FIELD EXPERIMENT HISTORY

Exp. Number: **12 Planting Date x Hybrid Maturity x Nitrogen Rate** **Year: 1997**

Title: **The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and their effect on Corn**

Personnel: **L.G. Bundy, J.G. Lauer, K.D. Kohn, and T.W. Andraski**

Location: **Arlington Research Station, Arlington, WI**

Supported by: **Hatch**

FIELD INFORMATION

Soil Type: Plano Silt Loam

Soil Test Results: pH: 6.9 P (ppm): 72 K (ppm): 120 O.M. 3.3%

Tillage Operations: East one-half: fall chisel plowed, soil finisher, light disk prior to remaining planting dates
West one-half: spring chisel plowed, soil finisher, light disk prior to remaining planting dates
Cultivated

Starter Fertilizer: 150 lbs/A of 6-24-24 in a 2x2 placement

Previous Crop: Corn

Irrigation: None

EXPERIMENTAL PROCEDURE

Exp. Design: RCB-Split

Replicates: 4

Variables: 4 Planting Dates: 5-May, 2-June, 9-June, 19-June

3 Hybrids: Pioneer 3394 (110 day) for May 5 only,
Pioneer 3751 (100 day), and Pioneer 3905 (90 day)

4 N Application Dates: 29-Apr, for planting date 5-May,
28-May, for planting date 2-June,
5-June, for planting date 9-June,
13-June, for planting date 19-June.

Seeding Density: 27580 plants/A

Row Spacing: 30"

Insecticide: Lorsban

Herbicide: Dual/Bladex-preemerge and Accent/Buctril-postemerge

Date Harvested: Whole Plant: 7-Oct and 16-Oct
Grain: 21-Oct and 5-Nov

Results: Table E-42.

Table E-42. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and their effect on Corn
Arlington, WI - 1997

Day Of		N	Grain			Whole Plant	
Year	Hybrid	Rate	Yield	Moisture	Test Wt	Yield	Moisture
			bu/A	%	lbs/bu	T/A	%
		0	129.9	28.2	48	7.0	54.4
		40	148.4	27.5	49	7.8	53.9
		80	154.0	27.9	49	8.1	54.0
		120	155.4	27.9	49	8.2	54.9
		160	154.3	27.0	50	7.9	55.6
		200	153.6	28.4	49	8.3	55.2
	Pioneer 3394		157.1	31.1	50	9.6	62.5
	Pioneer 3751		149.7	31.1	46	8.1	56.8
	Pioneer 3905		146.5	23.7	52	7.2	50.2
	Pioneer 3394	0	144.2	33.5	47	8.2	64.0
	Pioneer 3394	40	149.4	30.2	51	9.8	60.0
	Pioneer 3394	80	153.1	30.1	51	10.4	61.5
	Pioneer 3394	120	165.8	31.3	50	9.7	61.3
	Pioneer 3394	160	162.2	31.5	50	10.5	63.3
	Pioneer 3394	200	167.8	30.4	50	9.3	64.5
	Pioneer 3751	0	124.9	32.0	46	7.2	57.2
	Pioneer 3751	40	155.3	30.0	47	7.8	55.3
	Pioneer 3751	80	154.7	31.8	46	8.3	56.5
	Pioneer 3751	120	154.9	30.8	47	8.6	57.0
	Pioneer 3751	160	154.0	29.9	47	8.1	57.4
	Pioneer 3751	200	153.9	31.9	46	8.5	57.7
	Pioneer 3905	0	130.5	23.5	51	6.5	49.4
	Pioneer 3905	40	141.7	24.2	51	7.0	49.8
	Pioneer 3905	80	153.5	23.9	52	7.3	49.5
	Pioneer 3905	120	152.9	23.6	52	7.4	51.2
	Pioneer 3905	160	152.3	23.4	52	7.1	51.5
	Pioneer 3905	200	149.0	23.8	52	7.9	49.5
125			160.8	22.4	54	8.3	51.9
153			165.1	24.5	53	8.0	55.5
160			151.9	26.9	50	8.0	49.5
170			114.6	40.0	38	7.2	61.4

continued

Table E-42. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and their effect on Corn
Arlington, WI - 1997

Day Of		N	Grain			Whole Plant	
Year	Hybrid	Rate	Yield	Moisture	Test Wt	Yield	Moisture
			bu/A	%	lbs/bu	T/A	%
125		0	138.9	22.9	52	7.2	50.9
125		40	152.6	21.8	54	7.8	50.1
125		80	161.4	22.1	54	8.8	52.0
125		120	169.2	22.3	54	8.5	50.5
125		160	169.6	22.7	54	8.6	54.2
125		200	173.1	22.7	54	8.7	53.9
153		0	153.2	24.6	53	7.4	55.6
153		40	163.8	24.4	54	8.2	55.0
153		80	175.2	24.7	53	8.2	56.3
153		120	170.1	25.0	53	8.6	57.2
153		160	162.8	23.4	54	7.4	55.0
153		200	164.9	24.7	53	7.9	54.0
160		0	127.8	26.9	50	6.4	49.2
160		40	156.1	27.8	49	7.9	48.8
160		80	161.8	26.4	50	7.7	44.8
160		120	156.8	27.9	50	8.7	51.6
160		160	150.7	25.6	51	8.0	51.8
160		200	157.1	27.2	50	8.9	50.2
170		0	97.4	40.2	38	6.7	61.8
170		40	118.2	39.7	38	7.2	62.4
170		80	119.5	40.4	38	7.2	61.0
170		120	121.1	38.9	39	7.2	61.4
170		160	120.4	40.0	37	7.3	60.6
170		200	113.5	40.8	37	7.7	61.5
125	Pioneer 3394		157.1	31.1	50	9.6	62.5
125	Pioneer 3751		168.6	20.5	55	8.0	51.2
125	Pioneer 3905		156.6	15.6	57	7.1	41.7
153	Pioneer 3751		173.5	28.3	51	8.5	56.9
153	Pioneer 3905		157.6	21.1	56	7.5	54.2
160	Pioneer 3751		158.2	29.6	47	8.8	52.1
160	Pioneer 3905		145.5	24.2	52	7.1	46.9
170	Pioneer 3751		101.1	46.0	33	7.3	65.4
170	Pioneer 3905		127.0	34.2	42	7.1	57.3

continued

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Arlington, WI - 1997

Day Of		N	Grain			Whole Plant	
Year	Hybrid	Rate	Yield	Moisture	Test Wt	Yield	Moisture
			bu/A	%	lbs/bu	T/A	%
125	Pioneer 3394	0	144.2	33.5	47	8.2	64.0
125	Pioneer 3394	40	149.4	30.2	51	9.8	60.0
125	Pioneer 3394	80	153.1	30.1	51	10.4	61.5
125	Pioneer 3394	120	165.8	31.3	50	9.7	61.3
125	Pioneer 3394	160	162.2	31.5	50	10.5	63.3
125	Pioneer 3394	200	167.8	30.4	50	9.3	64.5
125	Pioneer 3751	0	139.4	20.3	54	7.1	51.3
125	Pioneer 3751	40	160.0	20.3	54	7.4	49.0
125	Pioneer 3751	80	175.0	20.5	55	8.7	51.3
125	Pioneer 3751	120	182.2	20.9	54	8.6	51.0
125	Pioneer 3751	160	176.2	20.0	55	7.8	52.5
125	Pioneer 3751	200	179.0	21.0	55	8.7	52.3
125	Pioneer 3905	0	133.1	15.0	56	6.2	37.5
125	Pioneer 3905	40	148.4	14.8	58	5.8	38.3
125	Pioneer 3905	80	156.0	15.7	58	7.5	43.3
125	Pioneer 3905	120	159.6	14.7	58	7.5	42.0
125	Pioneer 3905	160	170.4	16.7	58	7.1	44.3
125	Pioneer 3905	200	172.4	16.6	57	8.2	44.5
153	Pioneer 3751	0	160.3	28.9	51	8.0	57.3
153	Pioneer 3751	40	183.5	28.1	51	8.5	54.3
153	Pioneer 3751	80	180.7	28.5	51	8.6	57.3
153	Pioneer 3751	120	172.8	27.8	51	9.8	58.5
153	Pioneer 3751	160	176.5	28.3	52	8.2	57.5
153	Pioneer 3751	200	168.3	28.3	51	8.4	57.3
153	Pioneer 3905	0	147.9	21.4	55	7.0	54.3
153	Pioneer 3905	40	144.0	20.7	56	8.0	55.7
153	Pioneer 3905	80	171.0	21.9	55	7.8	55.3
153	Pioneer 3905	120	166.4	21.3	56	7.9	56.3
153	Pioneer 3905	160	153.7	20.1	56	6.5	52.5
153	Pioneer 3905	200	161.5	21.1	56	7.5	50.7
160	Pioneer 3751	0	133.8	30.0	48	7.0	50.0
160	Pioneer 3751	40	161.3	30.1	47	8.3	52.3
160	Pioneer 3751	80	171.5	29.9	47	8.8	49.0
160	Pioneer 3751	120	155.3	30.0	48	9.5	53.7
160	Pioneer 3751	160	150.8	28.2	48	9.4	52.0
160	Pioneer 3751	200	167.3	29.5	48	9.3	53.3

continued

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Day Of		N	Grain			Whole Plant	
Year	Hybrid	Rate	Yield	Moisture	Test Wt	Yield	Moisture
			bu/A	%	lbs/bu	T/A	%
160	Pioneer 3905	0	123.9	24.9	51	5.9	48.7
160	Pioneer 3905	40	148.4	24.4	53	7.4	43.5
160	Pioneer 3905	80	155.4	24.1	52	7.0	42.0
160	Pioneer 3905	120	159.0	24.7	53	7.4	48.5
160	Pioneer 3905	160	150.6	24.3	53	7.4	51.8
160	Pioneer 3905	200	136.6	22.8	54	7.9	44.0
170	Pioneer 3751	0	79.4	47.1	33	6.8	66.5
170	Pioneer 3751	40	94.5	44.6	35	7.3	64.5
170	Pioneer 3751	80	106.7	46.6	33	7.5	65.0
170	Pioneer 3751	120	109.2	44.2	35	7.4	64.8
170	Pioneer 3751	160	111.7	45.3	32	7.6	65.0
170	Pioneer 3751	200	104.5	47.9	32	7.5	66.5
170	Pioneer 3905	0	115.5	33.3	43	6.6	57.0
170	Pioneer 3905	40	130.1	36.0	40	7.0	59.7
170	Pioneer 3905	80	132.2	34.1	43	6.9	57.0
170	Pioneer 3905	120	133.1	33.7	43	7.0	58.0
170	Pioneer 3905	160	129.1	34.6	42	7.0	56.3
170	Pioneer 3905	200	122.4	33.7	43	7.8	56.5
Mean			149.2	27.8	49	7.9	54.6
Probability(%)							
Date Of Planting (PD)			0.0	0.0	0.0	0.0	0.1
Hybrid (H)			17.3	0.0	0.0	0.0	0.0
PD x H			0.0	0.0	0.0	0.5	0.6
Nitrogen Rate (N)			0.0	15.8	0.2	33.0	0.0
PD x N			56.1	49.7	24.6	26.8	5.4
H x N			91.7	2.9	5.8	86.4	4.3
PD x H x N			71.7	9.2	0.3	69.0	93.2
LSD(0.10)							
Date Of Planting (PD)			6.5	0.9	0.9	2.1	0.4
Hybrid (H)			NS	0.3	0.3	0.9	0.2
Nitrogen Rate (N)			6.1	NS	0.5	NS	0.3
CV (%)			11	5	2	7	11