Corn Hybrid and Sweet Sorghum Silage Tests in Tennessee

2009

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Variety test results are posted on UT's website at:

http://varietytrials.tennessee.edu/
and
www.utcrops.com

Acknowledgments

This research was funded by the Tennessee Agricultural Experiment Station and UT Extension with partial funding from participating companies.

We gratefully acknowledge the assistance of the following individuals in conducting these experiments:

Department of Plant Sciences
Dr. Dennis West, Professor and Grains Breeder
Mr. David Kincer, Research Associate
Kara Warwick, Graduate Research Assistant
Jennifer Lane, Graduate Research Assistant

Research and Education Centers:

East Tennessee, Knoxville
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Plateau
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Middle Tennessee, Spring Hill
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County Standard Corn Silage Tests

County	**Producer**	**Agent**
Blount	Mac Pate	John Wilson
Washington	David Saylor	John Hamrick

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CORN & SWEET SORGHUM SILAGE YIELD TESTS

2009

Experimental Procedures

Research and Education Center Tests: Thirty corn hybrids varieties were evaluated for silage yield and quality in 2009. The tests were conducted at the East Tennessee (Knoxville), Plateau (Crossville), Dairy (Lewisburg), Highland Rim (Springfield), and Middle Tennessee (Spring Hill), Research and Education Centers (REC). The plot size at all locations consisted of two rows 30 ft. in length and replicated three times. Yields presented were adjusted to both dry weight and 65% moisture. The plant populations as well as the planting and harvesting dates are given in Table 1. Plots were harvested by commercial silage harvesters. A sub-sample from each plot of approximately 3 lbs was taken for analysis. Fresh weight and dried weight was recorded on each sample for determination of moisture at harvest. The samples were then ground and analyzed for nutrient content. Silage quality analyses were provided by the Cumberland Valley Analytical Services, Inc., Hagerstown, MD. Milk per ton and milk per acre calculations were performed using the University of Wisconsin Milk2006 program.

County Standard Tests: The County Standard Corn Silage Tests were conducted in Blount and Washington counties in Tennessee. Each hybrid was evaluated in a large strip-plot at each location, thus **each county test was considered as one replication of the test** in calculating the overall average yield and in conducting the statistical analysis to determine significant differences. At each location, plots were planted, sprayed, fertilized, and harvested with the equipment used in the cooperating producer's farming operation. The width and length of strip-plots were different in each county; however, within a location in a county, the strips were trimmed on the ends so that the lengths were the same for each variety, or if the lengths were different then the harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

Growing Season: Cooler and wetter than normal conditions prevailed throughout most of the growing season in Middle and East Tennessee where the tests were conducted. This resulted in good to excellent silage yields across the region with late season rains causing some delays in harvesting.

Interpretation of Data:

The tables on the following pages have been prepared with the entries listed in order of performance, the highest-yielding entry being listed first. At the bottom of the tables, **LSD** values stand for **Least Significant Difference**. The mean yields of any two varieties being compared must differ by at least the amount shown to be considered different in yielding ability at the 5% level of probability of significance. For example, given that the LSD for a test is 1.3 tons/a and the mean yield of Hybrid A was 9.3 tons/a and the mean yield of Hybrid B was 8.2 tons/a, then the two hybrids are not statistically different in yield because the difference of 1.1 tons/a is less than the minimum of 1.3 tons/a required for them to be significant. Similarly, if the average yield of Hybrid C was 10.6 tons/a then it is significantly higher yielding than both Hybrid B (10.6 – 8.2 = 2.4 tons/a > LSD of 1.3) and Hybrid A (10.6 – 9.3 = 1.3 tons/a = LSD of 1.3).

Also, the **coefficient of variation (C.V.)** values are shown at the bottom of each table. This value is a measure of the error variability found within each experiment. It is the percentage that the square root of error variance is of the overall test mean yield at that location. For example, a C.V. of 10% indicates that the size of the error variation is about 10% of the size of the test mean. Similarly, a C.V. of 30% indicates that the size of the error variation is nearly one-third as large as the test mean. A goal in conducting each yield test is to keep the C.V. as low as possible, preferably below 20 percent.

Table 1. Location information from Research and Education Centers where the corn silage variety tests were conducted in 2009.

Research and Education Center	Location	Planting Date	Harvest Date	Plant Population	Soil Type
East Tennessee	Knoxville	4/17/09	8/14/09	32,234	Sequatchie Silt Loam
Plateau	Crossville	5/26/09	8/31/09	29,621	Lilly Silt Loam
Middle Tennessee	Spring Hill	4/24/09	8/24/09	27,878	Maury Silt Loam
Highland Rim	Springfield	4/17/09	8/18/09	25,555	Dickson Silt Loam
Dairy	Lewisburg	6/08/09	9/29/09	26,426	Nesbitt Silt Loam

Table 2. Mean yields † of 30 corn hybrids evaluated for silage at five locations in Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	65% Moisture Avg. Yield ± Std Err. (n=5)	Dry Weight				
				Knoxville	Crossville	Spring Hill	Springfield	Lewisburg
		tons/a						
Augusta	A08-13HXLL	10.2 ± 0.3	29.2 ± 0.7	12.9	7.0	9.2	9.3	12.8
Dyna-Gro	58V69 (RR/CB)	10.0 ± 0.3	28.6 ± 0.7	12.9	7.4	8.5	8.7	12.5
Mycogen	TMF2H918 (RR/LL/HX)	9.9 ± 0.3	28.3 ± 0.7	11.6	7.5	9.2	8.8	12.3
Croplan	9009 RH	9.7 ± 0.3	27.9 ± 0.7	12.6	8.2	9.6	7.4	11.0
Mycogen	TMF2N804 (RR/LL/HX)	9.7 ± 0.3	27.7 ± 0.7	13.1	7.3	8.8	9.2	10.1
DeKalb	DKC67-87 (RR2/YGCB)	9.6 ± 0.3	27.4 ± 0.7	12.0	6.7	8.4	10.3	10.4
Croplan	8756VT3	9.5 ± 0.3	27.3 ± 0.7	13.1	6.4	9.2	8.6	10.4
Croplan	8221VT3	9.5 ± 0.3	27.0 ± 0.7	10.8	8.0	8.0	9.2	11.3
Wyffels	W8681 (VT3)	9.4 ± 0.3	26.9 ± 0.8	11.5	6.7	9.0	9.5	10.3
Croplan	8505VT3	9.4 ± 0.3	26.8 ± 0.8	12.0	8.0	8.8	8.6	9.5
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 0.3	26.6 ± 0.7	12.6	7.1	8.2	8.0	10.7
Augusta	A-06-06CBLL	9.2 ± 0.3	26.3 ± 0.7	10.9	7.0	10.0	8.5	9.5
Augusta	A008VT3	9.2 ± 0.3	26.2 ± 0.7	12.0	7.9	7.5	8.9	9.5
Dyna-Gro	57V44 (RR/CB)	9.1 ± 0.3	26.1 ± 0.8	11.3	6.8	8.3	9.5	9.8
Dyna-Gro	V5373VT3	9.1 ± 0.3	26.0 ± 0.7	11.5	7.5	8.1	8.8	9.7
Augusta	A-06-04HXLL	9.0 ± 0.3	25.8 ± 0.7	11.7	6.6	8.9	8.7	9.2
Croplan	8950 RB	9.0 ± 0.3	25.7 ± 0.7	11.3	7.4	8.5	7.8	10.0
Augusta	A61-66CBLL	8.8 ± 0.3	25.3 ± 0.7	12.4	7.5	7.7	7.7	8.9
Croplan	851VT3	8.6 ± 0.3	24.6 ± 0.7	11.2	7.1	8.6	8.2	8.0
Augusta	A5175 CB	8.6 ± 0.3	24.6 ± 0.7	12.9	5.6	7.5	7.6	9.4
Augusta	A73-64GTCBLL	8.6 ± 0.3	24.5 ± 0.7	10.7	6.6	7.0	9.0	9.6
Dyna-Gro	V5783VT3	8.5 ± 0.3	24.4 ± 0.8	11.3	6.2	8.0	8.4	8.8
Croplan	6831 TS	8.4 ± 0.3	24.0 ± 0.7	11.3	6.1	7.3	9.0	8.3
Augusta	A08-01GTCBLL	8.4 ± 0.3	23.9 ± 0.7	11.5	5.7	8.5	8.8	7.3
Wyffels	W9121 (VT3)	8.4 ± 0.3	23.9 ± 0.7	12.2	6.4	8.0	6.9	8.4
Dyna Gro	58K40 (RR)	8.3 ± 0.3	23.8 ± 0.7	11.2	7.1	8.4	6.9	8.0
Augusta	A62-65GTCBLL	8.3 ± 0.3	23.8 ± 0.7	10.6	7.8	8.2	7.5	7.5
Augusta	A5337 CB	8.3 ± 0.3	23.7 ± 0.9	11.3	6.6	7.2	8.6	7.7
Augusta	A08-20LL	7.2 ± 0.3	20.5 ± 0.7	10.5	4.7	6.8	7.6	6.3
Mycogen	F2F725 (LL/HX/RW)	6.8 ± 0.3	19.5 ± 0.7	9.7	5.7	7.2	4.9	6.6
Avg. (tons/a)		**8.9**	**25.6**	**11.7**	**6.9**	**8.3**	**8.4**	**9.5**
L.S.D.$_{.05}$ (tons/a)		**0.7**	**2.0**	**1.8**	**1.6**	**1.2**	**1.6**	**1.8**
C.V. (%)		**10.8**	**10.7**	**9.3**	**13.6**	**8.6**	**11.6**	**11.2**

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, Bt, HX, CB = contains a *Bacillus thuringiensis* gene for insect resistance

LL = contains a gene for tolerance to glufosinate

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

YGRW, RW, CRW = contians a gene for rootworm resistance

RR, RR2, R, GT, R2 = contains a gene for tolerance to glyphosate

CL = contains a gene for tolerance to Imidazolinone class herbicides

Table 3. Mean yields † and agronomic characteristics of 30 corn hybrids evaluated for silage at five locations in Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	65% Moisture Avg. Yield ± Std Err. (n=5)	Moisture at harvest (n=5)	Lodging (n=2)	Plant Height (n=5)	Ear Height (n=4)
		tons/a	tons/a	%	%	inches	inches
Augusta	A08-13HXLL	10.2 ± 0.3	29.2 ± 0.7	60.1	1	111	51
Dyna-Gro	58V69 (RR/CB)	10.0 ± 0.3	28.6 ± 0.7	60.4	0	109	52
Mycogen	TMF2H918 (RR/LL/HX)	9.9 ± 0.3	28.3 ± 0.7	62.5	0	114	54
Croplan	9009 RH	9.7 ± 0.3	27.9 ± 0.7	62.6	1	115	54
Mycogen	TMF2N804 (RR/LL/HX)	9.7 ± 0.3	27.7 ± 0.7	60.6	0	115	44
DeKalb	DKC67-87 (RR2/YGCB)	9.6 ± 0.3	27.4 ± 0.7	57.9	1	107	53
Croplan	8756VT3	9.5 ± 0.3	27.3 ± 0.7	58.2	0	108	50
Croplan	8221VT3	9.5 ± 0.3	27.0 ± 0.7	59.7	0	107	52
Wyffels	W8681 (VT3)	9.4 ± 0.3	26.9 ± 0.8	59.4	1	104	46
Croplan	8505VT3	9.4 ± 0.3	26.8 ± 0.8	57.9	1	105	49
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 0.3	26.6 ± 0.7	56.7	1	105	50
Augusta	A-06-06CBLL	9.2 ± 0.3	26.3 ± 0.7	58.3	2	112	50
Augusta	A008VT3	9.2 ± 0.3	26.2 ± 0.7	60.5	1	107	47
Dyna-Gro	57V44 (RR/CB)	9.1 ± 0.3	26.1 ± 0.8	57.4	1	106	46
Dyna-Gro	V5373VT3	9.1 ± 0.3	26.0 ± 0.7	59.8	0	106	48
Augusta	A-06-04HXLL	9.0 ± 0.3	25.8 ± 0.7	56.8	0	109	48
Croplan	8950 RB	9.0 ± 0.3	25.7 ± 0.7	57.8	5	110	52
Augusta	A61-66CBLL	8.8 ± 0.3	25.3 ± 0.7	59.0	0	104	49
Croplan	851VT3	8.6 ± 0.3	24.6 ± 0.7	59.5	2	105	47
Augusta	A5175 CB	8.6 ± 0.3	24.6 ± 0.7	58.6	1	107	45
Augusta	A73-64GTCBLL	8.6 ± 0.3	24.5 ± 0.7	56.7	1	102	43
Dyna-Gro	V5783VT3	8.5 ± 0.3	24.4 ± 0.8	57.4	5	105	45
Croplan	6831 TS	8.4 ± 0.3	24.0 ± 0.7	58.2	0	102	44
Augusta	A08-01GTCBLL	8.4 ± 0.3	23.9 ± 0.7	55.7	2	102	49
Wyffels	W9121 (VT3)	8.4 ± 0.3	23.9 ± 0.7	57.0	1	100	45
Dyna Gro	58K40 (RR)	8.3 ± 0.3	23.8 ± 0.7	61.7	0	108	52
Augusta	A62-65GTCBLL	8.3 ± 0.3	23.8 ± 0.7	60.4	1	108	46
Augusta	A5337 CB	8.3 ± 0.3	23.7 ± 0.9	60.2	0	104	42
Augusta	A08-20LL	7.2 ± 0.3	20.5 ± 0.7	57.2	3	105	47
Mycogen	F2F725 (LL/HX/RW)	6.8 ± 0.3	19.5 ± 0.7	61.8	3	99	46
	Average	**8.9**	**25.6**	**59.0**	**1**	**107**	**48**

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

LL = contains a gene for tolerance to glufosinate

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

YGRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

CL = contains a gene for tolerance to Imidazolinone class herbicides

Table 4. Mean yields † and feed quality characteristics of 30 corn hybrids evaluated for silage at five locations in Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	Moisture at Harvest (n=5)	Crude Protein (n=5)	NDF (n=5)	NDF 30h IV Digest (n=5)	Starch (n=5)	ADF (n=5)	TDN (n=5)	NEL (n=5)	Milk/ton‡ (n=5)	Milk/acre‡ (n=5)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Augusta	A08-13HXLL	10.2 ± 0.3	60.1	7.7	44.3	50.4	29.2	27.6	71.9	0.67	3073	31468
Dyna-Gro	58V69 (RR/CB)	10.0 ± 0.3	60.4	8.2	44.3	53.5	29.4	26.7	72.4	0.68	3172	31716
Mycogen	TMF2H918 (RR/LL/HX)	9.9 ± 0.3	62.5	7.9	47.6	52.7	23.9	30.2	70.9	0.67	3044	30135
Croplan	9009 RH	9.7 ± 0.3	62.6	8.1	48.3	51.6	23.7	30.3	70.5	0.67	3043	29641
Mycogen	TMF2N804 (RR/LL/HX)	9.7 ± 0.3	60.6	8.3	44.1	56.4	28.2	27.2	72.3	0.69	3223	31196
DeKalb	DKC67-87 (RR2/YGCB)	9.6 ± 0.3	57.9	7.8	46.0	53.2	27.5	28.0	71.4	0.66	3009	28823
Croplan	8756VT3	9.5 ± 0.3	58.2	7.8	44.7	56.3	30.2	26.9	72.1	0.67	3101	29616
Croplan	8221VT3	9.5 ± 0.3	59.7	7.8	42.8	53.1	30.7	26.4	72.5	0.67	3095	29277
Wyffels	W8681 (VT3)	9.4 ± 0.3	59.4	8.8	41.3	57.7	31.4	24.8	73.4	0.70	3286	30884
Croplan	8505VT3	9.4 ± 0.3	57.9	7.7	44.7	53.5	29.7	27.3	72.1	0.66	3034	28461
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 0.3	56.7	8.0	42.3	56.8	31.7	25.8	73.1	0.67	3126	29072
Augusta	A-06-06CBLL	9.2 ± 0.3	58.3	8.0	40.6	53.1	33.9	24.8	73.3	0.67	3051	28039
Augusta	A008VT3	9.2 ± 0.3	60.5	8.0	41.8	54.4	31.9	25.8	72.9	0.69	3247	29772
Dyna-Gro	57V44 (RR/CB)	9.1 ± 0.3	57.4	7.8	42.0	56.4	31.7	25.8	73.2	0.67	3112	28478
Dyna-Gro	V5373VT3	9.1 ± 0.3	59.8	7.9	41.6	54.6	32.1	25.7	73.2	0.69	3226	29454
Augusta	A-06-04HXLL	9.0 ± 0.3	56.8	7.9	40.8	57.8	32.7	25.1	74.4	0.69	3219	29071
Croplan	8950 RB	9.0 ± 0.3	57.8	7.9	43.4	56.1	30.0	26.4	72.5	0.67	3121	28086
Augusta	A61-66CBLL	8.8 ± 0.3	59.0	8.0	41.8	55.9	32.5	25.0	73.2	0.68	3178	28124
Croplan	851VT3	8.6 ± 0.3	59.5	7.5	42.2	54.0	32.0	26.0	72.8	0.67	3102	26709
Augusta	A5175 CB	8.6 ± 0.3	58.6	7.8	42.7	56.5	31.1	26.3	72.9	0.68	3191	27444
Augusta	A73-64GTCBLL	8.6 ± 0.3	56.7	8.1	39.6	57.9	34.1	24.0	74.2	0.68	3182	27300
Dyna-Gro	V5783VT3	8.5 ± 0.3	57.4	8.1	45.2	55.1	28.8	27.8	71.9	0.66	3030	25845
Croplan	6831 TS	8.4 ± 0.3	58.2	8.1	42.2	55.8	30.7	26.0	73.1	0.68	3169	26652
Augusta	A08-01GTCBLL	8.4 ± 0.3	55.7	7.7	42.2	56.3	32.7	25.6	73.2	0.67	3084	25814
Wyffels	W9121 (VT3)	8.4 ± 0.3	57.0	8.2	43.8	55.3	30.3	26.4	72.6	0.67	3083	25807

Table 4 (continued)

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	Moisture at Harvest (n=5)	Crude Protein (n=5)	NDF (n=5)	NDF 30h IV Digest (n=5)	Starch (n=5)	ADF (n=5)	TDN (n=5)	NEL (n=5)	Milk/ton‡ (n=5)	Milk/acre‡ (n=5)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Dyna Gro	58K40 (RR)	8.3 ± 0.3	61.7	8.3	46.0	52.8	27.1	28.4	71.3	0.68	3144	26189
Augusta	A62-65GTCBLL	8.3 ± 0.3	60.4	7.8	39.9	57.1	34.1	24.3	74.0	0.70	3322	27638
Augusta	A5337 CB	8.3 ± 0.3	60.2	8.1	39.5	57.3	34.2	23.9	74.3	0.71	3344	27686
Augusta	A08-20LL	7.2 ± 0.3	57.2	7.9	45.2	55.2	28.7	27.5	71.4	0.66	3014	21640
Mycogen	F2F725 (LL/HX/RW)	6.8 ± 0.3	61.8	8.7	43.5	63.7	29.1	25.5	73.8	0.73	3547	24189

† yields reported are dry weight basis unless otherwise indicated, feed analysis reported on an "dry weight" basis

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contains a gene for rootworm resistance

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

RR, RR2 = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 5. Mean yields † and feed quality characteristics of 30 corn hybrids evaluated for silage at five locations in Tennessee during 2009, sorted by brand.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	Moisture at Harvest (n=5)	Crude Protein (n=5)	NDF (n=5)	NDF 30h IV Digest (n=5)	Starch (n=5)	ADF (n=5)	TDN (n=5)	NEL (n=5)	Milk/ton‡ (n=5)	Milk/acre‡ (n=5)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Augusta	A08-13HXLL	10.2 ± 0.3	60.1	7.7	44.3	50.4	29.2	27.6	71.9	0.67	3073	31468
Augusta	A008VT3	9.2 ± 0.3	60.5	8.0	41.8	54.4	31.9	25.8	72.9	0.69	3247	29772
Augusta	A-06-06CBLL	9.2 ± 0.3	58.3	8.0	40.6	53.1	33.9	24.8	73.3	0.67	3051	28039
Augusta	A-06-04HXLL	9.0 ± 0.3	56.8	7.9	40.8	57.8	32.7	25.1	74.4	0.69	3219	29071
Augusta	A61-66CBLL	8.8 ± 0.3	59.0	8.0	41.8	55.9	32.5	25.0	73.2	0.68	3178	28124
Augusta	A5175 CB	8.6 ± 0.3	58.6	7.8	42.7	56.5	31.1	26.3	72.9	0.68	3191	27444
Augusta	A73-64GTCBLL	8.6 ± 0.3	56.7	8.1	39.6	57.9	34.1	24.0	74.2	0.68	3182	27300
Augusta	A08-01GTCBLL	8.4 ± 0.3	55.7	7.7	42.2	56.3	32.7	25.6	73.2	0.67	3084	25814
Augusta	A5337 CB	8.3 ± 0.3	60.2	8.1	39.5	57.3	34.2	23.9	74.3	0.71	3344	27686
Augusta	A62-65GTCBLL	8.3 ± 0.3	60.4	7.8	39.9	57.1	34.1	24.3	74.0	0.70	3322	27638
Augusta	A08-20LL	7.2 ± 0.3	57.2	7.9	45.2	55.2	28.7	27.5	71.4	0.66	3014	21640
Croplan	9009 RH	9.7 ± 0.3	62.6	8.1	48.3	51.6	23.7	30.3	70.5	0.67	3043	29641
Croplan	8221VT3	9.5 ± 0.3	59.7	7.8	42.8	53.1	30.7	26.4	72.5	0.67	3095	29277
Croplan	8756VT3	9.5 ± 0.3	58.2	7.8	44.7	56.3	30.2	26.9	72.1	0.67	3101	29616
Croplan	8505VT3	9.4 ± 0.3	57.9	7.7	44.7	53.5	29.7	27.3	72.1	0.66	3034	28461
Croplan	8950 RB	9.0 ± 0.3	57.8	7.9	43.4	56.1	30.0	26.4	72.5	0.67	3121	28086
Croplan	851VT3	8.6 ± 0.3	59.5	7.5	42.2	54.0	32.0	26.0	72.8	0.67	3102	26709
Croplan	6831 TS	8.4 ± 0.3	58.2	8.1	42.2	55.8	30.7	26.0	73.1	0.68	3169	26652
DeKalb	DKC67-87 (RR2/YGCB)	9.6 ± 0.3	57.9	7.8	46.0	53.2	27.5	28.0	71.4	0.66	3009	28823
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 0.3	56.7	8.0	42.3	56.8	31.7	25.8	73.1	0.67	3126	29072
Dyna-Gro	58V69 (RR/CB)	10.0 ± 0.3	60.4	8.2	44.3	53.5	29.4	26.7	72.4	0.68	3172	31716
Dyna-Gro	57V44 (RR/CB)	9.1 ± 0.3	57.4	7.8	42.0	56.4	31.7	25.8	73.2	0.67	3112	28478
Dyna-Gro	V5373VT3	9.1 ± 0.3	59.8	7.9	41.6	54.6	32.1	25.7	73.2	0.69	3226	29454
Dyna-Gro	V5783VT3	8.5 ± 0.3	57.4	8.1	45.2	55.1	28.8	27.8	71.9	0.66	3030	25845
Dyna Gro	58K40 (RR)	8.3 ± 0.3	61.7	8.3	46.0	52.8	27.1	28.4	71.3	0.68	3144	26189

Table 5 (continued)

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=5)	Moisture at Harvest (n=5)	Crude Protein (n=5)	NDF (n=5)	NDF 30h IV Digest (n=5)	Starch (n=5)	ADF (n=5)	TDN (n=5)	NEL (n=5)	Milk/ton‡ (n=5)	Milk/acre‡ (n=5)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Mycogen	TMF2H918 (RR/LL/HX)	9.9 ± 0.3	62.5	7.9	47.6	52.7	23.9	30.2	70.9	0.67	3044	30135
Mycogen	TMF2N804 (RR/LL/HX)	9.7 ± 0.3	60.6	8.3	44.1	56.4	28.2	27.2	72.3	0.69	3223	31196
Mycogen	F2F725 (LL/HX/RW)	6.8 ± 0.3	61.8	8.7	43.5	63.7	29.1	25.5	73.8	0.73	3547	24189
Wyffels	W8681 (VT3)	9.4 ± 0.3	59.4	8.8	41.3	57.7	31.4	24.8	73.4	0.70	3286	30884
Wyffels	W9121 (VT3)	8.4 ± 0.3	57.0	8.2	43.8	55.3	30.3	26.4	72.6	0.67	3083	25807

† yields reported are dry weight basis unless otherwise indicated, feed analysis reported on an "dry weight" basis

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contains a gene for rootworm resistance

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

RR, RR2 = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 6. Mean yields † of 15 corn hybrids evaluated for silage in four environments for two years (2008 - 2009) in Tennessee.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=8)	65% Moisture Avg. Yield ± Std Err. (n=8)	Dry Weight			
				Knoxville	Crossville	Springfield	Lewisburg
		tons/a					
DeKalb	DKC67-87 (RR2/YGCB)	8.0 ± 0.2	22.8 ± 0.6	10.8	5.3	8.2	7.5
Croplan	8221VT3	7.9 ± 0.2	22.6 ± 0.6	9.7	7.1	7.4	7.6
Augusta	A08-13HXLL	7.7 ± 0.2	22.1 ± 0.6	10.5	5.6	6.3	8.5
Croplan	9009 RH	7.7 ± 0.2	22.0 ± 0.6	9.9	6.8	6.5	7.6
Augusta	A-06-04HXLL	7.6 ± 0.2	21.8 ± 0.6	9.9	6.4	7.4	6.8
Augusta	A008VT3	7.4 ± 0.2	21.2 ± 0.6	9.7	6.3	7.1	6.6
Croplan	8950 RB	7.4 ± 0.2	21.2 ± 0.7	9.4	5.9	7.6	6.8
DeKalb	DKC67-23 (RR2/YGCB)	7.4 ± 0.2	21.1 ± 0.6	10.2	5.9	6.1	7.3
Croplan	6831 TS	7.3 ± 0.2	21.0 ± 0.6	9.3	6.1	7.5	6.5
Augusta	A-06-06CBLL	7.3 ± 0.2	21.0 ± 0.6	9.9	5.8	7.0	6.7
Wyffels	W8681 (VT3)	7.3 ± 0.2	20.9 ± 0.7	9.6	5.3	7.2	7.3
Augusta	A5175 CB	7.2 ± 0.2	20.6 ± 0.6	10.3	5.0	7.0	6.5
Augusta	A5337 CB	7.1 ± 0.3	20.4 ± 0.7	10.0	5.3	7.5	5.7
Croplan	851VT3	7.0 ± 0.2	19.9 ± 0.6	9.6	5.3	6.8	6.2
Dyna Gro	58K40 (RR)	6.9 ± 0.2	19.7 ± 0.6	9.7	6.3	5.5	6.1
Avg. (tons/a)		**7.4**	**21.2**	**9.9**	**5.9**	**7.0**	**6.9**
L.S.D.$_{.05}$ (tons/a)		**0.8**	**2.3**	**1.4**	**1.4**	**1.8**	**1.6**
C.V. (%)		**14.4**	**14.4**	**9.8**	**16.0**	**18.4**	**15.7**

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

Table 7. Mean yields † and agronomic characteristics of 15 corn hybrids evaluated for silage in four environments for two years (2008-2009) in Tennessee.

Brand	Variety	Dry Weight Avg. Yield ± Std Err. (n=8)	65% Moisture Avg. Yield ± Std Err. (n=8)	Moisture at harvest (n=8)	Lodging (n=5)	Plant Height (n=8)	Ear Height (n=5)
		tons/a	tons/a	%	%	inches	inches
DeKalb	DKC67-87 (RR2/YGCB)	8.0 ± 0.2	22.8 ± 0.6	58.4	0	100	46
Croplan	8221VT3	7.9 ± 0.2	22.6 ± 0.6	62.3	0	101	48
Augusta	A08-13HXLL	7.7 ± 0.2	22.1 ± 0.6	63.2	0	102	46
Croplan	9009 RH	7.7 ± 0.2	22.0 ± 0.6	65.8	0	108	50
Augusta	A-06-04HXLL	7.6 ± 0.2	21.8 ± 0.6	57.3	0	101	42
Augusta	A008VT3	7.4 ± 0.2	21.2 ± 0.6	61.7	0	99	43
Croplan	8950 RB	7.4 ± 0.2	21.2 ± 0.7	61.9	2	104	48
DeKalb	DKC67-23 (RR2/YGCB)	7.4 ± 0.2	21.1 ± 0.6	59.1	0	97	45
Croplan	6831 TS	7.3 ± 0.2	21.0 ± 0.6	56.8	0	97	40
Augusta	A-06-06CBLL	7.3 ± 0.2	21.0 ± 0.6	59.0	1	102	44
Wyffels	W8681 (VT3)	7.3 ± 0.2	20.9 ± 0.7	61.1	1	97	39
Augusta	A5175 CB	7.2 ± 0.2	20.6 ± 0.6	57.6	0	99	38
Augusta	A5337 CB	7.1 ± 0.3	20.4 ± 0.7	59.6	0	97	37
Croplan	851VT3	7.0 ± 0.2	19.9 ± 0.6	60.4	1	96	41
Dyna Gro	58K40 (RR)	6.9 ± 0.2	19.7 ± 0.6	64.3	0	102	49

Codes:

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

Table 8. Mean yields † and feed quality characteristics of 15 corn hybrids evaluated for silage at four locations for 2 years (2008-2009) in Tennessee.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=8)	Moisture at Harvest (n=8)	Crude Protein (n=8)	NDF (n=8)	NDF 30h IV Digest (n=8)	Starch (n=8)	ADF (n=8)	TDN (n=8)	NEL (n=8)	Milk/ton‡ (n=8)	Milk/acre‡ (n=8)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
DeKalb	DKC67-87 (RR2/YGCB)	8.0 ± 0.2	58.4	8.3	42.3	55.5	31.7	25.1	71.4	0.71	3293	24928
Croplan	8221VT3	7.9 ± 0.2	62.3	8.2	43.5	54.5	29.8	26.4	71.8	0.70	3272	24658
Augusta	A08-13HXLL	7.7 ± 0.2	63.2	8.1	45.6	52.7	27.5	27.8	71.1	0.70	3227	24373
Croplan	9009 RH	7.7 ± 0.2	65.8	8.3	50.2	53.0	21.8	31.0	69.1	0.68	3097	23471
Augusta	A-06-04HXLL	7.6 ± 0.2	57.3	8.2	41.0	58.8	33.3	24.3	73.8	0.72	3420	25289
Augusta	A008VT3	7.4 ± 0.2	61.7	8.3	41.8	58.5	32.6	25.0	73.0	0.73	3478	24434
Croplan	8950 RB	7.4 ± 0.2	61.9	8.5	44.1	56.0	28.6	26.4	72.0	0.71	3322	23535
DeKalb	DKC67-23 (RR2/YGCB)	7.4 ± 0.2	59.1	8.4	42.5	56.3	31.8	25.5	72.2	0.71	3319	23317
Croplan	6831 TS	7.3 ± 0.2	56.8	8.4	41.1	58.1	32.9	24.5	73.1	0.72	3407	23878
Augusta	A-06-06CBLL	7.3 ± 0.2	59.0	8.3	40.1	56.0	34.6	23.7	72.4	0.71	3297	23888
Wyffels	W8681 (VT3)	7.3 ± 0.2	61.1	9.1	40.5	58.0	32.9	23.9	72.8	0.73	3485	24873
Augusta	A5175 CB	7.2 ± 0.2	57.6	8.5	40.9	57.4	33.4	24.4	72.5	0.71	3376	23409
Augusta	A5337 CB	7.1 ± 0.3	59.6	8.5	40.4	58.2	33.6	23.9	74.1	0.74	3524	24304
Croplan	851VT3	7.0 ± 0.2	60.4	8.3	41.5	57.5	32.9	24.9	72.8	0.71	3363	22885
Dyna Gro	58K40 (RR)	6.9 ± 0.2	64.3	8.4	47.0	54.5	26.2	28.6	70.0	0.70	3272	22122

† yields reported are dry weight basis unless otherwise indicated, feed analysis reported on an "dry weight" basis

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contains a gene for rootworm resistance

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

RR, RR2 = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 9. Mean yields † of 11 corn hybrids evaluated for silage in three environments for three years (2007-2009) in Tennessee.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=9)	65% Moisture Avg. Yield ± Std Err. (n=9)	Dry Weight Knoxville	Dry Weight Crossville	Dry Weight Springfield
		tons/a	tons/a	tons/a	tons/a	tons/a
Augusta	A-06-04HXLL	7.7 ± 0.2	22.1 ± 0.6	9.9	5.9	7.4
DeKalb	DKC67-87 (RR2/YGCB)	7.6 ± 0.2	21.6 ± 0.6	10.1	5.1	7.5
Augusta	A5337 CB	7.4 ± 0.2	21.1 ± 0.6	9.8	4.8	7.5
Augusta	A-06-06CBLL	7.3 ± 0.2	20.7 ± 0.6	9.3	5.3	7.2
Croplan	9009 RH	7.2 ± 0.2	20.7 ± 0.6	9.6	5.7	6.4
Croplan	8221VT3	7.2 ± 0.2	20.6 ± 0.6	9.1	6.0	6.5
Croplan	8950 RB	7.1 ± 0.2	20.3 ± 0.6	9.1	5.4	6.8
Dyna Gro	58K40 (RR)	7.1 ± 0.2	20.2 ± 0.6	9.7	5.9	5.6
DeKalb	DKC67-23 (RR2/YGCB)	7.0 ± 0.2	19.9 ± 0.6	9.5	5.4	6.0
Augusta	A5175 CB	6.9 ± 0.2	19.8 ± 0.6	10.0	4.6	6.2
Croplan	851VT3	6.8 ± 0.2	19.4 ± 0.6	9.2	5.0	6.1
Avg. (tons/a)		**7.2**	**20.6**	**9.6**	**5.4**	**6.7**
L.S.D.$_{.05}$ (tons/a)		**0.9**	**2.6**	**1.4**	**1.4**	**1.9**
C.V. (%)		**15.4**	**15.4**	**9.9**	**17.9**	**20.5**

† all silage yields are adjusted to Dry Weight basis.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

Table 10. Mean yields † and agronomic characteristics of 11 corn hybrids evaluated for silage in three environments for three years (2007-2009) in Tennessee.

Brand	Variety	Dry Weight Avg. Yield ± Std Err. (n=9)	65% Moisture Avg. Yield ± Std Err. (n=9)	Moisture at harvest (n=9)	Lodging (n=5)	Plant Height (n=9)	Ear Height (n=6)
		tons/a	tons/a	%	%	inches	inches
Augusta	A-06-04HXLL	7.7 ± 0.2	22.1 ± 0.6	54.2	0	101	42
DeKalb	DKC67-87 (RR2/YGCB)	7.6 ± 0.2	21.6 ± 0.6	55.2	0	100	45
Augusta	A5337 CB	7.4 ± 0.2	21.1 ± 0.6	55.3	0	100	38
Augusta	A-06-06CBLL	7.3 ± 0.2	20.7 ± 0.6	56.1	0	102	41
Croplan	9009 RH	7.2 ± 0.2	20.7 ± 0.6	63.2	0	108	48
Croplan	8221VT3	7.2 ± 0.2	20.6 ± 0.6	59.3	0	102	48
Croplan	8950 RB	7.1 ± 0.2	20.3 ± 0.6	58.8	2	105	46
Dyna Gro	58K40 (RR)	7.1 ± 0.2	20.2 ± 0.6	60.1	0	103	48
DeKalb	DKC67-23 (RR2/YGCB)	7.0 ± 0.2	19.9 ± 0.6	55.4	0	98	44
Augusta	A5175 CB	6.9 ± 0.2	19.8 ± 0.6	53.8	0	98	37
Croplan	851VT3	6.8 ± 0.2	19.4 ± 0.6	56.9	0	95	39

Codes:

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

Table 11. Mean yields † and feed quality characteristics of 11 corn hybrids evaluated for silage at three locations for three years (2007-2009) in Tennessee.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=9)	Moisture at Harvest (n=9)	Crude Protein (n=9)	NDF (n=9)	NDF 30h IV Digest (n=9)	Starch (n=9)	ADF (n=9)	TDN (n=9)	NEL (n=9)	Milk/ton‡ (n=9)	Milk/acre‡ (n=9)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Augusta	A-06-04HXLL	7.7 ± 0.2	54.2	7.9	40.0	62.9	35.3	23.5	74.9	0.74	3565	25521
DeKalb	DKC67-87 (RR2/YGCB)	7.6 ± 0.2	55.2	8.1	39.7	59.4	35.5	23.3	72.5	0.73	3485	24655
Augusta	A5337 CB	7.4 ± 0.2	55.3	7.8	37.5	61.5	38.1	22.2	75.2	0.75	3632	24875
Augusta	A-06-06CBLL	7.3 ± 0.2	56.1	8.0	39.2	58.9	36.8	23.1	73.0	0.73	3470	24219
Croplan	9009 RH	7.2 ± 0.2	63.2	8.0	49.6	57.3	23.7	30.3	69.7	0.71	3357	23631
Croplan	8221VT3	7.2 ± 0.2	59.3	7.8	42.5	57.5	32.4	25.7	72.5	0.72	3435	23407
Croplan	8950 RB	7.1 ± 0.2	58.8	8.0	43.2	59.3	30.8	25.7	72.5	0.73	3505	23509
Dyna Gro	58K40 (RR)	7.1 ± 0.2	60.1	7.8	45.0	57.5	29.9	27.4	71.1	0.72	3453	23348
DeKalb	DKC67-23 (RR2/YGCB)	7.0 ± 0.2	55.4	8.0	41.5	58.8	33.9	24.7	71.9	0.73	3482	23032
Augusta	A5175 CB	6.9 ± 0.2	53.8	8.0	39.1	60.5	36.6	23.1	73.3	0.73	3523	23306
Croplan	851VT3	6.8 ± 0.2	56.9	8.1	38.8	61.2	36.5	23.0	74.2	0.73	3551	23017

† yields reported are dry weight basis unless otherwise indicated, feed analysis reported on an "dry weight" basis

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contains a gene for rootworm resistance

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

RR, RR2 = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

COUNTY STANDARD TESTS

Table 12. Mean yields † of 15 corn hybrids evaluated for silage in two County Standard Tests in Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=2)	65% Moisture Avg. Yield ± Std Err. (n=2)	----- Dry Weight ------ Blount (n=1)	Washington (n=1)	Moisture at harvest (n=2)	Plant Height * (n=1)	Ear Height * (n=1)
		----------tons/a----------				%	inches	inches
Croplan	851VT3	11.0 ± 1.1	31.4 ± 3.0	11.9	10.1	62.8	128	50
Dyna Gro	58K40 (RR)	10.2 ± 1.1	29.2 ± 3.0	8.3	12.1	62.9	127	58
Wyffels	W8681 (VT3)	10.1 ± 1.1	28.8 ± 3.0	10.5	9.7	64.0	120	45
Dyna-Gro	58V69 (RR/CB)	10.1 ± 1.1	28.8 ± 3.0	8.7	11.5	65.7	129	54
Croplan	8756VT3	10.0 ± 1.1	28.5 ± 3.0	10.7	9.2	63.3	130	60
DeKalb	DKC67-87 (RR2/YGCB)	9.9 ± 1.1	28.2 ± 3.0	8.6	11.1	63.9	119	54
Croplan	9009 RH	9.7 ± 1.1	27.7 ± 3.0	9.4	9.9	65.7	130	52
Augusta	A5337 CB	9.6 ± 1.1	27.3 ± 3.0	9.2	9.9	61.5	114	40
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 1.1	26.4 ± 3.0	9.0	9.5	60.7	117	46
Augusta	A-06-04HXLL	9.3 ± 1.1	26.4 ± 3.0	8.8	9.7	60.7	115	45
Mycogen	TMF2N804 (RR/LL/HX)	9.1 ± 1.1	26.0 ± 3.0	8.0	10.2	62.8	125	45
Wyffels	W9121 (VT3)	9.1 ± 1.1	26.0 ± 3.0	8.9	9.2	64.2	124	49
Croplan	8221VT3	9.0 ± 1.1	25.5 ± 3.0	7.8	10.1	69.2	120	56
NK Brand	N78N (GT/CB/LL)	7.8 ± 0.8	22.3 ± 2.1	6.6	9.1	63.2	120	46
Mycogen	F2F725 (LL/HX/RW)	7.6 ± 1.1	21.6 ± 3.0	8.2	6.9	65.5	122	52
Avg. (tons/a)		**9.3**	**26.6**	**9.0**	**9.9**	**63.7**	**123**	**50**
L.S.D.$_{.05}$ (tons/a)		**6.4**	**18.0**					
C.V. (%)		**16.1**	**16.0**					

† all silage yields are adjusted to dry weight basis unless otherwise indicated.

YG, YGCB, CB, Bt, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, CRW, RW = contians a gene for rootworm resistance

RR, R, RR2, R2, GT = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

* Plant and ear height data from Blount County location.

Blount County: Mac Pate Dairy Farm
Planted: 4-23-09
Harvested: 8-17-09
Population: 22,000
30 inch row spacing

Washington County: Savland farm (David Saylor)
Planted: 5-21-09
Harvested: 9-14-09
Population: 28,000
30 inch row spacing

Table 13. Mean yields † and feed quality characteristics of 15 corn hybrids evaluated for silage in two County Standard Tests in Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=12)	Moisture at Harvest (n=12)	Crude Protein (n=11)	NDF (n=11)	NDF 30h IV Digest (n=11)	Starch (n=11)	ADF (n=11)	TDN (n=11)	NEL (n=11)	Milk/ton‡ (n=11)	Milk/acre‡ (n=11)
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Croplan	851VT3	11.0 ± 1.1	62.8	9.3	39.1	58.7	32.5	22.7	74.6	0.75	3587	39459
Dyna Gro	58K40 (RR)	10.2 ± 1.1	62.9	9.3	45.5	60.2	28.2	26.3	72.2	0.72	3427	34958
Wyffels	W8681 (VT3)	10.1 ± 1.1	64.0	9.4	40.6	61.9	32.6	23.3	74.1	0.75	3650	36862
Dyna-Gro	58V69 (RR/CB)	10.1 ± 1.1	65.7	9.4	47.6	58.2	25.0	27.9	71.0	0.71	3333	33662
Croplan	8756VT3	10.0 ± 1.1	63.3	8.6	43.7	58.3	31.3	25.8	73.0	0.73	3471	34540
DeKalb	DKC67-87 (RR2/YGCB)	9.9 ± 1.1	63.9	9.8	44.1	61.5	27.8	25.8	72.6	0.74	3530	34774
Croplan	9009 RH	9.7 ± 1.1	65.7	9.0	46.0	56.5	25.5	27.8	72.1	0.72	3396	32773
Augusta	A5337 CB	9.6 ± 1.1	61.5	9.5	39.1	58.9	32.3	22.8	74.3	0.74	3536	33767
DeKalb	DKC67-23 (RR2/YGCB)	9.3 ± 1.1	60.7	8.7	43.0	58.5	28.4	25.6	72.9	0.72	3403	31475
Augusta	A-06-04HXLL	9.3 ± 1.1	60.7	8.4	40.0	63.4	32.7	24.1	74.8	0.76	3667	33917
Mycogen	TMF2N804 (RR/LL/HX)	9.1 ± 1.1	62.8	9.2	43.0	59.1	27.8	25.8	72.7	0.72	3412	31049
Wyffels	W9121 (VT3)	9.1 ± 1.1	64.2	9.6	42.3	57.0	29.6	25.0	73.1	0.73	3483	31525
Croplan	8221VT3	9.0 ± 1.1	69.2	9.6	46.8	53.9	24.3	28.1	70.8	0.70	3238	28984
NK Brand	N78N (GT/CB/LL)	7.8 ± 0.8	63.2	9.8	43.0	60.2	30.6	24.9	72.5	0.73	3455	27055
Mycogen	F2F725 (LL/HX/RW)	7.6 ± 1.1	65.5	9.2	44.4	69.8	28.2	25.8	73.3	0.76	3732	28179

† yields reported are dry weight basis unless otherwise indicated, feed analysis reported on an "dry weight" basis

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

YGRW, RW = contains a gene for rootworm resistance

VT3, TS = contains genes for corn borer, rootworm, and glyphosate resistance

RR, RR2 = contains a gene for tolerance to glyphosate

LL = contains a gene for tolerance to glufosinate

CL = contains a gene for tolerance to Imidazolinone class herbicides

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

SWEET SORGHUM HYBRIDS

Ten **sweet sorghum** varieties were evaluated for silage yield and quality at the East Tennessee REC. Yields presented were adjusted to both dry weight and 65% moisture. Plots were harvested with a commercial silage harvester. A sub-sample from each plot was taken for determination of moisture at harvest. The samples were ground and analyzed for nutrient content by Cumberland Valley Analytical Services, Inc., Hagerstown, MD. Milk per ton and milk per acre calculations were performed using the University of Wisconsin Milk2006 program.

Table 14. Mean yields and agronomic characteristics of 10 sweet sorghum varieties evaluated for silage at Knoxville, Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err.	65% Moisture Avg. Yield ± Std Err.	Lodging	Plant Height	Moisture at Harvest
		tons/a	tons/a	Score	inches	%
Walter Moss	Mega Green	11.4 ± 0.6	32.6 ± 1.8	1.2	161	76.5
KN	Morris	11.0 ± 0.6	31.4 ± 1.8	2.2	145	71.5
Walter Moss	4 Ever Green	10.1 ± 0.6	29.0 ± 1.8	1.7	159	79.5
MS	Dale	9.6 ± 0.6	27.6 ± 1.8	3.5	144	74.8
Top	76-6	9.5 ± 0.6	27.2 ± 1.8	1.5	127	75.0
Walter Moss	4 Ever Green BMR	9.4 ± 0.6	26.8 ± 1.8	3.2	152	78.6
VA	Della	9.2 ± 0.6	26.1 ± 1.8	2.7	145	71.8
MS	Theis	8.9 ± 0.6	25.5 ± 1.8	1.5	117	68.9
MS	M81E	8.9 ± 0.6	25.5 ± 1.8	2.3	139	74.4
MS	Keller	8.5 ± 0.6	24.3 ± 1.8	3.2	135	72.9
Avg. (tons/a)		**9.7**	**27.6**	**2.3**	**142**	**74.4**
L.S.D.$_{.05}$ (tons/a)		**1.9**	**5.4**			
C.V. (%)		**11.6**	**11.5**			

Planted 5/14/09, seeding rate 87,600 / acre, Stasser Silt Loam, two row plots 30 ft in length, three replications of each entry, Harvested 9/4/09

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Table 15. Mean yields and feed quality characteristics of 10 sweet sorghum varieties evaluated for silage at Knoxville, Tennessee during 2009.

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err.	Crude Protein	NDF	NDF 30h IV Digest	Starch	Sugar	ADF	TDN	NEL	Milk/ton‡	Milk/acre‡
		tons/a	% dm	% dm	% of NDF	% dm	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Walter Moss	Mega Green	11.4 ± 0.6	6.5	59.6	41.4	8.4	3.5	40.1	62.3	0.51	1956	22235
KN	Morris	11.0 ± 0.6	7.4	40.5	58.7	20.9	5.2	28.1	71.1	0.60	2657	29142
Walter Moss	4 Ever Green	10.1 ± 0.6	6.0	59.9	44.9	7.6	4.2	40.2	63.4	0.51	1994	20200
MS	Dale	9.6 ± 0.6	6.6	48.5	62.6	13.0	5.8	33.7	69.0	0.56	2459	23683
Top	76-6	9.5 ± 0.6	7.2	43.6	58.9	17.5	5.5	29.7	70.2	0.58	2517	23991
Walter Moss	4 Ever Green BMR	9.4 ± 0.6	7.0	52.6	65.2	11.6	4.8	34.6	67.8	0.60	2685	25163
VA	Della	9.2 ± 0.6	6.2	43.4	55.1	18.1	6.0	31.1	70.1	0.56	2361	21654
MS	Theis	8.9 ± 0.6	7.2	42.1	57.4	20.9	4.6	28.6	70.9	0.61	2739	24461
MS	M81E	8.9 ± 0.6	6.2	46.7	52.5	15.9	5.4	33.0	68.3	0.55	2274	20242
MS	Keller	8.5 ± 0.6	6.2	40.0	53.1	21.0	5.0	29.1	69.4	0.56	2386	20278

NDF = Neutral Detergent Fiber ADF = Acid Detergent Fiber TDN = Total Digestable Nutrients NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 16. Mean yields of seven sweet sorghum varieties evaluated for silage at Knoxville, Tennessee for two years (2008-2009).

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=2)	65% Moisture Avg. Yield ± Std Err. (n=2)	Lodging (n=2)	Plant Height (n=2)	Moisture at Harvest (n=2)
		tons/a	tons/a	Score	inches	%
Walter Moss	Mega Green	13.0 ± 0.8	37.1 ± 2.2	1.4	157	75.1
Walter Moss	4 Ever Green	11.6 ± 0.8	33.1 ± 2.2	2.4	157	77.9
MS	Dale	11.2 ± 0.8	32.0 ± 2.2	2.8	143	72.0
MS	M81E	10.1 ± 0.8	29.0 ± 2.2	2.4	142	71.9
MS	Keller	9.6 ± 0.8	27.4 ± 2.2	3.4	136	70.2
MS	Theis	8.6 ± 0.8	24.4 ± 2.2	2.2	116	68.8
VA	Della	8.5 ± 0.8	24.3 ± 2.2	3.3	143	71.3
Avg. (tons/a)		**10.4**	**29.6**	**2.6**	**142**	**72.5**
L.S.D.$_{.05}$ (tons/a)		**2.6**	**7.4**			
C.V. (%)		**18.0**	**18.0**			

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Table 17. Mean yields and feed quality characteristics of seven sweet sorghum varieties evaluated for silage at Knoxville, Tennessee for two years (2008-2009).

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err.	Crude Protein	NDF	NDF 30h IV Digest	Starch	Sugar	ADF	TDN	NEL	Milk/ton‡	Milk/acre‡
		tons/a	% dm	% dm	% of NDF	% dm	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Walter Moss	Mega Green	13.0 ± 0.8	6.6	62.4	41.6	6.8	5.6	41.0	55.8	0.50	1894	21143
Walter Moss	4 Ever Green	11.6 ± 0.8	6.7	61.2	45.9	6.7	6.6	39.5	57.8	0.52	2044	20647
MS	Dale	11.2 ± 0.8	6.1	45.5	54.4	15.3	9.8	30.7	60.0	0.54	2236	21400
MS	M81E	10.1 ± 0.8	6.5	47.3	49.7	16.1	8.4	31.6	60.9	0.55	2232	20686
MS	Keller	9.6 ± 0.8	7.1	42.0	51.6	17.0	8.7	28.9	60.4	0.54	2209	19536
MS	Theis	8.6 ± 0.8	7.5	43.5	53.8	18.7	8.0	28.4	63.3	0.59	2544	20707
VA	Della	8.5 ± 0.8	6.7	46.3	51.9	16.0	9.2	30.5	61.4	0.55	2242	18863

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 18. Mean yields of five sweet sorghum varieties evaluated for silage at Knoxville, Tennessee for three years (2007-2009).

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err. (n=3)	65% Moisture Avg. Yield ± Std Err. (n=3)	Lodging (n=3)	Plant Height (n=3)	Moisture at Harvest (n=3)
		tons/a	tons/a	Score	inches	%
MS	Keller	13.3 ± 0.7	37.9 ± 1.9	3.2	137	69.2
MS	M81E	12.9 ± 0.7	36.8 ± 1.9	2.3	142	71.4
MS	Dale	12.2 ± 0.7	35.0 ± 1.9	2.8	144	72.3
VA	Della	9.6 ± 0.7	27.5 ± 1.9	3.4	141	72.2
MS	Theis	9.4 ± 0.7	26.9 ± 1.9	2.0	113	68.7
Avg. (tons/a)		**11.5**	**32.8**	**2.7**	**135**	**70.8**
L.S.D.$_{.05}$ (tons/a)		**2.6**	**7.5**			
C.V. (%)		**17.6**	**17.6**			

Lodging = 1 to 5 scale; where 1 = 95% of plants erect; 2.5 = ~50% of plants leaning at angle ≥ 45°; 5 = 95+% of plants leaning at an angle ≥ 45°.

Table 19. Mean yields and feed quality characteristics of five sweet sorghum varieties evaluated for silage at Knoxville, Tennessee for three years (2007-2009).

Brand	Hybrid	Dry Weight Avg. Yield ± Std Err.	Crude Protein	NDF	NDF 30h IV Digest	Starch	Sugar	ADF	TDN	NEL	Milk/ton‡	Milk/acre‡
		tons/a	% dm	% dm	% of NDF	% dm	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
MS	Keller	13.3 ± 0.7	7.1	44.1	48.5	17.2	9.1	29.2	58.6	0.55	2207	28179
MS	M81E	12.9 ± 0.7	6.7	48.1	46.7	15.9	9.2	31.2	58.1	0.54	2160	26114
MS	Dale	12.2 ± 0.7	6.8	46.6	51.5	16.0	9.5	30.3	59.5	0.56	2321	26171
VA	Della	9.6 ± 0.7	7.0	48.3	49.4	14.4	9.5	31.3	58.2	0.54	2161	20485
MS	Theis	9.4 ± 0.7	7.6	44.1	49.5	20.1	8.0	28.2	62.1	0.60	2541	23216

NDF = Neutral Detergent Fiber

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 20. Characteristics, as described by the seed company, of corn silage hybrids evaluated in yield tests in Tennessee during 2009.†

Brand	Hybrid	Grain Color	Maturity	Herbicide Tolerance	BT Gene	Released or Experimental	Comments from Companies
Augusta	A008VT3	Y	117	RR	CB/RW	R	Highly digestible
Augusta	A-06-04HXLL	Y	109	LL	HX	R	Highly digestible,stress tolerance
Augusta	A-06-06CBLL	Y	111	LL	CB	R	Health & digestibility
Augusta	A08-13HXLL	Y	117	LL	HX	E	---
Augusta	A08-01GTCBLL	Y	114	GT/LL	CB	R	---
Augusta	A5175 CB	Y	109	---	CB	R	Health & digestibility
Augusta	A5337 CB	Y	113	---	CB	R	Great digestibility
Augusta	A61-66CBLL	Y	116	LL	CB	E	---
Augusta	A62-65GTCBLL	Y	115	GT/LL	CB	E	---
Augusta	A73-64GTCBLL	Y	114	GT/LL	CB	R	---
Augusta	A08-20LL	Y	117	LL	---	R	---
Croplan	6831 TS	Y	112	RR	YGCB/RW	R	Flex ear, no poorly drained soils
Croplan	8221VT3	Y	118	RR	YGCB/RW	R	Dual purpose, excellent digestability, 32K/Ac
Croplan	8505VT3	Y	118	RR	YGCB/RW	E	---
Croplan	851VT3	Y	118	RR	YGCB/RW	R	Avoid poor drained soils, silage > 30K/Ac, dual purpose
Croplan	8756VT3	Y	118	RR	YGCB/RW	R	---
Croplan	8950 RB	Y	117	RR	YGCB	R	Tall, heat/drought tolerant, excellent roots/stalks, avg staygreen
Croplan	9009 RH	Y	124	RR/LL	YGCB/RW	R	Disease tolerant, high poplns, good drought tolerance
DeKalb	DKC67-23 (RR2/YGCB)	Y	117	RR2	YGCB	R	---
DeKalb	DKC67-87 (RR2/YGCB)	Y	117	RR2	YGCB	R	---
Dyna Gro	58K40 (RR)	Y	117	RR2	---	R	High tonnage, excellent stress tolerance
Dyna-Gro	57V44 (RR/CB)	Y	112	RR	CB	R	---
Dyna-Gro	58V69 (RR/CB)	Y	119	RR	CB	R	---
Dyna-Gro	V5373VT3	Y	113	RR	CB/RW	R	---
Dyna-Gro	V5783VT3	Y	117	RR	CB/RW	R	---
Mycogen	F2F725 (LL/HX/RW)	Y	113	LL	HX/RW	R	Brown mid rib, low to med poplns, sound agronomics
Mycogen	TMF2H918 (RR/LL/HX)	Y	123	RR/LL	HX	R	Med to med high poplns,staygreen,good drought tolerance
Mycogen	TMF2N804 (RR/LL/HX)	Y	116	RR/LL	HX	R	Med to med high poplns, good drought tolerance
Wyffels	W8681 (VT3)	Y	115	RR2	CB/RW	R	Excellent stay green
Wyffels	W9121 (VT3)	Y	117	RR	YGCB/RW	R	Excellent standability

Codes:

Bt, YG, YGCB, CB, HX = contains a *Bacillus thuringiensis* gene for insect resistance

CBRW, RW, CRW = contains a gene for rootworm resistance

CL = contains a gene for tolerance to Imidazolinone class herbicides

LL = contains a gene for tolerance to glufosinate

W = white grain

RR, R, R2, RR2, GT = contains a gene for tolerance to glyphosate

† Infomation on this table provided by the respective seed companies.

Table 21. Contact information for corn hybrid and sweet sorghum seed companies evaluated in yield tests in Tennessee during 2009.[†]

Company	Contact	Phone	Email	Web site	Address
Corn					
Augusta Seed Corporation	Matt Rawley	540-886-6055	Matt.Rawley@augustaseed.com augustaseed@aol.com		473 Tisdale Farm Ln. Stuanton, VA 24401
Croplan Genetics	Jesse Witt Kieth Savin Jim Payne Ashley Plymale Darrin Holder	256-221-5932 731-610-7006 901-225-2032 270-719-1570 270-207-0190	jpayne@ourcoop.com	www.croplangenetics.com	Agrilinace and Tennessee Farmers Co-op Locations
Monsanto (Dekalb)		800-768-6387		www.monsanto.com www.dekalb.com	800 N. Lindbergh Blvd. St. Louis, MO 63167
Crop Production Services (Dyna-Gro)	Steve Johnson	731-885-1212	sjohnson@agriumretail.com	www.dynagroseed.com	
Mycogen Seed	Ron Prinz	270-217-3383 270-744-0150	rhprinz@dow.com	www.dowagro.com/mycogen	8315 Danube Dr. West Paducah, KY 42086
Wyffels Hybrids Inc.	Scott Janes	888-786-4537	scojan@milesnmore.com	www.wyffels.com	Miles Farm Supply, P.O. Box 22879 Owensboro, KY 42304
Sweet Sorghum					
Kentucky Sweet Sorghum Association	Morris Bitzer	859-806-3358	mbitzer@uky.edu	www.ca.uky.edu/nssppa	2049 Rebel Road, Lexington, KY 40503
Walter Moss Seed (Mega Green, 4 Ever Green)		888-667-7872	info@mossseed.com	www.mossseed.com	P.O. Box 21114 Waco, TX 76702-1114