

FIELD EXPERIMENT HISTORY

Title: The Interaction of Planting Date, Hybrid Maturity, and Nitrogen
Experiment: 12 DOP x N Rate **Trial ID** 1421 **Year:** 1999
Personnel: J. G. Lauer, L.G. Bundy, K.D. Kohn, and T.W. Andraski
Location: Arlington, WI **County:** Columbia
Supported By: HATCH and WI Fertilizer Council

Site Information

Field: 25 **Previous Crop:** Corn **Soil Type:** silt loam
Soil Test: **Date:** **pH** 6.8 **OM (%)** 4 **P (ppm)** 98 **K (ppm)** 170
Soil Type: Plano

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 day prior to planting 1 Cultivation
Fertilizer: **Preplant Analysis:** See Factors **Rate lbs/A:** N/A **Date:** Approximately 1 week prior to planting
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** N/A
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure:
Herbicide: Dual II @1.5 pt/A **Insecticide:** Lorsban 7lbs/A
Bladex @ 2.2 lb/A
Irrigation: None
Planting Date: See Factors **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 27500 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: S:9/9, 9/9, 9/20, and 9/30 for planting dates 5/1, 6/1, 6/10, and 6/20
G:10/12 first 2 and 11/19 last 2 plantings dates

Experimental Design

Design: RCB-Split **Replications:** 4
Plot Size Seeded: 22'x10' **Experiment Size:** 3.0 A
Harvest Plot Size: S:2.5' x 22'; G: 5' x 22' **Harvest Plant Density:** 27580 plants per acre
Factors/Treatments:
Planting Dates **Hybrids**
Apr-29, Jun-1, Jun-10, Jun-18 Pioneer 3394, Pioneer 3751, Pioneer 3905
N Rate
0, 40, 80, 120, 160, and 200 lbs/A

Results: Table E-56.

**Table E-56. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and Their Effect on Corn
Arlington, WI - 1999**

Day Of year	Hybrid	Nitrogen rate	Grain			Whole Plant	
			Yield	Moisture	Test Wt	Yield	Moisture
		lbs/A	bu/A	%	lbs/bu	T/A	%
	Pioneer 3394		203	20.3	58.1	9.1	61.7
	Pioneer 3751		119	21.7	53.1	6.9	66.6
	Pioneer 3941		130	16.0	57.2	6.8	61.7
		0	114	19.2	55.3	6.1	63.7
		40	130	19.0	55.1	6.9	64.1
		80	136	18.8	55.5	7.4	62.7
		120	137	18.9	55.4	7.3	64.6
		160	143	18.7	55.8	7.5	63.7
		200	144	18.4	56.5	7.4	64.5
	Pioneer 3394	0	157	20.9	57.2	6.9	62.7
	Pioneer 3751	0	106	22.3	53.1	6.3	66.8
	Pioneer 3941	0	110	16.2	56.8	5.7	60.7
	Pioneer 3394	40	194	19.8	57.9	8.9	62.7
	Pioneer 3751	40	113	21.8	52.6	6.8	66.2
	Pioneer 3941	40	128	16.2	56.6	6.5	62.4
	Pioneer 3394	80	205	20.4	57.7	10.0	59.6
	Pioneer 3751	80	116	21.8	52.9	6.9	66.0
	Pioneer 3941	80	137	15.7	57.3	7.2	60.2
	Pioneer 3394	120	214	20.7	58.4	9.0	62.2
	Pioneer 3751	120	116	21.6	52.6	7.1	66.7
	Pioneer 3941	120	137	16.1	57.3	7.2	63.0
	Pioneer 3394	160	230	19.2	58.7	9.3	61.0
	Pioneer 3751	160	124	21.7	53.0	7.3	66.9
	Pioneer 3941	160	140	15.7	57.7	7.3	61.2
	Pioneer 3394	200	218	20.8	58.4	10.1	62.2
	Pioneer 3751	200	142	20.7	54.7	7.2	67.1
	Pioneer 3941	200	126	16.2	57.4	6.9	62.4
120			184	16.8	58.3	8.4	55.2
152			147	25.3	56.5	6.7	65.2
161			91	15.3	55.1	6.5	69.9
169			76	18.4	50.7	6.2	69.7

continued

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Day Of year	Hybrid	Nitrogen rate lbs/A	Grain			Whole Plant	
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
120	Pioneer 3394		203	20.3	58.1	9.1	61.7
120	Pioneer 3751		193	16.6	57.2	8.5	54.6
120	Pioneer 3941		158	13.7	59.5	7.5	49.2
152	Pioneer 3751		144	28.6	55.2	6.7	67.8
152	Pioneer 3941		150	22.0	57.9	6.6	62.6
161	Pioneer 3751		59	17.7	52.3	6.4	72.4
161	Pioneer 3941		113	13.6	57.0	6.6	67.4
169	Pioneer 3751		47	22.9	46.0	6.0	71.9
169	Pioneer 3941		99	14.8	54.4	6.4	67.5
120		0	156	17.7	57.7	6.8	55.3
120		40	173	16.7	58.2	7.8	56.4
120		80	187	16.7	57.9	8.9	52.5
120		120	192	17.1	58.4	8.9	56.4
120		160	203	16.2	58.8	8.8	54.4
120		200	195	16.7	58.5	9.1	56.1
152		0	120	25.9	56.2	5.2	65.4
152		40	146	25.6	56.2	6.9	65.2
152		80	147	25.1	56.7	7.2	64.5
152		120	160	24.7	56.8	7.0	65.0
152		160	158	25.3	56.5	7.0	65.5
152		200	151	25.1	56.6	6.9	65.6
161		0	78	15.4	54.8	6.0	68.9
161		40	103	13.7	55.7	6.4	69.6
161		80	95	15.5	55.1	6.6	69.6
161		120	95	15.7	54.6	6.4	70.3
161		160	92	15.6	55.1	7.2	70.1
161		200	85	15.7	55.2	6.5	70.6
169		0	73	18.1	50.8	5.9	69.2
169		40	68	19.6	49.0	6.2	69.3
169		80	79	18.2	50.7	6.1	69.4
169		120	68	18.8	50.3	6.3	70.6
169		160	83	18.6	51.1	6.4	69.5
169		200	90	15.8	53.2	6.2	69.9

continued

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Day Of year	Hybrid	Nitrogen rate lbs/A	Grain		Whole Plant		
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
120	Pioneer 3394	0	157	20.9	57.2	6.9	62.7
120	Pioneer 3751	0	175	18.8	56.6	7.5	57.1
120	Pioneer 3941	0	135	13.5	59.2	6.1	46.0
120	Pioneer 3394	40	194	19.8	57.9	8.9	62.7
120	Pioneer 3751	40	171	16.8	57.0	8.2	54.0
120	Pioneer 3941	40	154	13.4	59.7	6.2	52.4
120	Pioneer 3394	80	205	20.4	57.7	10.0	59.6
120	Pioneer 3751	80	189	16.4	57.3	8.2	52.1
120	Pioneer 3941	80	168	13.5	58.6	8.4	45.8
120	Pioneer 3394	120	214	20.7	58.4	9.0	62.2
120	Pioneer 3751	120	200	16.2	57.2	9.1	53.5
120	Pioneer 3941	120	164	14.4	59.6	8.6	53.4
120	Pioneer 3394	160	230	19.2	58.7	9.3	61.0
120	Pioneer 3751	160	212	16.3	57.5	8.7	55.8
120	Pioneer 3941	160	167	12.9	60.3	8.3	46.3
120	Pioneer 3394	200	218	20.8	58.4	10.1	62.2
120	Pioneer 3751	200	210	15.1	57.8	9.4	54.8
120	Pioneer 3941	200	158	14.2	59.4	7.7	51.3
152	Pioneer 3751	0	116	29.5	54.8	5.4	67.3
152	Pioneer 3941	0	124	22.2	57.6	4.9	63.6
152	Pioneer 3751	40	141	28.7	55.2	7.0	67.9
152	Pioneer 3941	40	151	22.6	57.2	6.8	62.5
152	Pioneer 3751	80	144	28.6	55.3	7.1	67.0
152	Pioneer 3941	80	150	21.7	58.1	7.3	61.9
152	Pioneer 3751	120	153	28.0	55.5	6.5	68.2
152	Pioneer 3941	120	167	21.5	58.1	7.5	61.9
152	Pioneer 3751	160	157	28.7	55.3	7.1	68.2
152	Pioneer 3941	160	159	21.8	57.8	6.8	62.8
152	Pioneer 3751	200	154	28.3	54.8	7.4	68.2
152	Pioneer 3941	200	148	21.9	58.4	6.5	62.9
161	Pioneer 3751	0	52	17.6	52.5	5.8	72.0
161	Pioneer 3941	0	97	13.7	56.5	6.2	65.9
161	Pioneer 3751	40	81	15.7	53.7	6.5	72.0
161	Pioneer 3941	40	114	12.7	56.7	6.4	67.2
161	Pioneer 3751	80	50	18.3	51.7	6.5	72.4
161	Pioneer 3941	80	129	13.4	57.6	6.6	66.9
161	Pioneer 3751	120	61	18.2	51.2	6.7	72.5
161	Pioneer 3941	120	120	13.8	57.2	6.1	68.1

continued

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Day Of year	Hybrid	Nitrogen rate lbs/A	Grain			Whole Plant	
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
161	Pioneer 3751	160	62	17.8	52.5	7.0	72.6
161	Pioneer 3941	160	114	13.9	57.2	7.4	67.5
161	Pioneer 3751	200	58	17.9	52.9	6.1	72.7
161	Pioneer 3941	200	104	14.0	57.0	6.8	68.5
169	Pioneer 3751	0	57	21.9	46.7	6.2	71.0
169	Pioneer 3941	0	86	15.3	53.9	5.5	67.5
169	Pioneer 3751	40	41	23.1	45.1	5.7	71.1
169	Pioneer 3941	40	95	16.2	52.8	6.6	67.6
169	Pioneer 3751	80	48	23.7	45.1	5.6	72.7
169	Pioneer 3941	80	102	14.2	54.9	6.6	66.2
169	Pioneer 3751	120	37	23.0	46.0	6.0	72.8
169	Pioneer 3941	120	99	14.6	54.5	6.5	68.5
169	Pioneer 3751	160	49	23.2	46.7	6.3	71.0
169	Pioneer 3941	160	117	14.0	55.6	6.6	68.0
169	Pioneer 3751	200	72	20.8	47.6	6.0	72.7
169	Pioneer 3941	200	95	14.6	54.6	6.4	67.1
Mean			134	18.8	55.6	7.1	63.9
Probability(%)							
Date Of Planting (PD)			0.0	0.0	0.0	0.2	0.0
Hybrid (H)			0.0	0.0	0.0	0.1	0.0
PD x H			0.0	0.0	0.0	1.3	88.9
Nitrogen Rate (N)			0.0	66.6	0.9	0.0	15.8
PD x N			2.8	22.0	2.8	31.8	48.4
H x N			11.5	59.1	55.9	38.9	82.8
PD x H x N			69.6	31.7	13.4	78.2	24.5
LSD(0.10)							
Date Of Planting (PD)			13.9	0.8	0.6	0.5	1.0
Hybrid (H)			4.3	0.3	0.2	0.3	0.7
PD x H			15.6	0.9	0.7	0.7	NS
Nitrogen Rate (N)			5.4	NS	0.3	0.4	NS
PD x N			17.0	NS	0.8	NS	NS
H x N			NS	NS	NS	NS	NS
PD x H x N			NS	NS	NS	NS	NS
CV (%)			13	7	2	15	5