

FIELD EXPERIMENT HISTORY

Exp. Number: 03 **Date of Planting** **Year:** 1997
Title: Planting Date and Hybrid Influence on Corn Grain and Silage Performance
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Location: Arlington Research Station, Arlington, WI
Supported by: Hatch

FIELD INFORMATION

Field: 427
Soil Type: Plano Silt Loam
Soil Test Results: Test Date: 7/96 pH: 6.3 P (ppm): 40 K (ppm): 150 O.M. 2.9%
Tillage Operations: Chisel Plow, Field Cultivator
Field Cultivate prior to each planting
Fertilizer: 24- April 150 lbs N/A 46-0-0
Each Planting Date: 150 lbs/A 6-24-24 starter
Herbicide: Application date varies with planting date
Frontier @ 20 oz/A & Bladex 90DF @ 2.2lbs/A - Preemerge
Previous Crop: Soybean
Irrigation: None

EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot
Replicates: 3
Variables: 8 Planting Dates: 18-Apr, 5-May, 13-May, 20-May, 2-June, 10-June, 19- June, 1-July
3 Hybrids: Pioneer 3394 (planting dates 1-5), Pioneer 3751 (all planting dates),
Pioneer 3936 (planting dates 6-8)
Row Spacing: 30"
Planting Date: 18-Apr, 5-May, 13-May, 20-May, 2-June, 10-June, 19- June, 1-July
Area Planted: 20' x 25'
Planting Equip: Kinze Plot Planter w/seed cones
Date Harvested: Varied - Silage
5-Nov. - Grain
Area Harvested: 5' x 22' - Grain
2.5' x 22' - Silage
Harvesting Equip: Kincaid Plot Combine - Grain
New Holland One-Row Chopper - Silage

Results: Table E-19.

**Table E-19. Planting Date And Hybrid Influence on Corn Grain And Silage Performance
Arlington, WI - 1997**

Plant Date	Day Of Year	Harvest Hybrid	Broken Stalks	Grain				Silage Yield and Quality									
				Population	Yield	Moist	Test Weight	Kernel Yield	Moist	Kernel Milk	Crude Protein	ADF	NDF	In Vitro Digest	Cell Wall Digest	Milk Per	
																bu/a	%
April18	108		29898	6.5	197.7	24.1	57	9.3	71.0	65	7.6	25.3	49.1	76.0	51.3	1766	16734
May 05	125		29106	18.6	165.2	27.3	56	7.7	70.7	60	7.0	26.3	49.1	75.7	50.6	1748	13844
May 13	133		28908	9.9	189.6	26.0	55	6.9	67.3	51	7.0	23.9	44.9	76.5	47.7	1978	13689
May 20	140		28380	7.8	171.9	27.9	54	6.7	66.3	52	6.9	24.9	46.7	76.3	49.2	1885	12607
June 02	153		28875	10.7	164.0	30.8	54	7.0	63.1	41	7.2	23.3	45.5	76.8	48.9	1968	13739
June 10	161		27786	54.1	134.4	26.6	53	4.6	65.0	45	7.5	23.9	45.7	76.1	47.6	1920	8821
June 19	170		25212	39.0	107.3	34.0	48	4.3	66.5	54	8.1	23.5	46.3	77.0	50.3	1947	8399
July 01	182		28116	6.0	23.9	36.7	21	3.7	75.5	100	8.7	29.0	53.8	74.2	52.1	1459	5350
		Pioneer 3394	28406	9.7	174.0	30.3	55	7.6	70.0	58	7.1	25.8	47.8	75.9	49.6	1815	14001
		Pioneer 3751	28859	15.3	146.2	26.5	47	6.4	66.8	58	7.6	24.4	47.5	76.6	50.6	1874	12093
		Pioneer 3936	26554	44.8	89.3	34.3	47	3.7	68.9	62	8.0	25.4	47.8	74.9	47.4	1757	6541
April18	108	Pioneer 3394	28974	6.8	205.0	26.5	57	10.2	71.2	63	7.6	25.3	48.9	76.7	52.6	1818	18973
May 05	125	Pioneer 3394	28644	17.2	153.2	30.9	57	6.3	70.7	60	6.9	26.6	48.0	75.3	48.6	1772	11518
May 13	133	Pioneer 3394	29172	4.5	189.9	28.6	55	7.3	70.6	60	6.9	26.1	47.2	75.4	47.9	1814	13376
May 20	140	Pioneer 3394	27720	6.8	165.2	32.0	55	6.9	70.6	53	7.0	26.7	48.6	75.4	49.4	1754	12224
June 02	153	Pioneer 3394	27522	12.9	156.7	33.2	54	7.3	67.0	52	7.0	24.3	46.4	76.5	49.4	1916	13913
April18	108	Pioneer 3751	30822	6.2	190.4	21.7	56	8.5	70.8	67	7.7	25.4	49.4	75.3	49.9	1714	14496
May 05	125	Pioneer 3751	29568	19.9	177.2	23.6	55	9.2	70.7	60	7.2	26.0	50.2	76.1	52.6	1724	16170
May 13	133	Pioneer 3751	28644	15.2	189.3	23.4	55	6.5	64.1	42	7.1	21.7	42.6	77.6	47.4	2141	14003
May 20	140	Pioneer 3751	29040	8.9	178.7	23.8	54	6.4	62.1	50	6.8	23.0	44.8	77.1	49.0	2017	12989
June 02	153	Pioneer 3751	30228	8.4	171.3	28.3	53	6.7	59.2	30	7.4	22.2	44.6	77.0	48.4	2021	13566
June 10	161	Pioneer 3751	27588	40.0	146.5	30.9	51	5.2	62.2	38	7.7	23.0	45.1	77.5	50.1	2028	10595
June 19	170	Pioneer 3751	26400	17.9	109.6	42.4	46	5.0	68.4	73	8.2	24.1	47.8	77.6	53.4	1919	9757
July 01	182	Pioneer 3751	28578	5.9	7.1	18.4	8	3.6	76.7	100	8.6	29.6	55.2	74.8	54.4	1433	5166
June 10	161	Pioneer 3936	27984	68.1	122.3	22.3	55	3.9	67.9	52	7.3	24.8	46.2	74.6	45.1	1811	7047
June 19	170	Pioneer 3936	24024	60.1	105.0	25.6	51	3.6	64.6	35	8.1	22.9	44.8	76.4	47.3	1976	7042
July 01	182	Pioneer 3936	27654	6.1	40.7	55.1	35	3.7	74.3	100	8.7	28.5	52.5	73.7	49.8	1485	5534
Mean			28285	19.1	144.3	29.2	50	6.3	68.2	58	7.5	25.0	47.6	76.1	49.7	1834	11648
Probability(%)																	
Date of Planting (DOP)			2.4	0.2	0.0	21.2	0.0	0.0	0.0	0.0	0.0	0.6	0.0	55.1	0.0	3.3	42.2
Hybrid (H)			10.3	1.7	18.6	9.7	0.0	6.6	0.0	0.0	18.4	9.3	31.4	15.8	0.0	52.5	0.3
H x DOP			62.5	46.0	0.0	0.0	0.0	0.0	0.2	0.0	45.2	59.9	46.5	78.6	3.7	67.7	30.1
LSD(0.10)																	
Date of Planting (DOP)			1365	12.4	8.0	NS	2.7	0.6	1.9	4.4	0.2	2.0	2.5	NS	1.2	202	NS
Hybrid (H)			NS	6.2	NS	3.1	1.4	0.3	1.0	2.2	NS	1.0	NS	NS	0.6	NS	1198
CV(%)			6	86	8	28	7	13	4	10	4	10	7	3	3	15	27

**Table E-19. Planting Date And Hybrid Influence on Corn Grain And Silage Performance
Arlington, WI - 1997**

Plant Date	Hybrid	Leaf Development (DOY 173)				Leaf Development (DOY 188)				Leaf Development (DOY 205)				Leaf Development (DOY 220)					
		Leaf Collars	Hail Method	Total Leaves	Plant Height	Leaf Collars	Hail Method	Total Leaves	Plant Height	Leaf Collars	Hail Method	Total Leaves	Plant Height	Leaf Collars	Hail Method	Total Leaves	Plant Height		
				inches					inches					inches					inches
April18		6.2	8.4	10.2	24.2	10.4	13.2	15.8	58.0	14.3	15.5	18.3	97.1			19.3	101.3		
May 05		5.0	7.2	8.4	17.0	9.2	12.0	14.6	47.5	16.3	16.3	18.1	92.8			19.6	103.0		
May 13		5.2	7.3	8.9	15.5	9.0	11.7	14.3	44.3	16.3	16.4	18.3	90.9			19.7	104.7		
May 20		5.0	7.0	8.2	14.5	8.6	11.5	13.8	41.8	15.6	15.8	17.8	89.9			19.7	101.2		
June 02		3.3	5.1	6.0	9.7	7.1	9.7	11.8	31.8	13.4	14.3	16.6	82.3	18.0	18.2	19.1	103.0		
June 10		2.0	3.3	4.1	5.3	5.9	8.2	10.2	21.0	12.3	13.7	16.0	68.9	17.2	17.2	17.8	83.5		
June 19						4.0	5.8	7.3	12.3	9.0	11.3	13.9	43.3	14.0	14.8	16.7	77.7		
July 01										5.0	6.8	8.3	15.4	8.4	10.4	13.3	38.3		
	Pioneer 3394	4.9	6.9	8.2	16.8	8.7	11.3	13.7	48.0	15.3	15.6	17.7	91.7	18.0	18.2	20.1	104.7		
	Pioneer 3751	4.4	6.4	7.7	13.8	7.8	10.4	12.7	34.1	12.5	13.7	15.9	70.4	13.1	14.0	17.7	86.6		
	Pioneer 3936	2.0	3.5	4.2	5.7	5.0	7.2	8.8	17.3	9.2	10.8	12.9	46.6	11.4	12.8	15.8	69.6		
April18	Pioneer 3394	6.0	8.2	10.0	25.7	10.3	12.8	15.7	63.0	17.0	17.0	18.2	100.4			20.0	103.0		
May 05	Pioneer 3394	4.8	6.8	8.3	17.3	9.0	11.7	14.0	50.3	15.8	15.8	18.0	93.2			20.5	106.7		
May 13	Pioneer 3394	5.2	7.2	8.8	16.3	9.0	11.3	13.8	47.3	15.5	15.7	18.2	90.6			20.3	107.7		
May 20	Pioneer 3394	5.0	7.0	8.0	14.3	8.2	11.0	13.0	44.3	15.0	15.5	17.5	89.9			20.2	101.7		
June 02	Pioneer 3394	3.7	5.3	6.0	10.3	7.2	9.7	12.0	35.0	13.3	14.0	16.8	84.6	18.0	18.2	19.7	104.7		
April18	Pioneer 3751	6.3	8.7	10.3	22.7	10.5	13.5	15.8	53.0	11.7	14.0	18.5	93.8			18.5	99.7		
May 05	Pioneer 3751	5.2	7.5	8.5	16.7	9.3	12.3	15.2	44.7	16.7	16.7	18.2	92.5			18.7	99.3		
May 13	Pioneer 3751	5.2	7.3	9.0	14.7	9.0	12.0	14.7	41.3	17.0	17.2	18.3	91.2			19.0	101.7		
May 20	Pioneer 3751	5.0	7.0	8.3	14.7	9.0	12.0	14.5	39.3	16.2	16.2	18.2	89.9			19.2	100.7		
June 02	Pioneer 3751	3.0	4.8	6.0	9.0	7.0	9.7	11.7	28.7	13.5	14.5	16.3	80.1			18.5	101.3		
June 10	Pioneer 3751	2.0	3.0	4.0	4.8	5.8	8.0	10.0	20.0	11.5	13.2	15.7	61.0	17.2	17.2	18.3	80.0		
June 19	Pioneer 3751					4.0	5.5	7.2	12.0	8.7	11.2	13.7	38.7	13.7	14.3	16.5	73.3		
July 01	Pioneer 3751									5.0	6.7	8.3	15.7	8.3	10.5	13.0	37.0		
June 10	Pioneer 3936	2.0	3.5	4.2	5.7	6.0	8.3	10.3	22.0	13.2	14.2	16.3	76.8			17.2	87.0		
June 19	Pioneer 3936					4.0	6.0	7.3	12.7	9.3	11.5	14.2	47.9	14.3	15.2	16.8	82.0		
July 01	Pioneer 3936									5.0	6.8	8.2	15.1	8.5	10.3	13.5	39.7		
Mean		4.4	6.4	7.6	14.3	7.7	10.3	12.5	36.7	12.8	13.8	15.9	72.6	13.3	14.3	18.1	89.1		
Probability(%)																			
Date of Planting (DOP)		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 (H)		86.2	22.3	38.7	0.8	11.0	0.0	0.2	0.0	3.6	24.1	19.0	0.0	24.0	46.6	0.1	0.4		
H x DOP		1.5	18.0	66.7	11.3	10.8	37.2	3.2	1.1	0.0	0.0	25.5	0.11	47.1	28.2	24.3	80.4		
LSD(0.10)																			
Date of Planting (DOP)		0.2	0.3	0.3	0.8	0.2	0.3	0.4	0.9	0.5	0.5	0.3	2.2	0.5	0.6	0.5	3.5		
Hybrid (H)		NS	NS	NS	0.4	NS	0.1	0.2	0.4	0.3	NS	NS	1.1	NS	NS	0.2	1.8		
CV(%)		6	7	5	7	4	4	4	3	5	5	3	4	4	5	3	5		