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Corn Silage Variety Trial Archive


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A Service of SDSU Extension

2014 South Dakota Corn Silage Variety Trial Results

Jonathan Kleinjan | SDSU Extension Agronomist & Crop Performance Testing (CPT) Director

David Casper | SDSU Assistant Professor - Dairy Science

Kevin Kirby | Agricultural Research Manager

Shawn Hawks | Agricultural Research Manager

Location: 1.5 miles south of Volga (57101) in Brookings County, SD
(GPS: N 44°17.926' W 096°55.268')

Cooperator: SDSU Volga Research Farm - Jack Ingemansen, manager

Soil Type: Brandt silty clay loam, 0-2% slope

Fertilizer: 180-40-40 preplant; 30-10-10 starter

Yield Goal: 200 bu/ac

Previous crop: Spring wheat

Tillage: Conventional

Row spacing: 30 inches

Seeding Rate: 31,400/acre

Herbicide: Pre: Surpass
Post: None

Date seeded: 5/17/2014

Date harvested: 9/16/2014

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Table 1a. Corn silage hybrid variety performance results (average of 3 replications) reported in order of predicted milk production per acre at Volga, SD.														
Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Master's Choice	MC 5250	102	29.2	34.4	30.8	10.6	7.5	7.3	34.3	38.5	43.8	70.4	3,126	33,499
Master's Choice	MC 527	105	28.6	32.1	30.8	9.6	7.1	7.6	35.3	37.3	46.9	72.0	3,247	32,151
NuTech/G2 Genetics	5N-803	101	27.9	29.3	32.1	9.4	6.7	7.1	34.8	37.7	45.7	71.4	3,217	30,209
Legend	9405GENSSRIB	105	27.6	30.2	30.2	9.1	6.5	7.6	35.6	37.2	42.3	71.4	3,290	30,064
NuSeed	3051 GT	105	28.3	32.7	29.7	9.7	6.8	7.7	31.1	40.5	46.7	70.1	3,073	29,980
NuTech/G2 Genetics	5Y-196	96	28.6	27.6	33.3	9.2	6.6	7.3	36.7	37.0	44.8	71.2	3,219	29,580
Master's Choice	MC 5660	106	29.0	32.3	30.1	9.7	6.7	7.2	32.3	39.4	42.8	68.9	3,012	29,301
Stine	R9424SS	100	27.7	26.8	32.3	8.6	6.3	7.6	38.2	34.9	46.1	72.5	3,359	28,982
NuTech/G2 Genetics	EXP-5V-0508	105	29.0	31.6	29.7	9.4	6.5	7.6	31.7	39.5	44.9	69.5	3,069	28,777
Legend	LR9507GTCBLL	107	28.4	31.7	28.4	9.0	6.4	7.6	32.5	39.1	46.5	70.7	3,154	28,420
Master's Choice	MC 5370	103	25.5	27.7	31.6	8.7	6.2	7.3	34.9	37.3	45.8	71.1	3,225	28,311
Golden Harvest	G99Z33-3111A	99	27.7	27.5	31.0	8.5	6.2	7.9	36.6	35.4	46.6	72.3	3,312	28,219
NuTech/G2 Genetics	5H-806	106	26.7	30.5	29.2	8.9	6.3	8.2	32.9	39.0	48.1	71.4	3,163	28,164
NuTech/G2 Genetics	5F-612	112	29.0	33.0	28.0	9.2	6.4	7.9	30.8	40.4	45.1	69.0	3,031	28,073
Stine	R9529VT3	106	28.0	32.1	28.1	9.0	6.3	7.8	31.4	40.2	46.6	70.1	3,096	27,869
Golden Harvest	G901P52-3011A	101	29.6	27.6	31.3	8.6	6.1	8.1	35.2	37.0	44.0	70.9	3,207	27,729
NuTech/G2 Genetics	5Z-111	111	28.8	31.6	28.4	9.0	6.3	8.2	30.7	40.6	47.1	69.8	3,068	27,590
Golden Harvest	G05T82-3122	105	28.8	30.6	29.4	9.0	6.2	7.3	32.2	39.2	44.4	69.4	3,069	27,509
NuTech/G2 Genetics	EXP-5N-0302	103	29.4	32.3	29.1	9.4	6.4	7.9	30.5	41.5	43.8	67.8	2,924	27,472
Master's Choice	MC 5450	104	29.3	30.4	29.4	9.0	6.2	7.9	31.8	39.4	44.2	69.4	3,032	27,127
Trial Average			28.2	30.4	29.9	9.0	6.3	7.7	31.8	40.0	45.3	69.6	3,059	27,687
LSD(0.05)†			1.7	3.3	2.6	1.1	0.9	0.7	4.4	3.8	2.6	2.5	233	4,768

¹⁻¹² Performance statistics are explained on page 4.

† Value required (≥LSD) to determine if varieties are significantly different from one another.

Table 1b. Corn silage hybrid variety performance results, continued (average of 3 replications) reported in order of predicted milk production per acre at Volga, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Golden Harvest	G92T43-3111	92	28.5	21.8	39.6	8.5	6.0	7.9	37.5	37.6	40.6	70.0	3,165	27,121
Master's Choice	MC 535	107	28.9	33.5	27.4	9.2	6.3	7.0	28.9	41.9	45.4	68.3	2,898	26,734
Master's Choice	MC 4880	98	28.1	26.6	31.3	8.3	5.8	7.7	34.8	38.9	45.9	70.5	3,190	26,450
Legend	47J104-3122	104	26.6	29.4	29.7	8.7	6.0	7.2	31.4	40.0	44.0	68.7	3,011	26,301
Dairyland Seed	HIDF-3108RA	108	28.4	33.5	27.5	9.2	6.2	7.7	27.1	44.2	44.6	67.0	2,795	25,925
Legend	LNG-9500RR	100	26.7	28.8	30.0	8.6	6.0	8.3	28.2	42.3	47.0	69.0	2,997	25,906
Dairyland Seed	HIDF-3510SSX	110	29.5	36.8	26.2	9.7	6.3	7.1	25.0	45.3	43.8	65.4	2,643	25,652
NuTech/G2 Genetics	EXP-3A-0304	103	26.0	27.4	30.2	8.3	5.5	8.5	28.3	43.6	42.8	66.6	2,929	24,297
NuTech/G2 Genetics	EXP-3A-0303	103	29.5	31.9	27.4	8.7	5.8	8.4	24.2	45.9	45.5	66.3	2,741	23,983
Legend	LNG-9505RR	105	26.5	29.9	27.3	8.2	5.6	8.1	28.2	41.4	46.4	68.7	2,924	23,856
NuTech/G2 Genetics	EXP-3A-0305		27.5	29.8	29.2	8.7	5.8	8.0	23.6	46.4	45.8	66.1	2,644	23,057
Trial Average			28.2	30.4	29.9	9.0	6.3	7.7	31.8	40.0	45.3	69.6	3,059	27,687
LSD(0.05)†			1.7	3.3	2.6	1.1	0.9	0.7	4.4	3.8	2.6	2.5	233	4,768

¹⁻¹² Performance statistics are explained on page 4.

† Value required (\geq LSD) to determine if varieties are significantly different from one another.

- ¹ Number of corn plants harvested per acre (not planting population).
- ² Tons per acre harvested on an “As Is” or wet basis.
- ³ Dry matter (DM) percentage of harvested corn silage.
- ⁴ Tons per acre of dry matter (DM).
- ⁵ Tons per acre of digestible dry matter (DDM). Take 0.5 lb of DDM to make a pound of milk.
- ⁶ Crude protein (CP) content of corn silage on a dry matter basis.
- ⁷ Starch content of corn silage as % of dry matter basis.
- ⁸ Neutral detergent fiber (NDF) of corn silage as percentage of dry matter basis.
- ⁹ 30 hour digestibility of NDF (NDFD) is the amount of NDF digested in 30 hours as a percentage of NDF.
- ¹⁰ IVDMD is the amount of total tract digested dry matter.
- ¹¹ Milk2006 is the prediction of the amount of milk produced per ton of corn silage dry matter.
- ¹² Milk2006 is the prediction of the amount of milk produced per acre.
- ¹³ Ranking is based on the highest amount of milk produced per acre.

Procedure:

Corn was harvested for silage by hand cutting at 6 – 8 inches from the ground.

Material was weighed.

Material was chopped through a chipper/shredder.

Material was inoculated with a silage inoculate at the rate of 0.5 lb/ton.

Material was packed in 5 gallon mini silos and allowed to ensile for 6 weeks.

Buckets were open and samples submitted to a commercial laboratory for nutrient analyses using calibrated NIR instrumentation.

David Casper | SDSU Assistant Professor - Dairy Science

Jonathan Kleinjan | SDSU Extension Agronomist & Crop Performance Testing (CPT) Director

Kevin Kirby | Agricultural Research Manager

Shawn Hawks | Agricultural Research Manager

Location: 8.5 miles west of South Shore (57263) in Codington County, SD
(GPS: N 45°06.418' W 097°06.121')

Cooperator: SDSU Northeast Research Farm - Allen Heuer, manager

Soil Type: Kranzburg-Brookings silty clay loams, 0-2% slope

Fertilizer: 150-100-50 preplant incorporated; 30-10-10 starter

Yield Goal: 200 bu/ac

Previous crop: Spring wheat

Tillage: Conventional

Row spacing: 30 inches

Seeding Rate: 31,400/acre

Herbicide: Pre: Dual II
Post: Roundup Ultra

Date seeded: 5/8/2015

Date harvested: 9/17/2015

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Table 1a. Corn silage hybrid variety performance results (average of 3 replications) reported in order of predicted milk production per acre at South Shore, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Wensman	W9288STXRIB	98	not available	24.4	39.6	9.7	7.2	7.6	41.5	34.5	48.4	74.9	3,482	33,669
Channel	194-14STXRIB	94	available	20.7	44.2	9.1	6.9	7.9	43.7	32.5	49.0	75.9	3,491	31,872
DeKalb	DKC46-36	96	-	21.5	43.2	9.3	6.9	7.3	42.8	34.1	43.6	73.5	3,386	31,692
DeKalb	DKC52-84	102	-	21.4	39.8	9.3	6.8	7.5	36.9	38.7	47.9	72.7	3,230	30,249
Rea Hybrids	4V301-RHDS	93	-	22.2	41.6	9.2	6.7	7.5	38.3	38.2	45.9	72.1	3,261	30,210
Proseed	STS 105	105	-	25.2	36.4	9.2	9.7	7.3	37.5	35.6	48.1	72.8	3,256	30,170
Legend Seeds	40J592 VT2PRIB	92	-	20.4	42.2	8.6	6.5	7.7	45.0	32.1	45.1	75.4	3,505	29,986
Legend Seeds	94A01 GTA	101	-	23.5	38.9	9.1	6.6	7.6	38.0	38.1	46.7	72.3	3,236	29,510
Proseed	STS 104	104	-	23.7	37.6	8.9	6.5	7.7	36.8	39.2	47.7	72.6	3,207	28,892
Legend Seeds	40J501 RR	101	-	20.1	42.1	8.5	6.3	7.5	40.7	36.3	47.7	74.0	3,393	28,740
Rea Hybrids	4V970-RHDS	93	-	22.9	38.7	8.8	6.4	7.5	36.1	39.9	46.8	70.9	3,170	28,700
DeKalb	DKC50-82	100	-	22.0	39.5	8.7	6.3	7.6	38.4	37.2	44.5	71.9	3,222	28,286
Wensman	W90962STX	96	-	20.1	42.8	8.6	6.2	7.3	40.6	36.2	46.5	72.7	3,297	28,237
Channel	197-68STXRIB	97	-	23.7	36.0	8.5	6.2	7.5	37.3	37.8	48.0	72.5	3,277	27,870
Legend Seeds	47J104-3122	104	-	24.3	34.5	8.4	6.1	7.8	35.9	38.1	48.4	72.5	3,291	27,532
Thunder Seed	7701DP	101	-	23.1	39.6	9.1	6.3	7.7	33.3	41.7	44.2	68.4	2,989	27,349
Legend Seeds	9405 GENSSRIB	105	-	24.7	34.6	8.6	6.2	7.5	32.9	38.4	49.9	72.3	3,182	27,111
NuTech/G2 Genetics	5F-198	98	-	19.4	40.7	7.9	5.9	7.9	41.7	34.7	46.5	74.6	3,400	26,771
NuTech/G2 Genetics	5F-196	96	-	21.3	38.8	8.2	5.9	7.4	37.2	38.1	47.6	72.2	3,236	26,542
Masters Choice	MC 4211	92	-	19.4	45.3	8.8	6.0	6.9	36.3	41.2	41.1	68.5	3,032	26,535
Trial Average			-	22.1	39.4	8.6	6.2	7.5	36.4	39.0	46.0	71.4	3,168	27,466
LSD(0.05)†			-	2.6	5.3	1.4	1.3	0.9	12.2	10.4	4.4	7.0	592	7,949

¹⁻¹² Performance statistics are explained on page 4.

† Value required (\geq LSD) to determine if varieties are significantly different from one another.

Table 1b. Corn silage hybrid variety performance results, continued (average of 3 replications) reported in order of predicted milk production per acre at South Shore, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Masters Choice	MC 5371	103	not available	23.2	36.7	8.5	6.0	7.1	33.9	40.7	45.6	70.2	3,089	26,326
Masters Choice	MC 4881	98	available	20.0	42.8	8.6	5.9	7.1	33.8	42.6	43.6	68.9	2,979	25,794
NuTech/G2 Genetics	5F-701	101	-	21.3	38.6	8.2	5.9	7.5	34.8	39.9	46.7	71.8	3,103	25,602
DeKalb	DKC46-79	96	-	21.9	39.3	8.6	5.9	7.5	32.7	43.0	44.1	68.8	2,939	25,383
NuTech/G2 Genetics	EXP 5N-0108	101	-	23.3	36.8	8.6	6.0	7.4	31.9	43.0	45.0	69.4	2,940	25,281
Rea Hybrids	5V781-RHDS	102	-	23.5	35.2	8.3	5.7	7.8	28.4	44.8	47.6	68.4	2,917	24,191
Channel	197-50STXRIB	97	-	23.2	33.6	7.8	5.4	7.4	34.3	39.5	44.1	69.5	3,080	23,827
NuTech/G2 Genetics	5N-290	90	-	18.5	42.1	7.8	5.4	7.5	33.0	43.1	44.6	69.2	2,964	23,214
Legend Seeds	9507 DC 5122	107	-	24.5	32.3	8.0	5.4	6.9	30.5	42.4	44.3	68.3	2,902	23,149
Thunder Seed	4795DP RR	95	-	19.2	46.9	9.0	6.6	7.8	40.2	38.4	45.5	73.0	3,302	19,917
Rea Hybrids	6V633-RHDS	106	-	18.9	40.6	7.7	4.8	7.0	12.4	50.8	41.5	62.6	2,461	18,854
Trial Average			-	22.1	39.4	8.6	6.2	7.5	36.4	39.0	46.0	71.4	3,168	27,466
LSD(0.05)†			-	2.6	5.3	1.4	1.3	0.9	12.2	10.4	4.4	7.0	592	7,949

¹⁻¹² Performance statistics are explained on page 4.

† Value required (\geq LSD) to determine if varieties are significantly different from one another.

- ¹ Number of corn plants harvested per acre (not available at time of publication).
² Tons per acre harvested on an “As Is” or wet basis.
³ Dry matter (DM) percentage of harvested corn silage.
⁴ Tons per acre of dry matter (DM).
⁵ Tons per acre of digestible dry matter (DDM). Take 0.5 lb of DDM to make a pound of milk.
⁶ Crude protein (CP) content of corn silage on a dry matter basis.
⁷ Starch content of corn silage as % of dry matter basis.
⁸ Neutral detergent fiber (NDF) of corn silage as percentage of dry matter basis.
⁹ 30 hour digestibility of NDF (NDFD) is the amount of NDF digested in 30 hours as a percentage of NDF.
¹⁰ IVDMD is the amount of total tract digested dry matter.
¹¹ Milk2006 is the prediction of the amount of milk produced per ton of corn silage dry matter.
¹² Milk2006 is the prediction of the amount of milk produced per acre.

Procedure:

Corn was harvested for silage by hand cutting at 6 – 8 inches from the ground.

Material was weighed.

Material was chopped through a chipper/shredder.

Material was inoculated with a silage inoculate at the rate of 0.5 lb/ton.

Green chop samples were frozen.

Samples submitted to a commercial laboratory for nutrient analyses using calibrated NIR instrumentation.

David Casper | SDSU Assistant Professor - Dairy Science
Jonathan Kleinjan | SDSU Extension Agronomist & Crop Performance Testing (CPT) Director
Kevin Kirby | Agricultural Research Manager
Shawn Hawks | Agricultural Research Manager

Location: 1.5 miles south of Volga (57101) in Brookings County, SD
(GPS: N 44°17.926' W 096°55.268')

Cooperator: SDSU Volga Research Farm - Jack Ingemansen, manager

Soil Type: Brandt silty clay loam, 0-2% slope

Fertilizer: 180-40-40 preplant

Yield Goal: 200 bu/ac

Previous crop: Spring wheat

Tillage: Conventional

Row spacing: 30 inches

Seeding Rate: 31,400/acre

Herbicide: Pre: Staunch
Post: Roundup Power Max

Date seeded: 4/27/2015

Date harvested: 9/8/2015

ARCHIVE

Table 1a. Corn silage hybrid variety performance results (average of 3 replications) reported in order of predicted milk production per acre at Volga, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Proseed	STS 105	105	not available	28.4	36.3	10.2	7.9	7.7	45.0	32.3	45.6	77.4	3,626	37,167
Masters Choice	MCT527GT	105	available	32.2	32.2	10.4	7.8	7.8	40.3	34.8	48.0	75.2	3,413	35,613
Masters Choice	MC 5371	103	-	31.4	31.0	9.8	7.2	6.8	40.4	34.2	43.7	74.3	3,374	32,830
Rea Hybrids	5V781-RHDS	102	-	31.2	31.8	9.9	7.1	8.1	34.4	39.9	46.6	71.1	3,166	31,474
Proseed	STS 104	104	-	31.1	31.3	9.7	7.1	7.8	34.3	38.7	47.6	72.7	3,208	31,180
DeKalb	DKC52-84	102	-	26.9	33.9	9.2	6.8	7.5	38.6	35.6	47.3	74.1	3,367	31,062
Thunder Seed	4795DP RR	95	-	26.5	35.0	9.2	6.8	7.6	39.4	5.6	46.4	74.5	3,337	30,650
Thunder Seed	7701DP	101	-	28.6	34.0	9.7	9.9	7.3	35.6	38.7	44.7	71.0	3,152	30,640
NuTech/G2 Genetics	5N-406	106	-	30.7	32.3	9.9	7.0	7.1	33.5	40.3	44.9	70.1	3,074	30,525
Dairyland Seed	HIDF-3605-9	105	-	31.5	30.5	9.6	6.7	7.3	33.3	40.1	44.3	69.8	3,116	29,997
Legend Seeds	9507 DC 5122	107	-	30.4	30.4	9.3	6.1	8.1	35.8	38.9	46.3	72.0	3,235	29,946
Legend Seeds	94A01 GTA	101	-	27.8	32.5	9.1	6.6	7.3	38.5	34.7	44.7	73.3	3,292	29,839
NuTech/G2 Genetics	5F-196	96	-	25.4	35.0	8.9	6.6	7.5	39.4	35.4	46.4	74.1	3,335	29,823
Channel	207-27STXRIB	107	-	29.0	31.2	9.0	6.6	7.6	36.9	37.5	47.4	73.0	3,298	29,794
Wensman	W91073STXRIB	107	-	31.4	30.3	9.5	6.8	7.9	33.2	40.4	46.4	70.9	3,118	29,682
Wensman	W9325STXRIB	102	-	28.1	31.5	8.9	6.5	7.9	38.8	35.5	45.7	74.0	3,363	29,650
Legend Seeds	9410-GENSSRIB	110	-	27.9	32.0	8.9	6.5	8.1	35.2	36.5	47.1	72.7	3,297	29,485
DeKalb	DKC55-20	105	-	30.5	30.5	9.3	6.5	7.7	32.0	4.6	45.3	69.9	3,107	28,896
DeKalb	DKC46-79	96	-	26.0	35.9	9.3	6.6	7.7	35.7	40.6	45.2	70.8	3,082	28,836
Masters Choice	MC 5661	106	-	29.7	30.5	9.1	6.5	7.2	36.1	38.9	45.1	71.2	3,151	28,679
Trial Average			-	28.6	32.1	9.1	6.6	7.7	35.7	38.1	46.5	72.3	3,224	29,447
LSD(0.05)†			-	3.2	4.1	1.4	1.2	1.1	7.6	3.2	4.1	8.3	329	6,587

¹⁻¹² Performance statistics are explained on page 4.

† Value required (≥LSD) to determine if varieties are significantly different from one another.

Table 1b. Corn silage hybrid variety performance results, continued (average of 3 replications) reported in order of predicted milk production per acre at Volga, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Masters Choice	MC 4881	98	not available	26.0	35.0	9.1	6.5	7.7	33.8	41.0	47.1	71.4	3,130	28,673
Channel	205-19STXRIB	105	available	26.0	32.9	8.6	6.3	7.7	37.1	36.9	48.0	73.6	3,311	28,369
Legend Seeds	40J501 RR	101	-	24.5	33.9	8.3	6.2	7.3	40.5	35.2	47.5	74.8	3,105	28,288
DeKalb	DKC60-67	110	-	30.5	30.0	9.2	6.4	7.9	31.4	41.1	46.2	69.7	3,084	28,261
NuTech/G2 Genetics	5F-198	98	-	25.0	34.3	8.6	6.3	7.4	38.3	36.3	46.0	73.1	3,292	28,201
Wensman	W90994STX	99	-	27.3	32.0	8.7	6.3	7.53	37.0	37.1	44.8	72.1	3,232	28,156
Legend Seeds	47J104-3122	104	-	30.0	30.2	9.1	6.4	7.8	33.2	40.6	45.6	70.6	3,088	27,994
NuTech/G2 Genetics	5N-803	103	-	30.8	29.8	9.1	6.4	7.4	31.4	42.6	46.6	70.1	3,036	27,803
Legend Seeds	9405 GENSSRIB	105	-	28.0	30.0	8.4	6.1	8.0	33.9	36.9	50.2	72.9	3,317	27,767
Dairyland Seed	HIDF-3808SSX	108	-	33.5	27.4	9.1	6.5	8.7	28.8	42.8	49.6	70.5	3,032	27,749
NuTech/G2 Genetics	EXP 5N-0108	101	-	26.6	32.1	8.5	6.2	9.0	34.5	37.6	48.4	73.1	3,259	27,733
Rea Hybrids	6V633-RHDS	106	-	29.0	30.3	8.8	6.2	8.8	30.4	41.4	48.0	70.8	3,091	27,134
NuTech/G2 Genetics	5F-701	101	-	28.4	30.1	5.6	6.1	8.1	36.5	39.3	45.8	71.7	3,140	26,895
Channel	202-64STXRIB	102	-	27.2	31.1	8.5	6.1	8.2	33.9	39.9	46.9	71.8	3,125	26,468
Rea Hybrids	4V970-RHDS	96	-	27.6	29.4	8.1	5.7	7.5	29.7	41.7	48.2	70.6	3,017	24,482
Trial Average			-	28.6	32.1	9.1	6.6	7.7	35.7	38.1	46.5	72.3	3,224	29,447
LSD(0.05)†			-	3.2	4.1	1.4	1.2	1.1	7.6	3.2	4.1	8.3	329	6,587

¹⁻¹² Performance statistics are explained on page 4.

† Value required (≥LSD) to determine if varieties are significantly different from one another.

- ¹ Number of corn plants harvested per acre (not available at time of publication).
² Tons per acre harvested on an “As Is” or wet basis.
³ Dry matter (DM) percentage of harvested corn silage.
⁴ Tons per acre of dry matter (DM).
⁵ Tons per acre of digestible dry matter (DDM). Take 0.5 lb of DDM to make a pound of milk.
⁶ Crude protein (CP) content of corn silage on a dry matter basis.
⁷ Starch content of corn silage as % of dry matter basis.
⁸ Neutral detergent fiber (NDF) of corn silage as percentage of dry matter basis.
⁹ 30 hour digestibility of NDF (NDFD) is the amount of NDF digested in 30 hours as a percentage of NDF.
¹⁰ IVDMD is the amount of total tract digested dry matter.
¹¹ Milk2006 is the prediction of the amount of milk produced per ton of corn silage dry matter.
¹² Milk2006 is the prediction of the amount of milk produced per acre.

Procedure:

Corn was harvested for silage by hand cutting at 6 – 8 inches from the ground.

Material was weighed.

Material was chopped through a chipper/shredder.

Material was inoculated with a silage inoculate at the rate of 0.5 lb/ton.

Green chop samples were frozen.

Samples submitted to a commercial laboratory for nutrient analyses using calibrated NIR instrumentation.

David Casper | former SDSU Assistant Professor - Dairy Science

Jonathan Kleinjan | SDSU Extension Agronomist & Crop Performance Testing (CPT) Director

Kevin Kirby | Agricultural Research Manager

Shawn Hawks | Agricultural Research Manager

Location: 8.5 miles west of South Shore (57263) in Codington County, SD
(GPS: 45.106941, -97.098685)

Cooperator: SDSU Northeast Research Farm - Allen Heuer, manager

Soil Type: Kranzburg-Brookings silty clay loams, 0-2% slope

Fertilizer: 150-100-50 preplant incorporated; 30-10-10 starter

Previous crop: Spring wheat

Tillage: Conventional

Row spacing: 30 inches

Seeding Rate: 31,400/acre

Herbicide: Pre: 1 qt Dual II Magnum (s-metolachlor)

Post: 1 qt Roundup Ultra Max (glyphosate)

Date seeded: 5/3/2016

Date harvested: 9/14/2016

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Table 1. Corn silage hybrid variety performance results (average of 3 replications) reported in order of predicted milk production per acre at South Shore, SD.

Variety Information			Agronomic & Nutritional Performance											
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Wensman	W90962STXRIB	96	31.4	20.6	43.4	8.9	6.7	8.5	39.9	34.5	48.6	75.4	3,538	31,600
Dekalb	DKC52-84RIB	102	31.4	23.5	38.8	9.1	6.8	8.8	38.1	36.0	49.7	75.2	3,481	31,593
Dairyland Seed	HIDF-3702-9	102	30.2	24.7	36.7	9.1	6.8	8.2	37.0	35.9	50.2	75.2	3,451	31,312
Proseed	STS105 GT	105	30.2	23.0	38.4	8.9	6.8	8.4	36.1	35.1	52.4	76.2	3,377	30,073
Proseed	STS-104 GT	104	32.5	25.4	36.4	9.1	6.9	8.3	31.4	38.9	53.3	74.6	3,232	29,770
Dekalb	DKC47-48RIB	97	30.2	19.8	42.9	8.5	6.4	8.6	38.9	35.9	48.8	74.8	3,482	29,646
Masters Choice	MCT 5371	103	31.4	23.6	36.8	8.7	6.5	8.4	34.2	36.4	51.7	75.0	3,325	29,143
Thunder Seed	7933 VT2P	93	31.4	19.4	43.4	8.4	6.2	8.2	37.4	38.3	46.7	73.0	3,356	28,370
Dairyland Seed	HIDF-3605RA	105	32.5	23.9	36.9	8.8	6.3	8.6	29.2	42.0	50.3	71.6	3,194	28,141
Masters Choice	MCT4632	96	30.2	20.5	40.2	8.3	6.1	8.9	35.6	37.4	49.4	74.5	3,393	27,988
Wensman	W9288STXRIB	98	30.2	21.9	38.8	8.5	6.2	8.4	35.5	38.9	31.0	72.6	3,286	27,946
Thunder Seed	7701 DP SS	101	29.0	19.9	41.2	8.2	6.0	8.5	36.0	38.0	47.8	73.4	3,367	27,682
Dekalb	DKC50-84RIB	100	31.4	20.5	42.0	8.6	6.1	8.6	31.6	41.7	48.0	71.5	3,195	27,496
Dairyland Seed	HIDF-3103-9	103	30.2	23.2	35.7	8.3	6.0	8.9	31.3	40.4	50.7	73.1	3,286	27,229
Masters Choice	MCT 527VIP3111	105	32.5	23.3	35.2	8.2	6.1	8.5	32.5	37.5	51.6	74.7	3,239	26,527
Thunder Seed	4795 DP RR	95	30.2	17.5	45.0	7.8	5.7	9.0	35.1	38.3	46.5	73.0	3,340	26,169
Dekalb	DKC46-36RIB	96	29.0	18.6	41.7	7.7	5.6	8.7	35.1	39.3	47.2	72.7	3,294	25,561
Masters Choice	MCT5 4572	95	30.2	20.4	39.9	8.1	6.0	9.6	31.1	39.2	51.2	73.8	3,170	25,480
Trial Average			30.8	21.7	39.6	8.5	6.3	8.6	34.8	38.0	49.5	73.9	3,334	28,449
LSD(0.05)†			3.5	2.4	4.8	1.3	1.0	0.5	5.2	3.6	3.4	2.2	240	5,589

1-12 Performance statistics are explained on page 3.

† Value required (\geq LSD) to determine if varieties are significantly different from one another.

- ¹ Number of corn plants harvested per acre.
- ² Tons per acre harvested on an “As Is” or wet basis.
- ³ Dry matter (DM) percentage of harvested corn silage.
- ⁴ Tons per acre of dry matter (DM).
- ⁵ Tons per acre of digestible dry matter (DDM). Take 0.5 lb of DDM to make a pound of milk.
- ⁶ Crude protein (CP) content of corn silage on a dry matter basis.
- ⁷ Starch content of corn silage as % of dry matter basis.
- ⁸ Neutral detergent fiber (NDF) of corn silage as percentage of dry matter basis.
- ⁹ 30 hour digestibility of NDF (NDFD) is the amount of NDF digested in 30 hours as a percentage of NDF.
- ¹⁰ IVDMD is the amount of total tract digested dry matter.
- ¹¹ Milk2006 is the prediction of the amount of milk produced per ton of corn silage dry matter.
- ¹² Milk2006 is the prediction of the amount of milk produced per acre.

Procedure:

Corn was harvested for silage by hand cutting at 6 – 8 inches from the ground.

Material was weighed.

Material was chopped through a chipper/shredder.

Green chop samples were frozen.

Samples submitted to a commercial laboratory for nutrient analyses using calibrated NIR instrumentation.

For Further Information:

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David Casper | former SDSU Assistant Professor - Dairy Science

Jonathan Kleinjan | SDSU Extension Agronomist & Crop Performance Testing (CPT) Director

Kevin Kirby | Agricultural Research Manager

Shawn Hawks | Agricultural Research Manager

Location: 1.5 miles south of Volga (57101) in Brookings County, SD
(GPS: 44.302528, -96.919038)

Cooperator: SDSU Volga Research Farm - Jack Ingemansen, manager

Soil Type: Brandt silty clay loam, 0-2% slope

Fertilizer: 180-40-40-8S preplant

Previous crop: Soybeans

Tillage: Conventional

Row spacing: 30 inches

Seeding Rate: 31,400/acre

Herbicide: Pre: 1.8 pt Staunch II (acetochlor +flumetsulam + clopyralid)
Post: 1 qt Roundup Power Max (glyphosate)

Date seeded: 4/26/16

Date harvested: 9/13/16

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Table 1. Corn silage hybrid variety performance results, continued (average of 3 replications) reported in order of predicted milk production per acre at Volga, SD.

Variety Information		Agronomic & Nutritional Performance												
Brand	Hybrid	Maturity Rating	Plants ¹ (1,000/A)	Harvested ² (T/A)	DM ³ (%)	DM ⁴ (T/A)	DDM ⁵ (T/A)	CP ⁶ (%)	Starch ⁷ (%)	NDF ⁸ (%)	NDFD ⁹ (% NDF)	IVDMD ¹⁰ (%)	Milk2006 ¹¹ (lbs/T DM)	Milk2006 ¹² (lbs/A)
Wensman	W91073STXRIB	107	32.5	38.1	35.3	13.5	9.9	8.5	35.4	38.4	46.6	73.1	3,290	44,444
Wensman	W91018STX	101	31.4	32.6	39.7	13.0	9.6	8.9	35.6	37.8	47.1	73.3	3,354	43,997
Masters Choice	MCT 527VIP3111	105	31.4	35.9	36.5	13.1	9.6	8.1	36.9	37.9	46.1	73.4	3,275	42,944
Proseed	STS 104 GT	104	31.4	33.0	38.4	12.7	9.4	8.0	39.1	37.1	46.2	74.0	3,343	42,225
DeKalb	DKC52-68RIB	106	30.2	33.6	35.6	12.0	9.0	8.4	37.7	36.4	48.7	74.8	3,480	41,686
Masters Choice	MCT 4632	96	29.0	29.5	41.8	12.2	9.2	8.7	39.9	36.7	48.3	75.3	3,401	41,664
Thunder Seed	7701 DP SS	101	31.4	31.5	39.8	12.5	9.3	8.6	34.7	38.8	48.2	73.6	3,274	41,244
Masters Choice	MCT 5663	106	32.5	36.6	35.2	12.9	9.3	8.0	36.8	39.6	46.3	72.5	3,190	41,018
Masters Choice	MCT 5371	103	31.4	34.9	36.0	12.5	9.1	7.9	35.3	38.9	46.4	72.8	3,242	40,600
DeKalb	DKC52-84RIB	102	30.2	31.0	40.8	12.6	9.1	8.2	34.4	40.5	47.4	72.5	3,216	40,570
Proseed	STS 105 GT	105	29.0	34.2	35.8	12.2	9.0	8.2	34.3	37.8	49.0	73.9	3,300	40,340
Wensman	W9325STXRIB	102	30.2	29.9	40.4	12.0	8.4	8.0	38.5	37.1	45.2	73.4	3,327	40,085
Dairyland Seed	HIDF-3808RA	108	33.7	39.5	33.5	13.2	9.2	8.0	29.0	44.8	45.7	69.5	2,933	38,767
Dairyland Seed	HIDF-3605RA	105	31.4	35.3	35.1	12.4	8.7	8.1	30.5	42.2	45.0	70.2	3,079	38,259
Thunder Seed	7993VT2P	93	30.2	27.1	40.9	11.1	8.2	7.8	37.4	37.7	46.8	73.4	3,378	37,640
DeKalb	DKC47-48RIB	97	31.4	27.8	40.0	11.1	8.2	7.9	38.8	37.4	46.2	74.1	3,327	36,822
DeKalb	DKC58-06RIB	108	31.4	32.5	35.8	11.6	8.3	7.1	36.7	40.6	43.9	71.4	3,164	36,779
Dairyland Seed	EXP 10707	107	30.2	35.5	32.8	11.6	8.2	7.4	32.9	42.1	46.5	70.9	3,081	35,707
Wensman	W90994STXRIB	99	33.7	32.5	34.6	11.3	8.1	8.1	34.6	40.5	45.0	71.4	3,127	35,355
Masters Choice	MCT 5454	104	31.4	35.6	33.5	11.9	8.4	8.1	30.7	43.1	45.6	70.6	2,962	35,260
Thunder Seed	4795 DP RR	95	26.7	24.2	44.2	10.6	7.6	8.4	36.8	38.4	42.5	71.6	3,194	34,003
Trial Average			31.0	32.9	37.4	12.2	8.9	8.1	35.5	39.3	46.3	72.6	3,235	39,496
LSD(0.05)†			4.6	5.0	4.4	2.1	1.7	0.9	5.7	5.3	3.8	3.6	307	8,693

¹⁻¹² Performance statistics are explained on page 3.

† Value required (≥LSD) to determine if varieties are significantly different from one another.

- ¹ Number of corn plants harvested per acre.
- ² Tons per acre harvested on an “As Is” or wet basis.
- ³ Dry matter (DM) percentage of harvested corn silage.
- ⁴ Tons per acre of dry matter (DM).
- ⁵ Tons per acre of digestible dry matter (DDM). Take 0.5 lb of DDM to make a pound of milk.
- ⁶ Crude protein (CP) content of corn silage on a dry matter basis.
- ⁷ Starch content of corn silage as % of dry matter basis.
- ⁸ Neutral detergent fiber (NDF) of corn silage as percentage of dry matter basis.
- ⁹ 30 hour digestibility of NDF (NDFD) is the amount of NDF digested in 30 hours as a percentage of NDF.
- ¹⁰ IVDMD is the amount of total tract digested dry matter.
- ¹¹ Milk2006 is the prediction of the amount of milk produced per ton of corn silage dry matter.
- ¹² Milk2006 is the prediction of the amount of milk produced per acre.

Procedure:

Corn was harvested for silage by hand cutting at 6 – 8 inches from the ground.

Material was weighed.

Material was chopped through a chipper/shredder.

Green chop samples were frozen.

Samples submitted to a commercial laboratory for nutrient analyses using calibrated NIR instrumentation.

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