

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2367 **Year:** 2002
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: 406 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/19/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 325 lbs/A 4 /14/02
Starter : 6-24-24 150 lbs/A 4 /30/02
Post plant :
Manure:
Herbicide: Harness 2.5 pt/A 4/26/02 **Insecticide:**
Hornet 3.0 oz/A 6/10/02 **Hybrid:** Dairyland 1410
Pioneer 37R71
Irrigation:
Planting Date: 4/30/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/21/02 **Harvest Method:** S: NH707 Plot Chopper
G: Kincaid Plot Combine
Notes:

Experimental Design

Design: RCB split plot **Replications:** 3
Plot Size Seeded: 25' x 10' **Experiment Size:** 22' x 5'
Harvest Plot Size: S: 2.5' x 22', **Harvest Plant Density:** N/A plants per acre
G: 5' x 22'

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Dairyland 1410
Pioneer 37R71

Results: Tables C-20.

**Table C-20. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.
Arlington, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	Flag Leaf height	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest				
							plants/A				ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A	inches		
	Dairyland 1410	176	24.2	52	9	362	23936	22770	26164	50688	101
	Pioneer 37R71	190	19.9	55	7	403	32538	31746	35145	50688	91
25000		171	21.7	53	4	356	22176	21912	22077	35640	94
30000		185	22.4	53	3	384	23430	22902	24486	41976	99
35000		173	22.2	53	7	361	24684	24222	27819	47520	95
40000		196	21.8	53	11	409	31020	30294	34205	53856	97
45000		187	22.1	54	13	390	31746	31086	36102	59400	98
50000		190	22.3	54	12	395	36366	33132	39237	65736	96
25000	Dairyland 1410	169	23.7	52	8	349	19932	19668	19602	35640	101
25000	Pioneer 37R71	172	19.7	54	0	364	24420	24156	24552	35640	87
30000	Dairyland 1410	185	24.5	51	4	379	19536	19008	21318	41976	103
30000	Pioneer 37R71	184	20.3	54	1	389	27324	26796	27654	41976	94
35000	Dairyland 1410	158	24.6	52	6	324	19140	19140	22572	47520	101
35000	Pioneer 37R71	188	19.8	55	8	398	30228	29304	33066	47520	89
40000	Dairyland 1410	193	23.5	51	10	399	27456	25344	29997	53856	101
40000	Pioneer 37R71	198	20.0	55	11	418	34584	35244	38412	53856	92
45000	Dairyland 1410	169	24.6	52	13	347	27060	26004	30987	59400	100
45000	Pioneer 37R71	204	19.6	55	12	434	36432	36168	41217	59400	95
50000	Dairyland 1410	183	24.5	52	14	375	30492	27456	32505	65736	102
50000	Pioneer 37R71	196	20.0	56	10	415	42240	38808	45969	65736	91
Mean		183	22.1	53	8	382	28237	27258	30654	50688	96
Probability(%)											
Plant Density (D)		31.9	39.7	47.7	1.8	33.8	0.0	0.1	0.0	-	54.5
Hybrid (H)		2.2	0.0	0.0	43.3	0.3	0.0	0.0	0.0	-	0.0
D x H		31.9	73.4	30.3	80.0	27.4	25.4	11.1	6.9	-	47.1
LSD (0.10)											
Plant Density (D)		NS	NS	NS	5	NS	3524	3571	1398	-	NS
Hybrid (H)		10	0.5	1	NS	20	1590	1195	1347	-	2
D x H		NS	NS	NS	NS	NS	NS	NS	3300	-	NS
CV(%)											
		9	4	2	87	9	9	7	7	-	4

continued

Table C-20. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.

(continued) **Arlington, WI - 2002.**

Target Density	Hybrid	Whole Plant												
		Dry Matter		Kernel milk	Harvest		Crude protein	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall		Milk per	
		yield tons/A	Moisture %		plants plants/A	ears ears/A					Digest	Starch	Ton lbs/T	Acre lbs/A
	Dairyland 1410	9.0	56.2	40	25696	23848	7.7	21.8	44.8	85.1	66.8	33.6	3606	32408
	Pioneer 37R71	8.8	52.2	7	31636	30668	7.6	20.0	41.7	86.4	67.4	36.3	3629	31826
25000		7.1	56.6	26	20196	18876	8.1	21.3	44.3	85.5	67.3	31.8	3647	25961
30000		8.1	57.2	28	22836	22440	7.8	20.6	42.3	85.8	66.6	33.3	3644	29589
35000		9.3	54.8	23	27324	25872	7.5	21.1	43.5	85.4	66.5	34.3	3590	33397
40000		9.6	54.6	22	30624	28776	7.6	20.0	41.7	86.4	67.3	36.7	3672	35305
45000		9.6	50.4	25	34188	32076	7.3	21.6	44.5	85.5	67.4	36.2	3565	34182
50000		9.5	51.5	16	36828	35508	7.5	20.9	43.2	85.9	67.4	37.1	3589	34266
25000	Dairyland 1410	5.9	57.8	38	14520	13728	8.3	22.1	46.0	85.2	67.9	31.1	3652	21406
25000	Pioneer 37R71	8.4	55.4	13	25872	24024	7.8	20.6	42.7	85.8	66.8	32.5	3642	30516
30000	Dairyland 1410	8.2	59.5	43	20064	19800	7.8	21.5	43.9	85.5	67.1	32.1	3661	29923
30000	Pioneer 37R71	8.1	54.8	13	25608	25080	7.9	19.7	40.8	86.1	66.0	34.4	3627	29255
35000	Dairyland 1410	9.9	56.3	37	25608	23760	7.4	22.3	45.3	84.3	65.2	33.2	3532	34929
35000	Pioneer 37R71	8.7	53.4	10	29040	27984	7.6	19.9	41.8	86.5	67.7	35.5	3648	31864
40000	Dairyland 1410	10.0	57.9	43	28776	26136	7.3	20.7	42.6	85.8	66.8	35.9	3686	37030
40000	Pioneer 37R71	9.2	51.3	0	32472	31416	7.9	19.3	40.8	86.9	67.9	37.5	3659	33580
45000	Dairyland 1410	10.3	50.4	47	32472	29040	7.3	22.5	46.1	84.9	67.2	35.0	3548	36603
45000	Pioneer 37R71	8.9	50.4	3	35904	35112	7.4	20.7	43.0	86.0	67.5	37.5	3582	31762
50000	Dairyland 1410	9.7	55.3	32	32736	30624	7.8	22.0	45.2	84.8	66.4	34.0	3560	34556
50000	Pioneer 37R71	9.4	47.8	0	40920	40392	7.3	19.8	41.3	86.9	68.3	40.1	3618	33976
Mean		8.9	54.2	23	28666	27258	7.6	20.9	43.3	85.7	67.1	34.9	3618	32117
Probability(%)														
Plant Density (D)		2.8	12.4	46.3	0.0	0.0	9.4	43.7	22.4	66.3	68.7	5.3	31.2	3.7
Hybrid (H)		68.0	1.0	0.0	0.1	0.0	95.0	0.2	0.1	0.5	20.5	3.6	39.1	77.7
D x H		36.9	60.9	17.5	53.8	50.8	34.9	98.9	97.1	70.5	13.9	85.2	54.5	43.6
LSD (0.10)														
Plant Density (D)		1.3	NS	NS	3786	4114	0.4	NS	NS	NS	NS	3.0	NS	4797
Hybrid (H)		NS	2.4	4	2539	1957	NS	0.8	1.3	0.7	NS	2.1	NS	NS
D x H		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		18	7	31	15	12	6	7	5	1	2	10	2	19

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2363 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Chippewa Falls, WI **County:** Chippewa
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Sattre
Soil Test: **Date:** 11/01/02 **pH** 6.4 **OM (%)** 2.1 **P (ppm)** 30 **K (ppm)** 111

Plot Management

Tillage Operations: Field Cultivator Cultivated 6/25/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 28-0-0 150 lbs/A
Starter : 6-24-24 9 lbs/A 5 /3 /02
Post plant :
Manure:
Herbicide: Frontier 25 oz/A **Insecticide:**
Hornet 3.0 oz/A **Hybrid:** Dekalb DKC4442
Pioneer 37R71
Irrigation:
Planting Date: 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/16/02 **Harvest Method:** Kincaid Plot Combine

Notes:

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Dekalb DKC4442
Pioneer 37R71

Results: Tables C-21.

**Table C-21. Plant Density and Hybrid Influence on Corn Grain.
Chippewa Falls, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest			
							plants/A			ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A		
	Dekalb DKC4442	200	25.5	49	0	408	36058	34892	42174	50688
	Pioneer 37R71	190	24.0	49	2	390	34650	33924	37708	50688
25000		190	23.8	49	1	391	25014	26268	27984	35640
30000		198	24.5	49	1	407	29766	30294	36036	41976
35000		197	25.1	49	1	402	33330	32472	36564	47520
40000		190	25.1	49	3	387	35442	34320	39138	53856
45000		211	25.0	49	1	430	41118	39468	47916	59400
50000		184	24.9	49	2	376	47454	43626	52008	65736
25000	Dekalb DKC4442	211	23.8	49	0	434	24816	26400	27720	35640
25000	Pioneer 37R71	169	23.7	49	1	348	25212	26136	28248	35640
30000	Dekalb DKC4442	191	25.2	49	1	390	30360	30096	37356	41976
30000	Pioneer 37R71	205	23.7	49	1	423	29172	30492	34716	41976
35000	Dekalb DKC4442	188	26.2	49	0	381	34188	32868	39336	47520
35000	Pioneer 37R71	206	24.0	50	2	422	32472	32076	33792	47520
40000	Dekalb DKC4442	201	25.8	49	1	408	37752	35508	42240	53856
40000	Pioneer 37R71	179	24.4	49	4	367	33132	33132	36036	53856
45000	Dekalb DKC4442	226	25.9	49	1	459	40524	40260	51744	59400
45000	Pioneer 37R71	196	24.1	49	2	402	41712	38676	44088	59400
50000	Dekalb DKC4442	185	26.0	48	0	376	48708	44220	54648	65736
50000	Pioneer 37R71	183	23.8	50	4	377	46200	43032	49368	65736
Mean		195	24.7	49	1	399	35354	34408	39941	50688
Probability(%)										
Plant Density (D)		35.2	5.1	77.9	38.1	37.5	0.0	0.0	0.0	-
Hybrid (H)		38.9	0.0	0.2	8.0	48.8	4.8	36.4	0.0	-
D x H		66.4	21.5	41.9	72.5	64.5	19.5	97.5	18.8	-
LSD (0.10)										
Plant Density (D)		NS	0.7	NS	NS	NS	2380	2967	3125	-
Hybrid (H)		NS	0.4	0	2	NS	1140	NS	1598	-
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-
CV(%)										
		19	3	1	200	19	5	9	7	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2362 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Fond du Lac, WI **County:** Fond du Lac
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Virgil
Soil Test: **Date:** **pH** 7.1 **OM (%)** 4.2 **P (ppm)** 42 **K (ppm)** 100

Plot Management

Tillage Operations: Field Cultivator Cultivated 6/20/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 28-0-0 150 lbs/A
Starter : 6-24-24 9 lbs/A 5 /10/02
Post plant :
Manure:
Herbicide: Accent Gold 2.9 oz/A **Insecticide:**
Aatrazine 0.5 lbs/A **Hybrid:** Cargill 4521Bt
Pioneer 37R
Irrigation:
Planting Date: 5/10/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/17/02 **Harvest Method:** Kincaid Plot Combine

Notes:

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Cargill 4521Bt
Pioneer 37R71

Results: Tables C-22.

**Table C-22. Plant Density and Hybrid Influence on Corn Grain.
Fond du Lac, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return	Harvest		Plants emerged	Seeds planted
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	204	21.8	57	1	425	38214	35266	47498	50688
	Pioneer 37R71	206	21.3	55	0	431	38148	36674	44066	50688
25000		198	22.0	55	0	413	28248	25608	32274	35640
30000		206	21.4	56	0	432	31416	29766	38940	41976
35000		206	21.3	56	1	432	34848	33462	42174	47520
40000		204	21.6	56	0	427	40062	38016	48642	53856
45000		214	21.5	56	0	449	44220	41580	53394	59400
50000		199	21.7	56	1	416	50292	47388	59268	65736
25000	Cargill 4521Bt	205	22.6	56	0	425	29304	26136	34056	35640
25000	Pioneer 37R71	191	21.4	54	1	401	27192	25080	30492	35640
30000	Cargill 4521Bt	213	21.4	58	1	445	32472	30228	39996	41976
30000	Pioneer 37R71	200	21.4	55	0	418	30360	29304	37884	41976
35000	Cargill 4521Bt	210	21.3	58	2	439	34716	32208	44484	47520
35000	Pioneer 37R71	203	21.2	55	0	425	34980	34716	39864	47520
40000	Cargill 4521Bt	197	21.9	57	0	411	38676	35904	49632	53856
40000	Pioneer 37R71	211	21.2	55	0	443	41448	40128	47652	53856
45000	Cargill 4521Bt	218	21.7	57	1	455	43428	40920	55968	59400
45000	Pioneer 37R71	211	21.2	55	0	442	45012	42240	50820	59400
50000	Cargill 4521Bt	179	21.9	57	1	374	50688	46200	60852	65736
50000	Pioneer 37R71	219	21.5	55	1	458	49896	48576	57684	65736
Mean		205	21.6	56	1	428	38181	35970	45782	50688
Probability(%)										
Plant Density (D)		3.5	25.2	50.5	35.4	2.9	0.0	0.0	0.0	-
Hybrid (H)		48.8	4.0	0.0	46.8	35.5	89.2	1.2	0.0	-
D x H		0.3	59.9	80.6	78.4	0.2	6.0	4.7	32.8	-
LSD (0.10)										
Plant Density (D)		8	NS	NS	NS	16	1595	1752	2144	-
Hybrid (H)		NS	0.4	0	NS	NS	NS	850	822	-
D x H		14	NS	NS	NS	28	2077	2082	NS	-
CV(%)										
		5	3	1	216	5	4	4	3	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2364 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Galesville, WI **County:** Trempealeau
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Downs
Soil Test: **Date:** **pH** 6.6 **OM (%)** 3.2 **P (ppm)** 43 **K (ppm)** 161

Plot Management

Tillage Operations: U-Ripper **Field Cultivator** Cultivated 6/25/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 160 lbs/A
Starter : 6-24-24 9 lbs/A 5 /3 /02
Post plant :
Manure:
Herbicide: Dual II Magnum 2.25 **Insecticide:**
pt/A **Hybrid:** Cargill 4521Bt
Hornet 3.0 oz/A Pioneer 37
Clarity 4.0 oz/A
Irrigation:
Planting Date: 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/9/02 **Harvest Method:** Kincaid Plot Combine
Notes: Some disease pressure late.

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000, Cargill 4521Bt
35000, Pioneer 37R71
40000, 45000,
& 50000

Results: Tables C-23.

**Table C-23. Plant Density and Hybrid Influence on Corn Grain.
Galesville, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	226	23.2	55	0	466	36674	34474	47190	50688
	Pioneer 37R71	223	23.0	53	1	461	35926	34342	44374	50688
25000		206	22.7	54	0	428	26268	25278	33330	35640
30000		219	23.6	54	0	452	29832	28908	37620	41976
35000		229	22.9	54	1	474	33726	32868	42174	47520
40000		233	22.8	54	0	484	38808	36366	48972	53856
45000		233	23.4	54	0	481	42834	40062	53262	59400
50000		224	23.2	53	2	463	46332	42966	59334	65736
25000	Cargill 4521Bt	216	23.4	55	0	446	26796	25740	33924	35640
25000	Pioneer 37R71	197	21.9	53	1	411	25740	24816	32736	35640
30000	Cargill 4521Bt	231	23.7	55	0	476	29964	29172	40392	41976
30000	Pioneer 37R71	208	23.4	53	0	428	29700	28644	34848	41976
35000	Cargill 4521Bt	229	23.5	55	0	472	34188	33132	43428	47520
35000	Pioneer 37R71	229	22.4	52	1	477	33264	32604	40920	47520
40000	Cargill 4521Bt	234	22.4	55	0	487	38280	35772	50028	53856
40000	Pioneer 37R71	232	23.1	53	1	480	39336	36960	47916	53856
45000	Cargill 4521Bt	224	23.6	55	0	461	43560	40524	54252	59400
45000	Pioneer 37R71	243	23.2	53	1	502	42108	39600	52272	59400
50000	Cargill 4521Bt	221	22.7	54	2	458	47256	42504	61116	65736
50000	Pioneer 37R71	227	23.7	53	1	468	45408	43428	57552	65736
Mean		224	23.1	54	1	464	36300	34408	45782	50688
Probability(%)										
Plant Density (D)		0.5	15.1	51.5	9.1	0.6	0.0	0.0	0.0	-
Hybrid (H)		37.6	19.7	0.0	30.1	43.6	20.7	79.7	0.0	-
D x H		2.7	2.3	62.4	61.1	3.0	72.7	71.2	38.4	-
LSD (0.10)										
Plant Density (D)		10	NS	NS	1	21	1689	1895	1739	-
Hybrid (H)		NS	NS	0	NS	NS	NS	NS	1045	-
D x H		15	0.9	NS	NS	30	NS	NS	NS	-
CV(%)		4	3	1	156	4	5	4	4	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2365 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Hancock, WI **County:** Waushara
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Plainfield
Soil Test: **Date:** **pH** 6.4 **OM (%)** 0.7 **P (ppm)** 120 **K (ppm)** 47

Plot Management

Tillage Operations: Plow & Disk
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 0-0-60 100 lbs/A 4 /10/02
Starter : 6-24-24 9 lbs/A 4 /29/02
Post plant : 34-0-0 300 lbs/A (2x) 6/17/02 & 6/24/02
Manure:
Herbicide: Aatrex 4L 0.75 lbs/A **Insecticide:**
Lasso 2.0 lbs/A **Hybrid:** Cargill 4521Bt
Pioneer 37R71
Irrigation: 11.5 Inches
Planting Date: 4/29/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/10/02 **Harvest Method:** Kincaid Plot Combine

Notes:

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Cargill 4521Bt
Pioneer 37R71

Results: Tables C-24.

**Table C-24. Plant Density and Hybrid Influence on Corn Grain.
Hancock, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return	Harvest		Plants emerged	Seeds planted
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	257	25.9	52	0	521	38214	36850	48444	50688
	Pioneer 37R71	247	24.6	51	1	506	37708	37422	44044	50688
25000		233	25.8	52	0	472	26136	26598	32208	35640
30000		245	25.8	52	0	497	30756	30360	38214	41976
35000		253	25.4	51	0	515	34452	33726	43296	47520
40000		263	24.8	51	1	537	41052	40128	48444	53856
45000		264	24.9	52	1	539	45210	44220	54780	59400
50000		256	25.1	51	1	521	50160	47784	60522	65736
25000	Cargill 4521Bt	244	27.1	52	0	490	26928	26664	34056	35640
25000	Pioneer 37R71	221	24.4	52	0	453	25344	26532	30360	35640
30000	Cargill 4521Bt	257	27.1	53	0	516	31152	30888	39468	41976
30000	Pioneer 37R71	233	24.5	51	0	478	30360	29832	36960	41976
35000	Cargill 4521Bt	258	26.5	52	0	520	33528	33000	45408	47520
35000	Pioneer 37R71	249	24.3	51	1	511	35376	34452	41184	47520
40000	Cargill 4521Bt	267	25.1	52	0	545	41052	39996	51744	53856
40000	Pioneer 37R71	258	24.5	51	1	529	41052	40260	45144	53856
45000	Cargill 4521Bt	269	24.7	53	0	549	45936	44352	57288	59400
45000	Pioneer 37R71	259	25.0	51	1	529	44484	44088	52272	59400
50000	Cargill 4521Bt	248	24.9	52	0	507	50688	46200	62700	65736
50000	Pioneer 37R71	263	25.2	51	1	536	49632	49368	58344	65736
Mean		252	25.3	52	0	514	37961	37136	46244	50688
Probability(%)										
Plant Density (D)		0.1	9.0	24.7	46.3	0.0	0.0	0.0	0.0	-
Hybrid (H)		1.3	0.0	0.0	1.4	4.6	43.5	37.2	0.0	-
D x H		6.2	1.5	42.8	71.2	12.4	63.4	45.6	46.9	-
LSD (0.10)										
Plant Density (D)		9	0.7	NS	NS	18	2007	2185	1203	-
Hybrid (H)		6	0.5	0	0	12	NS	NS	1004	-
D x H		15	1.2	NS	NS	NS	NS	NS	NS	-
CV(%)										
		4	3	1	187	4	5	5	4	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2359 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Janesville, WI **County:** Rock
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** **pH** 6.9 **OM (%)** 3.1 **P (ppm)** 66 **K (ppm)** 229

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/19/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 28-0-0 160 lbs/A
Starter : 6-24-24 9 lbs/A 4 /26/02
Post plant :
Manure:
Herbicide: Dual II Magnum 1.8 pt/A **Insecticide:**
Hornet 4.5 oz/A **Hybrid:** Dairyland 1410
Pioneer 3
Irrigation:
Planting Date: 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/11/02 **Harvest Method:** Kincaid Plot Combine
Notes: Short on moisture most of the year.

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000, Dairyland 1410
35000, Pioneer 37R71
40000, 45000,
& 50000

Results: Tables C-25.

**Table C-25. Plant Density and Hybrid Influence on Corn Grain.
Janesville, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged		plants/A	ears/A		
		bu/A	%	lbs/bu	%					
	Dairyland 1410	194	24.1	52	1	399	30932	28754	34452	50688
	Pioneer 37R71	200	20.3	56	0	421	35354	35068	42240	50688
25000		185	22.2	54	0	384	24486	23760	26664	35640
30000		191	22.0	54	1	397	26862	26994	31548	41976
35000		194	22.1	54	0	405	31680	30360	34848	47520
40000		203	22.8	54	1	422	33990	33066	41712	53856
45000		204	21.9	55	1	425	37818	35376	43494	59400
50000		205	22.1	54	1	428	44022	41910	51810	65736
25000	Dairyland 1410	178	24.1	52	0	366	22176	20196	22572	35640
25000	Pioneer 37R71	191	20.3	56	0	403	26796	27324	30756	35640
30000	Dairyland 1410	195	24.1	52	1	400	25608	25476	28116	41976
30000	Pioneer 37R71	187	20.0	56	0	394	28116	28512	34980	41976
35000	Dairyland 1410	195	24.1	52	0	401	29700	27984	31284	47520
35000	Pioneer 37R71	193	20.1	57	0	408	33660	32736	38412	47520
40000	Dairyland 1410	199	24.7	53	2	407	33396	31548	38016	53856
40000	Pioneer 37R71	207	21.0	56	0	436	34584	34584	45408	53856
45000	Dairyland 1410	197	23.4	53	1	407	34716	30360	37752	59400
45000	Pioneer 37R71	210	20.4	57	1	443	40920	40392	49236	59400
50000	Dairyland 1410	201	24.1	53	3	413	39996	36960	48972	65736
50000	Pioneer 37R71	210	20.2	56	0	444	48048	46860	54648	65736
Mean		197	22.2	54	1	410	33143	31911	38346	50688
Probability(%)										
Plant Density (D)		2.6	32.0	99.1	69.6	2.7	0.0	0.0	0.0	-
Hybrid (H)		32.3	0.0	0.0	5.9	5.7	0.0	0.0	0.0	-
D x H		81.2	93.8	26.3	43.7	80.0	27.3	17.4	92.3	-
LSD (0.10)										
Plant Density (D)		11	NS	NS	NS	22	3926	4278	4401	-
Hybrid (H)		NS	0.6	1	1	19	1493	1704	2801	-
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-
CV(%)		8	4	2	209	8	8	9	12	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2361 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Lancaster, WI **County:** Grant
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Fayette
Soil Test: **Date:** **pH** 7.3 **OM (%)** 2.1 **P (ppm)** 57 **K (ppm)** 157

Plot Management

Tillage Operations: Soil Finisher Cultivated 6/24/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 150 lbs/A
Starter : 6-24-24 4/26/02
Post plant :
Manure:
Herbicide: Aatrex 4L 1.0 qt/A **Insecticide:**
Harness 1.0 qt/A **Hybrid:** Dairyland 1410
Accent 0.33 oz/A Pioneer 37
Northstar 4.0 oz/A
Irrigation:
Planting Date: 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/14/02 **Harvest Method:** Kincaid Plot Combine

Notes:

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000, Dairyland 1410
35000, Pioneer 37R71
40000, 45000,
& 50000

Results: Tables C-26.

**Table C-26. Plant Density and Hybrid Influence on Corn Grain.
Lancaster, WI - 2002.**

Target Density	Hybrid	Grain						Harvest		Plants emerged	Seeds planted
		Yield	Moisture	Test Wt	Lodged	Grower Return	plants	ears			
		bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A			
	Dairyland 1410	182	22.5	54	3	378	26598	25432	30690	50688	
	Pioneer 37R71	211	18.9	57	0	450	32846	34320	35772	50688	
25000		171	20.5	55	0	361	22242	22572	22572	35640	
30000		196	20.8	55	1	413	25674	25476	26202	41976	
35000		183	20.7	56	1	386	26532	27588	30294	47520	
40000		206	20.7	55	1	433	31482	31482	36168	53856	
45000		202	21.0	55	3	425	31086	31086	34056	59400	
50000		220	20.7	55	3	464	41316	41052	50094	65736	
25000	Dairyland 1410	160	22.1	55	1	333	17952	17556	21120	35640	
25000	Pioneer 37R71	182	18.9	56	0	388	26532	27588	24024	35640	
30000	Dairyland 1410	193	22.6	54	2	400	22440	21384	25080	41976	
30000	Pioneer 37R71	199	18.9	56	0	425	28908	29568	27324	41976	
35000	Dairyland 1410	161	22.3	54	2	335	22440	20460	25872	47520	
35000	Pioneer 37R71	205	19.1	57	0	437	30624	34716	34716	47520	
40000	Dairyland 1410	200	22.5	53	3	416	29700	28512	33792	53856	
40000	Pioneer 37R71	211	18.8	56	0	450	33264	34452	38544	53856	
45000	Dairyland 1410	173	23.1	53	6	358	25608	24552	28776	59400	
45000	Pioneer 37R71	231	18.8	57	1	492	36564	37620	39336	59400	
50000	Dairyland 1410	204	22.6	54	6	423	41448	40128	49500	65736	
50000	Pioneer 37R71	237	18.8	57	0	506	41184	41976	50688	65736	
Mean		196	20.7	55	2	414	29722	29876	33231	50688	
Probability(%)											
Plant Density (D)		0.2	32.4	21.9	1.0	0.2	0.0	0.0	0.0	-	
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-	
D x H		5.5	33.4	3.7	0.0	4.6	17.9	24.0	52.3	-	
LSD (0.10)											
Plant Density (D)		15	NS	NS	1	31	3077	3334	2985	-	
Hybrid (H)		8	0.3	0	1	17	2159	2674	2948	-	
D x H		20	NS	0.9	1.2	42	NS	NS	NS	-	
CV(%)		7	2	1	46	7	12	15	15	-	

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2366 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Marshfield, WI **County:** Wood
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Loyal
Soil Test: **Date:** **pH** 6.4 **OM (%)** 3.1 **P (ppm)** 62 **K (ppm)** 172

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 46 lbs/A
Starter : 6-24-24 9 lbs/A 5 /15/02
Post plant :
Manure: Dairy 6776 gallons
Herbicide: Hornet 2.4 oz/A **Insecticide:**
Harness 2 pt/A **Hybrid:** Dekalb DKC4442
Pioneer 37R
Irrigation:
Planting Date: 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/31/02 **Harvest Method:** Kincaid Plot Combine

Notes:

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Dekalb DKC4442
Pioneer 37R71

Results: Tables C-27.

**Table C-27. Plant Density and Hybrid Influence on Corn Grain.
Marshfield, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest			
							plants/A			ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A		
	Dekalb DKC4442	222	31.6	51	1	432	37642	38720	46552	50688
	Pioneer 37R71	218	30.2	50	11	428	37356	37334	43252	50688
25000		202	31.4	50	0	393	24948	28050	32406	35640
30000		217	31.3	51	1	422	30624	31416	37686	41976
35000		219	30.6	51	4	429	34716	34914	42702	47520
40000		237	30.9	51	4	462	40128	39864	46464	53856
45000		229	30.9	50	11	447	45012	44550	52338	59400
50000		218	30.2	50	17	427	49566	49368	57816	65736
25000	Dekalb DKC4442	202	32.0	51	0	392	25080	29172	33264	35640
25000	Pioneer 37R71	202	30.9	50	1	393	24816	26928	31548	35640
30000	Dekalb DKC4442	216	32.2	51	0	417	30228	31944	38544	41976
30000	Pioneer 37R71	218	30.5	51	2	426	31020	30888	36828	41976
35000	Dekalb DKC4442	217	31.5	51	0	421	35376	36300	44484	47520
35000	Pioneer 37R71	222	29.6	50	7	438	34056	33528	40920	47520
40000	Dekalb DKC4442	234	31.3	51	0	456	40128	39864	48708	53856
40000	Pioneer 37R71	239	30.6	50	8	468	40128	39864	44220	53856
45000	Dekalb DKC4442	232	31.8	51	2	450	46200	45936	54384	59400
45000	Pioneer 37R71	226	29.9	50	21	444	43824	43164	50292	59400
50000	Dekalb DKC4442	233	30.7	50	4	455	48840	49104	59928	65736
50000	Pioneer 37R71	203	29.7	50	29	400	50292	49632	55704	65736
Mean		220	30.9	51	6	430	37499	38027	44902	50688
Probability(%)										
Plant Density (D)		0.5	45.1	19.6	2.9	0.3	0.0	0.0	0.0	-
Hybrid (H)		33.8	0.2	0.0	0.0	65.5	66.8	2.6	0.0	-
D x H		19.4	86.1	32.3	4.4	14.3	59.4	39.0	56.6	-
LSD (0.10)										
Plant Density (D)		12	NS	NS	8	22	2315	2359	1665	-
Hybrid (H)		NS	0.6	0	4	NS	NS	975	1022	-
D x H		NS	NS	NS	10.0	NS	NS	NS	NS	-
CV(%)										
		6	3	1	111	5	5	4	4	-

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 2360 **Year:** 2002
Personnel: J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger
Location: Valders, WI **County:** Manitowoc
Supported By: HATCH

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Kewaunee
Soil Test: **Date:** **pH** 6.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 105

Plot Management

Tillage Operations: Moldboard Plow Field Cultivator Cultivated 7/9/02
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :**
Starter : 6-24-24 150 lbs/A 5 /15/02
Post plant :
Manure: 7500 gallons
Herbicide: Surpass 1 pt/A **Insecticide:**
Accent Gold 2 oz/A **Hybrid:** Dekalb DKC4442
Banvel 2 oz/A Pioneer 37R71
Irrigation:
Planting Date: 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: 10/17/02 **Harvest Method:** Kincaid Plot Combine
Notes: Low precipitation through pollination.

Experimental Design

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

Factors/Treatments:

Plant Density: (plants/A)

25000, 30000,
35000,
40000, 45000,
& 50000

Dekalb DKC4442
Pioneer 37R71

Results: Tables C-28.

**Table C-28. Plant Density and Hybrid Influence on Corn Grain.
Valders, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged		plants/A	ears/A		
		bu/A	%	lbs/bu	%					
	Dekalb DKC4442	175	25.9	52	0	354	36696	34562	48730	50688
	Pioneer 37R71	166	25.6	52	0	336	37180	35200	46486	50688
25000		172	26.3	52	0	347	24816	25014	35442	35640
30000		176	25.8	51	0	358	30030	29898	39798	41976
35000		171	25.7	52	0	347	34320	32736	44154	47520
40000		168	25.5	52	0	341	39270	37356	50292	53856
45000		165	26.3	52	1	333	44616	40788	54846	59400
50000		170	24.8	51	1	347	48576	43494	61116	65736
25000	Dekalb DKC4442	169	26.4	52	0	340	24948	24684	37356	35640
25000	Pioneer 37R71	175	26.2	52	1	353	24684	25344	33528	35640
30000	Dekalb DKC4442	181	26.2	52	0	367	29832	29700	41052	41976
30000	Pioneer 37R71	171	25.4	51	0	348	30228	30096	38544	41976
35000	Dekalb DKC4442	176	26.0	52	0	357	34188	31944	45936	47520
35000	Pioneer 37R71	166	25.5	52	0	337	34452	33528	42372	47520
40000	Dekalb DKC4442	169	25.4	52	0	345	39336	37356	49764	53856
40000	Pioneer 37R71	166	25.7	52	0	336	39204	37356	50820	53856
45000	Dekalb DKC4442	175	26.7	52	1	353	44088	39864	55836	59400
45000	Pioneer 37R71	154	25.9	51	0	313	45144	41712	53856	59400
50000	Dekalb DKC4442	177	24.7	51	1	362	47784	43824	62436	65736
50000	Pioneer 37R71	162	24.8	51	1	331	49368	43164	59796	65736
Mean		170	25.7	52	0	345	36938	34881	47608	50688
Probability(%)										
Plant Density (D)		35.5	10.1	50.2	50.7	38.0	0.0	0.0	0.0	-
Hybrid (H)		5.4	34.7	60.8	33.8	6.7	21.3	19.5	0.9	-
D x H		56.5	89.8	86.6	16.3	60.5	68.6	63.7	46.0	-
LSD (0.10)										
Plant Density (D)		NS	NS	NS	NS	NS	920	1983	1285	-
Hybrid (H)		8	NS	NS	NS	16	NS	NS	1280	-
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-
CV(%)										
		7	4	2	146	8	3	4	5	-