Dairyland DS9501RA		8.9	10.1	10.8	61.9
June 03	Pioneer P0705AM1		9.6	11.0	12.0	61.2
June 17	Dairyland DS9501RA		7.9	9.0	10.1	56.4
June 17	Pioneer P0705AM1		8.6	9.9	10.9	55.2
April 26	Dairyland DS9501RA	154	3.4	4.5	5.3	8.5
April 26	Dairyland DS9501RA	168	6.0	7.6	8.9	24.3
April 26	Dairyland DS9501RA	182	9.0	11.5	13.0	53.8
April 26	Dairyland DS9501RA	198	15.5	15.6	16.6	107.3
April 26	Dairyland DS9501RA	212	18.3	18.3	18.3	108.6
April 26	Dairyland DS9501RA	225	18.3	18.3	18.3	108.6
April 26	Pioneer P0705AM1	154	3.8	4.9	5.9	7.8
April 26	Pioneer P0705AM1	168	6.5	8.1	9.1	21.5
April 26	Pioneer P0705AM1	182	9.0	11.1	13.0	51.3
April 26	Pioneer P0705AM1	198	16.0	16.4	17.4	107.8
April 26	Pioneer P0705AM1	212	19.9	19.9	19.9	115.8
April 26	Pioneer P0705AM1	225	19.9	19.9	19.9	115.8
May 02	Dairyland DS9501RA	154	3.0	3.5	4.8	8.5
May 02	Dairyland DS9501RA	168	5.9	7.0	7.9	21.7
May 02	Dairyland DS9501RA	182	8.0	10.3	12.0	47.6
May 02	Dairyland DS9501RA	198	14.9	14.9	15.8	100.6
May 02	Dairyland DS9501RA	212	18.1	18.1	18.1	102.5
May 02	Dairyland DS9501RA	225	18.1	18.1	18.1	102.5
May 02	Pioneer P0705AM1	154	3.0	4.4	5.3	6.8
May 02	Pioneer P0705AM1	168	5.9	7.8	8.3	19.9
May 02	Pioneer P0705AM1	182	8.8	11.0	12.8	42.6
May 02	Pioneer P0705AM1	198	14.3	14.9	16.0	93.8
May 02	Pioneer P0705AM1	212	18.5	18.6	18.9	104.4
May 02	Pioneer P0705AM1	225	18.5	18.6	18.9	104.4
May 16	Dairyland DS9501RA	154	1.1	2.3	3.0	5.3
May 16	Dairyland DS9501RA	168	4.3	5.5	6.4	14.7
May 16	Dairyland DS9501RA	182	7.1	8.9	10.5	37.4
May 16	Dairyland DS9501RA	198	12.8	13.8	14.9	92.4
May 16	Dairyland DS9501RA	212	18.4	18.4	18.4	107.3
May 16	Dairyland DS9501RA	225	18.4	18.4	18.4	107.3

continued

Table: 1303-03. Planting Date and Hybrid Influence on Corn Leaf Development.

(continued)

Arlington, WI - 2013.

Date of planting	Hybrid	Observation date day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 16	Pioneer P0705AM1	154	1.9	3.0	4.1	5.4
May 16	Pioneer P0705AM1	168	4.9	6.5	7.1	14.2
May 16	Pioneer P0705AM1	182	7.9	9.8	11.1	36.0
May 16	Pioneer P0705AM1	198	13.1	14.9	16.5	88.1
May 16	Pioneer P0705AM1	212	19.0	19.0	20.1	116.1
May 16	Pioneer P0705AM1	225	20.9	20.6	20.9	125.9
June 03	Dairyland DS9501RA	154	-	-	-	-
June 03	Dairyland DS9501RA	168	1.0	2.5	3.0	4.6
June 03	Dairyland DS9501RA	182	4.6	6.0	7.0	21.1
June 03	Dairyland DS9501RA	198	8.9	11.0	11.9	67.6
June 03	Dairyland DS9501RA	212	13.5	14.1	15.1	99.5
June 03	Dairyland DS9501RA	225	16.6	16.6	17.1	116.8
June 03	Pioneer P0705AM1	154	-	-	-	-
June 03	Pioneer P0705AM1	168	1.8	3.0	4.0	4.6
June 03	Pioneer P0705AM1	182	4.9	6.4	7.6	21.6
June 03	Pioneer P0705AM1	198	8.9	11.5	12.5	63.8
June 03	Pioneer P0705AM1	212	13.4	15.0	16.1	88.6
June 03	Pioneer P0705AM1	225	19.3	19.3	19.5	127.3
June 17	Dairyland DS9501RA	154	-	-	-	-
June 17	Dairyland DS9501RA	168	-	-	-	-
June 17	Dairyland DS9501RA	182	2.1	3.0	3.9	7.9
June 17	Dairyland DS9501RA	198	6.0	7.3	8.4	39.1
June 17	Dairyland DS9501RA	212	9.3	11.1	12.8	74.0
June 17	Dairyland DS9501RA	225	14.4	14.5	15.3	104.8
June 17	Pioneer P0705AM1	154	-	-	-	-
June 17	Pioneer P0705AM1	168	-	-	-	-
June 17	Pioneer P0705AM1	182	2.9	3.9	4.4	7.9
June 17	Pioneer P0705AM1	198	6.1	8.3	9.1	39.4
June 17	Pioneer P0705AM1	212	9.9	12.3	13.9	71.6
June 17	Pioneer P0705AM1	225	15.4	15.3	16.3	101.8
Mean			10.6	11.6	12.4	62.9
Probability(%)						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			0.0	0.0	0.0	92.9
D x H			23.0	58.7	6.5	9.0
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			0.4	8.8	0.6	0.2
D x H x S			69.1	54.9	91.7	5.2
LSD(0.10)						
Date of Planting (D)			0.4	0.5	0.5	3.1
Hybrid (H)			0.1	0.1	0.1	0.9
D x H			NS	NS	0.3	2.1
Sample DOY (S)			0.3	0.2	0.2	1.6
D x S			0.6	0.5	0.5	3.6
H x S			0.4	0.3	0.3	2.3
D x H x S			NS	NS	NS	5.1