Corn Silage Tests in Tennessee

2016

Virginia R. Sykes, Coordinator, Agronomic Crop Variety Testing & Demonstrations

Agronomic Crop Variety Testing and Demonstrations
Department of Plant Sciences
Institute of Agriculture
University of Tennessee
Knoxville

•Telephone: (865)974-7285 • FAX: (865)974-1947 •email: vsykes@utk.edu

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. Fred Allen, Professor Emeritus
Dr. Dennis West, Professor and Grains Breeder
Mr. David Kincer, Research Associate
Dr. Gary Bates, Professor and UT Beef and Forage Center Director
Mr. David McIntosh, UT Beef and Forage Center Coordinator

AgResearch and Education Centers:

East Tennessee, Knoxville
Dr. Robert Simpson, Director
Mr. B.J. DeLozier, Farm Manager
Mr. Cody Fust, Farm Crew Leader
Mr. Charles Summey, Senior Field Worker

Plateau, Crossville
Mr. Walt Hitch, Director
Mr. Greg Blaylock, Light Farm Equipment Operator
Mr. Sam Simmons, Light Farm Equipment Operator

Highland Rim, Springfield
Dr. Robert Ellis, Director
Mr. Brad S. Fisher, Research Associate

Middle Tennessee, Spring Hill
Dr. Kevin Thompson, Director
Mr. Joe David Plunk, Research Associate

County Standard Corn Silage Tests

County	Producer	Agent
Blount	Scott, Randy, Steve, and Gary Blair (Pate Acres Dairy)	John Wilson
Washington	David and Mike Saylor (Savland Dairy Farm)	John Hamrick

Table of Contents

CORN SILAGE YIELD TESTS

2016

Experimental Procedures

AgResearch and Education Center (REC) Tests: Sixteen corn hybrids were evaluated for silage yield and quality in 2016. The tests were conducted at the East Tennessee (Knoxville), Highland Rim (Springfield), Middle Tennessee (Spring Hill), and Plateau RECs. The plots at all locations consisted of two rows, planted 30 inches apart, 26-30 feet 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 were recorded on each sample for determination of moisture at harvest. The samples were then ground and analyzed for nutritional content. Silage quality analyses were provided by the UT Beef and Forage Center. Predictions for milk production per ton and milk production per acre were calculated using the University of Wisconsin Milk2006 program.

County Standard Tests: The County Standard Corn Silage Tests were conducted in Blount county and Washington county in Tennessee with the same 16 hybrids included in the REC tests. Each hybrid was evaluated in a large strip-plot. Plots were planted, sprayed, fertilized, and harvested with the equipment used in the cooperating producer's farming operation. The harvested length was measured for each variety and appropriate harvested area adjustments were made to determine the yield per acre.

Growing Season: Corn planting was well ahead of the five year average with 80% of planting finished by the beginning of May. In mid-May, heavy rainfall and cool weather inhibited emergence in some areas, necessitating replanting. The remainder of the season was marked by hot, dry conditions. By mid-August, only 66% of the crop rated good to excellent.

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 AgResearch and Education Centers (RECs) where corn silage variety tests were conducted in 2016.

AgResearch and Education Center	Crop	Location	Planting Date	Harvest Date	Plant Population	Soil Type
East Tennessee	corn	Knoxville	04/19/16	08/08/16	31157	Sequatchie Fine Sandy Loam
Plateau	corn	Crossville	05/18/16	08/25/16	34206	Lily Loam
Middle Tennessee	corn	Spring Hill	04/25/16	08/10/16	35362	Maury Silt Loam
Highland Rim	corn	Springfield	04/18/16	08/15/16	33668	Dickson Silt Loam

Table 2. Location information from county locations where corn silage variety tests were conducted in 2016.

Cooperator	Crop	County	Planting Date	Harvest Date	Plant Population	Plot Size
Pate Acres Dairy (Scott, Randy, Steve, and Gary Blair)	corn	Blount	05/17/16	08/29/16	30563	30" rows, 4 rows, 774 - 818 ft
Savland Dairy (David and Mike Saylor)	corn	Washington	05/19/16	08/30/16	-	30" rows, 3 rows, 725 - 734 ft

Table 3. Mean yields † of 16 corn hybrids evaluated for silage at four REC locations in Tennessee during 2016.

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=4)	65% Moisture Avg. Yield ± Std Err. (n=4)	Dry Weight Yield			
			Knoxville	Crossville	Spring Hill	Springfield
			tons/a			
Croplan S5900 (VT2P)	8.9 ± 0.3	25.3 ± 0.8	8.2	11.2	6.4	9.7
Steyer 11802 VIP3110	8.8 ± 0.3	25.1 ± 0.8	7.5	9.9	6.9	10.8
Terral REV 28HR20 (RR2/LL/HX1)	8.6 ± 0.3	24.7 ± 0.8	8.2	10.0	7.0	9.5
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.6 ± 0.3	24.6 ± 0.9	7.4	10.4	6.3	10.4
Croplan 7927 (VT3P/RIB)	8.5 ± 0.3	24.3 ± 0.8	8.1	9.9	6.5	9.5
Steyer 11506 VT2PRORIBC	8.5 ± 0.3	24.3 ± 0.8	8.3	9.7	6.8	9.2
Steyer 11702 3000GT	8.5 ± 0.3	24.2 ± 0.8	7.6	9.6	7.5	9.2
Augusta 7768 (VIP3110)	8.2 ± 0.3	23.5 ± 0.8	7.1	9.2	7.5	9.1
Mycogen TMF17L86 (SSX)	8.2 ± 0.3	23.4 ± 0.8	8.2	10.0	6.6	8.0
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.3	23.4 ± 0.8	7.3	9.9	6.1	9.4
Croplan 8621 (VT3P/RIB)	8.1 ± 0.3	23.1 ± 0.8	7.6	9.4	6.8	8.6
Mycogen TMF14L46 (SSX)	8.0 ± 0.3	22.9 ± 0.8	7.8	11.1	5.7	7.5
Mycogen TMF15H86 (SSX)	7.9 ± 0.3	22.5 ± 0.8	7.9	10.2	6.5	7.0
Steyer 10805 VT2PRORIBC	7.7 ± 0.3	21.9 ± 0.8	7.0	9.8	5.8	8.1
Mycogen BMR15B15 (SSX)	7.6 ± 0.3	21.8 ± 0.8	6.1	9.4	6.5	8.4
Mycogen BMR14B96 (SSX)	6.9 ± 0.3	19.8 ± 0.8	6.6	9.2	5.4	6.6
Avg. (tons/a)	**8.2**	**23.4**	**7.6**	**9.9**	**6.5**	**8.8**
L.S.D.$_{.05}$ (tons/a)	**0.7**	**2.1**	**1.3**	**1.7**	**1.2**	**1.9**
C.V. (%)	**11.2**	**11.2**	**10.1**	**10.2**	**11.1**	**12.8**

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 4. Mean yields † and agronomic characteristics of 16 corn hybrids evaluated for silage at four REC locations in Tennessee during 2016.

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=4)	65% Moisture Avg. Yield ± Std Err. (n=4)	Moisture at harvest (n=4)	Plant Height (n=4)	Ear Height (n=3)
	tons/a	tons/a	%	inches	inches
Croplan S5900 (VT2P)	8.9 ± 0.3	25.3 ± 0.8	64	112	49
Steyer 11802 VIP3110	8.8 ± 0.3	25.1 ± 0.8	62	110	43
Terral REV 28HR20 (RR2/LL/HX1)	8.6 ± 0.3	24.7 ± 0.8	63	111	45
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.6 ± 0.3	24.6 ± 0.9	62	110	44
Croplan 7927 (VT3P/RIB)	8.5 ± 0.3	24.3 ± 0.8	63	111	47
Steyer 11506 VT2PRORIBC	8.5 ± 0.3	24.3 ± 0.8	62	108	44
Steyer 11702 3000GT	8.5 ± 0.3	24.2 ± 0.8	60	111	41
Augusta 7768 (VIP3110)	8.2 ± 0.3	23.5 ± 0.8	62	109	43
Mycogen TMF17L86 (SSX)	8.2 ± 0.3	23.4 ± 0.8	65	113	46
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.3	23.4 ± 0.8	64	106	43
Croplan 8621 (VT3P/RIB)	8.1 ± 0.3	23.1 ± 0.8	60	105	43
Mycogen TMF14L46 (SSX)	8.0 ± 0.3	22.9 ± 0.8	64	115	50
Mycogen TMF15H86 (SSX)	7.9 ± 0.3	22.5 ± 0.8	57	110	47
Steyer 10805 VT2PRORIBC	7.7 ± 0.3	21.9 ± 0.8	58	105	41
Mycogen BMR15B15 (SSX)	7.6 ± 0.3	21.8 ± 0.8	63	108	48
Mycogen BMR14B96 (SSX)	6.9 ± 0.3	19.8 ± 0.8	63	102	43
	8.2	**23.4**	**62**	**109**	**45**

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 5. Mean yields † and feed quality characteristics of 16 corn hybrids evaluated for silage at four REC locations in Tennessee during 2016.

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=4)	Moisture at Harvest (n=4)	Crude Protein (n=4)	NDF (n=4)	30h IV NDFD (n=4)	Starch (n=4)	ADF (n=4)	TDN (n=4)	NEL (n=4)	Milk/ton‡ (n=4)	Milk/acre‡ (n=4)
	tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Croplan S5900 (VT2P)	8.9 ± 0.3	64	7.6	52.0	50.7	23.4	28.3	68.2	0.69	2894	27904
Steyer 11802 VIP3110	8.8 ± 0.3	62	6.9	50.4	50.4	25.2	27.9	68.5	0.70	2880	27094
Terral REV 28HR20 (RR2/LL/HX1)	8.6 ± 0.3	63	7.1	54.1	49.7	20.5	30.5	66.7	0.67	2780	24795
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.6 ± 0.3	62	7.6	45.2	50.9	30.3	23.7	71.2	0.75	3058	20953
Croplan 7927 (VT3P/RIB)	8.5 ± 0.3	63	7.5	53.1	51.2	21.8	29.9	67.2	0.67	2839	23902
Steyer 11506 VT2PRORIBC	8.5 ± 0.3	62	7.5	48.8	49.6	26.7	26.9	69.2	0.71	2978	28146
Steyer 11702 3000GT	8.5 ± 0.3	60	7.3	52.1	49.8	22.7	28.5	68.1	0.69	2808	25568
Augusta 7768 (VIP3110)	8.2 ± 0.3	62	7.0	49.6	51.9	25.0	27.7	68.6	0.70	2972	23461
Mycogen TMF17L86 (SSX)	8.2 ± 0.3	65	6.8	56.7	49.8	18.0	32.2	65.6	0.64	2789	23597
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.3	64	7.8	53.2	50.4	22.1	29.7	67.3	0.68	2866	25172
Croplan 8621 (VT3P/RIB)	8.1 ± 0.3	60	7.5	49.2	49.8	25.7	26.8	69.2	0.71	2903	23895
Mycogen TMF14L46 (SSX)	8 ± 0.3	64	7.0	52.3	51.4	22.1	30.7	66.6	0.66	2885	26601
Mycogen TMF15H86 (SSX)	7.9 ± 0.3	57	6.5	55.4	50.9	21.2	31.5	66.1	0.65	2637	21236
Steyer 10805 VT2PRORIBC	7.7 ± 0.3	58	7.3	51.0	50.2	24.3	28.0	68.4	0.70	2837	21900
Mycogen BMR15B15 (SSX)	7.6 ± 0.3	63	7.5	53.1	64.9	19.7	29.9	67.1	0.67	3248	26273
Mycogen BMR14B96 (SSX)	6.9 ± 0.3	63	7.7	50.1	65.9	20.6	28.8	67.9	0.69	3197	23202

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

NDF = Neutral Detergent Fiber

30h IV NDFD = Neutral Detergent Filber Digestibility

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 † and feed quality characteristics of 16 corn hybrids evaluated for silage at four REC locations in Tennessee during 2016, sorted by company.

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=4)	Moisture at Harvest (n=4)	Crude Protein (n=4)	NDF (n=4)	30h IV NDFD (n=4)	Starch (n=4)	ADF (n=4)	TDN (n=4)	NEL (n=4)	Milk/ton‡ (n=4)	Milk/acre‡ (n=4)
	tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Augusta 7768 (VIP3110)	8.2 ± 0.3	62	7.0	49.6	51.9	25.0	27.7	68.6	0.70	2972	23461
Croplan 7927 (VT3P/RIB)	8.5 ± 0.3	63	7.5	53.1	51.2	21.8	29.9	67.2	0.67	2839	23902
Croplan 8621 (VT3P/RIB)	8.1 ± 0.3	60	7.5	49.2	49.8	25.7	26.8	69.2	0.71	2903	23895
Croplan S5900 (VT2P)	8.9 ± 0.3	64	7.6	52.0	50.7	23.4	28.3	68.2	0.69	2894	27904
Mycogen BMR14B96 (SSX)	6.9 ± 0.3	63	7.7	50.1	65.9	20.6	28.8	67.9	0.69	3197	23202
Mycogen BMR15B15 (SSX)	7.6 ± 0.3	63	7.5	53.1	64.9	19.7	29.9	67.1	0.67	3248	26273
Mycogen TMF14L46 (SSX)	8 ± 0.3	64	7.0	52.3	51.4	22.1	30.7	66.6	0.66	2885	26601
Mycogen TMF15H86 (SSX)	7.9 ± 0.3	57	6.5	55.4	50.9	21.2	31.5	66.1	0.65	2637	21236
Mycogen TMF17L86 (SSX)	8.2 ± 0.3	65	6.8	56.7	49.8	18.0	32.2	65.6	0.64	2789	23597
Steyer 10805 VT2PRORIBC	7.7 ± 0.3	58	7.3	51.0	50.2	24.3	28.0	68.4	0.70	2837	21900
Steyer 11506 VT2PRORIBC	8.5 ± 0.3	62	7.5	48.8	49.6	26.7	26.9	69.2	0.71	2978	28146
Steyer 11702 3000GT	8.5 ± 0.3	60	7.3	52.1	49.8	22.7	28.5	68.1	0.69	2808	25568
Steyer 11802 VIP3110	8.8 ± 0.3	62	6.9	50.4	50.4	25.2	27.9	68.5	0.70	2880	27094
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.3	64	7.8	53.2	50.4	22.1	29.7	67.3	0.68	2866	25172
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.6 ± 0.3	62	7.6	45.2	50.9	30.3	23.7	71.2	0.75	3058	20953
Terral REV 28HR20 (RR2/LL/HX1)	8.6 ± 0.3	63	7.1	54.1	49.7	20.5	30.5	66.7	0.67	2780	24795

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

NDF = Neutral Detergent Fiber

30h IV NDFD = Neutral Detergent Filber Digestibility

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 7. Mean yields † of 6 corn hybrids evaluated for silage at four REC locations in Tennessee across two years (2015-2016).

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=8)	65% Moisture Avg. Yield ± Std Err. (n=8)	Dry Weight Yield Knoxville	Dry Weight Yield Crossville	Dry Weight Yield Spring Hill	Dry Weight Yield Springfield
	tons/a	tons/a	tons/a	tons/a	tons/a	tons/a
Terral REV 28HR20 (RR2/LL/HX1)	8.8 ± 0.2	25.0 ± 0.6	10.0	8.2	7.1	9.7
Augusta 7768 (VIP3110)	8.6 ± 0.2	24.7 ± 0.6	9.2	8.0	7.6	9.8
Mycogen TMF17L86 (SSX)	8.3 ± 0.2	23.8 ± 0.6	10.3	7.7	6.6	8.8
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	23.5 ± 0.7	8.7	8.1	6.2	9.9
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	23.4 ± 0.7	9.2	8.0	6.4	9.2
Croplan 8621 (VT3P/RIB)	7.8 ± 0.2	22.3 ± 0.6	9.4	7.3	6.6	8.0
Avg. (tons/a)	**8.3**	**23.8**	**9.5**	**7.9**	**6.7**	**9.2**
L.S.D.$_{.05}$ (tons/a)	**0.8**	**2.3**	**1.2**	**2.0**	**0.9**	**2.3**
C.V. (%)	**12.8**	**12.8**	**8.1**	**15.3**	**8.5**	**16.5**

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 8. Mean yields † and agronomic characteristics of 6 corn hybrids evaluated for silage at four REC locations in Tennessee across two years (2015-2016).

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=8)	65% Moisture Avg. Yield ± Std Err. (n=8)	Moisture at harvest (n=8)	Plant Height (n=8)	Ear Height (n=6)
	tons/a	tons/a	%	inches	inches
Terral REV 28HR20 (RR2/LL/HX1)	8.8 ± 0.2	25 ± 0.6	59	113	44
Augusta 7768 (VIP3110)	8.6 ± 0.2	24.7 ± 0.6	58	111	42
Mycogen TMF17L86 (SSX)	8.3 ± 0.2	23.8 ± 0.6	61	112	45
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	23.5 ± 0.7	59	106	41
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	23.4 ± 0.7	59	109	43
Croplan 8621 (VT3P/RIB)	7.8 ± 0.2	22.3 ± 0.6	58	107	42
	8.3	**23.8**	**59**	**110**	**43**

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 9. Mean yields † and feed quality characteristics of 6 corn hybrids evaluated for silage at four REC locations in Tennessee during 2016.

Hybrid §	Dry Weight Avg. Yield ± Std Err. (n=8)	Moisture at Harvest (n=8)	Crude Protein (n=8)	NDF (n=8)	30h IV NDFD (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
Terral REV 28HR20 (RR2/LL/HX1)	8.8 ± 0.2	59	6.8	49.2	51.5	26.4	28.4	66.7	0.65	2851	25209
Augusta 7768 (VIP3110)	8.6 ± 0.2	58	6.8	48.0	51.2	27.3	27.8	67.1	0.67	2922	24554
Mycogen TMF17L86 (SSX)	8.3 ± 0.2	61	6.4	53.1	48.3	23.0	31.0	64.5	0.63	2767	23405
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	59	7.4	47.4	51.7	28.4	27.1	67.3	0.66	2917	24837
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	8.2 ± 0.2	59	7.3	43.0	52.4	32.8	23.8	69.7	0.70	3043	22495
Croplan 8621 (VT3P/RIB)	7.8 ± 0.2	58	7.0	47.0	50.7	29.1	26.5	68.0	0.68	2918	23145

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

NDF = Neutral Detergent Fiber

30h IV NDFD = Neutral Detergent Filber Digestibility

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 10. Mean yields † and agronomic characteristics of 16 corn hybrids evaluated for silage in two County Standard Tests in Tennessee during 2016.

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=2)	Ear Height (n=2)
	----------tons/a----------				%	inches	inches
Croplan 8621 (VT3P/RIB)	8.1 + 0.8	23.2 + 2.2	10.2	6.1	53.2	119	54
Augusta 7768 (VIP3110)	8.0 + 0.8	22.9 + 2.2	9.9	6.1	59.5	131	54
Croplan 7927 (VT3P/RIB)	7.8 + 0.8	22.2 + 2.2	9.1	6.5	57.9	119	49
Steyer 11506 VT2PRORIBC	7.6 + 0.8	21.8 + 2.2	8.6	6.6	58.1	120	49
Steyer 11802 VIP3110	7.5 + 0.8	21.5 + 2.2	9.1	6.0	57.7	131	56
Croplan S5900 (VT2P)	7.5 + 0.8	21.4 + 2.2	8.3	6.6	60.5	128	58
Mycogen TMF15H86 (SSX)	7.4 + 0.8	21.0 + 2.2	9.7	5.0	43.7	115	49
Steyer 10805 VT2PRORIBC	7.2 + 0.8	20.4 + 2.2	10.8	3.5	41.4	104	40
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	7.1 + 0.8	20.1 + 2.2	8.4	5.7	61.5	116	48
Mycogen TMF14L46 (SSX)	7.0 + 0.8	19.9 + 2.2	7.8	6.1	60.7	133	61
Steyer 11702 3000GT	6.8 + 0.8	19.4 + 2.2	7.8	5.7	57.0	106	38
Mycogen BMR15B15 (SSX)	6.8 + 0.8	19.3 + 2.2	8.6	5.0	58.7	121	51
Terral REV 28HR20 (RR2/LL/HX1)	6.7 + 0.8	19.0 + 2.2	7.4	5.9	59.4	125	47
Mycogen BMR14B96 (SSX)	6.2 + 0.8	17.6 + 2.2	7.1	5.3	59.1	111	44
Mycogen TMF17L86 (SSX)	6.1 + 0.8	17.4 + 2.2	7.0	5.2	57.6	121	50
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	5.9 + 0.8	16.9 + 2.2	7.0	4.9	59.1	107	41
Avg. (tons/a)	**7.1**	**20.3**	**8.6**	**5.6**	**56.6**	**119**	**49**
L.S.D.$_{.05}$ (tons/a)	**2.3**	**6.6**					
C.V. (%)	**15.2**	**15.2**					

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 11. Mean yields † and feed quality characteristics of 16 corn hybrids evaluated for silage in two County Standard Tests in Tennessee during 2016.

Hybrid §	Dry Weight Avg. Yield (n=2)	Moisture at Harvest (n=2)	Crude Protein (n=2)	NDF (n=2)	30h IV NDFD (n=2)	Starch (n=2)	ADF (n=2)	TDN (n=2)	NEL (n=2)	Milk/ton‡ (n=2)	Milk/acre‡ (n=2)
	tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Croplan 8621 (VT3P/RIB)	8.1 + 0.8	53.2	6.8	51.9	48.3	26.2	28.4	68.2	0.69	2684	21717
Augusta 7768 (VIP3110)	8.0 + 0.8	59.5	7.5	54.8	48.3	22.9	30.8	66.6	0.66	2630	20759
Croplan 7927 (VT3P/RIB)	7.8 + 0.8	57.9	7.7	50.8	48.4	26.6	28.0	68.4	0.70	2703	20902
Steyer 11506 VT2PRORIBC	7.6 + 0.8	58.1	8.0	48.1	46.9	29.9	26.9	69.1	0.71	2679	20257
Steyer 11802 VIP3110	7.5 + 0.8	57.7	7.2	57.4	48.4	19.7	33.0	65.1	0.63	2525	19076
Croplan S5900 (VT2P)	7.5 + 0.8	60.5	8.4	50.8	48.1	27.0	28.6	68.0	0.69	2685	20115
Mycogen TMF15H86 (SSX)	7.4 + 0.8	43.7	6.3	58.1	49.9	20.6	33.1	65.1	0.63	2492	18475
Steyer 10805 VT2PRORIBC	7.2 + 0.8	41.4	8.6	45.0	52.8	27.2	25.6	70.0	0.73	2874	19778
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	7.1 + 0.8	61.5	7.5	55.2	47.8	21.8	32.1	65.7	0.65	2637	18570
Mycogen TMF14L46 (SSX)	7.0 + 0.8	60.7	7.4	52.0	49.8	24.1	30.0	67.1	0.67	2720	19026
Steyer 11702 3000GT	6.8 + 0.8	57.0	7.3	54.8	48.2	22.0	30.1	67.0	0.67	2545	17337
Mycogen BMR15B15 (SSX)	6.8 + 0.8	58.7	7.9	50.7	69.5	23.4	28.5	68.1	0.69	3351	22494
Terral REV 28HR20 (RR2/LL/HX1)	6.7 + 0.8	59.4	7.8	55.5	48.6	20.6	31.7	65.9	0.65	2636	17476
Mycogen BMR14B96 (SSX)	6.2 + 0.8	59.1	8.3	54.4	72.8	16.9	30.7	66.6	0.66	3275	20030
Mycogen TMF17L86 (SSX)	6.1 + 0.8	57.6	7.3	57.7	47.7	20.3	32.9	65.2	0.64	2523	15270
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	5.9 + 0.8	59.1	8.2	51.3	48.0	24.5	28.3	68.2	0.69	2668	15760

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

NDF = Neutral Detergent Fiber

30h IV NDFD = Neutral Detergent Filber Digestibility

ADF = Acid Detergent Fiber

TDN = Total Digestable Nutrients

NEL = Net Energy for Lactation

‡ based on University of Wisconsin Milk2006 software program.

Table 12. Characteristics, as described by the seed company, of corn silage hybrids evaluated in yield tests in Tennessee during 2016.†

Hybrid	Grain Color	Maturity	Herbicide Tolerance	BT Gene	Refuge in Bag	Released or Experimental	Seed Treatment
Augusta 7768 (VIP3110)	Y	118	GT, LL	VIP3110		R	Cruiser Maxx 1250
Croplan 7927 (VT3P/RIB)	Y	117	RR2	VT3P	RIB	R	Acceleron
Croplan 8621 (VT3P/RIB)	Y	117	RR2	VT2P	RIB	R	Acceleron
Croplan S6900 (VT2P)		119	RR2	VT3P	RIB	R	Acceleron
Mycogen BMR14B96 (SSX)		114	RR2, LL	SmartStax		R	Cruiser 1250
Mycogen BMR15B15 (SSX)		115	RR2, LL	SmartStax		R	Cruiser 1250
Mycogen TMF14L46 (SSX)		114	RR2, LL	SmartStax		R	Cruiser 1250
Mycogen TMF15H86 (SSX)		115	RR2, LL	SmartStax		R	Cruiser 1250
Mycogen TMF17L86 (SSX)	Y	117	RR2, LL	SmartStax		R	Cruiser 1250
Steyer 10805 VT2PRORIBC		108	RR2	VT2Pro	RIB	R	Surestand-Maxim Quattro, Cruiser 250
Steyer 11506 VT2PRORIBC		115	RR2	VT2Pro	RIB	R	Surestand-Maxim Quattro, Cruiser 250
Steyer 11702 3000GT		117	GT, LL	3000GT		R	Surestand-Maxim Quattro, Cruiser 250
Steyer 11802 VIP3110		118	GT, LL	VIP3110		R	Surestand-Maxim Quattro, Cruiser 250
Terral REV 23BHR55 (RR2/LL/YGCB/HX1)	Y	113	RR2, LL	YGCB, HX1		R	Maxim-Quattro, Poncho1250, Votivo
Terral REV 25BHR26 (RR2/LL/YGCB/HX1)	Y	115	RR2, LL	YGCB, HX1		R	Maxim-Quattro, Poncho1250, Votivo
Terral REV 28HR20 (RR2/LL/HX1)	Y	118	RR2, LL	HX1		R	Maxim-Quattro, Poncho1250, Votivo

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

§ If a trait appears inside parenthesis i.e. (RR/CB), then it is not part of the hybrid name. For a full description of abbreviated biotech traits, see table 13.

Table 13. Abbreviations used to identify biotech seed traits contained in corn silage hybrids evaluated in Tennessee in 2016

Abbreviation	Name	Characteristic
LL	Bayer CropScience LibertyLink®	Glufosinate herbicide tolerance. Event: T25
RR2	Monsanto Roundup Ready® Corn 2	Glyphosate herbicide tolerance. Event: NK603
GT	Syngenta Agrisure® GT	Glyphosate herbicide tolerance. Event: SYTGA21
3000GT	Syngenta Agrisure® 3000GT	Cry1Ab, Corn Borer protection. Modified Cry3A, Protection of Western, Northern and Mexican Corn Rootworm. Glufosinate herbicide tolerance. Glyphosate tolerance. Event: SYTGA21+Bt11+MIR604
HX1	DowAgrosciences Pioneer Hi-Bred Herculex® I	Cry1F, Western Bean Cutworm, Corn Borer, Black Cutworm and Fall Armyworm resistance. Glufosinate herbicide tolerance. Event: TC1507
SSX	Monsanto Genuity™ SmartStax™ DowAgrosciences SmartStax™	Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34/35Ab1 Western, Northern, and Mexican Corn Rootworms, European and Southwestern Corn Borers, Sugarcane Borer, Southern Cornstalk Borer, Western Bean and Black Cutworms, Corn Earworm, Fall Armyworm protection. Glyphosate herbicide tolerance. Glyphosate herbicide tolerance. Event: Mon88017+Mon89034+TC1507+DAS59122-7
VIP3110	Agrisure Viptera™ 3110	Vip3A, Cry1Ab, European and Southwestern Corn Borers, Southern Cornstalk Borer, Fall and Beet Armyworm, Black and Western Bean Cutworm, Sugarcane Borer, Common Stalk borer and Dingy Cutworm protection Glyphosate tolerance. Event: MIR162+Bt11+GA21
VT2P	Monsanto Genuity™ VT Double PRO™	Cry1A.105, Cry2Ab2, European and Southwestern Corn Borers, Sugarcane Borer, Southern Cornstalk Borer, Corn Earworm, and Fall Armyworm protection. Glyphosate herbicide tolerance. Event: Mon89034+NK603
VT3P	Monsanto Genuity™ VT Triple PRO™	Cry1A.105, Cry2Ab2, Cry3Bb1, European and Southwestern Corn Borers, Sugarcane Borer, Southern Cornstalk Borer, Corn Earworm, Fall Armyworm, Western Corn Rootworm, Northern Corn Rootworm, and Mexican Corn Rootworm protection. Glyphosate herbicide tolerance. Event: Mon88017+Mon89034
YGCB	Monsanto YieldGard® Corn Borer	Cry1Ab, European and Southwestern Corn Borers, Sugarcane Borer and Southern Cornstalk Borer protection. Event: Mon810

Table 14. Contact information for corn hybrid seed companies evaluated in silage tests in Tennessee during 2016.

Company	Contact	Phone	Email	Web site
Augusta Seed Corporation	Matt Rawley	540-886-6055	matt.rawley@augustaseed.com	www.augustaseed.com
Croplan by Winfield	Caleb Robertson	731-614-5234	clrobertson@landolakes.com	www.croplan.com
Mycogen Seeds	Rich Bennek	919-449-5056	rebennek@dow.com	www.mycogen.com
Steyer Seeds	Kevin Swanks	423-506-1008	kevinswanks@steyerseeds.com	www.steyerseeds.com
Terral Seed, Inc.	Ricky F. Davis	901-355-2463	rdavis@terralseed.com	www.terralseed.com