

Corn Hybrid Silage Tests in Tennessee

2006

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

<http://varietytrials.tennessee.edu/>
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CORN SILAGE YIELD TESTS 2006

Experimental Procedures: 26 corn hybrids were evaluated for silage yield and quality in 2006. The test was conducted at the East Tennessee (Knoxville), Highland Rim (Springfield), Middle Tennessee (Spring Hill), and Greeneville 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 4 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.

Growing Season: The 2006 season was characterized by hot and dry throughout most of the growing season in Middle and East Tennessee where the tests were conducted. Daytime temperatures were high (several 90+ F) during pollination and grain fill periods at all locations. Cooler temperatures and timely, widespread rainfall occurred across the State in late August and early September.

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 ($10.6 - 8.2 = 2.4 \text{ tons/a} > \text{LSD of } 1.3$) and Hybrid A ($10.6 - 9.3 = 1.3 \text{ tons/a} = \text{LSD of } 1.3$).

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 mean square 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 2006.

Research and Education Center	Location	Planting Date	Harvest Date	Plant Population
East Tennessee	Knoxville	April 17, 2006	August 9, 2006	33,106
Greenville	Greenville	May 4, 2006	August 16, 2006	27,588
Plateau	Crossville	May 15, 2006	September 1, 2006	29,911
Middle Tennessee	Spring Hill	April 25, 2006	August 8, 2006	28,750
Highland Rim	Springfield	April 28, 2006	August 16, 2006	29,621

Table 2. Mean yields † of 26 corn hybrids evaluated for silage at five locations in Tennessee during 2006.

Brand	Hybrid	Dry Weight	65% Moisture	----- Dry Weight -----				
		Avg. Yield ± Std Err. (n=5)	Avg. Yield ± Std Err. (n=5)	Knoxville	Greenville	Crossville	Spring Hill	Springfield
-----tons/a-----								
Asgrow	RX940 (RR2)	7.3 ± 0.3	21.0 ± 0.9	9.8	7.8	9.0	5.8	4.4
FFR	746 RR2/Bt	7.0 ± 0.3	20.0 ± 0.8	9.3	7.6	9.9	4.8	3.5
DeKalb	DKC69-68 (RR2/YGRW)	7.0 ± 0.3	19.9 ± 0.9	9.8	7.8	8.2	5.2	3.8
Dyna Gro	58K40 (RR)	7.0 ± 0.3	19.9 ± 0.8	9.5	8.2	7.6	5.5	4.1
FFR	900 BT	6.9 ± 0.3	19.8 ± 0.8	9.2	8.5	7.4	5.4	4.1
Dyna Gro	58K22 (RR)	6.8 ± 0.3	19.5 ± 0.8	10.0	8.0	7.8	5.0	3.4
Dyna Gro	57G48 (RR/YGRW)	6.8 ± 0.3	19.5 ± 0.8	8.6	7.6	7.8	5.0	5.1
Dyna Gro	57N96	6.8 ± 0.3	19.3 ± 0.8	9.7	7.4	8.1	4.4	4.3
Pioneer	31P41	6.7 ± 0.3	19.2 ± 0.8	9.3	8.1	7.8	5.1	3.2
Pioneer	31R87 (RR2)	6.7 ± 0.3	19.1 ± 0.8	8.6	8.8	7.2	5.0	3.9
DeKalb	DKC69-71 (RR2/YGCB)	6.7 ± 0.3	19.1 ± 0.8	9.1	8.3	7.8	4.6	3.6
Crow's	8S214	6.7 ± 0.3	19.1 ± 0.9	9.0	7.7	7.8	4.7	4.2
FFR	886 RR2	6.6 ± 0.3	18.8 ± 0.8	9.3	7.6	7.6	4.7	3.8
FFR	842 RR2	6.6 ± 0.3	18.8 ± 0.8	9.7	8.9	6.9	4.3	3.1
FFR	755 HX (LL)	6.5 ± 0.3	18.7 ± 0.8	9.2	7.7	8.3	5.3	2.1
DeKalb	DKC67-23 (RR2/YGCB)	6.5 ± 0.3	18.6 ± 0.8	8.8	8.2	6.4	5.8	3.4
Pioneer	31G68 (YGCB)	6.5 ± 0.3	18.6 ± 0.8	8.3	8.3	6.6	5.4	3.9
DeKalb	DKC66-23 (RR2/YGCB)	6.5 ± 0.3	18.5 ± 0.8	9.4	8.0	7.2	4.8	3.1
FFR	693 RR2	6.3 ± 0.3	18.1 ± 0.8	9.1	6.7	8.9	4.3	2.6
Dyna Gro	58P59 (RR/YG)	6.3 ± 0.3	18.1 ± 0.8	8.7	7.2	6.7	4.9	4.0
NK Brand	N91-J1 (LL/CB)	6.3 ± 0.3	18.0 ± 0.8	10.1	8.1	4.9	4.4	4.0
Pioneer	33Y45	6.3 ± 0.3	17.8 ± 0.8	9.1	7.7	6.2	4.8	3.4
DeKalb	DKC64-77 (YGCB/YGRW)	6.1 ± 0.3	17.3 ± 0.9	8.5	8.5	5.4	4.6	3.3
Asgrow	RX715 (RR2/YGCB)	6.1 ± 0.3	17.3 ± 0.8	8.7	8.1	5.7	5.1	2.7
TN Exp	TN0602	5.9 ± 0.3	17.0 ± 0.8	7.9	7.6	6.7	4.3	3.2
FFR	843 RR2/Bt	5.7 ± 0.3	16.1 ± 0.8	8.2	8.3	4.6	4.4	2.8
Avg. (tons/a)		6.5	18.7	9.1	7.9	7.2	4.9	3.6
L.S.D._{.05} (tons/a)		0.8	2.2	1.1	1.7	2.8	0.8	1.8
C.V. (%)		16.3	16.3	7.6	12.3	23.3	9.3	30.4

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

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

YGRW, RW = contains a gene for rootworm 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

Table 3. Mean yields † and agronomic characteristics of 26 corn hybrids evaluated for silage at five locations in Tennessee during 2006.

Brand	Hybrid	Dry Weight	65% Moisture	Moisture at harvest	Lodging	Plant Height	Ear Height
		Avg. Yield ± Std Err. (n=5)	Avg. Yield ± Std Err. (n=5)				
		tons/a	tons/a	%	%	inches	inches
Asgrow	RX940 (RR2)	7.3 ± 0.3	21.0 ± 0.9	66.6	1	95	45
FFR	746 RR2/Bt	7.0 ± 0.3	20.0 ± 0.8	67.8	2	93	43
DeKalb	DKC69-68 (RR2/YGRW)	7.0 ± 0.3	19.9 ± 0.9	67.4	0	93	43
Dyna Gro	58K40 (RR)	7.0 ± 0.3	19.9 ± 0.8	67.7	0	96	43
FFR	900 BT	6.9 ± 0.3	19.8 ± 0.8	65.5	3	93	40
Dyna Gro	58K22 (RR)	6.8 ± 0.3	19.5 ± 0.8	68.3	1	93	44
Dyna Gro	57G48 (RR/YGRW)	6.8 ± 0.3	19.5 ± 0.8	65.5	0	94	38
Dyna Gro	57N96	6.8 ± 0.3	19.3 ± 0.8	65.0	0	91	35
Pioneer	31P41	6.7 ± 0.3	19.2 ± 0.8	65.7	1	93	38
Pioneer	31R87 (RR2)	6.7 ± 0.3	19.1 ± 0.8	66.4	1	95	42
DeKalb	DKC69-71 (RR2/YGCB)	6.7 ± 0.3	19.1 ± 0.8	67.9	2	95	43
Crow's	8S214	6.7 ± 0.3	19.1 ± 0.9	65.6	1	91	36
FFR	886 RR2	6.6 ± 0.3	18.8 ± 0.8	68.0	4	95	42
FFR	842 RR2	6.6 ± 0.3	18.8 ± 0.8	67.4	1	89	41
FFR	755 HX (LL)	6.5 ± 0.3	18.7 ± 0.8	65.6	3	95	39
DeKalb	DKC67-23 (RR2/YGCB)	6.5 ± 0.3	18.6 ± 0.8	64.3	1	93	42
Pioneer	31G68 (YGCB)	6.5 ± 0.3	18.6 ± 0.8	62.5	5	93	39
DeKalb	DKC66-23 (RR2/YGCB)	6.5 ± 0.3	18.5 ± 0.8	62.3	0	90	37
FFR	693 RR2	6.3 ± 0.3	18.1 ± 0.8	63.1	0	93	37
Dyna Gro	58P59 (RR/YG)	6.3 ± 0.3	18.1 ± 0.8	68.7	0	88	38
NK Brand	N91-J1 (LL/CB)	6.3 ± 0.3	18.0 ± 0.8	69.9	4	100	45
Pioneer	33Y45	6.3 ± 0.3	17.8 ± 0.8	65.0	1	90	39
DeKalb	DKC64-77 (YGCB/YGRW)	6.1 ± 0.3	17.3 ± 0.9	61.9	0	86	34
Asgrow	RX715 (RR2/YGCB)	6.1 ± 0.3	17.3 ± 0.8	62.2	0	89	39
TN Exp	TN0602	5.9 ± 0.3	17.0 ± 0.8	69.1	1	93	41
FFR	843 RR2/Bt	5.7 ± 0.3	16.1 ± 0.8	67.9	3	91	39

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

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

YGRW, RW = contains a gene for rootworm 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

Table 4. Mean yields † and feed quality characteristics of 26 corn hybrids evaluated for silage at five locations in Tennessee during 2006.

Brand	Hybrid	Dry Weight										
		Avg. Yield ± Std Err. (n=5) tons/a	Moisture at Harvest (n=5) %	Crude Protein (n=4) % dm	NDF (n=4) % dm	NDF 48h IV Digest (n=4) % of NDF	Starch (n=4) % dm	ADF (n=4) % dm	TDN (n=4) % dm	NEL (n=4) Mcal/lb	Milk/ton (n=4) lbs/ton	Milk/acre (n=4) lbs/acre
Asgrow	RX940 (RR2)	7.3 ± 0.3	66.6	8.4	48.3	65.4	22.2	27.6	72.0	0.75	3654	26817
FFR	746 RR2/Bt	7.0 ± 0.3	67.8	8.3	48.4	63.6	21.4	27.8	70.2	0.73	3510	24602
DeKalb	DKC69-68 (RR2/YGRW)	7.0 ± 0.3	67.4	8.3	51.3	63.0	18.6	29.1	68.9	0.71	3409	23792
Dyna Gro	58K40 (RR)	7.0 ± 0.3	67.7	8.0	51.1	63.9	19.7	29.6	70.0	0.73	3501	24437
FFR	900 BT	6.9 ± 0.3	65.5	7.9	48.5	64.1	22.4	27.7	71.5	0.74	3608	24969
Dyna Gro	58K22 (RR)	6.8 ± 0.3	68.3	8.2	50.7	68.3	19.2	28.9	71.6	0.74	3645	24861
Dyna Gro	57G48 (RR/YGRW)	6.8 ± 0.3	65.5	8.0	48.4	66.0	22.5	27.7	72.2	0.75	3671	24961
Dyna Gro	57N96	6.8 ± 0.3	65.0	8.2	45.8	67.3	24.8	26.4	73.7	0.77	3787	25715
Pioneer	31P41	6.7 ± 0.3	65.7	7.7	51.0	64.5	18.9	29.6	69.0	0.71	3429	22977
Pioneer	31R87 (RR2)	6.7 ± 0.3	66.4	7.5	50.6	63.2	21.6	29.3	71.1	0.74	3572	23895
DeKalb	DKC69-71 (RR2/YGCB)	6.7 ± 0.3	67.9	8.1	52.6	64.5	17.0	29.7	68.6	0.71	3399	22671
Crow's	8S214	6.7 ± 0.3	65.6	8.0	46.9	67.9	23.5	27.0	73.0	0.76	3748	25074
FFR	886 RR2	6.6 ± 0.3	68.0	8.0	52.2	62.4	17.8	30.3	68.1	0.70	3349	22072
FFR	842 RR2	6.6 ± 0.3	67.4	8.7	47.4	66.4	22.2	26.3	72.3	0.75	3685	24282
FFR	755 HX (LL)	6.5 ± 0.3	65.6	7.9	48.5	62.8	22.4	27.6	70.7	0.73	3538	23071
DeKalb	DKC67-23 (RR2/YGCB)	6.5 ± 0.3	64.3	7.9	45.8	64.3	25.6	26.0	73.1	0.76	3724	24282
Pioneer	31G68 (YGCB)	6.5 ± 0.3	62.5	7.2	50.9	66.2	22.2	28.7	73.1	0.76	3736	24282
DeKalb	DKC66-23 (RR2/YGCB)	6.5 ± 0.3	62.3	8.3	45.9	67.3	24.9	25.9	74.0	0.77	3814	24750
FFR	693 RR2	6.3 ± 0.3	63.1	8.4	48.2	63.5	22.8	27.2	71.8	0.74	3621	22921
Dyna Gro	58P59 (RR/YG)	6.3 ± 0.3	68.7	8.7	49.1	66.3	20.1	28.5	70.9	0.74	3583	22607
NK Brand	N91-J1 (LL/CB)	6.3 ± 0.3	69.9	8.5	51.5	64.8	18.0	29.1	69.4	0.72	3462	21811
Pioneer	33Y45	6.3 ± 0.3	65.0	8.2	47.2	65.6	24.1	26.4	73.5	0.76	3762	23511
DeKalb	DKC64-77 (YGCB/YGRW)	6.1 ± 0.3	61.9	8.7	46.1	68.8	23.6	26.0	73.5	0.76	3789	22961
Asgrow	RX715 (RR2/YGCB)	6.1 ± 0.3	62.2	8.2	47.5	62.0	23.6	26.8	71.2	0.74	3568	21621
TN Exp	TN0602	5.9 ± 0.3	69.1	8.7	52.2	61.8	15.9	29.5	66.4	0.68	3222	19171
FFR	843 RR2/Bt	5.7 ± 0.3	67.9	8.3	50.7	64.1	18.8	28.4	69.2	0.72	3443	19524

† 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

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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 5. Mean yields † and feed quality characteristics of 26 corn hybrids evaluated for silage at five locations in Tennessee during 2006, sorted by brand.

Brand	Hybrid	Dry Weight	Moisture at Harvest (n=5)	Crude Protein (n=4)	NDF (n=4)	NDF 48h IV Digest (n=4)	Starch (n=4)	ADF (n=4)	TDN (n=4)	NEL (n=4)	Milk/ton (n=4)	Milk/acre (n=4)
		Avg. Yield ± Std Err. (n=5)										
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Asgrow	RX940 (RR2)	7.3 ± 0.3	66.6	8.4	48.3	65.4	22.2	27.6	72.0	0.75	3654	26817
Asgrow	RX715 (RR2/YGCB)	6.1 ± 0.3	62.2	8.2	47.5	62.0	23.6	26.8	71.2	0.74	3568	21621
Crow's	8S214	6.7 ± 0.3	65.6	8.0	46.9	67.9	23.5	27.0	73.0	0.76	3748	25074
DeKalb	DKC69-68 (RR2/YGRW)	7.0 ± 0.3	67.4	8.3	51.3	63.0	18.6	29.1	68.9	0.71	3409	23792
DeKalb	DKC69-71 (RR2/YGCB)	6.7 ± 0.3	67.9	8.1	52.6	64.5	17.0	29.7	68.6	0.71	3399	22671
DeKalb	DKC66-23 (RR2/YGCB)	6.5 ± 0.3	62.3	8.3	45.9	67.3	24.9	25.9	74.0	0.77	3814	24750
DeKalb	DKC67-23 (RR2/YGCB)	6.5 ± 0.3	64.3	7.9	45.8	64.3	25.6	26.0	73.1	0.76	3724	24282
DeKalb	DKC64-77 (YGCB/YGRW)	6.1 ± 0.3	61.9	8.7	46.1	68.8	23.6	26.0	73.5	0.76	3789	22961
Dyna Gro	58K40 (RR)	7.0 ± 0.3	67.7	8.0	51.1	63.9	19.7	29.6	70.0	0.73	3501	24437
Dyna Gro	57G48 (RR/YGRW)	6.8 ± 0.3	65.5	8.0	48.4	66.0	22.5	27.7	72.2	0.75	3671	24961
Dyna Gro	57N96	6.8 ± 0.3	65.0	8.2	45.8	67.3	24.8	26.4	73.7	0.77	3787	25715
Dyna Gro	58K22 (RR)	6.8 ± 0.3	68.3	8.2	50.7	68.3	19.2	28.9	71.6	0.74	3645	24861
Dyna Gro	58P59 (RR/YG)	6.3 ± 0.3	68.7	8.7	49.1	66.3	20.1	28.5	70.9	0.74	3583	22607
FFR	746 RR2/Bt	7.0 ± 0.3	67.8	8.3	48.4	63.6	21.4	27.8	70.2	0.73	3510	24602
FFR	900 BT	6.9 ± 0.3	65.5	7.9	48.5	64.1	22.4	27.7	71.5	0.74	3608	24969
FFR	842 RR2	6.6 ± 0.3	67.4	8.7	47.4	66.4	22.2	26.3	72.3	0.75	3685	24282
FFR	886 RR2	6.6 ± 0.3	68.0	8.0	52.2	62.4	17.8	30.3	68.1	0.70	3349	22072
FFR	755 HX (LL)	6.5 ± 0.3	65.6	7.9	48.5	62.8	22.4	27.6	70.7	0.73	3538	23071
FFR	693 RR2	6.3 ± 0.3	63.1	8.4	48.2	63.5	22.8	27.2	71.8	0.74	3621	22921
FFR	843 RR2/Bt	5.7 ± 0.3	67.9	8.3	50.7	64.1	18.8	28.4	69.2	0.72	3443	19524
NK Brand	N91-J1 (LL/CB)	6.3 ± 0.3	69.9	8.5	51.5	64.8	18.0	29.1	69.4	0.72	3462	21811
Pioneer	31P41	6.7 ± 0.3	65.7	7.7	51.0	64.5	18.9	29.6	69.0	0.71	3429	22977
Pioneer	31R87 (RR2)	6.7 ± 0.3	66.4	7.5	50.6	63.2	21.6	29.3	71.1	0.74	3572	23895
Pioneer	31G68 (YGCB)	6.5 ± 0.3	62.5	7.2	50.9	66.2	22.2	28.7	73.1	0.76	3736	24282
Pioneer	33Y45	6.3 ± 0.3	65.0	8.2	47.2	65.6	24.1	26.4	73.5	0.76	3762	23511
TN Exp	TN0602	5.9 ± 0.3	69.1	8.7	52.2	61.8	15.9	29.5	66.4	0.68	3222	19171

† 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

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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 6. Mean yields † of 13 corn hybrids evaluated in four environments for two years (2005 - 2006) in Tennessee.

Brand	Hybrid	Dry Weight	65% Moisture	----- Dry Weight -----			
		Avg. Yield ± Std Err. (n=8)	Avg. Yield ± Std Err. (n=8)	Knoxville	Greenville	Crossville	Springfield
		-----tons/a-----					
Dyna Gro	58K40 (RR)	8.0 ± 0.2	22.8 ± 0.7	10.7	7.1	8.6	5.5
DeKalb	DKC69-71 (RR2/YGCB)	7.8 ± 0.3	22.4 ± 0.7	10.0	7.3	8.7	5.2
FFR	746 RR2/Bt	7.6 ± 0.2	21.8 ± 0.7	9.5	6.9	9.3	4.8
Dyna Gro	58K22 (RR)	7.5 ± 0.2	21.4 ± 0.7	10.1	7.1	8.4	4.4
FFR	886 RR2	7.4 ± 0.2	21.2 ± 0.7	9.5	7.5	7.8	5.0
FFR	900 BT	7.4 ± 0.2	21.2 ± 0.7	9.6	7.3	8.2	4.6
Dyna Gro	57N96	7.4 ± 0.2	21.1 ± 0.7	10.0	6.7	7.9	4.9
FFR	755 HX (LL)	7.3 ± 0.2	20.9 ± 0.7	9.7	7.0	8.8	3.9
Pioneer	31G68 (YGCB)	7.3 ± 0.2	20.8 ± 0.7	8.7	7.7	7.6	5.2
Pioneer	31R87 (RR2)	7.3 ± 0.2	20.7 ± 0.7	9.4	7.4	7.7	4.6
Dyna Gro	58P59 (RR/YG)	6.8 ± 0.2	19.5 ± 0.7	8.8	6.2	7.3	5.0
FFR	693 RR2	6.8 ± 0.2	19.3 ± 0.7	9.3	5.7	8.0	4.1
FFR	843 RR2/Bt	6.7 ± 0.2	18.9 ± 0.7	8.8	7.1	6.3	4.5
Avg. (tons/a)		7.3	20.9	9.5	7.0	8.0	4.7
L.S.D._{.05} (tons/a)		0.8	2.3	1.2	1.5	2.0	1.5
C.V. (%)		14.9	14.9	8.8	14.0	17.7	21.8

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

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

YGRW, RW = contains a gene for rootworm 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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 7. Mean yields † and agronomic characteristics of 13 corn hybrids evaluated for silage in four environments for two years (2005-2006) in Tennessee.

Brand	Variety	Dry Weight	65% Moisture	Moisture at harvest	Lodging	Plant Height	Ear Height
		Avg. Yield ± Std Err. (n=8)	Avg. Yield ± Std Err. (n=8)				
		tons/a	tons/a	%	%	inches	inches
Dyna Gro	58K40 (RR)	8.0 ± 0.2	22.8 ± 0.7	63.1	0	107	49
DeKalb	DKC69-71 (RR2/YGCB)	7.8 ± 0.3	22.4 ± 0.7	63.6	1	103	47
FFR	746 RR2/Bt	7.6 ± 0.2	21.8 ± 0.7	64.1	1	104	48
Dyna Gro	58K22 (RR)	7.5 ± 0.2	21.4 ± 0.7	63.5	0	103	48
FFR	886 RR2	7.4 ± 0.2	21.2 ± 0.7	65.1	0	107	48
FFR	900 BT	7.4 ± 0.2	21.2 ± 0.7	61.6	1	102	42
Dyna Gro	57N96	7.4 ± 0.2	21.1 ± 0.7	61.2	1	99	39
FFR	755 HX (LL)	7.3 ± 0.2	20.9 ± 0.7	62.5	2	108	48
Pioneer	31G68 (YGCB)	7.3 ± 0.2	20.8 ± 0.7	58.9	3	103	45
Pioneer	31R87 (RR2)	7.3 ± 0.2	20.7 ± 0.7	62.2	0	104	47
Dyna Gro	58P59 (RR/YG)	6.8 ± 0.2	19.5 ± 0.7	64.1	0	99	42
FFR	693 RR2	6.8 ± 0.2	19.3 ± 0.7	60.1	1	102	43
FFR	843 RR2/Bt	6.7 ± 0.2	18.9 ± 0.7	64.5	1	100	45

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

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

YGRW, RW = contains a gene for rootworm 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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 8. Mean yields † and feed quality characteristics of 13 corn hybrids evaluated for silage at four locations for 2 years (2005-2006) in Tennessee.

Brand	Hybrid	Dry Weight	Moisture at Harvest (n=8)	Crude Protein (n=7)	NDF (n=7)	NDF 48h IV Digest (n=7)	Starch (n=7)	ADF (n=7)	TDN (n=7)	NEL (n=7)	Milk/ton (n=7)	Milk/acre (n=7)
		Avg. Yield ± Std Err. (n=8)										
		tons/a	%	% dm	% dm	% of NDF	% dm	% dm	% dm	Mcals/lb	lbs/ton	lbs/acre
Dyna Gro	58K40 (RR)	8.0 ± 0.2	63.1	7.5	49.6	62.4	25.0	28.8	70.7	0.74	3548	27676
DeKalb	DKC69-71 (RR2/YGCB)	7.8 ± 0.3	63.6	7.4	51.1	62.2	23.3	29.2	69.4	0.72	3447	26119
FFR	746 RR2/Bt	7.6 ± 0.2	64.1	7.5	46.3	61.6	28.4	26.5	71.4	0.74	3589	26351
Dyna Gro	58K22 (RR)	7.5 ± 0.2	63.5	7.4	49.4	65.1	25.2	28.3	72.0	0.75	3663	26602
FFR	886 RR2	7.4 ± 0.2	65.1	7.4	51.1	61.8	23.7	29.9	69.9	0.72	3482	25132
FFR	900 BT	7.4 ± 0.2	61.6	7.3	46.4	63.4	28.6	26.5	72.2	0.75	3656	26502
Dyna Gro	57N96	7.4 ± 0.2	61.2	7.4	44.6	65.3	30.1	25.7	73.7	0.77	3788	26950
FFR	755 HX (LL)	7.3 ± 0.2	62.5	7.2	48.0	61.8	26.4	27.6	71.3	0.74	3580	25676
Pioneer	31G68 (YGCB)	7.3 ± 0.2	58.9	7.0	48.1	65.4	27.6	27.3	72.8	0.76	3717	26560
Pioneer	31R87 (RR2)	7.3 ± 0.2	62.2	7.1	48.9	63.0	26.4	28.3	71.7	0.75	3620	25502
Dyna Gro	58P59 (RR/YG)	6.8 ± 0.2	64.1	7.8	45.7	64.9	28.1	26.5	72.9	0.76	3722	24716
FFR	693 RR2	6.8 ± 0.2	60.1	7.7	47.1	62.1	27.8	26.8	71.6	0.74	3606	23489
FFR	843 RR2/Bt	6.7 ± 0.2	64.5	7.8	48.0	64.0	26.0	27.1	71.4	0.74	3601	23503

† 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

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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 9. Mean yields † of four corn hybrids evaluated in four environments for three years (2004-2006) in Tennessee.

Brand	Hybrid	Dry Weight	65% Moisture	----- Dry Weight -----			
		Avg. Yield ± Std Err. (n=12)	Avg. Yield ± Std Err. (n=12)	Knoxville	Greenville	Crossville	Springfield
		-----tons/a-----					
DeKalb	DKC69-71 (RR2/YGCB)	8.7 ± 0.2	25.0 ± 0.7	10.0	8.5	9.4	7.1
Dyna Gro	58K22 (RR)	8.4 ± 0.2	24.0 ± 0.7	9.9	8.8	8.7	6.2
FFR	900 BT	8.2 ± 0.2	23.3 ± 0.7	9.2	8.0	9.1	6.4
Dyna Gro	58P59 (RR/YG)	7.9 ± 0.2	22.4 ± 0.7	9.0	7.1	8.2	7.1
Avg. (tons/a)		8.3	23.7	9.5	8.1	8.8	6.7
L.S.D._{.05} (tons/a)		0.9	2.8	1.5	2.3	2.3	1.7
C.V. (%)		16.3	16.3	10.3	18.5	18.5	18.1

† all silage yields are adjusted to Dry Weight basis.

Table 10. Mean yields † and agronomic characteristics of four corn hybrids evaluated for silage in four environments for three years (2004-2006) in Tennessee.

Brand	Variety	Dry Weight	Moisture at Harvest (n=12)	Crude Protein (n=10)	NDF (n=10)	ADF (n=10)	TDN (n=10)	NEL (n=10)	Lodging (n=3)	Plant	Ear
		Avg. Yield ± Std Err. (n=12)								Height (n=12)	Height (n=6)
		tons/a	%	% dm	% dm	% dm	% dm	Mcal/lb	%	inches	inches
DeKalb	DKC69-71 (RR2/YGCB)	8.7 ± 0.2	63.1	7.5	51.8	29.5	71.8	0.73	3	110	49
Dyna Gro	58K22 (RR)	8.4 ± 0.2	63.2	7.7	49.0	28.2	73.5	0.76	1	110	50
FFR	900 BT	8.2 ± 0.2	62.9	7.5	47.4	27.6	72.5	0.75	3	109	44
Dyna Gro	58P59 (RR/YG)	7.9 ± 0.2	64.2	8.1	46.5	27.0	73.8	0.77	0	105	44

† 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

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 Digestible Nutrients

NEL = Net Energy for Lactation

Table 11. Characteristics of corn silage hybrids evaluated in yield tests in Tennessee during 2006.†

Early-Season Corn Hybrid Entries and Traits for 2006				Herbicide		Released or	
Brand	Hybrid	Grain Color	Maturity	Tolerance	BT Gene	Experimental	Comments from Companies
Asgrow	RX715 (RR2/YGCB)	Y	111	RR2	YGCB	R	---
Asgrow	RX940 (RR2)	Y	121	RR2	---	R	---
Crow's	8S214	Y	116	RR	Bt	R	Better soils, flex, silage
DeKalb	DKC64-77 (YGCB/YGRW)	Y	114	---	CB/RW	R	---
DeKalb	DKC66-23 (RR2/YGCB)	Y	116	RR2	YGCB	R	---
DeKalb	DKC67-23 (RR2/YGCB)	Y	117	RR2	YGCB	R	---
DeKalb	DKC69-68 (RR2/YGRW)	Y	119	RR2	YGRW	R	---
DeKalb	DKC69-71 (RR2/YGCB)	Y	119	RR2	YGCB	R	---
Dyna Gro	57G48 (RR/YGRW)	Y	113	RR	YGRW	R	Rootworm protected, drought tolerant
Dyna Gro	57N96	Y	114	---	---	R	Highly digestible, dryland option
Dyna Gro	58K22 (RR)	Y	118	RR	---	R	High tonnage, highly digestible
Dyna Gro	58K40 (RR)	Y	117	RR	---	R	High tonnage, excellent stress tolerance
Dyna Gro	58P59 (RR/YG)	Y	116	RR	YG	R	Highly digestible, excellent quality
FFR	693 RR2	Y	112	RR2	---	R	---
FFR	746 RR2/Bt	Y	114	RR	Bt	R	---
FFR	755 HX (LL)	Y	115	LL	HX	R	---
FFR	842 RR2	Y	117	RR2	---	R	---
FFR	843 RR2/Bt	Y	117	RR2	Bt	R	---
FFR	886 RR2	Y	118	RR2	---	R	---
FFR	900 BT	Y	119	---	YG	R	---
NK Brand	N91-J1 (LL/CB)	Y	124	LL	CB	R	Silage only - tall, top tonnage w/ LL & CB
Pioneer	31G68 (YGCB)	Y	118	---	YGCB	R	---
Pioneer	31P41	Y	118	---	---	R	---
Pioneer	31R87 (RR2)	Y	120	RR2	---	R	---
Pioneer	33Y45	Y	115	---	---	R	---
TN Exp	TN0602	Y	Full	---	---	E	---

Codes:

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

YGRW, RW = contains a gene for rootworm 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

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