

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02 Plant Density **Trial ID:** 2708 **Year:** 2005  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

### Site Information

**Field:** ARS428 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /05 **pH** 6.6 **OM (%)** 3.6 **P (ppm)** 65 **K (ppm)** 130

### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Soil Finisher Cultivated 6/9/05

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	46-0-0	324 lbs/A	4 /14/05
<b>Starter :</b>	9-24-24	150 lbs/A	4 /27/05
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Outlook 20 oz/A **Insecticide:** None  
 Hornet 4 oz/A **Hybrid:** See Factors  
 Callisto 3oz/A

**Irrigation:** None

**Planting Date:** 4/28/05 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/10/05 **Harvest Method:** Massey Ferguson 8XP

**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.55 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

<u>Target Plant Density: (plants/A)</u>	<u>Hybrids:</u>
14000 20000 26000	Pioneer 34M94
32000 38000 44000	Pioneer 34M95
50000 56000	

**Results: Tables C-29, C-30, C-31 and C-32.**

**Table C-29. Plant Density and Hybrid Influence on Corn Grain.  
Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Grain											Plants emerged	Seeds planted
			Yield	Moisture	Test Weight	Grower Return	Lodged			Ears Dropped	Harvest				
							%	%	%		plants/A	ears/A			
	Pioneer 34M94		201	24.5	55	291	28	11	17	5	0	34304	32621	44385	47421
	Pioneer 34M95	Bt	208	26.5	55	294	38	1	37	5	0	34733	32703	45144	47421
14000			155	25.5	54	222	2	2	0	1	0	14454	15246	17919	19008
20000			194	27.3	54	270	8	2	6	0	0	20064	20262	25311	26928
26000			218	27.3	54	304	13	3	9	1	0	25740	25476	34221	35640
32000			222	26.1	54	314	26	6	20	1	0	31020	30558	41613	43560
38000			223	25.7	55	317	30	4	27	7	0	37686	35574	48906	51480
44000			203	24.3	55	295	65	10	55	5	0	43560	41250	55935	59400
50000			213	24.5	55	309	52	5	47	10	0	48642	43956	63294	67320
56000			208	23.3	56	306	67	13	54	11	0	54978	48972	70917	76032
14000	Pioneer 34M94		159	25.5	54	227	3	3	0	1	0	14652	16236	17688	19008
14000	Pioneer 34M95	Bt	152	25.4	55	218	2	2	0	1	0	14256	14256	18150	19008
20000	Pioneer 34M94		190	26.4	54	268	4	4	0	0	0	19932	20196	25146	26928
20000	Pioneer 34M95	Bt	197	28.2	54	272	11	0	11	0	1	20196	20328	25476	26928
26000	Pioneer 34M94		214	25.7	54	305	9	5	4	0	0	25476	25608	34188	35640
26000	Pioneer 34M95	Bt	223	29.0	54	303	16	1	15	2	0	26004	25344	34254	35640
32000	Pioneer 34M94		213	23.9	55	311	22	12	11	1	0	30492	30228	41250	43560
32000	Pioneer 34M95	Bt	230	28.3	54	317	29	0	29	2	0	31548	30888	41976	43560
38000	Pioneer 34M94		208	25.1	55	299	32	6	26	11	0	37884	34980	48180	51480
38000	Pioneer 34M95	Bt	237	26.3	55	335	28	1	27	4	0	37488	36168	49632	51480
44000	Pioneer 34M94		201	24.0	55	292	59	19	40	6	0	44088	41448	54582	59400
44000	Pioneer 34M95	Bt	206	24.5	55	299	71	1	70	5	0	43032	41052	57288	59400
50000	Pioneer 34M94		221	23.0	56	326	36	9	27	8	0	48444	44484	63030	67320
50000	Pioneer 34M95	Bt	206	26.1	55	292	68	0	68	11	0	48840	43428	63558	67320
56000	Pioneer 34M94		201	22.6	56	298	56	26	30	11	0	53460	47784	71016	76032
56000	Pioneer 34M95	Bt	215	24.0	56	314	78	1	77	11	0	56496	50160	70818	76032
Mean			205	25.5	55	292	33	6	27	5	0	34518	32662	44765	47421
<b>Probability(%)</b>															
Plant Density (D)			0.0	0.0	0.0	0.0	0.0	31.8	0.0	0.0	52.2	0.0	0.0	0.0	-
Hybrid (H)			45.9	37.2	85.6	73.6	0.6	17.4	5.0	79.5	6.7	46.2	81.8	13.5	-
D x H			44.4	17.8	11.1	54.3	36.4	28.7	20.1	11.4	52.2	23.1	55.9	52.6	-
<b>LSD (0.10)</b>															
Plant Density (D)			16	1.4	0	26	13	NS	17	3	NS	1247	1762	1179	-
Hybrid (H)			NS	NS	NS	NS	4	NS	15	NS	0	NS	NS	NS	-
D x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	-
<b>CV(%)</b>															
			8	6	1	9	41	159	65	64	372	4	5	3	-

**Table C-30. Plant Density and Hybrid Influence on Silage Performance.  
Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Whole Plant										Milk per		Forage Harvest		Visual Moisture Ratings		
			Dry Matter		Kernel	Crude	In Vitro			Starch	Ton	Acre	plants	ears	Leaf	Greenness	Husk		
			Yield	Moisture	Milk	Protein	ADF	NDF	Digest		NDFD	lbs/T	lbs/T	plants/A	ears/A	1 to 5	0 to 10	Tan/Green	
	Pioneer 34M94		8.9	52.2	51	6.6	20.9	44.0	82.0	59.2	35.5	3336	29853	34518	32637	3	5	T	
	Pioneer 34M95	Bt	9.6	56.3	60	6.5	22.1	45.7	81.7	60.0	33.0	3375	32381	35013	31218	3	6	T	
14000			8.5	57.2	61	7.3	22.2	46.7	81.7	60.8	29.2	3406	28860	14916	15444	4	6	T	
20000			9.3	55.1	57	7.0	20.7	44.7	83.3	62.7	33.1	3495	32612	20592	20196	4	6	T	
26000			9.7	55.3	58	6.6	21.1	44.3	82.0	59.5	34.2	3391	32960	26400	26004	3	6	G	
32000			9.6	55.2	54	6.4	21.5	44.7	81.8	59.3	35.0	3361	32269	31416	31020	3	5	T	
38000			10.0	51.8	48	6.2	20.4	43.0	82.3	58.8	37.8	3314	33393	39072	37752	3	5	T	
44000			8.7	52.4	54	6.2	22.2	45.6	80.9	58.1	34.7	3248	28367	44088	40392	3	5	T	
50000			9.1	53.9	52	6.0	22.3	45.9	81.3	59.2	34.2	3316	30337	48180	41580	3	5	T	
56000			9.1	53.2	58	6.3	21.5	44.2	81.7	58.6	35.7	3311	30137	53460	43032	3	5	T	
14000	Pioneer 34M94		8.5	55.7	58	7.2	21.6	45.8	82.1	60.9	30.8	3405	28954	15576	15576	4	6	T	
14000	Pioneer 34M95	Bt	8.4	58.6	63	7.4	22.7	47.6	81.2	60.6	27.7	3407	28766	14256	15312	4	6	T	
20000	Pioneer 34M94		9.1	54.4	57	7.2	19.4	43.0	83.9	62.6	34.7	3522	31946	20592	19800	3	5	T	
20000	Pioneer 34M95	Bt	9.6	55.9	57	6.8	22.1	46.3	82.7	62.8	31.5	3468	33277	20592	20592	4	6	T	
26000	Pioneer 34M94		9.5	52.9	53	6.6	21.1	44.5	81.6	58.9	34.5	3330	31642	26928	26136	2	5	T	
26000	Pioneer 34M95	Bt	9.9	57.7	62	6.7	21.1	44.0	82.4	60.0	33.9	3452	34278	25872	25872	4	6	G	
32000	Pioneer 34M94		9.2	52.8	47	6.6	20.4	43.0	82.2	58.5	37.1	3333	30784	31680	31416	2	4	T	
32000	Pioneer 34M95	Bt	10.0	57.6	62	6.3	22.5	46.5	81.5	60.1	32.9	3389	33754	31152	30624	4	6	T	
38000	Pioneer 34M94		9.0	49.9	43	6.4	20.7	43.6	81.4	57.4	37.5	3236	29308	38016	37224	3	4	T	
38000	Pioneer 34M95	Bt	11.0	53.7	52	5.9	20.1	42.4	83.1	60.2	38.0	3391	37478	40128	38280	3	6	T	
44000	Pioneer 34M94		7.9	50.3	45	6.2	22.6	45.7	80.3	57.0	35.2	3193	25621	43032	41448	3	4	T	
44000	Pioneer 34M95	Bt	9.4	54.5	63	6.2	21.9	45.5	81.5	59.2	34.3	3304	31112	45144	39336	3	6	T	
50000	Pioneer 34M94		9.0	51.5	52	6.1	21.8	45.4	81.7	59.7	34.8	3323	29912	48576	45144	3	4	T	
50000	Pioneer 34M95	Bt	9.3	56.4	52	6.0	22.9	46.4	80.9	58.7	33.7	3309	30761	47784	38016	3	6	T	
56000	Pioneer 34M94		9.2	50.2	50	6.2	19.4	41.2	82.9	58.5	39.5	3346	30653	51744	44352	2	4	T	
56000	Pioneer 34M95	Bt	9.0	56.3	67	6.3	23.6	47.2	80.5	58.6	31.9	3277	29620	55176	41712	3	5	T	
Mean			9.3	54.3	55	6.5	21.5	44.9	81.9	59.6	34.2	3355	31117	34766	31928	3	5	T	
<b>Probability(%)</b>																			
Plant Density (D)			31.5	0.6	19.4	0.0	70.3	62.3	40.5	1.3	1.4	1.8	35.9	0.0	0.0	0	1	6	
Hybrid (H)			30.9	27.7	38.8	28.8	1.2	1.3	64.1	45.0	0.4	63.9	30.5	19.3	3.8	13	28	12	
D x H			73.5	76.9	37.2	63.9	51.6	55.0	47.0	71.3	53.3	49.2	66.1	5.7	3.3	1	12	13	
<b>LSD (0.10)</b>																			
Plant Density (D)			NS	2.2	NS	0.3	NS	NS	NS	2.0	3.3	105	NS	1428	1959	0	1	0	
Hybrid (H)			NS	NS	NS	NS	0.6	0.9	NS	NS	0.9	NS	NS	NS	987	NS	NS	NS	
D x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2019	2770	1	NS	NS	
<b>CV(%)</b>			13	4	15	5	10	7	2	3	10	3	14	4	6	12	11	196	

**Table C-31. Plant Density and Hybrid Influence on Yield Components.  
Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Ear Size			1000 Kernel weight grams
			Kernels/Ear no./ear	Kernels/Row no./row	Rows/Ear no./ear	
	Pioneer 34M94		518	31	17	282.5
	Pioneer 34M95	Bt	585	37	16	292.0
14000			576	33	17	325.2
20000			556	34	16	315.7
26000			556	34	16	307.3
32000			507	32	16	292.3
38000			790	48	17	278.4
44000			510	32	16	264.1
50000			455	29	16	259.6
56000			459	29	16	255.3
14000	Pioneer 34M94		562	32	18	321.0
14000	Pioneer 34M95	Bt	589	34	17	329.4
20000	Pioneer 34M94		548	33	17	312.6
20000	Pioneer 34M95	Bt	564	35	16	318.7
26000	Pioneer 34M94		563	34	17	304.9
26000	Pioneer 34M95	Bt	550	34	16	309.7
32000	Pioneer 34M94		494	30	16	288.2
32000	Pioneer 34M95	Bt	521	33	16	296.5
38000	Pioneer 34M94		540	32	17	276.2
38000	Pioneer 34M95	Bt	1041	65	16	280.7
44000	Pioneer 34M94		516	32	16	260.7
44000	Pioneer 34M95	Bt	505	33	16	267.5
50000	Pioneer 34M94		440	28	16	252.8
50000	Pioneer 34M95	Bt	471	30	16	266.3
56000	Pioneer 34M94		482	30	16	243.5
56000	Pioneer 34M95	Bt	436	28	15	267.0
Mean			551	34	16	287.2
<b>Probability(%)</b>						
Plant Density (D)			37.2	46.9	1.8	0.0
Hybrid (H)			40.5	28.9	3.4	44.2
D x H			60.4	55.5	99.2	61.6
<b>LSD (0.10)</b>						
Plant Density (D)			NS	NS	1	8.7
Hybrid (H)			NS	NS	0	NS
D x H			NS	NS	NS	NS
<b>CV(%)</b>						
			44	44	5	3

**Table C-32. Plant Density and Hybrid Influence on Corn Growth and Development.  
Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Observation	Leaf Development			Plant Height inches
			Day of Year	Leaf Collars no./plant	Hail Adjusters Method no./plant	Total Leaves no./plant	
			151	2.0	3.7	4.0	3.9
			165	5.3	7.7	8.6	16.7
			180	8.3	11.4	12.7	41.2
			194	12.9	15.0	16.2	66.0
			208	19.6	19.5	19.6	79.3
			234	19.6	19.5	19.6	82.7
	Pioneer 34M94			11.4	13.0	13.6	48.2
	Pioneer 34M95	Bt		11.2	12.7	13.4	48.4
	Pioneer 34M94		151	2.0	3.8	4.0	3.7
	Pioneer 34M94		165	5.3	7.8	8.6	17.2
	Pioneer 34M94		180	8.4	11.7	12.9	41.9
	Pioneer 34M94		194	13.0	15.1	16.4	65.6
	Pioneer 34M94		208	19.8	19.7	19.8	78.7
	Pioneer 34M94		234	19.8	19.7	19.8	81.8
	Pioneer 34M95	Bt	151	2.0	3.6	4.0	4.0
	Pioneer 34M95	Bt	165	5.2	7.7	8.6	16.1
	Pioneer 34M95	Bt	180	8.2	11.2	12.5	40.5
	Pioneer 34M95	Bt	194	12.9	14.9	16.1	66.3
	Pioneer 34M95	Bt	208	19.5	19.4	19.5	79.9
	Pioneer 34M95	Bt	234	19.5	19.4	19.5	83.5
14000				11.8	13.5	14.1	51.2
20000				11.7	13.2	13.8	51.4
26000				11.3	12.8	13.5	50.7
32000				11.5	12.9	13.6	49.7
38000				11.2	12.8	13.4	48.5
44000				11.2	12.6	13.3	44.6
50000				10.7	12.3	12.9	46.6
56000				11.0	12.5	13.2	43.5
14000	Pioneer 34M94			12.0	13.9	14.3	51.2
14000	Pioneer 34M95	Bt		11.6	13.1	13.8	51.2
20000	Pioneer 34M94			11.6	13.2	13.8	50.9
20000	Pioneer 34M95	Bt		11.8	13.3	13.9	51.9
26000	Pioneer 34M94			11.3	12.9	13.5	50.1
26000	Pioneer 34M95	Bt		11.3	12.7	13.5	51.3
32000	Pioneer 34M94			11.6	13.1	13.8	48.3
32000	Pioneer 34M95	Bt		11.3	12.8	13.5	51.2
38000	Pioneer 34M94			11.5	13.1	13.7	48.7
38000	Pioneer 34M95	Bt		10.9	12.5	13.1	48.2
44000	Pioneer 34M94			11.3	12.6	13.3	43.8
44000	Pioneer 34M95	Bt		11.2	12.6	13.3	45.4
50000	Pioneer 34M94			10.9	12.5	13.1	47.0
50000	Pioneer 34M95	Bt		10.6	12.1	12.7	46.2
56000	Pioneer 34M94			11.0	12.5	13.3	45.3
56000	Pioneer 34M95	Bt		10.9	12.4	13.1	41.8

(continued)

**Table C-32. Plant Density and Hybrid Influence on Corn Growth and Development.**  
 (continued) **Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Observation	Leaf Development			Plant Height inches
			Day of Year	Leaf Collars no./plant	Hail Adjusters Method no./plant	Total Leaves no./plant	
14000			151	2.0	3.8	4.0	3.8
14000			165	5.5	8.1	9.0	16.7
14000			180	9.0	12.7	13.8	41.6
14000			194	14.0	16.1	17.2	71.0
14000			208	20.2	20.2	20.2	86.8
14000			234	20.2	20.2	20.2	87.4
20000			151	2.0	3.6	4.0	3.6
20000			165	5.6	7.9	8.7	15.8
20000			180	8.9	12.1	13.5	42.3
20000			194	13.6	15.7	16.9	69.8
20000			208	20.0	20.0	20.0	87.7
20000			234	20.0	20.0	20.0	89.3
26000			151	2.0	3.8	4.0	3.6
26000			165	5.4	7.8	8.6	17.3
26000			180	8.5	11.6	13.1	41.6
26000			194	13.2	15.1	16.3	69.4
26000			208	19.4	19.3	19.4	85.3
26000			234	19.4	19.3	19.4	87.0
32000			151	2.0	3.7	4.0	4.0
32000			165	5.3	7.6	8.7	16.6
32000			180	8.5	11.6	12.9	42.0
32000			194	13.0	15.0	16.2	67.5
32000			208	20.0	19.9	20.0	81.8
32000			234	20.0	19.9	20.0	86.4
38000			151	2.0	3.8	4.0	3.9
38000			165	5.3	7.8	8.7	16.4
38000			180	8.2	11.4	12.5	41.3
38000			194	12.7	14.8	16.0	65.0
38000			208	19.6	19.5	19.6	80.3
38000			234	19.6	19.5	19.6	83.8
44000			151	2.0	3.7	4.0	4.3
44000			165	5.3	7.3	8.5	16.5
44000			180	8.3	11.0	12.1	40.3
44000			194	12.5	14.7	15.8	61.5
44000			208	19.7	19.5	19.7	71.0
44000			234	19.7	19.5	19.7	74.3
50000			151	2.0	3.8	3.9	3.9
50000			165	4.8	7.7	8.3	16.9
50000			180	7.6	10.7	11.8	40.3
50000			194	12.3	14.6	15.8	64.1
50000			208	18.8	18.5	18.8	74.5
50000			234	18.8	18.5	18.8	80.0
56000			151	2.0	3.5	4.0	3.8
56000			165	5.0	7.5	8.5	17.2
56000			180	7.6	10.6	11.9	40.3
56000			194	12.3	14.3	15.8	59.3
56000			208	19.5	19.5	19.5	67.3
56000			234	19.5	19.5	19.5	73.2

(continued)

**Table C-32. Plant Density and Hybrid Influence on Corn Growth and Development.**  
 (continued) **Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Observation	Leaf Development			Plant Height inches
			Day of Year	Leaf Collars no./plant	Hail Adjusters Method no./plant	Total Leaves no./plant	
14000	Pioneer 34M94		151	2.0	4.0	4.0	3.5
14000	Pioneer 34M94		165	5.7	8.2	9.0	17.5
14000	Pioneer 34M94		180	9.0	13.3	14.3	42.0
14000	Pioneer 34M94		194	14.3	16.7	17.5	71.7
14000	Pioneer 34M94		208	20.5	20.5	20.5	86.0
14000	Pioneer 34M94		234	20.5	20.5	20.5	86.3
14000	Pioneer 34M95	Bt	151	2.0	3.5	4.0	4.0
14000	Pioneer 34M95	Bt	165	5.3	8.0	9.0	15.8
14000	Pioneer 34M95	Bt	180	9.0	12.0	13.3	41.2
14000	Pioneer 34M95	Bt	194	13.7	15.5	16.8	70.3
14000	Pioneer 34M95	Bt	208	19.8	19.8	19.8	87.7
14000	Pioneer 34M95	Bt	234	19.8	19.8	19.8	88.5
20000	Pioneer 34M94		151	2.0	3.5	4.0	3.7
20000	Pioneer 34M94		165	5.3	8.0	8.5	16.1
20000	Pioneer 34M94		180	8.8	12.0	13.3	43.2
20000	Pioneer 34M94		194	13.3	15.5	16.8	70.5
20000	Pioneer 34M94		208	20.0	20.0	20.0	85.2
20000	Pioneer 34M94		234	20.0	20.0	20.0	87.0
20000	Pioneer 34M95	Bt	151	2.0	3.7	4.0	3.5
20000	Pioneer 34M95	Bt	165	5.8	7.8	8.8	15.5
20000	Pioneer 34M95	Bt	180	9.0	12.2	13.7	41.3
20000	Pioneer 34M95	Bt	194	13.8	15.8	17.0	69.2
20000	Pioneer 34M95	Bt	208	20.0	20.0	20.0	90.2
20000	Pioneer 34M95	Bt	234	20.0	20.0	20.0	91.5
26000	Pioneer 34M94		151	2.0	4.0	4.0	3.7
26000	Pioneer 34M94		165	5.5	7.8	8.7	18.7
26000	Pioneer 34M94		180	8.5	11.5	13.0	43.0
26000	Pioneer 34M94		194	13.0	15.0	16.2	68.3
26000	Pioneer 34M94		208	19.5	19.5	19.5	82.7
26000	Pioneer 34M94		234	19.5	19.5	19.5	84.3
26000	Pioneer 34M95	Bt	151	2.0	3.7	4.0	3.5
26000	Pioneer 34M95	Bt	165	5.3	7.8	8.5	15.9
26000	Pioneer 34M95	Bt	180	8.5	11.7	13.2	40.2
26000	Pioneer 34M95	Bt	194	13.3	15.2	16.5	70.5
26000	Pioneer 34M95	Bt	208	19.3	19.0	19.3	87.8
26000	Pioneer 34M95	Bt	234	19.3	19.0	19.3	89.7
32000	Pioneer 34M94		151	2.0	3.7	4.0	3.5
32000	Pioneer 34M94		165	5.3	7.5	8.7	17.2
32000	Pioneer 34M94		180	8.7	12.0	13.3	43.3
32000	Pioneer 34M94		194	13.2	15.2	16.3	66.3
32000	Pioneer 34M94		208	20.2	20.2	20.2	77.3
32000	Pioneer 34M94		234	20.2	20.2	20.2	82.0
32000	Pioneer 34M95	Bt	151	2.0	3.7	4.0	4.5
32000	Pioneer 34M95	Bt	165	5.2	7.7	8.7	16.0
32000	Pioneer 34M95	Bt	180	8.3	11.2	12.5	40.7
32000	Pioneer 34M95	Bt	194	12.8	14.8	16.0	68.7
32000	Pioneer 34M95	Bt	208	19.8	19.7	19.8	86.3
32000	Pioneer 34M95	Bt	234	19.8	19.7	19.8	90.8

(continued)

**Table C-32. Plant Density and Hybrid Influence on Corn Growth and Development.**  
 (continued) **Arlington, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Observation	Leaf Development			Plant Height inches
			Day of Year	Leaf Collars no./plant	Hail Adjusters Method no./plant	Total Leaves no./plant	
38000	Pioneer 34M94		151	2.0	3.8	4.0	3.9
38000	Pioneer 34M94		165	5.3	7.8	8.7	16.1
38000	Pioneer 34M94		180	8.3	11.7	12.8	40.8
38000	Pioneer 34M94		194	13.0	15.2	16.5	64.8
38000	Pioneer 34M94		208	20.2	20.0	20.2	81.2
38000	Pioneer 34M94		234	20.2	20.0	20.2	85.5
38000	Pioneer 34M95	Bt	151	2.0	3.8	4.0	3.9
38000	Pioneer 34M95	Bt	165	5.2	7.7	8.7	16.6
38000	Pioneer 34M95	Bt	180	8.0	11.2	12.2	41.8
38000	Pioneer 34M95	Bt	194	12.3	14.5	15.5	65.2
38000	Pioneer 34M95	Bt	208	19.0	19.0	19.0	79.3
38000	Pioneer 34M95	Bt	234	19.0	19.0	19.0	82.2
44000	Pioneer 34M94		151	2.0	3.7	4.0	4.1
44000	Pioneer 34M94		165	5.5	7.5	8.5	16.5
44000	Pioneer 34M94		180	8.3	11.0	12.0	39.8
44000	Pioneer 34M94		194	12.5	14.7	15.7	59.5
44000	Pioneer 34M94		208	19.7	19.3	19.7	69.8
44000	Pioneer 34M94		234	19.7	19.3	19.7	73.3
44000	Pioneer 34M95	Bt	151	2.0	3.7	4.0	4.5
44000	Pioneer 34M95	Bt	165	5.0	7.2	8.5	16.5
44000	Pioneer 34M95	Bt	180	8.2	11.0	12.2	40.7
44000	Pioneer 34M95	Bt	194	12.5	14.7	15.8	63.5
44000	Pioneer 34M95	Bt	208	19.7	19.7	19.7	72.2
44000	Pioneer 34M95	Bt	234	19.7	19.7	19.7	75.3
50000	Pioneer 34M94		151	2.0	3.8	4.0	3.8
50000	Pioneer 34M94		165	4.8	7.8	8.5	17.8
50000	Pioneer 34M94		180	7.8	10.8	12.0	41.8
50000	Pioneer 34M94		194	12.5	14.7	15.8	64.5
50000	Pioneer 34M94		208	19.2	18.8	19.2	75.8
50000	Pioneer 34M94		234	19.2	18.8	19.2	78.5
50000	Pioneer 34M95	Bt	151	2.0	3.7	3.8	3.9
50000	Pioneer 34M95	Bt	165	4.8	7.5	8.2	16.1
50000	Pioneer 34M95	Bt	180	7.3	10.5	11.5	38.8
50000	Pioneer 34M95	Bt	194	12.2	14.5	15.7	63.7
50000	Pioneer 34M95	Bt	208	18.5	18.2	18.5	73.2
50000	Pioneer 34M95	Bt	234	18.5	18.2	18.5	81.5
56000	Pioneer 34M94		151	2.0	3.5	4.0	3.7
56000	Pioneer 34M94		165	4.8	7.3	8.3	18.0
56000	Pioneer 34M94		180	7.8	11.0	12.2	41.3
56000	Pioneer 34M94		194	12.3	14.3	16.2	59.2
56000	Pioneer 34M94		208	19.5	19.5	19.5	71.8
56000	Pioneer 34M94		234	19.5	19.5	19.5	77.7
56000	Pioneer 34M95	Bt	151	2.0	3.5	4.0	3.9
56000	Pioneer 34M95	Bt	165	5.2	7.7	8.7	16.4
56000	Pioneer 34M95	Bt	180	7.3	10.2	11.7	39.3
56000	Pioneer 34M95	Bt	194	12.2	14.2	15.5	59.5
56000	Pioneer 34M95	Bt	208	19.5	19.5	19.5	62.7
56000	Pioneer 34M95	Bt	234	19.5	19.5	19.5	68.7
Mean				11.3	12.8	13.5	48.3



**Table C-32. Plant Density and Hybrid Influence on Corn Growth and Development.**  
 (continued) **Arlington, WI - 2005.**

	Leaf Development			
	Leaf Collars	Hail Adjusters Method	Total Leaves	Plant Height
	no./plant	no./plant	no./plant	inches
<b>Probability(%)</b>				
Hybrid (H)	0.0	0.0	0.1	63.5
Plant Density (D)	0.0	0.0	0.0	0.0
H x D	6.9	10.6	3.7	3.8
DOY (T)	2.5	3.9	3.4	0.6
T x D	5.2	4.7	2.4	0.0
T x H	17.0	27.3	18.1	27.4
T x H x D	100.0	100.0	100.0	58.0
<b>LSD (0.10)</b>				
Hybrid (H)	0.1	0.1	0.1	NS
Plant Density (D)	0.2	0.3	0.2	1.5
H x D	0.3	NS	0.3	2.2
DOY (T)	2.2	3.0	2.5	2.2
T x D	0.5	0.6	0.6	3.7
T x H	NS	NS	NS	NS
T x H x D	NS	NS	NS	NS
<b>CV(%)</b>				
	5	5	4	8

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2725 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Chippewa Falls, WI **County:** Chippewa  
**Supported By:** HATCH

### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Sattre Silt Loam  
**Soil Test:** **Date:** 10/1 /04 **pH** 6.1 **OM (%)** 2.4 **P (ppm)** 47 **K (ppm)** 142

### Plot Management

**Tillage Operations:** Field Cultivator Cultivate 6/16/05  

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	28-0-0	535	N/A
<b>Starter :</b>	9-24-24	150	5 /2 /05
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Harness 1.6 pt/A **Insecticide:** None  
 Hornet 3.0 oz/A **Hybrid:** NK Brand N3030Bt  
**Irrigation:** None  
**Planting Date:** 5/2/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/6/05 **Harvest Method:** Massey Ferguson 8XP

**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.55 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-33.**

**Table C-33. Plant Density and Hybrid Influence on Corn Grain.  
Chippewa Falls, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	131	21.6	56	198	0	0	0	0	0	15708	17028	17424	19008
20000	168	22.8	55	249	3	3	0	0	0	20856	20856	24684	26928
26000	139	22.0	57	208	2	0	2	0	0	27984	27852	32472	35640
32000	133	23.0	55	197	7	1	5	0	0	32340	32208	38808	43560
38000	135	22.3	55	202	5	1	3	4	0	39204	37488	47388	51480
44000	93	22.8	56	139	13	5	9	19	0	47520	38544	54384	59400
50000	103	23.0	56	153	16	10	6	20	0	52800	42240	62700	67320
56000	82	25.2	57	119	38	10	27	32	0	57816	39600	68376	76032
Mean	123	22.8	56	183	10	4	7	9	0	36779	31977	43280	47421
<b><u>Probability(%)</u></b>													
Density (D)	4.2	12.5	57.8	4.7	0.0	14.3	0.0	0.0	-	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	41	NS	NS	63	11	NS	6	4	-	3485	5379	1750	-
<b><u>CV(%)</u></b>													
	23	6	3	24	70	136	59	31	-	7	9	3	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2724 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** HATCH

### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Vrgil Silt Loam  
**Soil Test:** **Date:** 10/01/04 **pH** 6.9 **OM (%)** 3.6 **P (ppm)** 38 **K (ppm)** 127

### Plot Management

**Tillage Operations:** Field Cultivator Cultivated 6/14/05  

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	28-0-0	421	N/A
<b>Starter :</b>	9-24-24	150	4 /29/05
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Basis 0.33 oz/A **Insecticide:** N/A  
 Lumax 2.5 qt/A **Hybrid:** Pioneer 37R71  
**Irrigation:** None  
**Planting Date:** 4/29/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/17/05 **Harvest Method:** Massey Ferguson 8XP  
**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.14 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-34.**

**Table C-34. Plant Density and Hybrid Influence on Corn Grain.  
Fond du Lac, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	155	18.5	57	244	0	0	0	0	0	16236	19800	20460	19008
20000	167	17.9	58	265	0	0	0	1	0	19668	21912	26268	26928
26000	194	17.4	58	309	0	0	0	3	0	29304	29040	34584	35640
32000	202	17.7	58	321	0	0	0	5	0	32472	31416	41184	43560
38000	209	18.0	57	330	0	0	0	6	0	37620	35508	50688	51480
44000	215	18.1	58	339	0	0	0	2	0	42240	41448	55572	59400
50000	203	17.7	58	322	0	0	0	2	0	53856	53988	65208	67320
56000	207	17.9	57	328	1	1	0	4	0	54252	52272	72600	76032
	194	17.9	58	307	0	0	0	3	0	35706	35673	45821	47421
<b><u>Probability(%)</u></b>													
Density (D)	0.2	6.4	2.8	0.2	30.3	14.6	47.1	8.4	-	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	22	0.5	1	34	NS	NS	NS	3	-	5500	5851	2272	-
<b><u>CV(%)</u></b>													
	8	2	1	8	235	261	489	79	-	11	11	3	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2726 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Galesville, WI **County:** Trempeleau  
**Supported By:** HATCH

### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs Silt Loam  
**Soil Test:** **Date:** 10/01/04 **pH** 6.1 **OM (%)** 3.8 **P (ppm)** 68 **K (ppm)** 229

### Plot Management

**Tillage Operations:** Zone-Builder Cultivated 6/16/05  

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>	<b>Preplant :</b> 46-0-0, 21-0-0	217, 238	N/A
	<b>Starter :</b> 9-24-24	150	5 /02/05
	<b>Post plant :</b> N/A	N/A	N/A
	<b>Manure:</b> N/A	N/A	N/A

**Herbicide:** Cinch 2.0 pt/A **Insecticide:** N/A  
 Callisto 3.0 oz/A **Hybrid:** Pioneer 37R71  
**Irrigation:** None  
**Planting Date:** 5/02/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/14/05 **Harvest Method:** Massey Ferguson 8XP  
**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.14 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-35.**

**Table C-35. Plant Density and Hybrid Influence on Corn Grain.  
Galesville, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	150	18.8	55	234	0	0	0	0	0	14652	18480	18348	19008
20000	180	19.2	55	281	0	0	0	0	0	20460	21252	25608	26928
26000	209	19.4	55	324	3	1	2	0	0	26004	27060	35112	35640
32000	220	19.3	55	342	14	1	13	0	0	31680	31680	42240	43560
38000	223	18.9	54	348	17	11	6	0	0	37752	37752	50292	51480
44000	219	19.1	54	341	50	4	46	1	0	43428	42900	57684	59400
50000	195	19.5	54	302	62	10	51	4	0	48444	46464	66660	67320
56000	175	19.8	53	270	82	14	68	11	0	55044	48972	73128	76032
Mean	196	19.2	54	305	29	5	23	2	0	34683	34320	46134	47421
<b><u>Probability(%)</u></b>													
Density (D)	0.0	31.0	0.4	0.0	0.0	16.4	0.0	0.0	-	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	17	NS	1	26	15	NS	18	2	-	816	1669	2364	-
<b><u>CV(%)</u></b>													
	6	2	1	6	37	145	54	80	-	2	3	4	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2727 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Hancock, WI **County:** Waushara  
**Supported By:** HATCH

### Site Information

**Field:** K19 **Previous Crop:** Soybean **Soil Type:** Plainfield Sand  
**Soil Test:** **Date:** 10/15/05 **pH** 6.9 **OM (%)** 0.9 **P (ppm)** 99 **K (ppm)** 67

### Plot Management

**Tillage Operations:** Moldboard Plow                      Disk  
**Fertilizer:**

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Preplant :</b>	28-0-0	842	N/A
<b>Starter :</b>	9-24-24	150	4 /21/05
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Define 16 oz/A                      **Insecticide:** None  
                   Atrazine 0.75 lb/A                      **Hybrid:** Pioneer 37R71

**Irrigation:** 13.4"

**Planting Date:** 4/21/05                      **Planting Depth:** 1.5"                      **Row Width:** 30"

**Target Plant Density:** See Factors                      **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/06/05                      **Harvest Method:** Massey Ferguson 8XP

**Notes:**

### Experimental Design

**Design:** RCB                      **Replications:** 3  
**Plot Size Seeded:** 10' x 25'                      **Experiment Size:** 0.14 Acre  
**Harvest Plot Size:** 5' x 22'                      **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-36.**



**Table C-36. Plant Density and Hybrid Influence on Corn Grain.  
Hancock, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	178	19.3	55	276	0	0	0	0	0	14652	20196	18216	19008
20000	196	19.6	54	304	1	1	0	1	0	21120	23100	24948	26928
26000	225	19.9	54	347	0	0	0	1	0	26136	26532	33264	35640
32000	251	20.2	54	386	0	0	0	0	0	31944	32208	39996	43560
38000	264	20.9	54	402	0	0	0	1	0	37224	36960	49500	51480
44000	276	20.5	54	422	0	0	0	1	0	44352	44220	56232	59400
50000	273	21.3	54	413	0	0	0	2	0	49500	48708	63360	67320
56000	279	20.8	54	425	0	0	0	2	0	56760	55440	70620	76032
Mean	243	20.3	54	372	0	0	0	1	0	35211	35921	44517	47421
<b><u>Probability(%)</u></b>													
Density (D)	0.0	0.7	31.9	0.0	47.1	47.1	-	35.5	-	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	12	0.8	NS	20	NS	NS	-	NS	-	1613	1607	1811	-
<b><u>CV(%)</u></b>													
	3	3	1	4	403	403	-	126	-	3	3	3	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2728 **Year:** 2005  
**Personnel:** J. G. Lauer, K.D.Kohn and P.J. Flannery  
**Location:** Janesville, WI **County:** Rock  
**Supported By:** HATCH

### Site Information

**Field:** R-5C **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/01/04 **pH** 6.7 **OM (%)** 3.3 **P (ppm)** 62 **K (ppm)** 188

### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Cultivated 6/13/05  
**Fertilizer:**

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Preplant :</b>	28-0-0	572	N/A
<b>Starter :</b>	9-24-24	150	4 /25/05
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Dual II 1.8 pt/A **Insecticide:** Force 3G 4.4 lbs/A  
 Hornet 4.0 oz/A **Hybrid:** See Factors  
 Steadfast 0.75 oz/A  
 Callisto 3.0 oz/A  
 Atrazine 0.75 lb/A

**Irrigation:** None

**Planting Date:** 4/25/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/03/05 **Harvest Method:** Massey Ferguson 8XP  
**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 5' x 25' **Experiment Size:** 0.3 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

<u>Target Plant Density: (plants/A)</u>	<u>Hybrids:</u>
14000 20000 26000	Pioneer 34M94
32000 38000 44000	Pioneer 34M95
50000 56000	

**Results: Tables C-37.**

**Table C-37. Plant Density and Hybrid Influence on Corn Grain.  
Janesville, WI - 2005.**

Target Density plants/A	Hybrid	Trait	Grain											Plants emerged	Seeds planted
			Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest			
							%	%	%			plants/A	ears/A		
	Pioneer 34M94		194	22.9	56	288	2	2	0	6	0	34386	31730	45029	47421
	Pioneer 34M95	Bt	202	22.0	57	303	4	1	3	7	0	35393	31977	44814	47421
14000			144	25.3	55	206	0	0	0	1	0	14718	15576	18348	19008
20000			192	25.1	55	277	1	1	0	2	0	20658	20196	25806	26928
26000			214	24.1	56	311	2	2	0	2	0	26730	26334	34056	35640
32000			218	21.5	57	328	1	1	0	3	0	32010	31020	41118	43560
38000			225	22.2	57	336	2	2	0	5	0	37620	35838	49104	51480
44000			208	20.6	58	317	2	1	1	8	0	44022	40458	56628	59400
50000			200	20.9	57	303	8	3	5	14	0	48642	41514	63954	67320
56000			184	20.1	58	283	9	2	7	20	0	54714	43890	70356	76032
14000	Pioneer 34M94		144	25.9	54	204	1	1	0	0	0	14652	15972	18084	19008
14000	Pioneer 34M95	Bt	144	24.7	55	207	0	0	0	2	0	14784	15180	18612	19008
20000	Pioneer 34M94		182	25.5	55	260	3	3	0	2	0	20064	19668	26532	26928
20000	Pioneer 34M95	Bt	203	24.6	56	294	0	0	0	2	0	21252	20724	25080	26928
26000	Pioneer 34M94		213	25.4	55	305	3	3	0	2	0	26532	26136	33660	35640
26000	Pioneer 34M95	Bt	215	22.7	57	318	1	1	0	1	0	26928	26532	34452	35640
32000	Pioneer 34M94		223	22.8	56	330	1	1	0	5	0	31680	30360	42240	43560
32000	Pioneer 34M95	Bt	212	20.2	59	326	2	2	0	2	0	32340	31680	39996	43560
38000	Pioneer 34M94		220	22.4	56	328	2	2	0	5	0	37752	35772	48708	51480
38000	Pioneer 34M95	Bt	230	22.0	57	345	1	1	0	4	0	37488	35904	49500	51480
44000	Pioneer 34M94		194	20.3	57	297	2	2	0	9	0	43692	39732	56496	59400
44000	Pioneer 34M95	Bt	221	20.9	59	337	2	1	1	7	0	44352	41184	56760	59400
50000	Pioneer 34M94		196	21.4	57	296	4	4	0	11	0	47388	42372	63624	67320
50000	Pioneer 34M95	Bt	203	20.4	57	310	13	2	11	18	0	49896	40656	64284	67320
56000	Pioneer 34M94		182	19.6	57	282	4	4	0	18	1	53328	43824	70884	76032
56000	Pioneer 34M95	Bt	187	20.5	58	285	15	1	14	22	0	56100	43956	69828	76032
Mean			198	22.5	56	295	3	2	2	7	0	34889	31853	44921	47421
<b>Probability(%)</b>															
Plant Density (D)			0.0	0.0	0.0	0.0	3.1	21.9	12.3	0.0	55.8	0.0	0.0	0.0	-
Hybrid (H)			3.2	9.3	0.0	0.2	29.3	0.4	3.9	34.0	18.5	1.6	57.0	46.4	-
D x H			18.1	58.3	61.4	20.9	22.5	73.0	12.1	31.8	55.8	47.1	60.1	7.2	-
<b>LSD (0.10)</b>															
Plant Density (D)			8	1.8	1	15	5	NS	NS	4	NS	1334	1464	981	-
Hybrid (H)			6	0.9	0	7	NS	1	3	NS	NS	667	NS	NS	-
D x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1387	-	
<b>CV(%)</b>															
			6	8	2	5	164	103	320	55	510	4	5	2	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2729 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** HATCH

### Site Information

**Field:** 008-05C51 **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam  
**Soil Test:** **Date:** 10/1 /05 **pH** 6.7 **OM (%)** 3.4 **P (ppm)** 94 **K (ppm)** 212

### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator  
**Fertilizer:**

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Preplant :</b>	N/A	N/A	N/A
<b>Starter :</b>	9-24-24	150	5 /3 /05
<b>Post plant :</b>	28-0-0	15 gal/A	6 /17/05
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Lumax 2.25 qt/A **Insecticide:** None  
**Irrigation:** None **Hybrid:** NK Brand N3030Bt

**Planting Date:** 5/3/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/18/05 **Harvest Method:** Massey Ferguson 8XP  
**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.14 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-38.**

**Table C-38. Plant Density and Hybrid Influence on Corn Grain.  
Marshfield, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	122	23.6	55	180	0	0	0	2	0	14784	15312	18612	19008
20000	158	24.0	55	230	0	0	0	1	0	20592	20856	25608	26928
26000	148	25.5	54	212	0	0	0	1	0	26532	26136	33132	35640
32000	155	25.2	54	224	0	0	0	2	0	26796	31020	41448	43560
38000	152	26.6	53	215	0	0	0	4	0	38808	37356	48576	51480
44000	139	27.8	53	193	0	0	0	10	0	43428	39072	55968	59400
50000	133	26.8	53	187	1	0	1	16	0	49236	41448	63756	67320
56000	142	27.2	52	199	0	0	0	13	0	55308	48048	69432	76032
Mean	144	25.8	54	205	0	0	0	6	0	34436	32406	44567	47421
<b><u>Probability(%)</u></b>													
Density (D)	4.3	0.0	0.1	5.4	41.3	-	41.3	0.0	47.1	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	17	1.2	1	27	NS	-	NS	4	NS	4453	1598	1439	-
<b><u>CV(%)</u></b>													
	8	3	1	9	233	-	233	49	490	9	3	2	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density Influence on Corn Grain  
**Experiment:** 02 Plant Density **Trial ID:** 2730 **Year:** 2005  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Seymour, WI **County:** Outagamie  
**Supported By:** HATCH

### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Clay Loam  
**Soil Test:** **Date:** 10/1 /06 **pH** 7.7 **OM (%)** 2.8 **P (ppm)** 38 **K (ppm)** 106

### Plot Management

**Tillage Operations:** Field Cultivator  

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	46-0-0	150	N/A
<b>Starter :</b>	9-24-24	150	5 /4 /05
<b>Post plant :</b>	34-0-0	150	6 /20/05
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** Harness Xtra @ 1.5qt/A **Insecticide:** N/A  
 Hornet 3.0 oz/A **Hybrid:** NK Brand N3030Bt  
**Irrigation:** None  
**Planting Date:** 5/4/05 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/11/05 **Harvest Method:** Massey Ferguson 8XP  
**Notes:**

### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.14 Acre  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Target Plant Density: (plants/A)

14000	38000
20000	44000
26000	50000
32000	56000

**Results: Tables C-39.**

**Table C-39. Plant Density and Hybrid Influence on Corn Grain.  
Seymour, WI - 2005.**

Target Density	Yield	Moisture	Test Weight	Grower Return	Lodged			Barren	Ears Dropped	Harvest		Plants emerged	Seeds planted
					Total	Stalk	Root			plants/A	ears/A		
plants/A	bu/A	%	lbs/bu	\$/A	%	%	%	%	%	plants/A	ears/A	plants/A	seeds/A
14000	138	23.2	55	203	0	0	0	3	0	14388	14784	18084	19008
20000	173	22.3	56	258	0	0	0	1	0	20592	20592	24684	26928
26000	173	22.9	56	257	1	0	1	2	0	26268	25872	34320	35640
32000	171	22.6	56	254	4	0	4	2	0	32340	31680	41316	43560
38000	146	22.7	57	217	5	0	5	11	0	39336	34848	48444	51480
44000	131	23.5	55	192	5	0	5	19	0	43956	35376	55704	59400
50000	122	24.1	55	178	11	1	10	19	0	48840	39468	62172	67320
56000	96	24.5	55	139	6	1	5	36	0	54384	34716	69432	76032
Mean	144	23.2	56	212	4	0	4	12	0	35013	29667	44270	47421
<b><u>Probability(%)</u></b>													
Density (D)	0.0	0.7	2.5	0.0	0.7	13.1	0.7	0.0	64.4	0.0	0.0	0.0	-
<b><u>LSD (0.10)</u></b>													
Density (D)	17	0.9	1	26	4	NS	4	5	NS	1158	2085	1801	-
<b><u>CV(%)</u></b>													
	8	3	1	9	73	189	72	27	282	2	5	3	-