

**Field Experiment History**

**Title:** Silage Plant Density by Hybrid Silage Quality - 1995.

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Experimental Design:		RCB Split Plot														
Replications:		4														
Variables:		5 Plant Densities and 2 Hybrid Silage Qualities														
Location	Cooperators	Soil Type	Previous Crop	Row Width (in)	Plot Size (ft)	Planting Date	Harvest Dates	Tillage Operations	--Soil Test-- pH P K --(ppm)--			--Nitrogen Fertilizer-- actual form time (lb/a)			Weed Control	Insecticides
Arlington	S. Kraak	Plano Silt Loam	Soybean	30	22	1-May	11-Sep	No-Till	6.4	47	185	150 9	46-0-0 6-24-24	preplant starter	Bladex 2qts/A Lasso 2qts/A	none
Ashland	M. Mlynarek T. Syverud	Manistee Loamy Sand	Corn	30	25	18-May	20-Sep	Moldboard plow Disk Field cult.	6.8	175	148	150	46-0-0	preplant	Lasso 2qts/A Bladex 2qts/A Cultivate	none
Lancaster	T. Wood D. Heimdahl	Rozetta Silt Loam	Corn	30	22	6-May	12-Sep	ChiselPlow Soil finisher	7.1	31	190	9 180	8-32-17 82-0-0	starter preplant	Roundup 2qts/A Dual II 2pts/A Banvel 1 pt/A Rotary Hoe & Cultivate	Lorsban 7lbs/A
Marshfield	D. Wiersma T. Drendel	Withee Silt Loam	Alfalfa/Hay	30	22	5-May	25-Sep	Chisel plow Disk Field Cult.	6.8	35	118	120 14	46-0-0 9-23-30	post starter	Dual 2.5pts/A Bladex 2qts/A Cultivate	none
Spoooner Silt Loam	R. Rand Y. Berger	Antigo Silt Loam	Corn	36	18	11-May	13-Sep	Moldboard plow Disk/Drag	6.6	12	55	9 110	5-10-30 46-0-0	planting post	Atrazine 1.5pts/A Prowl 3pts/A Cultivate	none
Valders	S. Hendrickson J. Maney T.& B. Maney	Kewaunee Clay Loam	Barley	30	22	12-May	17-Sep	Moldboard plow Field cult.(2x)	7.6	21	160	9 12,000 Gals/A	6-24-24 Manure	starter	Accent 0.5oz/A Banvel 0.5pts/A Cultivate	none

Results: Tables E-26 to E-31.

**Table E-26. Silage Plant Density by Hybrid Silage Quality  
Arlington, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		18909	15741	0.0	53	63.8	71.0	38.1	7.2	3.6	3.5
24000		23859	19107	0.0	53	62.4	67.6	37.4	7.6	3.8	3.8
30000		29403	26433	0.0	45	60.8	66.3	37.0	8.1	4.2	3.9
36000		35838	30987	0.3	43	54.9	63.9	35.7	9.4	4.6	4.8
42000		42174	34551	0.2	48	58.3	65.5	36.8	8.9	4.4	4.6
	Cargill 4327 (H)	30373	24116	0.1	42	59.9	68.1	34.5	8.3	4.1	4.2
	Pioneer 3417 (L)	29700	26611	0.1	55	60.2	65.6	39.4	8.2	4.2	4.1
18000	Cargill 4327 (H)	19206	15642	0.0	45	63.1	71.8	35.1	7.4	3.7	3.7
24000	Cargill 4327 (H)	24552	16434	0.0	53	63.0	69.2	35.4	7.4	3.7	3.6
30000	Cargill 4327 (H)	29700	25938	0.0	38	60.4	66.0	34.6	8.3	4.4	4.0
36000	Cargill 4327 (H)	36243	29898	0.6	34	55.5	65.6	33.1	9.5	4.5	5.1
42000	Cargill 4327 (H)	42174	32670	0.0	39	57.6	67.7	34.4	8.6	4.2	4.5
18000	Pioneer 3417 (L)	18612	15840	0.0	61	64.4	70.2	41.1	6.9	3.5	3.4
24000	Pioneer 3417 (L)	23166	21780	0.0	54	61.9	65.9	39.3	7.9	4.0	3.9
30000	Pioneer 3417 (L)	29106	26928	0.0	53	61.3	66.6	39.4	7.9	4.0	3.8
36000	Pioneer 3417 (L)	35442	32076	0.0	53	54.3	62.3	38.3	9.2	4.7	4.5
42000	Pioneer 3417 (L)	42174	36432	0.5	56	59.0	63.2	39.1	9.3	4.6	4.7
	Mean	30036	35364	0.1	49	60.0	66.8	37.0	8.2	4.1	4.1
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	1.0	<0.1	2.2	13.3	<0.1	2.7	46.0
Hybrid (H)		18.5	1.6	>50	<0.1	>50	3.0	<0.1	>50	>50	>50
PD x H		>50	42.2	33.0	17.5	>50	>50	>50	>50	>50	10.4
<b>LSD (0.10)</b>											
Plant Density (PD)		1758	2783	NS	4.8	2.8	3.3	NS	0.7	0.5	NS
Hybrid (H)		NS	1606	NS	4.1	NS	1.8	1.0	NS	NS	NS
<b>CV (%)</b>											
		5.1	11.4	451.7	15.2	5.3	4.8	5.0	12.5	11.1	16.8

**Table E-27. Silage Plant Density by Hybrid Silage Quality  
Lancaster, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17424	17028	0.6	43	58.2	60.2	35.3	6.4	3.9	2.5
24000		24057	23958	4.1	33	56.0	61.0	32.2	7.5	3.7	3.8
30000		29106	27324	2.8	32	56.1	59.4	32.8	7.6	4.1	3.5
36000		36333	33462	3.8	38	56.8	63.9	35.4	8.1	4.2	3.9
42000		41382	37125	4.0	32	51.9	61.2	33.1	8.8	4.4	4.5
	Cargill 4327 (H)	30452	28393	3.6	27	56.1	60.0	31.0	7.6	4.2	3.4
	Pioner 3417 (L)	28868	27165	2.6	44	55.5	62.3	36.6	7.7	3.9	3.8
18000	Cargill 4327 (H)	18216	17622	0.0	34	59.6	56.6	32.6	6.2	4.5	1.7
24000	Cargill 4327 (H)	23760	23958	6.6	24	57.0	60.4	29.7	7.4	3.9	3.5
30000	Cargill 4327 (H)	29304	27918	2.0	21	55.9	56.8	29.2	7.6	4.3	3.4
36000	Cargill 4327 (H)	37620	34452	3.6	34	58.4	65.7	33.1	8.1	4.2	3.9
42000	Cargill 4327 (H)	43362	38016	5.6	24	49.5	60.2	30.2	9.0	4.3	4.7
18000	Pioner 3417 (L)	16632	16434	1.5	53	56.8	63.7	38.0	6.6	3.3	3.2
24000	Pioner 3417 (L)	24354	23958	1.7	43	55.0	61.6	34.7	7.5	3.4	4.1
30000	Pioner 3417 (L)	28908	26730	3.7	43	56.3	62.0	36.5	7.6	4.0	3.6
36000	Pioner 3417 (L)	35046	32472	4.0	43	55.2	62.1	37.6	8.1	4.2	3.9
42000	Pioner 3417 (L)	39402	36234	2.5	40	54.3	62.2	32.0	8.7	4.5	4.2
Mean		29660	27779	3.1	36	55.8	61.1	33.8	7.7	4.1	3.6
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	5.2	11.5	7.3	>50	0.9	<0.1	28.5	2.1
Hybrid (H)		2.0	11.0	39.5	<0.1	5.5	19.1	<0.1	>50	12.8	46.2
PD x H		19.5	>50	27.2	>50	38.2	>50	>50	>50	30.8	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		1250	1490	NS	NS	NS	NS	1.6	0.7	NS	0.7
Hybrid (H)		1065	NS	NS	4.3	NS	NS	1.3	NS	NS	NS
<b>CV (%)</b>											
CV (%)		6.5	8.2	110.0	22.0	4.9	8.9	7.0	10.6	15.6	20.3

**Table E-28. Silage Plant Density by Hybrid Silage Quality  
Marshfield, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%	%	%	tons DM/a		
18000		18414	18612	2.1	45	60.7	75.0	36.5	5.6	2.0	3.6
24000		23265	23067	2.1	49	60.3	69.4	39.2	6.1	2.6	3.4
30000		28809	28314	1.1	49	59.9	69.7	40.5	6.2	2.7	3.5
36000		33858	32373	3.6	49	60.7	69.4	41.4	5.6	2.6	3.0
42000		39996	37917	1.0	48	60.5	68.6	41.3	6.4	3.1	3.4
	Jaques 4120 (L)	28948	27878	1.5	49	60.6	68.5	40.0	6.1	3.0	3.2
	Pioneer 3757 (H)	28789	28234	2.4	47	60.3	72.0	39.5	5.8	2.3	3.5
18000	Jaques 4120 (L)	18216	18246	1.0	43	60.8	69.4	32.7	5.6	2.5	3.1
24000	Jaques 4120 (L)	23166	22968	2.5	48	58.8	67.3	39.3	6.0	2.7	3.3
30000	Jaques 4120 (L)	28116	27324	0.7	43	59.8	69.3	40.7	6.3	2.9	3.4
36000	Jaques 4120 (L)	35442	33462	2.4	58	61.7	68.9	44.2	6.3	3.3	3.1
42000	Jaques 4120 (L)	39798	37422	1.1	53	61.7	67.7	43.2	6.5	3.3	3.2
18000	Pioneer 3757 (H)	18612	19008	3.1	48	60.7	79.1	40.2	5.7	1.7	4.0
24000	Pioneer 3757 (H)	23364	23166	1.7	50	61.8	71.5	39.1	6.1	2.6	3.6
30000	Pioneer 3757 (H)	29502	29304	1.4	55	59.9	70.1	40.3	6.1	2.5	3.6
36000	Pioneer 3757 (H)	32274	31284	4.9	40	59.8	68.8	38.6	4.8	2.0	2.8
42000	Pioneer 3757 (H)	40194	38412	1.0	43	59.3	69.5	39.5	6.3	2.8	3.5
	Mean	28868	28056	2.0	48	60.4	70.3	39.8	6.0	2.6	3.4
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	24.6	>50	>50	15.2	19.1	40.2	14.3	29.9
Hybrid (H)		>50	>50	25.1	>50	>50	0.2	>50	14.1	<0.1	>50
PD x H		23.3	33.7	>50	5.3	6.6	29.5	3.2	13.2	1.7	71.7
<b>LSD (0.10)</b>											
Plant Density (PD)		1350	1104	NS	NS	NS	NS	NS	NS	NS	NS
Hybrid (H)		NS	NS	NS	NS	NS	0.9	NS	NS	0.2	NS
<b>CV (%)</b>											
		6.8	7.1	118.6	20.7	3.0	2.4	9.6	11.2	11.5	18.9

**Table E-29. Silage Plant Density by Hybrid Silage Quality  
Valders, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%	%	%	tons DM/a		
18000		18018	18018	6.5	30	61.1	67.7	36.8	6.9	3.6	3.3
24000		23859	23463	5.1	36	60.4	67.7	36.6	7.4	3.8	3.6
30000		27819	26829	3.3	30	59.7	67.9	35.8	7.6	3.8	3.8
36000		32373	29403	4.4	36	60.6	68.1	34.9	7.8	4.1	3.7
42000		37224	33066	1.9	35	60.4	66.4	39.2	7.7	4.4	3.3
	Jaques 4120 (L)	26888	24196	2.8	36	60.7	66.3	38.5	7.4	4.2	3.3
	Pioneer 3757 (H)	28829	28116	5.7	31	60.2	68.8	34.9	7.5	3.7	3.8
18000	Jaques 4120 (L)	18216	17424	3.2	30	61.2	66.0	35.2	6.6	3.6	3.0
24000	Jaques 4120 (L)	22572	21780	5.5	40	60.5	67.0	38.6	7.3	4.0	3.3
30000	Jaques 4120 (L)	26334	25148	2.5	30	58.1	65.4	36.8	8.0	4.1	3.9
36000	Jaques 4120 (L)	33264	27918	2.2	45	63.0	67.8	37.6	7.7	4.5	3.2
42000	Jaques 4120 (L)	34056	28710	0.6	35	60.6	65.5	44.2	7.7	4.7	3.1
18000	Pioneer 3757 (H)	17820	18612	9.7	30	60.9	69.4	38.4	7.2	3.5	3.7
24000	Pioneer 3757 (H)	25146	25146	4.8	33	60.3	68.4	34.6	7.6	3.7	3.9
30000	Pioneer 3757 (H)	29304	28512	4.1	30	61.3	70.5	34.8	7.2	3.4	3.8
36000	Pioneer 3757 (H)	31482	30888	6.6	28	58.2	68.5	32.2	7.9	3.7	4.2
42000	Pioneer 3757 (H)	40392	37422	3.3	35	60.2	67.4	34.3	7.7	4.1	3.6
	Mean	27859	26155	4.2	34	60.4	67.6	36.7	7.5	3.9	3.6
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	29.9	>50	>50	>50	>50	1.8	2.4	24.8
Hybrid (H)		13.7	<0.1	7.7	9.4	>50	1.4	11.9	>50	0.4	2.6
PD x H		30.9	15.2	>50	24.8	21.1	>50	45.3	>50	>50	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		3094	3403	NS	NS	NS	NS	NS	0.4	0.4	NS
Hybrid (H)		NS	1581	NS	NS	NS	1.6	NS	NS	0.3	0.4
<b>CV (%)</b>											
		14.0	10.9	113.4	26.4	5.2	4.2	18.8	12.7	11.5	18.3

**Table E-30. Silage Plant Density by Hybrid Silage Quality  
Spooner, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17424	18117	0.6	40	58.3	67.6	32.8	5.30	2.46	2.84
24000		22869	23067	1.7	33	58.5	67.5	32.7	6.35	2.92	3.43
30000		29997	29898	2.0	40	59.5	68.5	34.2	6.95	3.26	3.69
36000		32472	32472	1.1	39	61.3	66.9	33.9	6.29	3.12	3.17
42000		38610	37719	2.1	41	60.0	65.4	37.2	7.48	3.69	3.79
	Pioneer 3902 (L)	28314	27918	1.2	33	59.1	67.7	33.5	6.46	2.94	3.52
	Pioneer 3921 (H)	28235	28591	1.8	44	59.9	66.7	34.8	6.48	3.24	3.24
18000	Pioneer 3902 (L)	17028	17828	1.2	30	58.1	69.0	32.7	5.33	2.24	3.09
24000	Pioneer 3902 (L)	23364	23364	0.9	28	57.3	67.2	33.0	6.37	2.78	3.59
30000	Pioneer 3902 (L)	29898	29304	2.9	38	59.3	68.8	33.8	6.71	3.04	3.67
36000	Pioneer 3902 (L)	32670	32472	0.6	33	59.1	67.3	33.7	7.09	3.22	3.87
42000	Pioneer 3902 (L)	38610	37422	0.6	38	61.8	66.2	34.4	6.82	3.43	3.39
18000	Pioneer 3921 (H)	17820	19206	0.0	50	58.5	66.1	32.9	5.27	2.68	2.59
24000	Pioneer 3921 (H)	22374	22770	2.5	38	59.8	67.9	32.5	6.32	3.06	3.26
30000	Pioneer 3921 (H)	30096	30492	1.4	43	59.7	68.3	34.5	7.20	3.48	3.72
36000	Pioneer 3921 (H)	32274	32472	1.7	45	63.5	66.5	34.2	5.48	3.03	2.45
42000	Pioneer 3921 (H)	38610	38016	3.6	45	58.1	64.6	40.0	8.14	3.95	4.19
	Mean	28274	28255	1.5	39	59.5	67.2	34.2	6.47	3.09	3.38
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	27.7	>50	16.8	23.6	2.0	0.7	2.1
Hybrid (H)		>50	41.1	32.4	<0.1	>50	7.0	32.2	>50	2.9	33.5
PD x H		>50	>50	25.3	40.4	36.3	31.6	>50	27.1	41.4	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		2844	2964	NS	4.4	NS	NS	NS	1.0	0.5	0.7
Hybrid (H)		NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS
<b>CV (%)</b>											
		7.2	8.9	142.1	20.4	6.5	2.5	11.4	19.6	12.7	19.1

**Table E-31. Silage Plant Density by Hybrid Silage Quality  
Ashland, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17339	18992	0.0	56	66.5	72.4	41.4	8.8	5.3	3.5
24000		23958	23522	0.0	63	66.7	72.6	41.7	9.3	5.6	3.7
30000		29534	29447	0.0	61	65.0	70.6	43.1	10.4	5.8	4.6
36000		35284	32060	0.0	70	66.2	72.4	44.9	10.1	5.9	4.2
42000		39988	32671	0.0	63	66.9	69.5	44.7	9.7	6.4	3.3
	Pioneer 3902 (L)	29307	26066	0.0	58	66.3	71.5	43.9	9.7	6.1	3.7
	Pioneer 3921 (H)	29133	28610	0.0	68	66.2	71.6	42.4	9.6	5.6	4.0
18000	Pioneer 3902 (L)	17424	17947	0.0	50	66.2	71.9	41.8	9.1	5.6	3.5
24000	Pioneer 3902 (L)	23871	22825	0.0	60	66.8	71.8	43.0	9.3	5.9	3.4
30000	Pioneer 3902 (L)	29447	29272	0.0	58	63.7	70.7	43.7	10.8	6.1	4.7
36000	Pioneer 3902 (L)	35545	30492	0.0	65	67.1	73.6	45.6	10.1	5.8	4.3
42000	Pioneer 3902 (L)	40249	29795	0.0	55	67.9	69.2	45.3	9.4	6.7	2.7
18000	Pioneer 3921 (H)	19250	20038	0.0	63	66.8	72.9	41.0	8.5	5.0	3.5
24000	Pioneer 3921 (H)	24045	22219	0.0	65	66.7	73.5	40.5	9.2	5.2	4.0
30000	Pioneer 3921 (H)	37621	29621	0.0	65	66.2	76.0	42.5	10.0	5.6	4.4
36000	Pioneer 3921 (H)	35022	33628	0.0	75	65.3	71.2	44.1	10.2	5.9	4.3
42000	Pioneer 3921 (H)	39723	35546	0.0	70	65.9	69.8	44.1	10.0	6.0	4.0
	Mean	29220	27338	0.0	63	66.3	71.5	43.2	9.7	5.8	3.9
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	20.3	>50	>50	1.5	1.6	6.7	12.1
Hybrid (H)		>50	3.0	>50	<0.1	>50	>50	0.3	>50	0.2	0.7
PD x H		>50	>50	>50	>50	>50	15.1	>50	>50	24.3	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		942	3956	NS	NS	NS	NS	1.9	0.8	NS	NS
Hybrid (H)		NS	1854	NS	3.7	NS	NS	0.7	NS	0.2	0.5
<b>CV (%)</b>											
		4.0	12.2		10.7	4.6	2.2	3.1	11.3	6.8	17.4

**Table E-32. Silage Plant Density by Hybrid Silage Quality. - Southern Zone.  
Arlington, WI and Lancaster, WI 1995.**

Site	Plant Density Hybrid plants/a	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line\$	Moisture			Yield			Whole Plant				Stover				
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.	
						%	%	tons DM/a	%	%	%	%	%	%	%	%	%	%	%	%
Arlington		31066.2	31304	0.3	0.6	66.5	75.3	39.6	8.7	4.2	4.5	7.0	51.8	27.7	74.1	6.4	73.1	41.7	63.4	
Lancaster		30511.8	30037	1.7	0.6	57.1	67.3	38.3	8.8	3.8	5.0	7.5	47.5	24.6	76.2	6.3	72.9	40.5	61.8	
	18000	19057.5	20691	0.6	0.6	63.6	74.3	38.6	7.6	3.3	4.3	7.6	47.7	24.5	76.5	6.6	72.1	39.8	64.0	
	24000	25492.5	25740	1.2	0.6	62.6	73.0	38.4	8.5	3.8	4.8	7.2	48.4	25.2	75.6	6.1	73.3	41.0	63.0	
	30000	31680	31433	0.9	0.6	59.8	69.6	38.1	9.0	4.0	5.1	7.2	49.7	26.2	75.0	6.4	74.1	42.0	61.8	
	36000	35937	35145	1.5	0.6	61.6	69.5	39.7	9.0	4.3	4.7	6.9	51.7	27.5	74.4	6.3	73.7	41.7	61.8	
	42000	41778	40343	0.8	0.6	61.3	70.2	40.1	9.5	4.6	5.0	7.2	50.8	27.3	74.1	6.3	71.7	41.0	62.3	
Arlington	18000	19899	22473	0.0	0.6	66.5	77.3	38.8	7.7	3.5	4.3	7.3	49.7	26.0	75.8	7.0	71.1	40.0	64.6	
Arlington	24000	26532	26730	0.7	0.6	66.3	74.7	39.1	8.7	4.1	4.6	7.0	50.1	26.4	74.8	6.2	72.8	40.5	64.6	
Arlington	30000	32274	32175	0.6	0.6	65.2	73.6	39.8	9.1	4.3	4.8	7.0	51.2	27.3	74.2	6.5	74.3	42.6	62.5	
Arlington	36000	35739	35046	0.3	0.5	67.1	75.7	40.2	8.9	4.3	4.6	6.6	55.7	30.4	72.0	6.3	74.0	42.7	62.6	
Arlington	42000	40887	40095	0.0	0.5	67.2	75.1	40.3	9.3	4.9	4.4	6.9	52.1	28.3	73.5	6.1	73.1	42.8	62.6	
Lancaster	18000	18216	18909	1.1	0.5	60.7	71.3	38.5	7.5	3.2	4.3	8.0	45.7	23.0	77.3	6.3	73.1	39.5	63.4	
Lancaster	24000	24453	24750	1.6	0.6	59.0	71.3	37.7	8.4	3.5	5.0	7.5	46.8	24.0	76.4	6.0	73.8	41.5	61.5	
Lancaster	30000	31086	30690	1.3	0.6	54.4	65.6	36.4	9.0	3.7	5.3	7.3	48.1	25.0	75.8	6.2	74.0	41.5	61.2	
Lancaster	36000	36135	35244	2.7	0.7	56.2	63.3	39.1	9.1	4.2	4.9	7.2	47.6	24.7	76.7	6.3	73.3	40.7	61.0	
Lancaster	42000	42669	40590	1.7	0.7	55.3	65.2	39.9	9.8	4.3	5.5	7.4	49.5	26.4	74.7	6.5	70.3	39.2	62.0	
	Cargill 4327	31224.6	31541	1.4	0.6	64.0	73.6	38.3	8.8	4.0	4.8	7.1	48.6	25.9	75.5	6.2	71.7	41.0	63.1	
	Pioneer 3417	30353.4	29799	0.6	0.6	59.6	69.0	39.7	8.7	4.0	4.7	7.3	50.7	26.4	74.7	6.5	74.3	41.2	62.1	
Arlington	Cargill 4327	31838.4	32868	0.4	0.6	68.1	77.8	39.3	9.0	4.3	4.8	6.9	50.6	27.3	74.3	6.2	71.4	41.5	63.9	
Arlington	Pioneer 3417	30294	29740	0.3	0.6	64.8	72.8	40.0	8.4	4.1	4.3	7.0	52.9	28.0	73.8	6.6	74.7	41.9	62.9	
Lancaster	Cargill 4327	30610.8	30215	2.4	0.7	59.9	69.4	37.4	8.6	3.8	4.9	7.4	46.6	24.4	76.7	6.1	71.9	40.4	62.3	
Lancaster	Pioneer 3417	30412.8	29858	0.9	0.6	54.4	65.3	39.3	8.9	3.8	5.1	7.6	48.5	24.8	75.6	6.4	73.9	40.6	61.3	
	18000 Cargill 4327	19206	22176	1.1	0.6	65.6	76.2	37.5	7.7	3.5	4.3	7.4	46.5	24.1	76.9	6.2	70.8	39.8	64.4	
	18000 Pioneer 3417	18909	19206	0.0	0.6	61.6	72.4	39.8	7.6	3.2	4.3	7.8	48.9	25.0	76.1	7.1	73.4	39.8	63.7	
	24000 Cargill 4327	25839	26334	2.0	0.6	65.0	76.0	37.8	8.6	3.8	4.8	7.3	46.6	24.5	76.3	5.6	72.3	41.4	63.5	
	24000 Pioneer 3417	25146	25146	0.4	0.6	60.2	70.0	39.1	8.5	3.7	4.7	7.1	50.3	25.9	74.8	6.6	74.3	40.7	62.6	
	30000 Cargill 4327	32967	33066	1.2	0.7	61.6	73.3	38.3	9.3	3.9	5.3	7.0	50.0	27.0	74.5	6.3	72.6	42.0	62.0	
	30000 Pioneer 3417	30393	29799	0.6	0.6	58.0	65.9	37.9	8.8	4.0	4.8	7.3	49.3	25.3	75.5	6.4	75.6	42.1	61.7	
	36000 Cargill 4327	36234	35937	1.9	0.7	64.1	70.2	39.6	9.0	4.4	4.6	6.8	50.1	26.6	75.5	6.3	73.1	41.6	62.2	
	36000 Pioneer 3417	35640	34353	1.1	0.6	59.1	68.7	39.8	9.0	4.1	4.9	7.0	53.2	28.5	73.2	6.3	74.2	41.7	61.3	
	42000 Cargill 4327	41877	40194	0.7	0.6	63.6	72.2	38.5	9.5	4.4	5.1	7.1	49.8	27.3	74.5	6.4	69.5	40.1	63.5	
	42000 Pioneer 3417	41679	40491	0.9	0.6	59.0	68.1	41.8	9.6	4.7	4.9	7.2	51.8	27.4	73.8	6.1	74.0	41.9	61.0	



**Table E-32. Silage Plant Density by Hybrid Silage Quality. - Southern Zone.  
Arlington, WI and Lancaster, WI 1995.**

Site	Plant Density	Hybrid	Final Stand	Ear Density	Broken Stalks	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
	plants/a		plants/a	ears/a	%	§	%		tons DM/a				%				%			
Arlington	18000	Cargill 4327	20196	25146	0.0	0.6	68.7	78.6	37.7	7.9	3.7	4.3	7.1	48.1	25.4	76.0	6.7	68.8	39.2	65.5
Arlington	18000	Pioneer 3417	19602	19800	0.0	0.6	64.3	75.9	39.9	7.6	3.2	4.3	7.4	51.4	26.7	75.5	7.2	73.3	40.8	63.7
Arlington	24000	Cargill 4327	27324	27720	0.7	0.5	68.0	77.8	38.9	8.9	4.2	4.7	7.0	47.9	25.5	75.2	5.8	71.0	40.4	65.2
Arlington	24000	Pioneer 3417	25740	25740	0.7	0.6	64.5	71.6	39.4	8.4	4.0	4.4	7.0	52.2	27.3	74.3	6.6	74.7	40.6	64.1
Arlington	30000	Cargill 4327	34452	35046	1.1	0.6	66.8	77.9	40.9	9.5	4.2	5.3	6.9	52.0	28.5	73.5	6.5	72.2	42.2	62.9
Arlington	30000	Pioneer 3417	30096	29304	0.0	0.6	63.6	69.2	38.6	8.6	4.3	4.3	7.2	50.4	26.2	74.9	6.6	76.3	42.9	62.1
Arlington	36000	Cargill 4327	36234	36432	0.0	0.6	68.1	76.8	38.8	9.4	4.5	4.9	6.8	53.3	28.9	73.5	6.2	74.1	43.4	62.7
Arlington	36000	Pioneer 3417	35244	33660	0.6	0.4	66.0	74.5	41.7	8.3	4.0	4.3	6.4	58.2	31.8	70.6	6.4	74.0	42.0	62.5
Arlington	42000	Cargill 4327	40986	39996	0.0	0.5	69.0	77.7	40.1	9.3	4.7	4.6	6.7	51.7	28.4	73.4	6.1	71.1	42.4	63.2
Arlington	42000	Pioneer 3417	40788	40194	0.0	0.5	65.5	72.6	40.5	9.3	5.0	4.3	7.1	52.6	28.1	73.7	6.1	75.2	43.2	62.0
Lancaster	18000	Cargill 4327	18216	19206	2.3	0.5	62.6	73.8	37.3	7.5	3.2	4.3	7.7	45.0	22.8	77.8	5.8	72.8	40.3	63.2
Lancaster	18000	Pioneer 3417	18216	18612	0.0	0.5	58.8	68.8	39.7	7.6	3.2	4.3	8.2	46.4	23.2	76.8	6.9	73.4	38.8	63.7
Lancaster	24000	Cargill 4327	24354	24948	3.3	0.7	62.0	74.2	36.7	8.3	3.4	4.9	7.6	45.2	23.4	77.4	5.4	73.7	42.3	61.8
Lancaster	24000	Pioneer 3417	24552	24552	0.0	0.6	55.9	68.4	38.8	8.6	3.5	5.1	7.3	48.4	24.6	75.3	6.5	73.9	40.7	61.2
Lancaster	30000	Cargill 4327	31482	31086	1.3	0.7	56.4	68.6	35.6	9.0	3.7	5.4	7.1	47.9	25.5	75.4	6.1	73.1	41.7	61.1
Lancaster	30000	Pioneer 3417	30690	30294	1.3	0.5	52.5	62.6	37.3	8.9	3.7	5.3	7.4	48.3	24.5	76.2	6.3	75.0	41.3	61.3
Lancaster	36000	Cargill 4327	36234	35442	3.8	0.7	60.2	63.6	40.4	8.6	4.4	4.2	6.8	46.9	24.4	77.6	6.4	72.2	39.9	61.7
Lancaster	36000	Pioneer 3417	36036	35046	1.6	0.7	52.1	62.9	37.9	9.6	4.1	5.5	7.6	48.3	25.1	75.9	6.3	74.4	41.5	60.2
Lancaster	42000	Cargill 4327	42768	40392	1.4	0.7	58.1	66.8	36.8	9.7	4.2	5.6	7.6	47.9	26.1	75.5	6.8	67.9	37.8	63.9
Lancaster	42000	Pioneer 3417	42570	40788	1.9	0.7	52.6	63.7	43.0	9.9	4.4	5.5	7.3	51.0	26.6	73.9	6.2	72.7	40.5	60.0
Mean			30789	30670	1.0	0.6	61.8	71.3	39.0	8.8	4.0	4.8	7.2	49.7	26.2	75.1	6.3	73.0	41.1	62.6
<b>Probability (%)</b>																				
Location (L)			25.9	3.7	6.6	3.6	<0.1	<0.1	23.0	>50	3.7	13.2	1.2	0.9	0.5	1.9	>50	>50	9.9	9.1
Plant Density (PD)			<0.1	<0.1	>50	41.1	1.9	<0.1	38.8	<0.1	<0.1	7.1	5.2	9.9	2.8	9.2	23.6	6.2	4.8	4.4
L x PD			10.4	10.3	>50	0.3	3.4	0.1	>50	>50	7.8	35.4	>50	42.1	38.4	29.3	25.0	11.8	4.7	>50
Hybrid (H)			5.2	0.1	4.6	28.5	<0.1	<0.1	9.9	47.1	48.8	>50	7.5	2.7	35.0	16.5	1.0	<0.1	>50	1.6
L x H			12.9	0.9	7.4	21.4	17.1	>50	43.9	4.2	44.0	10.0	>50	>50	>50	>50	>50	33.6	>50	>50
D x H			41.3	17.9	>50	40.8	>50	6.4	>50	>50	17.0	>50	20.7	>50	31.9	45.4	1.5	>50	>50	48.0
L x D x H			>50	>50	26.2	28.4	>50	>50	21.9	>50	>50	>50	1.1	>50	>50	>50	>50	>50	29.9	35.8
<b>LSD (0.10)</b>																				
Location (L)			NS	921	1.2	0.1	2.4	1.3	NS	NS	0.3	NS	0.3	2.2	1.4	1.3	NS	NS	1.2	1.5
Plant Density (PD)			1325	1366	NS	NS	1.8	1.7	NS	0.5	0.2	0.5	0.4	2.7	1.7	1.5	NS	1.6	1.3	1.3
Hybrid (H)			732	843	0.6	NS	1.3	1.1	1.3	NS	NS	NS	0.1	1.5	NS	NS	0.2	1.2	NS	0.7
CV %			6.3	7.2	170	20.6	5.7	4.0	9.0	10.4	10.0	20.0	5.1	8.2	9.4	3.4	8.7	4.2	5.5	2.9

§ - Milk Line = percent down from tip to base of kernel.

**Table E-33. Silage Plant Density by Hybrid Silage Quality. - North Central Zone.  
Marshfield, WI and Valders, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%			tons DM/a			%				%			
Marshfield			30136	31165	0.5	0.5	68.2	78.1	43.0	5.7	2.3	3.3	5.8	50.5	25.9	77.5	4.1	76.7	43.0	65.0
Valders			30175	33086	1.0	0.7	48.9	54.7	37.4	7.0	2.7	4.3	6.5	45.1	22.0	79.6	4.1	74.0	39.6	66.8
	18000		18563	23265	0.5	0.6	59.1	68.5	39.1	5.7	2.2	3.5	6.7	45.7	22.5	79.9	4.3	74.8	40.3	66.1
	24000		24354	26879	0.8	0.6	58.6	66.3	38.8	6.1	2.4	3.6	6.3	48.7	24.3	78.6	4.3	74.3	40.3	66.6
	30000		30393	32670	0.7	0.6	58.3	66.3	41.0	6.5	2.5	4.0	6.1	47.7	24.0	77.9	4.1	74.7	41.2	65.6
	36000		36185	36878	0.7	0.6	58.4	65.3	41.1	6.7	2.8	3.9	5.9	48.6	24.7	77.8	4.0	75.9	41.7	66.2
	42000		41283	40937	0.9	0.6	58.2	65.6	41.0	6.7	2.7	4.1	5.8	48.2	24.4	78.6	3.8	77.3	43.1	64.9
Marshfield	18000		18513	21582	0.0	0.5	69.0	79.2	41.2	4.7	1.9	2.8	6.1	48.2	24.2	79.0	4.2	75.7	41.4	65.5
Marshfield	24000		24057	25344	0.4	0.5	67.7	78.1	40.4	5.3	2.2	3.1	5.9	51.9	26.6	77.7	4.1	75.7	42.1	65.2
Marshfield	30000		30690	31977	0.7	0.5	68.4	77.1	44.0	5.7	2.4	3.4	5.8	52.5	27.0	75.9	4.1	76.1	42.9	65.0
Marshfield	36000		36036	36432	0.3	0.5	69.2	78.0	44.4	5.8	2.5	3.3	5.5	49.6	25.8	77.4	4.1	77.5	43.5	65.5
Marshfield	42000		41382	40491	1.0	0.5	66.7	78.1	44.8	6.8	2.8	4.0	5.6	50.2	26.1	77.5	3.9	78.7	45.0	63.6
Valders	18000		18612	24948	1.1	0.7	49.3	57.8	36.9	6.8	2.5	4.2	7.3	43.3	20.8	80.8	4.4	73.9	39.1	66.6
Valders	24000		24651	28413	1.2	0.7	49.5	54.4	37.2	6.8	2.7	4.1	6.7	45.4	22.1	79.5	4.5	72.9	38.6	68.0
Valders	30000		30096	33363	0.6	0.6	48.2	55.4	38.0	7.2	2.7	4.6	6.3	43.0	21.0	79.9	4.0	73.3	39.4	66.2
Valders	36000		36333	37323	1.1	0.7	47.6	52.6	37.8	7.6	3.1	4.5	6.2	47.6	23.6	78.3	3.9	74.3	39.8	67.0
Valders	42000		41184	41382	0.8	0.7	49.8	53.0	37.3	6.7	2.6	4.1	6.0	46.2	22.6	79.7	3.7	75.8	41.2	66.2
		Jacques 4120	29858	29660	0.7	0.6	55.6	63.4	38.1	6.2	2.5	3.7	6.0	49.6	25.0	77.2	4.0	76.7	41.9	64.4
		Pioneer 3757	30452	34591	0.7	0.5	61.5	69.4	42.3	6.5	2.6	3.9	6.3	45.9	22.9	79.9	4.2	74.1	40.7	67.4
Marshfield		Jacques 4120	29858	29304	0.7	0.5	66.4	76.4	40.9	5.5	2.4	3.2	5.6	52.4	27.0	76.2	3.8	78.1	43.7	63.3
Marshfield		Pioneer 3757	30413	33026	0.2	0.5	70.0	79.8	45.0	5.8	2.3	3.5	5.9	48.6	24.8	78.8	4.3	75.3	42.2	66.7
Valders		Jacques 4120	29858	30017	0.8	0.7	44.7	50.4	35.2	6.9	2.6	4.3	6.3	46.8	23.0	78.3	4.1	75.2	40.1	65.6
Valders		Pioneer 3757	30492	36155	1.1	0.6	53.0	59.0	39.6	7.2	2.8	4.4	6.6	43.3	21.0	81.0	4.1	72.9	39.1	68.0
	18000	Jacques 4120	18513	19107	0.0	0.6	56.9	66.5	35.2	5.7	2.3	3.4	6.9	47.7	23.7	78.3	4.2	75.9	40.8	64.8
	18000	Pioneer 3757	18612	27423	1.1	0.6	61.3	70.5	43.0	5.8	2.1	3.7	6.5	43.8	21.4	81.4	4.4	73.6	39.8	67.4
	24000	Jacques 4120	24354	24552	0.4	0.6	56.2	62.2	38.4	6.2	2.6	3.6	6.4	47.6	23.5	78.8	4.4	75.4	40.7	65.0
	24000	Pioneer 3757	24354	29205	1.2	0.6	61.1	70.3	39.2	5.9	2.3	3.7	6.1	49.7	25.1	78.5	4.2	73.3	40.0	68.3
	30000	Jacques 4120	29700	29502	0.7	0.6	55.0	62.7	38.9	6.1	2.4	3.7	5.6	50.9	26.0	75.8	3.8	76.4	42.1	63.8
	30000	Pioneer 3757	31086	35838	0.6	0.5	61.6	69.9	43.1	6.9	2.7	4.2	6.6	44.5	22.0	80.1	4.3	73.0	40.2	67.3
	36000	Jacques 4120	35739	35838	1.4	0.6	55.3	62.7	38.9	6.6	2.7	3.9	5.4	52.2	26.9	75.7	3.7	77.1	42.6	64.7
	36000	Pioneer 3757	36630	37917	0.0	0.5	61.6	67.8	43.3	6.8	2.9	3.9	6.3	45.0	22.4	79.9	4.3	74.7	40.8	67.8
	42000	Jacques 4120	40986	39303	1.3	0.7	54.4	62.7	39.1	6.5	2.6	3.9	5.6	49.6	25.1	77.6	3.7	78.4	43.5	63.8
	42000	Pioneer 3757	41580	42570	0.5	0.5	62.0	68.4	43.0	7.0	2.8	4.2	6.0	46.8	23.6	79.5	3.9	76.1	42.6	66.0

**Table E-33. Silage Plant Density by Hybrid Silage Quality. - North Central Zone.  
Marshfield, WI and Valders, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%	%	tons DM/a	tons DM/a	tons DM/a		%	%	%		%	%	%	
Marshfield	18000	Jacques 4120	18018	18216	0.0	0.5	67.5	77.3	36.2	4.5	1.9	2.6	6.1	49.9	25.2	77.7	4.0	76.6	41.6	64.9
Marshfield	18000	Pioneer 3757	19008	24948	0.0	0.5	70.4	81.1	46.3	4.8	1.8	3.1	6.1	46.5	23.2	80.2	4.5	74.7	41.3	66.2
Marshfield	24000	Jacques 4120	24354	24750	0.9	0.6	65.5	76.0	41.5	5.6	2.4	3.2	6.0	49.5	24.9	78.9	4.1	76.3	42.4	63.0
Marshfield	24000	Pioneer 3757	23760	25938	0.0	0.5	69.9	80.2	39.4	5.1	2.0	3.1	5.7	54.4	28.2	76.6	4.2	75.1	41.7	67.5
Marshfield	30000	Jacques 4120	30690	29700	0.7	0.5	67.0	75.6	42.0	5.3	2.3	3.0	5.2	58.0	30.4	72.8	3.6	78.8	44.8	62.5
Marshfield	30000	Pioneer 3757	30690	34254	0.7	0.5	69.9	78.7	45.9	6.2	2.5	3.7	6.5	46.9	23.7	79.0	4.6	73.3	41.0	67.4
Marshfield	36000	Jacques 4120	35046	34650	0.6	0.5	68.3	76.7	42.3	5.3	2.4	2.9	5.4	51.7	27.1	75.7	3.8	78.9	44.4	63.9
Marshfield	36000	Pioneer 3757	37026	38214	0.0	0.4	70.2	79.3	46.5	6.2	2.6	3.7	5.7	47.5	24.4	79.1	4.4	76.0	42.7	67.1
Marshfield	42000	Jacques 4120	41184	39204	1.5	0.6	63.7	76.4	42.7	6.9	2.9	4.0	5.5	52.8	27.6	75.9	3.8	80.0	45.4	62.1
Marshfield	42000	Pioneer 3757	41580	41778	0.5	0.4	69.6	79.8	46.9	6.7	2.6	4.0	5.7	47.7	24.6	79.0	4.0	77.5	44.5	65.2
Valders	18000	Jacques 4120	19008	19998	0.0	0.7	46.4	55.6	34.2	6.8	2.6	4.2	7.6	45.6	22.1	78.9	4.5	75.2	40.0	64.7
Valders	18000	Pioneer 3757	18216	29898	2.2	0.7	52.2	59.9	39.7	6.7	2.5	4.3	6.9	41.0	19.5	82.6	4.3	72.6	38.3	68.6
Valders	24000	Jacques 4120	24354	24354	0.0	0.7	46.8	48.4	35.2	6.8	2.8	4.0	6.9	45.7	22.1	78.6	4.8	74.5	39.0	67.0
Valders	24000	Pioneer 3757	24948	32472	2.4	0.7	52.2	60.5	39.1	6.8	2.6	4.2	6.5	45.1	22.0	80.4	4.2	71.4	38.2	69.1
Valders	30000	Jacques 4120	28710	29304	0.7	0.7	43.1	49.8	35.7	6.9	2.5	4.4	6.0	43.8	21.6	78.7	4.1	74.0	39.4	65.2
Valders	30000	Pioneer 3757	31482	37422	0.6	0.5	53.4	61.0	40.3	7.6	2.9	4.8	6.7	42.1	20.4	81.1	4.0	72.6	39.4	67.3
Valders	36000	Jacques 4120	36432	37026	2.2	0.8	42.2	48.8	35.5	7.8	3.0	4.8	5.5	52.6	26.7	75.8	3.6	75.4	40.7	65.5
Valders	36000	Pioneer 3757	36234	37620	0.0	0.6	53.0	56.4	40.1	7.4	3.2	4.2	6.8	42.5	20.4	80.7	4.2	73.3	39.0	68.4
Valders	42000	Jacques 4120	40788	39402	1.0	0.8	45.2	49.1	35.6	6.0	2.2	3.8	5.8	46.5	22.7	79.3	3.6	76.9	41.6	65.5
Valders	42000	Pioneer 3757	41580	43362	0.5	0.6	54.3	57.0	39.0	7.3	2.9	4.4	6.3	45.8	22.6	80.0	3.8	74.7	40.8	66.8
Mean			30155	32126	0.7	0.6	58.5	66.4	40.2	6.3	2.5	3.8	6.1	47.8	24.0	78.6	4.1	75.4	41.3	65.9
<b>Probability (%)</b>																				
Location (L)			>50	1.2	3.2	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	2.4	2.0	0.5	1.7	>50	0.5	0.2	1.2
Plant Density (PD)			<0.1	<0.1	>50	>50	>50	9.4	21.6	3.6	0.2	27.0	1.5	31.6	19.3	11.3	11.9	<0.1	<0.1	23.5
L x PD			>50	>50	48.9	38.2	45.7	33.1	49.0	3.7	2.6	13.7	>50	18.2	32.8	40.7	>50	>50	47.6	>50
Hybrid (H)			12.0	<0.1	>50	<0.1	<0.1	<0.1	<0.1	19.4	35.5	27.5	3.3	0.4	0.6	<0.1	4.7	<0.1	0.3	<0.1
L x H			>50	2.2	15.4	14.7	1.4	0.7	>50	>50	4.5	>50	>50	>50	>50	>50	4.0	>50	>50	32.3
D x H			>50	0.4	5.7	>50	>50	>50	34.3	>50	4.6	>50	0.4	12.4	9.5	14.0	24.0	>50	>50	>50
L x D x H			21.3	5.5	8.6	42.3	>50	>50	>50	38.9	20.6	>50	26.8	20.0	23.3	28.3	43.7	33.3	29.2	39.3
<b>LSD (0.10)</b>																				
Location (L)			NS	1051	0.3	<0.1	1.6	1.5	2.1	0.4	0.2	0.3	0.5	3.3	1.7	1.3	NS	1.2	1.2	1.0
Plant Density (PD)			890	1580	NS	NS	NS	2.0	NS	0.6	0.2	NS	0.4	NS	NS	NS	NS	1.1	0.8	NS
Hybrid (H)			NS	848	NS	<0.1	1.5	1.5	1.7	NS	NS	NS	0.2	2.0	1.2	1.0	0.2	0.8	0.7	0.8
<b>CV %</b>			5.5	7.0	180	16.8	6.9	6.0	11.3	16.1	12.1	25.2	9.9	11.0	13.5	3.5	12.6	2.7	4.2	3.3

§ - Milk Line = percent down from tip to base of kernel.

**Table E-34. Silage Plant Density by Hybrid Silage Quality. - Northern Zone.  
Ashland, WI and Spooner, WI 1995.**

Site	Plant Density Hybrid plants/a	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line\$	Moisture			Yield			Whole Plant				Stover				
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.	
						%			tons DM/a			%				%				
Ashland		32564	34945	0.9	0.5	63.2	70.8	40.9	8.6	4.2	4.4	7.5	54.4	30.2	72.6	5.9	72.7	43.5	64.8	
Spooner		32105	36159	1.4	0.6	64.1	71.2	39.7	7.4	2.9	4.5	7.3	51.8	27.0	74.3	6.0	72.8	41.3	63.7	
	18000	20556	32002	1.2	0.5	65.0	73.5	40.3	6.7	2.8	3.9	7.5	51.6	27.2	74.3	6.1	70.8	40.4	65.3	
	24000	26418	30353	0.9	0.5	65.1	73.4	39.9	7.8	3.4	4.4	7.3	53.4	28.6	72.9	6.0	71.2	41.0	64.5	
	30000	32747	35203	1.1	0.6	63.7	69.2	40.0	8.0	3.6	4.4	7.4	53.1	28.7	73.4	5.5	75.1	44.2	63.3	
	36000	38121	37821	1.2	0.6	62.9	70.2	40.7	8.7	3.9	4.8	7.5	53.3	28.8	73.7	6.4	72.7	42.8	64.4	
	42000	43830	42380	1.3	0.5	61.6	68.6	40.5	8.8	4.0	4.8	7.3	54.3	29.7	72.7	5.9	74.0	43.7	63.6	
Ashland	18000	20038	29621	1.4	0.5	65.0	73.1	41.5	7.1	3.4	3.7	7.7	51.7	27.8	74.6	6.0	70.8	41.3	66.1	
Ashland	24000	26620	28943	0.7	0.5	64.2	72.7	41.0	8.3	4.2	4.2	7.6	54.1	29.4	72.4	5.8	72.2	42.7	64.7	
Ashland	30000	32622	33299	0.9	0.6	62.6	69.3	39.8	8.8	4.2	4.6	7.4	54.5	30.5	72.3	5.4	75.2	45.4	63.9	
Ashland	36000	38430	38333	0.5	0.5	63.0	70.1	41.7	9.3	4.7	4.7	7.5	55.4	30.9	72.0	6.4	71.9	43.4	65.2	
Ashland	42000	45109	44528	0.9	0.5	61.2	68.8	40.4	9.5	4.6	4.9	7.4	56.6	32.1	71.4	6.0	73.4	44.9	64.4	
Spooner	18000	21074	34384	1.0	0.6	65.0	74.0	39.2	6.3	2.2	4.1	7.4	51.4	26.7	74.0	6.3	70.8	39.6	64.6	
Spooner	24000	26217	31763	1.1	0.6	65.9	74.1	38.8	7.2	2.6	4.6	6.9	52.7	27.7	73.4	6.2	70.2	39.2	64.4	
Spooner	30000	32872	37107	1.3	0.6	64.7	69.1	40.1	7.2	3.0	4.1	7.4	51.7	26.9	74.5	5.5	75.0	43.1	62.8	
Spooner	36000	37813	37308	1.8	0.6	62.8	70.4	39.7	8.0	3.1	4.8	7.4	51.3	26.6	75.4	6.4	73.6	42.3	63.7	
Spooner	42000	42552	40233	1.7	0.5	62.1	68.5	40.5	8.2	3.3	4.8	7.2	52.0	27.3	74.0	5.7	74.7	42.5	62.9	
		Pioneer 3902	32470	35660	1.0	0.6	63.0	70.6	39.7	8.0	3.6	4.5	7.4	53.1	28.7	73.2	6.1	72.1	42.0	64.7
		Pioneer 3921	32199	35444	1.2	0.5	64.3	71.4	40.9	7.9	3.5	4.4	7.5	53.2	28.5	73.7	5.8	73.4	42.8	63.8
Ashland		Pioneer 3902	32835	34616	0.7	0.6	60.8	68.5	40.1	8.9	4.4	4.5	7.4	54.1	30.0	72.7	5.9	72.4	43.4	65.0
Ashland		Pioneer 3921	32292	35274	1.1	0.5	65.6	73.0	41.7	8.4	4.0	4.3	7.7	54.8	30.3	72.4	5.9	73.0	43.7	64.7
Spooner		Pioneer 3902	32105	36703	1.4	0.6	65.1	72.6	39.2	7.2	2.7	4.5	7.3	52.1	27.3	73.6	6.3	71.7	40.6	64.4
Spooner		Pioneer 3921	32105	35614	1.4	0.5	63.1	69.8	40.1	7.5	3.0	4.5	7.3	51.5	26.7	74.9	5.7	73.9	42.0	62.9
	18000	Pioneer 3902	20554	31456	1.0	0.6	66.8	74.2	40.3	6.6	2.8	3.8	7.4	52.9	28.3	73.1	6.2	69.5	39.8	65.8
	18000	Pioneer 3921	20558	32549	1.3	0.5	63.2	72.9	40.3	6.9	2.8	4.1	7.7	50.2	26.2	75.5	6.0	72.1	41.0	64.9
	24000	Pioneer 3902	27366	31387	1.1	0.6	64.3	72.0	39.8	7.8	3.4	4.4	7.3	53.2	28.5	73.1	6.4	71.2	40.8	65.3
	24000	Pioneer 3921	25471	29318	0.7	0.5	65.9	74.8	40.1	7.7	3.4	4.4	7.3	53.5	28.6	72.7	5.7	71.2	41.2	63.7
	30000	Pioneer 3902	33497	35005	0.9	0.7	62.6	69.4	38.8	8.3	3.7	4.6	7.3	53.3	28.9	73.1	5.4	74.2	43.8	63.5
	30000	Pioneer 3921	31996	35401	1.3	0.5	64.8	69.0	41.1	7.7	3.6	4.1	7.5	52.9	28.5	73.8	5.5	75.9	44.6	63.2
	36000	Pioneer 3902	36913	37720	1.3	0.6	60.4	69.5	40.0	9.0	3.9	5.1	7.5	51.9	27.9	74.2	6.6	72.6	42.6	64.5
	36000	Pioneer 3921	39329	37921	1.1	0.5	65.3	70.9	41.5	8.3	3.9	4.4	7.5	54.7	29.6	73.2	6.2	72.8	43.1	64.4
	42000	Pioneer 3902	44020	42729	0.9	0.6	60.8	67.7	39.4	8.5	3.9	4.6	7.4	54.3	29.8	72.3	6.2	73.0	43.1	64.3
	42000	Pioneer 3921	43641	42031	1.7	0.5	62.5	69.5	41.5	9.1	4.0	5.1	7.3	54.4	29.7	73.1	5.6	75.1	44.3	63.0

**Table E-34. Silage Plant Density by Hybrid Silage Quality. - Northern Zone.  
Ashland, WI and Spooner, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%			tons DM/a			%				%			
Ashland	18000	Pioneer 3902	20134	29234	1.0	0.6	65.2	72.3	41.6	7.1	3.4	3.7	7.5	51.9	28.0	74.1	5.8	70.2	41.1	66.1
Ashland	18000	Pioneer 3921	19941	30008	1.8	0.5	64.8	73.8	41.4	7.1	3.4	3.8	7.9	51.6	27.7	75.1	6.2	71.4	41.4	66.1
Ashland	24000	Pioneer 3902	27104	27685	0.0	0.6	62.3	70.0	40.9	8.7	4.5	4.3	7.7	52.1	28.2	73.6	6.0	72.7	42.8	65.0
Ashland	24000	Pioneer 3921	26136	30202	1.5	0.4	66.2	75.4	41.1	7.9	3.9	4.1	7.6	56.1	30.6	71.3	5.6	71.8	42.7	64.4
Ashland	30000	Pioneer 3902	32912	33106	0.6	0.7	59.5	65.9	38.5	9.4	4.4	4.9	7.2	55.4	31.2	71.9	5.1	76.2	46.4	63.2
Ashland	30000	Pioneer 3921	32331	33493	1.2	0.5	65.8	72.7	41.1	8.3	4.0	4.3	7.7	53.5	29.9	72.7	5.7	74.2	44.4	64.6
Ashland	36000	Pioneer 3902	38333	38333	1.0	0.7	58.3	67.4	40.1	9.8	4.8	4.9	7.3	54.3	30.3	72.9	6.2	71.9	43.3	64.9
Ashland	36000	Pioneer 3921	38526	38333	0.0	0.4	67.7	72.7	43.3	8.9	4.5	4.4	7.7	56.5	31.6	71.2	6.6	71.9	43.5	65.5
Ashland	42000	Pioneer 3902	45690	44722	0.9	0.6	58.9	67.0	39.4	9.3	4.7	4.6	7.5	57.0	32.3	70.9	6.6	71.3	43.4	65.6
Ashland	42000	Pioneer 3921	44528	44334	0.9	0.5	63.5	70.5	41.5	9.6	4.5	5.1	7.4	56.3	32.0	71.9	5.4	75.5	46.3	63.1
Spooner	18000	Pioneer 3902	20973	33678	1.1	0.6	68.4	76.0	39.0	6.1	2.3	3.8	7.3	54.0	28.5	72.1	6.7	68.8	38.4	65.6
Spooner	18000	Pioneer 3921	21175	35090	0.9	0.6	61.6	72.0	39.3	6.6	2.1	4.5	7.5	48.9	24.8	75.9	5.9	72.8	40.7	63.6
Spooner	24000	Pioneer 3902	27628	35090	2.2	0.7	66.3	74.0	38.7	6.9	2.4	4.4	6.8	54.4	28.8	72.6	6.7	69.7	38.8	65.6
Spooner	24000	Pioneer 3921	24805	28435	0.0	0.5	65.5	74.2	39.0	7.5	2.8	4.7	7.0	51.0	26.6	74.2	5.7	70.7	39.7	63.1
Spooner	30000	Pioneer 3902	34082	36905	1.3	0.7	65.7	72.9	39.1	7.2	2.9	4.3	7.5	51.3	26.6	74.2	5.7	72.2	41.2	63.7
Spooner	30000	Pioneer 3921	31662	37308	1.4	0.5	63.7	65.3	41.1	7.1	3.2	3.9	7.4	52.2	27.2	74.8	5.3	77.7	44.9	61.8
Spooner	36000	Pioneer 3902	35493	37107	1.6	0.6	62.5	71.6	39.8	8.3	3.0	5.3	7.6	49.5	25.6	75.6	6.9	73.4	41.9	64.0
Spooner	36000	Pioneer 3921	40132	37510	2.1	0.6	63.0	69.1	39.6	7.7	3.3	4.4	7.2	53.0	27.7	75.3	5.8	73.8	42.6	63.3
Spooner	42000	Pioneer 3902	42350	40737	0.9	0.6	62.7	68.4	39.5	7.6	3.1	4.6	7.2	51.6	27.2	73.7	5.8	74.7	42.8	63.0
Spooner	42000	Pioneer 3921	42753	39728	2.5	0.5	61.5	68.6	41.5	8.7	3.6	5.1	7.2	52.5	27.4	74.3	5.7	74.7	42.2	62.8
Mean			32334	35552	1.1	0.6	63.7	71.0	40.3	8.0	3.5	4.5	7.4	53.1	28.6	73.4	6.0	72.8	42.4	64.3
Probability (%)																				
Location (L)			29.8	7.7	30.3	8.5	31.5	>50	0.2	0.7	<0.1	>50	9.4	3.3	0.3	10.0	>50	>50	0.2	2.5
Plant Density (PD)			<0.1	<0.1	>50	41.7	11.9	<0.1	>50	<0.1	<0.1	6.4	>50	16.3	3.1	0.6	17.6	<0.1	<0.1	10.8
L x PD			>50	<0.1	>50	>50	>50	>50	6.4	>50	>50	>50	41.6	23.5	5.8	<0.1	>50	30.4	>50	>50
Hybrid (H)			>50	>50	>50	<0.1	6.4	8.9	<0.1	>50	>50	>50	35.0	>50	>50	25.6	0.5	5.2	12.4	6.3
L x H			>50	29.7	>50	18.9	<0.1	<0.1	31.1	7.0	0.1	>50	24.8	44.6	42.3	9.5	1.3	21.9	30.3	17.0
D x H			5.4	>50	>50	>50	1.2	9.6	13.1	22.0	>50	30.8	>50	37.0	39.0	16.2	20.5	>50	>50	>50
L x D x H			20.3	29.8	49.0	27.8	>50	1.5	35.1	>50	29.3	>50	>50	25.2	32.2	49.2	1.0	11.8	10.7	34.0
LSD (0.10)																				
Location (L)			NS	1107	NS	<0.1	NS	NS	0.5	0.6	0.2	NS	0.3	1.8	1.3	1.7	NS	NS	0.8	0.8
Plant Density (PD)			1802	1616	NS	NS	NS	1.9	NS	0.4	0.3	0.6	NS	NS	1.2	0.7	NS	1.6	1.2	NS
Hybrid (H)			NS	NS	NS	<0.1	1.2	0.9	0.6	NS	NS	NS	NS	NS	NS	NS	0.2	1.1	NS	0.7
CV %			6.5	10.4	202	21.9	4.9	3.2	3.7	11.7	10.7	21.2	6.4	7.1	9.1	2.6	8.6	4.1	5.5	3.0

§ - Milk Line = percent down from tip to base of kernel.

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Plant Density by Hybrid. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

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### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95    pH: 6.4    P (ppm): 47    K (ppm): 185    OM (%): 3.4  
Fertilizer: May 1 - 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Previous Crop: Soybean  
Irrigation: None

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### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot  
Replicates: 4  
Variables: A: Plant Density, B: Hybrid  
Plant Density: 12,000  
                  18,000  
                  24,000  
                  30,000  
                  36,000  
                  42,000  
Hybrids: Northrup King 9060  
           Pioneer 3845  
           Dekalb DK493  
           Pioneer 3394  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Planting Date: May 1  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: Variable  
Harvesting Date: Oct. 5  
Harvesting Equip: Almaco Plot Combine  
  

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preemerg
	Lasso	2 qts/a	preemerg

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Results: Tables E-11 and E-12.

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000			9.0	10.1	12.0	80.0
18,000			8.9	9.9	11.8	84.9
24,000			8.8	9.8	11.7	84.8
30,000			8.8	9.7	11.7	86.6
36,000			8.7	9.8	11.7	86.9
42,000			8.7	9.6	11.6	90.2
	Northrup King 9060		8.7	10.2	11.6	81.4
	Pioneer 3845		8.9	10.0	11.8	89.5
	Dekalb DK493		8.9	9.6	11.8	82.2
	Pioneer 3394		8.8	9.5	11.8	89.2
12,000	Northrup King 9060		8.8	10.3	11.6	73.5
12,000	Pioneer 3845		8.9	10.1	11.9	84.8
12,000	Dekalb DK493		9.3	10.1	12.3	77.6
12,000	Pioneer 3394		9.2	9.9	12.3	84.1
18,000	Northrup King 9060		8.8	10.3	11.7	83.7
18,000	Pioneer 3845		9.0	10.1	11.8	87.5
18,000	Dekalb DK493		8.8	9.5	11.7	79.5
18,000	Pioneer 3394		8.9	9.8	11.9	88.8
24,000	Northrup King 9060		8.8	10.4	11.8	82.5
24,000	Pioneer 3845		8.8	9.9	11.7	87.9
24,000	Dekalb DK493		8.7	9.4	11.6	79.0
24,000	Pioneer 3394		8.8	9.5	11.8	89.8
30,000	Northrup King 9060		8.6	10.1	11.5	82.0
30,000	Pioneer 3845		8.9	10.0	11.8	91.4
30,000	Dekalb DK493		8.9	9.5	11.9	83.8
30,000	Pioneer 3394		8.6	9.3	11.6	89.2
36,000	Northrup King 9060		8.8	10.3	11.7	81.8
36,000	Pioneer 3845		8.9	10.0	11.8	91.4
36,000	Dekalb DK493		8.8	9.6	11.8	84.2
36,000	Pioneer 3394		8.5	9.1	11.4	90.1
42,000	Northrup King 9060		8.6	10.0	11.3	84.7
42,000	Pioneer 3845		8.8	9.7	11.6	93.7
42,000	Dekalb DK493		8.8	9.4	11.6	89.2
42,000	Pioneer 3394		8.7	9.3	11.7	93.4
		151	2.0	2.8	4.2	10.0
		158	3.8	4.7	6.7	17.8
		165	5.1	6.5	8.3	27.5
		174	7.4	9.4	12.5	66.2
		181	10.2	11.6	15.3	119.9
		195	15.7	16.2	17.7	-
		213	17.7	17.7	17.7	272.1

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000		151	2.0	2.6	4.1	9.2
12,000		158	3.9	4.8	6.7	16.3
12,000		165	5.1	6.6	8.5	24.6
12,000		174	7.6	9.6	12.6	61.6
12,000		181	10.4	12.2	15.9	105.9
12,000		195	16.2	16.7	18.1	-
12,000		213	18.1	18.1	18.1	262.5
18,000		151	2.0	2.9	4.3	10.3
18,000		158	3.8	4.6	6.6	17.9
18,000		165	5.1	6.5	8.5	28.4
18,000		174	7.5	9.5	12.6	64.1
18,000		181	10.3	12.0	15.5	118.3
18,000		195	15.8	16.3	17.7	-
18,000		213	17.7	17.7	17.7	270.3
24,000		151	2.0	2.8	4.2	10.2
24,000		158	3.7	4.6	6.6	17.1
24,000		165	5.1	6.3	8.3	26.0
24,000		174	7.3	9.5	12.5	64.9
24,000		181	10.3	11.8	15.3	118.8
24,000		195	15.6	16.1	17.6	-
24,000		213	17.7	17.7	17.7	271.7
30,000		151	2.0	2.9	4.3	10.1
30,000		158	3.8	4.8	6.8	18.5
30,000		165	5.2	6.4	8.3	27.9
30,000		174	7.4	9.3	12.5	65.8
30,000		181	10.2	11.4	15.1	122.3
30,000		195	15.6	16.1	17.6	-
30,000		213	17.7	17.7	17.7	275.2
36,000		151	2.0	3.0	4.3	9.7
36,000		158	3.8	4.6	6.6	17.7
36,000		165	5.2	6.6	8.3	28.2
36,000		174	7.3	9.3	12.3	68.6
36,000		181	10.0	11.3	15.0	124.0
36,000		195	15.4	15.9	17.6	-
36,000		213	17.6	17.6	17.6	273.1
42,000		151	2.0	2.8	4.2	10.4
42,000		158	3.8	4.7	6.7	19.1
42,000		165	5.0	6.3	8.1	29.6
42,000		174	7.3	9.2	12.3	72.2
42,000		181	10.1	11.2	14.9	130.4
42,000		195	15.4	15.8	17.4	-
42,000		213	17.4	17.4	17.4	279.8



**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
	Northrup King 9060	151	2.0	3.2	4.5	9.7
	Northrup King 9060	158	3.9	5.3	7.1	18.4
	Northrup King 9060	165	5.2	7.1	8.8	27.7
	Northrup King 9060	174	7.5	11.0	13.3	68.6
	Northrup King 9060	181	10.6	13.1	15.2	125.6
	Northrup King 9060	195	16.0	16.0	16.2	-
	Northrup King 9060	213	16.2	16.2	16.2	238.3
	Pioneer 3845	151	2.0	3.0	4.3	10.8
	Pioneer 3845	158	3.9	4.8	6.7	18.9
	Pioneer 3845	165	5.0	6.4	8.4	28.5
	Pioneer 3845	174	7.3	9.7	12.4	70.9
	Pioneer 3845	181	10.1	11.8	15.3	125.2
	Pioneer 3845	195	16.3	16.6	17.8	-
	Pioneer 3845	213	17.7	17.7	17.7	282.5
	Dekalb DK493	151	2.0	2.5	3.9	9.1
	Dekalb DK493	158	3.6	4.1	6.2	15.6
	Dekalb DK493	165	4.9	5.9	7.9	24.5
	Dekalb DK493	174	7.4	8.5	12.2	56.7
	Dekalb DK493	181	10.2	11.2	15.4	104.6
	Dekalb DK493	195	15.6	16.3	18.6	-
	Dekalb DK493	213	18.6	18.6	18.6	282.8
	Pioneer 3394	151	2.0	2.6	4.2	10.4
	Pioneer 3394	158	3.9	4.5	6.7	18.1
	Pioneer 3394	165	5.3	6.5	8.3	29.0
	Pioneer 3394	174	7.5	8.4	12.0	68.7
	Pioneer 3394	181	10.0	10.5	15.1	124.3
	Pioneer 3394	195	14.7	15.8	18.1	-
	Pioneer 3394	213	18.1	18.1	18.1	284.8
12,000	Northrup King 9060	151	2.0	2.9	4.2	8.9
12,000	Northrup King 9060	158	3.9	5.3	7.0	16.3
12,000	Northrup King 9060	165	5.1	7.2	8.9	23.8
12,000	Northrup King 9060	174	7.4	10.7	12.7	61.0
12,000	Northrup King 9060	181	10.4	13.4	15.5	109.8
12,000	Northrup King 9060	195	16.3	16.3	16.4	-
12,000	Northrup King 9060	213	16.4	16.4	16.4	221.5
12,000	Pioneer 3845	151	1.9	2.6	4.3	9.9
12,000	Pioneer 3845	158	3.9	4.7	6.8	16.8
12,000	Pioneer 3845	165	4.9	6.5	8.6	26.0
12,000	Pioneer 3845	174	7.3	10.0	12.6	65.8
12,000	Pioneer 3845	181	10.1	12.2	15.7	113.8
12,000	Pioneer 3845	195	16.7	16.9	17.6	-
12,000	Pioneer 3845	213	17.6	17.6	17.6	276.8

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000	Dekalb DK493	151	2.0	2.5	3.9	8.4
12,000	Dekalb DK493	158	3.9	4.5	6.3	15.3
12,000	Dekalb DK493	165	5.0	5.9	8.0	20.5
12,000	Dekalb DK493	174	7.8	9.0	12.7	56.0
12,000	Dekalb DK493	181	10.6	11.9	16.3	90.0
12,000	Dekalb DK493	195	16.3	17.0	19.4	-
12,000	Dekalb DK493	213	19.4	19.4	19.4	275.5
12,000	Pioneer 3394	151	2.0	2.3	4.3	9.6
12,000	Pioneer 3394	158	3.8	4.7	6.8	16.8
12,000	Pioneer 3394	165	5.3	6.7	8.5	28.0
12,000	Pioneer 3394	174	7.8	8.7	12.5	63.8
12,000	Pioneer 3394	181	10.5	11.2	15.9	110.0
12,000	Pioneer 3394	195	15.6	16.8	19.1	-
12,000	Pioneer 3394	213	19.1	19.1	19.1	276.3
18,000	Northrup King 9060	151	2.0	3.6	4.7	9.6
18,000	Northrup King 9060	158	3.9	5.3	7.1	19.3
18,000	Northrup King 9060	165	5.1	7.3	9.1	30.0
18,000	Northrup King 9060	174	7.9	11.2	13.8	67.3
18,000	Northrup King 9060	181	11.0	13.4	15.5	140.5
18,000	Northrup King 9060	195	16.0	16.1	16.2	-
18,000	Northrup King 9060	213	16.2	16.2	16.2	235.5
18,000	Pioneer 3845	151	2.0	2.9	4.3	11.6
18,000	Pioneer 3845	158	3.9	4.8	6.5	19.5
18,000	Pioneer 3845	165	5.2	6.7	8.6	30.0
18,000	Pioneer 3845	174	7.3	9.6	12.4	67.0
18,000	Pioneer 3845	181	10.3	12.2	15.6	118.3
18,000	Pioneer 3845	195	16.6	16.8	17.8	-
18,000	Pioneer 3845	213	17.8	17.8	17.8	278.8
18,000	Dekalb DK493	151	2.0	2.5	3.8	8.8
18,000	Dekalb DK493	158	3.4	3.8	6.0	13.8
18,000	Dekalb DK493	165	4.8	5.6	7.9	24.3
18,000	Dekalb DK493	174	7.3	8.4	12.1	52.5
18,000	Dekalb DK493	181	9.9	11.4	15.3	93.3
18,000	Dekalb DK493	195	15.6	16.4	18.6	-
18,000	Dekalb DK493	213	18.6	18.6	18.6	284.8
18,000	Pioneer 3394	151	2.0	2.6	4.3	11.0
18,000	Pioneer 3394	158	4.0	4.7	6.7	19.3
18,000	Pioneer 3394	165	5.3	6.7	8.4	29.5
18,000	Pioneer 3394	174	7.5	8.9	12.0	69.8
18,000	Pioneer 3394	181	10.1	11.1	15.4	121.3
18,000	Pioneer 3394	195	15.1	16.0	18.3	-
18,000	Pioneer 3394	213	18.3	18.3	18.3	282.0

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
24,000	Northrup King 9060	151	2.0	3.3	4.6	10.1
24,000	Northrup King 9060	158	3.9	5.4	7.3	17.8
24,000	Northrup King 9060	165	5.3	7.2	9.1	27.5
24,000	Northrup King 9060	174	7.6	11.4	13.6	72.5
24,000	Northrup King 9060	181	10.8	13.3	15.3	129.3
24,000	Northrup King 9060	195	16.3	16.3	16.4	-
24,000	Northrup King 9060	213	16.4	16.4	16.4	237.8
24,000	Pioneer 3845	151	2.1	2.9	4.3	10.5
24,000	Pioneer 3845	158	3.8	4.6	6.6	18.3
24,000	Pioneer 3845	165	4.9	6.2	8.2	26.5
24,000	Pioneer 3845	174	7.1	9.8	12.4	68.0
24,000	Pioneer 3845	181	10.1	12.1	15.3	121.3
24,000	Pioneer 3845	195	16.0	16.3	17.7	-
24,000	Pioneer 3845	213	17.7	17.7	17.7	282.8
24,000	Dekalb DK493	151	2.0	2.4	3.9	9.8
24,000	Dekalb DK493	158	3.3	3.8	5.8	14.5
24,000	Dekalb DK493	165	4.4	5.4	7.4	22.5
24,000	Dekalb DK493	174	7.1	8.4	12.0	51.8
24,000	Dekalb DK493	181	10.1	11.1	15.3	97.0
24,000	Dekalb DK493	195	15.3	16.1	18.4	-
24,000	Dekalb DK493	213	18.4	18.4	18.4	278.5
24,000	Pioneer 3394	151	1.9	2.6	4.0	10.4
24,000	Pioneer 3394	158	3.8	4.5	6.7	18.0
24,000	Pioneer 3394	165	5.5	6.5	8.4	27.5
24,000	Pioneer 3394	174	7.6	8.4	12.0	67.5
24,000	Pioneer 3394	181	10.0	10.6	15.2	127.5
24,000	Pioneer 3394	195	14.7	15.8	18.0	-
24,000	Pioneer 3394	213	18.0	18.0	18.0	287.8
30,000	Northrup King 9060	151	2.0	3.1	4.6	10.0
30,000	Northrup King 9060	158	3.9	5.4	7.2	19.5
30,000	Northrup King 9060	165	5.3	7.1	8.8	28.0
30,000	Northrup King 9060	174	7.6	11.0	13.4	68.0
30,000	Northrup King 9060	181	10.6	12.9	14.9	120.0
30,000	Northrup King 9060	195	15.8	15.8	16.0	-
30,000	Northrup King 9060	213	16.0	16.0	16.0	246.8
30,000	Pioneer 3845	151	2.0	3.2	4.4	11.3
30,000	Pioneer 3845	158	3.9	5.3	6.9	20.5
30,000	Pioneer 3845	165	5.3	6.4	8.5	28.8
30,000	Pioneer 3845	174	7.3	9.7	12.4	73.3
30,000	Pioneer 3845	181	10.1	11.4	15.2	135.3
30,000	Pioneer 3845	195	16.3	16.6	17.8	-
30,000	Pioneer 3845	213	17.8	17.8	17.8	279.5

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
30,000	Dekalb DK493	151	2.0	2.7	4.0	8.9
30,000	Dekalb DK493	158	3.7	4.2	6.3	16.3
30,000	Dekalb DK493	165	5.1	5.8	7.8	25.8
30,000	Dekalb DK493	174	7.4	8.3	12.2	55.8
30,000	Dekalb DK493	181	10.3	11.1	15.5	110.0
30,000	Dekalb DK493	195	15.8	16.3	18.7	-
30,000	Dekalb DK493	213	18.9	18.9	18.9	286.3
30,000	Pioneer 3394	151	2.0	2.7	4.2	10.3
30,000	Pioneer 3394	158	3.9	4.5	6.8	17.8
30,000	Pioneer 3394	165	5.1	6.1	7.9	29.0
30,000	Pioneer 3394	174	7.4	8.1	11.9	66.0
30,000	Pioneer 3394	181	9.9	10.3	14.8	123.8
30,000	Pioneer 3394	195	14.4	15.5	17.9	-
30,000	Pioneer 3394	213	18.1	18.1	18.1	288.3
36,000	Northrup King 9060	151	2.0	3.6	4.6	9.3
36,000	Northrup King 9060	158	3.9	5.3	7.0	18.5
36,000	Northrup King 9060	165	5.3	7.4	8.8	29.0
36,000	Northrup King 9060	174	7.4	10.8	13.3	70.8
36,000	Northrup King 9060	181	10.4	12.9	15.1	125.0
36,000	Northrup King 9060	195	16.0	16.0	16.4	-
36,000	Northrup King 9060	213	16.4	16.4	16.4	238.3
36,000	Pioneer 3845	151	1.9	3.1	4.3	10.1
36,000	Pioneer 3845	158	4.0	4.6	6.6	18.3
36,000	Pioneer 3845	165	5.1	6.5	8.3	29.0
36,000	Pioneer 3845	174	7.3	9.6	12.3	75.3
36,000	Pioneer 3845	181	10.0	11.5	15.1	129.0
36,000	Pioneer 3845	195	16.3	16.5	17.9	-
36,000	Pioneer 3845	213	17.9	17.9	17.9	287.0
36,000	Dekalb DK493	151	2.0	2.5	4.0	9.5
36,000	Dekalb DK493	158	3.4	4.1	6.2	16.5
36,000	Dekalb DK493	165	5.1	6.3	8.2	25.8
36,000	Dekalb DK493	174	7.4	8.6	12.3	60.0
36,000	Dekalb DK493	181	10.0	11.2	15.2	113.3
36,000	Dekalb DK493	195	15.4	16.1	18.5	-
36,000	Dekalb DK493	213	18.5	18.5	18.5	280.0
36,000	Pioneer 3394	151	2.0	2.7	4.1	10.0
36,000	Pioneer 3394	158	3.9	4.4	6.5	17.5
36,000	Pioneer 3394	165	5.3	6.3	8.0	29.0
36,000	Pioneer 3394	174	7.0	8.1	11.5	68.3
36,000	Pioneer 3394	181	9.7	9.7	14.4	128.8
36,000	Pioneer 3394	195	14.0	15.0	17.4	-
36,000	Pioneer 3394	213	17.4	17.4	17.4	287.0

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
42,000	Northrup King 9060	151	2.0	3.0	4.3	10.1
42,000	Northrup King 9060	158	3.9	5.3	7.1	19.0
42,000	Northrup King 9060	165	4.9	6.6	8.3	28.0
42,000	Northrup King 9060	174	7.3	10.7	13.1	72.0
42,000	Northrup King 9060	181	10.5	12.9	14.8	129.0
42,000	Northrup King 9060	195	15.7	15.7	15.9	-
42,000	Northrup King 9060	213	15.9	15.9	15.9	250.0
42,000	Pioneer 3845	151	2.1	3.2	4.4	11.1
42,000	Pioneer 3845	158	3.8	4.7	6.5	20.3
42,000	Pioneer 3845	165	4.8	6.1	7.9	31.0
42,000	Pioneer 3845	174	7.3	9.3	12.3	76.0
42,000	Pioneer 3845	181	10.1	11.1	15.0	133.8
42,000	Pioneer 3845	195	16.1	16.3	17.8	-
42,000	Pioneer 3845	213	17.7	17.7	17.7	290.3
42,000	Dekalb DK493	151	2.0	2.4	3.9	9.4
42,000	Dekalb DK493	158	3.6	4.2	6.4	17.5
42,000	Dekalb DK493	165	5.1	6.1	7.9	28.3
42,000	Dekalb DK493	174	7.3	8.5	11.9	64.0
42,000	Dekalb DK493	181	10.0	10.6	14.9	124.3
42,000	Dekalb DK493	195	15.3	15.9	18.1	-
42,000	Dekalb DK493	213	18.1	18.1	18.1	291.8
42,000	Pioneer 3394	151	2.0	2.8	4.3	10.9
42,000	Pioneer 3394	158	3.9	4.4	6.9	19.5
42,000	Pioneer 3394	165	5.1	6.4	8.5	31.3
42,000	Pioneer 3394	174	7.5	8.4	11.8	76.8
42,000	Pioneer 3394	181	10.0	10.0	14.9	134.5
42,000	Pioneer 3394	195	14.6	15.5	17.8	-
42,000	Pioneer 3394	213	17.8	17.8	17.8	287.3
Mean		.	8.8	9.8	11.7	85.6
<b>Probability %</b>						
Plant Density (PD)			2.6	1.6	1.7	0.1
Hybrid (H)			10.2	< 0.1	11.6	< 0.1
PD x H			13.4	46.5	14.6	> 50
Days (T)			< 0.1	< 0.1	< 0.1	< 0.1
PD x T			< 0.1	< 0.1	< 0.1	< 0.1
H x T			< 0.1	< 0.1	< 0.1	< 0.1
PD x H x T			39.4	> 50	> 50	38.8
<b>LSD (0.10)</b>						
Plant Density (PD)			0.2	0.2	0.2	3.0
Hybrid (H)			NS	0.2	NS	2.0
Days (T)			0.1	0.1	0.1	1.7
<b>CV %</b>						
			6.7	8.3	6.0	8.2

**Table E-12. Determining Corn Hybrid Maturity - Plant Density by Hybrid.**  
**Harvest Data**  
**Arlington, WI - 1995.**

Plant Density	Hybrid	Days to Silk	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
12,000		80.0	16434	8.6	19.4	113.1
18,000		79.8	19874	7.5	18.9	138.9
24,000		80.0	24676	5.0	18.5	155.0
30,000		80.3	29626	4.7	18.5	164.5
36,000		80.6	32819	4.3	18.1	167.9
42,000		81.5	39006	5.0	18.4	164.0
	Northrup King 9060	75.5	26153	11.4	14.6	98.4
	Pioneer 3845	79.4	26433	5.0	17.6	153.4
	Dekalb DK493	81.3	29007	4.0	17.8	173.2
	Pioneer 3394	85.2	26697	3.0	24.5	177.3
12,000	Northrup King 9060	75.3	14553	19.0	15.6	67.8
12,000	Pioneer 3845	78.5	15840	7.6	17.6	113.8
12,000	Dekalb DK493	82.0	21681	4.9	18.8	141.2
12,000	Pioneer 3394	84.3	13662	2.9	25.5	129.5
18,000	Northrup King 9060	74.8	19503	21.9	14.4	76.0
18,000	Pioneer 3845	78.8	18810	3.1	17.6	141.1
18,000	Dekalb DK493	81.5	22077	2.2	18.3	166.7
18,000	Pioneer 3394	84.0	19107	3.0	25.2	171.7
24,000	Northrup King 9060	74.3	23463	10.6	14.1	98.8
24,000	Pioneer 3845	79.5	24849	4.6	17.6	164.1
24,000	Dekalb DK493	80.5	26037	3.3	17.7	179.4
24,000	Pioneer 3394	85.8	24354	1.6	24.6	177.9
30,000	Northrup King 9060	75.8	29403	5.7	14.5	112.2
30,000	Pioneer 3845	79.0	30492	7.1	17.4	163.6
30,000	Dekalb DK493	81.0	30195	3.2	17.4	185.9
30,000	Pioneer 3394	85.3	28413	2.8	24.9	196.3
36,000	Northrup King 9060	75.8	31581	4.7	14.4	117.0
36,000	Pioneer 3845	80.5	32373	3.0	17.7	166.9
36,000	Dekalb DK493	80.5	32868	6.8	17.0	183.9
36,000	Pioneer 3394	85.5	34452	2.6	23.5	203.5
42,000	Northrup King 9060	77.0	38412	6.7	14.5	118.4
42,000	Pioneer 3845	80.3	36234	4.9	17.9	170.8
42,000	Dekalb DK493	82.3	41184	3.6	17.6	182.2
42,000	Pioneer 3394	86.5	40194	5.0	23.5	184.6
Mean		80.3	27072	5.9	18.6	150.6
<b>Probability %</b>						
Plant Density (PD)		1.7	< 0.1	7.4	0.3	< 0.1
Hybrid (H)		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PD x H		7.7	1.1	0.2	24.6	13.0
<b>LSD (0.10)</b>						
Plant Density (PD)		0.8	1228	2.7	0.4	5.9
Hybrid (H)		0.5	1021	2.3	0.4	5.5
<b>CV %</b>		1.3	7.8	81.6	4.6	7.5