

FIELD EXPERIMENT HISTORY

Title: Influence of Plot Size on BMR Corn Silage Yield and Quality
Experiment: 01Silage Tech **Trial ID** 3294 **Year:** 2009
Personnel: J.G. Lauer, K.D. Kohn and T.H. Diallo
Location: Arlington, WI **County:** Columbia
Supported By: Mycogen Seeds

Site Information

Field: ARS406 **Previous Crop:** Alfalfa **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/25/09 **pH** 6.6 **OM (%)** 3.4 **P (ppm)** 60 **K (ppm)** 149

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate
Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	N/A	N/A	N/A
Starter	10-34-0	3.0 gal/A	5 /6 /09
Post plant	46-0-0	93	6 /16/09
Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 1.5 pt/A **Insecticide:** None
 Hornet 4.0 oz/A See Factors

Irrigation: None

Planting Date: 5/6/09 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 32000 plants per acre **Planting Method:** Almaco Precision Planter
Harvest Date: 9/28/09 **Harvest Method:** New Holland 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: See Factors **Experiment Size:** 1.2 Acre
Harvest Plot Size: See Factors **Harvest Plant Density:** 31983 plants per acre

Factors/Treatments:

<u>Hybrid</u>	<u>Plot Size</u>	<u>Harvest Area</u>
Dekalb DKC57-79	Mycogen TMF2Q716	10' x 25'
Mycogen F2F568	Mycogen TMF2T497	5' x 23'
Mycogen F2F622	Pioneer 35F38	2.5' x 23'
Mycogen F2F635	Pioneer 35F44	

Results: Table C-20.

Table C-20. Influence of Plot Size on BMR Corn Silage Yield and Quality.

Arlington, WI - 2009.

Plot type	Harvest size	Hybrid	Whole Plant																					
			Dry Matter		Harvest		Kernel milk	Plant height	Silk	KMR			SMR		VMR		Crude			in vitro			Milk per	
			yield	Moisture	plants/A	ears/A				0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre				
tons/A	%	plants/A	ears/A	%	inches	doy	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A							
		Dekalb DKC57-79	10.1	66.8	32954	33096	57	106	212	2.8	2.4	5.2	6.8	23.2	43.2	78.0	48.9	29.9	3038	30825				
		Mycogen F2F568	9.1	68.9	32765	32812	63	104	216	3.2	2.1	5.3	7.0	23.8	46.0	80.6	57.7	25.6	3121	28329				
		Mycogen F2F622	9.2	69.7	32386	32433	87	109	216	4.3	2.4	6.7	7.3	26.1	48.2	78.9	56.1	25.2	3034	28101				
		Mycogen F2F635	9.0	72.6	33238	33238	74	100	216	3.7	2.8	6.5	7.8	24.0	46.2	80.8	58.4	24.9	3132	28165				
		Mycogen TMF2Q716	10.3	67.8	31344	31344	80	108	216	4.0	3.3	7.3	7.0	25.9	47.4	77.4	52.3	25.6	2964	30509				
		Mycogen TMF2T497	11.3	63.1	31534	31770	53	117	213	2.7	1.8	4.5	6.9	24.4	45.9	76.6	48.9	25.2	2865	32366				
		Pioneer 35F38	9.1	66.2	31676	32054	55	101	211	2.8	2.5	5.3	6.8	23.1	42.6	79.4	51.6	31.4	3124	28342				
		Pioneer 35F44	8.3	67.3	29971	30397	62	100	211	3.1	2.9	6.0	6.9	23.4	43.2	78.8	50.9	30.5	3085	25582				
	1-Row		9.6	68.3	32410	32575	67	106	214	3.4	2.6	6.0	7.0	24.5	45.6	78.7	53.1	27.0	3036	29230				
	2-Row		9.4	67.4	31557	31711	65	105	214	3.3	2.4	5.7	7.0	24.0	45.0	78.9	53.1	27.6	3055	28825				
	1-Row	Dekalb DKC57-79	10.3	66.9	33428	33522	59	106	212	2.9	2.4	5.3	6.9	22.8	42.7	78.5	49.6	30.2	3073	31831				
	1-Row	Mycogen F2F568	9.1	69.3	33333	33428	66	106	216	3.3	2.2	5.5	7.0	24.1	46.5	80.5	58.0	25.2	3116	28524				
	1-Row	Mycogen F2F622	9.3	70.5	32291	32291	89	110	216	4.5	2.6	7.1	7.3	26.2	48.2	78.7	55.6	25.3	3022	28152				
	1-Row	Mycogen F2F635	9.1	72.8	33049	33049	76	99	217	3.8	2.9	6.7	7.8	24.0	46.3	80.8	58.3	24.9	3141	28705				
	1-Row	Mycogen TMF2Q716	10.2	68.2	31439	31439	79	109	216	4.0	3.4	7.4	7.0	26.5	48.4	76.7	51.9	24.4	2914	29684				
	1-Row	Mycogen TMF2T497	11.3	62.8	33333	33617	50	115	213	2.5	1.8	4.3	6.7	24.9	46.5	76.1	48.6	24.7	2831	32151				
	1-Row	Pioneer 35F38	9.3	67.2	32670	33049	54	102	211	2.7	2.7	5.4	6.7	23.4	43.0	79.3	51.7	30.9	3114	29108				
	1-Row	Pioneer 35F44	8.4	68.5	29734	30208	66	102	211	3.3	3.2	6.5	6.9	23.7	43.5	78.7	51.1	30.1	3077	25684				
	2-Row	Dekalb DKC57-79	9.9	66.8	32481	32670	55	105	212	2.8	2.4	5.2	6.7	23.7	43.7	77.4	48.3	29.6	3003	29820				
	2-Row	Mycogen F2F568	9.0	68.5	32197	32197	61	102	216	3.0	2.0	5.0	7.0	23.5	45.5	80.6	57.3	26.1	3125	28134				
	2-Row	Mycogen F2F622	9.2	69.0	32481	32575	84	107	216	4.2	2.2	6.3	7.2	26.1	48.3	79.1	56.7	25.1	3045	28050				
	2-Row	Mycogen F2F635	8.8	72.4	33428	33428	72	102	215	3.6	2.6	6.3	7.7	24.0	46.2	80.9	58.5	24.8	3124	27624				
	2-Row	Mycogen TMF2Q716	10.4	67.3	31250	31250	80	108	216	4.0	3.2	7.2	7.0	25.3	46.3	78.1	52.7	26.7	3015	31333				
	2-Row	Mycogen TMF2T497	11.2	63.3	29734	29924	57	119	213	2.8	1.8	4.7	7.0	23.9	45.2	77.0	49.2	25.7	2900	32581				
	2-Row	Pioneer 35F38	8.8	65.2	30681	31060	56	99	210	2.8	2.4	5.1	6.8	22.7	42.2	79.5	51.4	31.9	3135	27576				
	2-Row	Pioneer 35F44	8.2	66.1	30208	30587	59	98	211	2.9	2.7	5.6	6.9	23.1	43.0	78.9	50.8	30.9	3093	25480				
	2-Row		9.7	67.4	32078	32256	66	105	214	3.3	2.5	5.8	7.0	24.2	45.2	78.7	52.9	27.5	3049	29406				
	4-Row		9.4	68.2	31889	32031	67	106	214	3.4	2.6	5.9	7.0	24.3	45.4	78.9	53.3	27.0	3042	28649				
	2-Row	Dekalb DKC57-79	10.0	67.4	33522	33712	54	106	212	2.7	2.3	5.0	6.9	23.7	43.9	78.0	49.8	29.0	3030	30270				
	2-Row	Mycogen F2F568	9.0	69.3	32859	32859	61	104	216	3.1	2.0	5.1	7.1	24.1	46.4	80.1	57.0	25.4	3101	28010				
	2-Row	Mycogen F2F622	9.3	68.5	32007	32007	86	108	217	4.3	2.3	6.6	7.1	26.2	48.2	78.9	56.1	25.3	3033	28337				
	2-Row	Mycogen F2F635	9.3	72.3	33333	33333	78	102	216	3.9	3.0	6.9	7.8	24.0	46.0	80.5	57.6	25.3	3131	29171				
	2-Row	Mycogen TMF2Q716	10.6	66.7	31628	31628	76	107	216	3.8	3.1	6.9	7.0	25.3	46.4	77.6	51.9	26.7	2988	31630				
	2-Row	Mycogen TMF2T497	12.0	62.5	31912	32291	58	118	213	2.9	1.9	4.8	6.9	23.9	45.3	76.8	48.7	26.2	2909	34867				
	2-Row	Pioneer 35F38	9.1	65.4	31344	31818	49	100	211	2.4	2.3	4.7	6.8	22.9	42.2	79.4	51.3	31.9	3131	28654				
	2-Row	Pioneer 35F44	7.9	66.9	30019	30397	63	99	211	3.2	3.0	6.1	6.8	23.7	43.5	78.6	50.6	30.3	3068	24311				

continued

Table C-20. Influence of Plot Size on BMR Corn Silage Yield and Quality.(continued) **Arlington, WI - 2009.**

Plot type	Harvest size	Hybrid	Whole Plant																					
			Dry Matter		Harvest		Kernel milk	Plant height	Silk	KMR			SMR		VMR		Crude			in vitro			Milk per	
			yield	Moisture	plants/A	ears/A				%	inches	doy	0-5	0-5	0-10	%	%	%	%	%	%	%	lbs/T	lbs/A
4-Row		Dekalb DKC57-79	10.3	66.2	32386	32481	60	105	211	3.0	2.5	5.5	6.7	22.8	42.5	77.9	48.1	30.7	3045	31380				
4-Row		Mycogen F2F568	9.1	68.5	32670	32765	65	104	216	3.3	2.2	5.5	7.0	23.5	45.6	81.0	58.3	25.8	3141	28648				
4-Row		Mycogen F2F622	9.2	71.0	32765	32859	87	110	216	4.3	2.4	6.8	7.4	26.0	48.2	78.9	56.2	25.1	3035	27864				
4-Row		Mycogen F2F635	8.7	72.9	33143	33143	71	99	215	3.5	2.5	6.0	7.8	24.0	46.4	81.1	59.2	24.4	3133	27158				
4-Row		Mycogen TMF2Q716	10.0	68.8	31060	31060	84	110	216	4.2	3.5	7.7	7.0	26.5	48.3	77.2	52.8	24.4	2941	29387				
4-Row		Mycogen TMF2T497	10.6	63.6	31155	31250	49	116	214	2.4	1.7	4.2	6.8	24.9	46.5	76.3	49.1	24.3	2822	29865				
4-Row		Pioneer 35F38	9.0	67.0	32007	32291	61	101	210	3.1	2.8	5.8	6.8	23.2	43.0	79.3	51.9	30.8	3117	28031				
4-Row		Pioneer 35F44	8.7	67.7	29924	30397	62	101	210	3.1	2.9	5.9	6.9	23.1	42.9	79.1	51.2	30.8	3102	26854				
2-Row	1-Row		9.6	67.8	32481	32623	67	106	214	3.4	2.5	5.9	7.0	24.6	45.7	78.4	52.7	27.1	3030	29179				
2-Row	2-Row		9.7	67.0	31676	31889	64	105	213	3.2	2.5	5.7	7.1	23.8	44.7	79.1	53.1	27.9	3068	29634				
4-Row	1-Row		9.7	68.7	32339	32528	68	106	213	3.4	2.8	6.2	7.0	24.3	45.5	78.9	53.6	26.8	3042	29281				
4-Row	2-Row		9.2	67.7	31439	31534	67	105	214	3.3	2.4	5.7	7.0	24.2	45.3	78.8	53.1	27.3	3042	28016				
2-Row	1-Row	Dekalb DKC57-79	10.0	67.6	33901	34090	59	107	212	2.9	2.2	5.1	6.9	23.6	43.8	77.9	49.5	29.1	3028	30244				
2-Row	1-Row	Mycogen F2F568	8.8	70.2	33522	33522	69	106	217	3.4	1.9	5.3	7.1	25.1	47.9	79.7	57.6	24.1	3080	26989				
2-Row	1-Row	Mycogen F2F622	9.0	69.5	31628	31628	90	109	217	4.5	2.6	7.1	7.1	26.9	48.8	78.2	55.3	24.7	2990	27010				
2-Row	1-Row	Mycogen F2F635	9.5	72.2	32765	32765	82	101	217	4.1	3.1	7.2	7.8	23.7	45.3	80.4	56.7	26.3	3145	29788				
2-Row	1-Row	Mycogen TMF2Q716	10.4	66.7	31628	31628	74	107	216	3.7	3.2	6.9	6.9	25.7	47.1	76.7	50.7	26.0	2931	30642				
2-Row	1-Row	Mycogen TMF2T497	12.1	61.9	33901	34280	47	119	212	2.4	1.7	4.1	6.9	24.5	46.0	76.3	48.5	25.7	2885	34979				
2-Row	1-Row	Pioneer 35F38	9.4	65.9	32197	32386	50	101	212	2.5	2.3	4.8	6.7	22.8	41.9	79.7	51.5	32.0	3146	29791				
2-Row	1-Row	Pioneer 35F44	7.9	68.2	30303	30681	65	100	212	3.3	3.2	6.5	6.8	24.7	44.9	78.2	51.5	28.7	3035	23988				
2-Row	2-Row	Dekalb DKC57-79	10.0	67.3	33143	33333	49	106	212	2.4	2.4	4.8	6.8	23.7	44.0	78.1	50.1	28.9	3033	30296				
2-Row	2-Row	Mycogen F2F568	9.3	68.4	32197	32197	54	102	215	2.7	2.1	4.8	7.0	23.0	44.8	80.5	56.5	26.7	3122	29030				
2-Row	2-Row	Mycogen F2F622	9.6	67.6	32386	32386	82	106	216	4.1	2.1	6.2	7.2	25.6	47.6	79.5	56.9	26.0	3075	29664				
2-Row	2-Row	Mycogen F2F635	9.2	72.3	33901	33901	74	104	216	3.7	3.0	6.7	7.7	24.4	46.8	80.6	58.5	24.3	3118	28554				
2-Row	2-Row	Mycogen TMF2Q716	10.7	66.7	31628	31628	77	108	216	3.9	3.0	6.9	7.0	24.8	45.7	78.6	53.0	27.3	3045	32619				
2-Row	2-Row	Mycogen TMF2T497	11.8	63.1	29924	30303	69	117	213	3.4	2.1	5.5	7.0	23.3	44.6	77.2	48.9	26.6	2933	34756				
2-Row	2-Row	Pioneer 35F38	8.8	64.9	30492	31250	47	99	210	2.4	2.3	4.7	6.8	23.1	42.4	79.2	51.0	31.8	3116	27516				
2-Row	2-Row	Pioneer 35F44	7.9	65.7	29734	30113	61	97	210	3.1	2.8	5.8	6.9	22.6	42.0	78.9	49.8	31.9	3101	24635				
4-Row	1-Row	Dekalb DKC57-79	10.7	66.1	32954	32954	59	106	211	2.9	2.6	5.5	6.9	22.0	41.6	79.1	49.7	31.2	3117	33417				
4-Row	1-Row	Mycogen F2F568	9.5	68.4	33143	33333	62	105	215	3.1	2.6	5.7	7.0	23.0	45.0	81.4	58.5	26.2	3153	30058				
4-Row	1-Row	Mycogen F2F622	9.6	71.4	32954	32954	89	111	216	4.4	2.6	7.0	7.5	25.6	47.5	79.1	55.9	25.9	3054	29294				
4-Row	1-Row	Mycogen F2F635	8.8	73.3	33333	33333	70	98	217	3.5	2.7	6.2	7.8	24.4	47.2	81.1	59.9	23.6	3136	27622				
4-Row	1-Row	Mycogen TMF2Q716	9.9	69.7	31250	31250	85	111	216	4.3	3.6	7.9	7.0	27.3	49.7	76.7	53.2	22.7	2896	28727				
4-Row	1-Row	Mycogen TMF2T497	10.6	63.6	32765	32954	52	111	214	2.6	1.9	4.5	6.6	25.3	47.1	75.9	48.8	23.7	2777	29324				
4-Row	1-Row	Pioneer 35F38	9.2	68.5	33143	33712	59	103	210	2.9	3.1	6.0	6.7	24.0	44.0	78.9	52.0	29.7	3081	28425				
4-Row	1-Row	Pioneer 35F44	8.9	68.8	29166	29734	68	104	210	3.4	3.1	6.5	6.9	22.7	42.0	79.2	50.6	31.5	3119	27381				

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