

Kentucky Silage Corn Hybrid Performance Report: 2008

Table 1. 2008 Corn Hybrid Performance, Boyle County Location (Adair County Location was lost to drought).

Only a single location is reported for 2008. Use extreme caution with single location data.

Boyle County, 2008		Previous Crop: Soybean			Planted: April 23, 2008			Target Seed Rate: 27,500 seeds/a					
Randomized Trial		Tillage: Conventional			Harvested: Aug. 27, 2008			Actual Stand: 27,472 plants/a					
3 replications		Cooperator: Clyde Jackson			Soil Type: Nolin Silt Loam								
Brand	Hybrid	FRESH¹	DRY	DRY	CP	ADF	NDF	TDN	NE	MILK YIELD⁴		FEED VALUE⁵	
		YIELD	MATTER	YIELD	%	%	%	%	lact	lbs /ton	lbs /acre	\$/ton	\$/acre
		tons/a ²	(%)	tons/a	%	%	%		Mcal/lb				
Beck's Hybrids	5684 VT3	20.1	32.8	7.0	5.7	30.9	53.1	68.2	0.693	2,917	20,481	85.57	1,738.87
Beck's Hybrids	6722 VT3	22.9	34.0	8.0	7.6	26.8	46.0	69.9	0.725	2,978	23,775	91.90	2,105.62
Caverndale Farms	CF 914 YGVT/triple	22.8	34.0	8.0	6.7	33.2	54.3	67.2	0.674	2,975	23,572	87.35	1,987.28
Caverndale Farms	CF 961 RR2	20.6	35.7	7.2	6.0	29.4	49.4	68.8	0.705	2,895	20,888	87.18	1,796.46
Caverndale Farms	CF1017 YGVT/RW	21.4	29.2	7.5	5.9	30.6	53.1	68.3	0.695	2,972	22,348	84.90	1,814.34
Dekalb	DKC-63-42VT3	24.8	37.5	8.7	6.0	26.9	45.5	69.9	0.725	2,836	24,414	90.38	2,251.50
Dekalb	DKC-RX940 RR2	20.2	31.9	7.1	6.8	36.1	58.0	66.0	0.651	2,680	18,954	83.77	1,702.23
Northrup King	N77P-3000 GT	20.0	30.7	7.0	6.3	32.7	53.1	67.4	0.678	3,097	21,735	85.70	1,708.25
Northrup King	N78N-GT/CB/LL	18.8	33.3	6.6	5.5	34.9	57.0	66.5	0.661	2,883	18,941	82.61	1,559.67
Pioneer	31G70-HXRR2	19.5	31.0	6.8	5.6	37.3	61.4	65.5	0.642	2,740	18,858	80.91	1,587.40
Pioneer	31R87-RR2	22.3	31.3	7.8	7.2	29.6	47.7	68.7	0.703	3,087	24,171	89.52	2,001.06
Southern States	SS 842 RR2	22.2	36.9	7.8	7.4	25.4	44.5	70.5	0.736	3,007	23,331	92.54	2,042.65
Wyffels	W8681 PP	24.4	33.4	8.5	6.7	28.6	47.9	69.2	0.711	3,080	26,247	93.32	2,283.45
Wyffels	W9121 PP	23.3	35.3	8.2	6.5	25.5	44.7	70.5	0.736	2,832	22,990	92.02	2,152.30
	LSD (0.10)	ns ³	ns	ns	ns	7.3	10.4	3.1	0.058	ns	ns	7.10	ns
	CV	14.7	13.7	14.5	17.9	15.7	13.4	3.0	5.6	7	14	5.90	17.90
	Mean	21.7	33.4	7.6	6.4	30.6	51.1	68.3	0.695	2,927	22,193	87.69	1,909.36
	Minimum	18.8	29.2	6.6	5.5	25.4	44.5	65.5	0.642	2,680	18,858	80.91	1,559.67
	Maximum	24.8	37.5	8.7	7.6	37.3	61.4	70.5	0.736	3,097	26,247	93.32	2,283.45

¹ Fresh yield adjusted to 35% dry matter basis.

² Values in bold with shaded box are numerically highest for that column. Other values in bold are not significantly different from the numerically highest value in that column.

³ ns = not significantly different, meaning that no values in that column were significantly different from other values in the same column.

⁴ Milk index calculation based on test values of crude protein and NDF as well as book values of Starch, Ash, and Fat using MILK 2006 spreadsheet.

⁵ Financial data was calculated using Feedval2. Calculations were based upon feed dealer quoted Bulk Delivery Prices in Central Kentucky on 10/7/08. Feeds quoted included Soybean Meal-\$413.00/Ton, Cracked Corn \$248.93 /ton, Limestone \$10.10 /cwt, and Dical at \$74.90 /cwt.

Table 2. 2006 Corn Silage Hybrid Performance, Cross Location Average (Adair and Boyle Counties)

This table is from 2006, and is averaged across two locations. 2006 was a better growing season than 2008 and a few of these hybrids may still be available.

HYBRID		FRESH	DRY	DRY	CP	ADF	NDF	TDN	NE	MILK YIELD		FEED VALUE	
		YIELD ¹	MATTER	YIELD	%	%	%	%	lact	Mcal/lb	lbs/ton	lbs/acre	\$/ton
		tons/a	%	tons/a	%	%	%						
Asgrow	RX715RR	23.0	43.7	8.1	5.9	35.1	54.5	66.4	0.66	2,880	23,330	84.88	1,964.37
Asgrow	RX940RR	22.1	30.1	7.7	6.6	42.4	63.9	63.3	0.601	2,580	19,868	73.90	1,625.80
Caverndale Farms	CF1015RR	24.2	34.3	8.5	6.7	30.3	48.5	68.5	0.698	3,067	26,067	90.50	2,197.86
Caverndale Farms	CR1015A	23.2	29.7	8.1	6.7	38.1	58.3	65.1	0.636	2,757	22,331	81.98	1,897.25
Crows	5176RR	21.4	32.8	7.5	6.3	38.2	58.8	65.1	0.634	2,743	20,570	81.32	1,742.57
Crows	8S214RR	24.5	35.8	8.6	6.8	29.3	47.1	68.9	0.706	3,111	26,750	91.41	2,246.07
Dekalb	DKC 69-68RR	25.8	41.5	9.0	6.6	30.4	49.2	68.4	0.698	3,045	27,405	90.30	2,322.00
Dekalb	DKC64-77	23.8	39.6	8.4	7.4	26.5	43.5	70.0	0.728	3,150	26,463	94.10	2,258.40
Garst	8225RR	28.6	41.5	10	7.4	22.9	38.3	71.6	0.757	2,902	29,017	96.15	2,747.14
Garst	8248RR	23.9	36.7	8.3	6.6	34.4	53.1	66.7	0.665	2,922	24,250	86.55	2,052.47
NK Syngenta	N78-D6RR	20.9	39	7.3	7.0	41.0	60.7	63.9	0.612	2,680	19,563	77.39	1,614.13
NK Syngenta	N91-J1	25.6	30.8	9.0	7.1	36.4	56.4	65.9	0.649	2,815	25,338	84.82	2,181.09
Pioneer	31G71RR	25.0	32.8	8.7	7.7	38.6	61.5	64.9	0.631	2,652	23,070	82.48	2,050.22
Pioneer	33M57RR/BT	22.3	31.3	7.8	7.1	34.9	55.0	66.5	0.661	2,860	22,305	86.63	1,930.61
Southern States	SS 804RR	18.3	31.7	6.4	6.2	43.5	66.3	62.9	0.593	2,506	16,039	70.68	1,292.43
Southern States	SS 842RR	25.4	39.4	8.9	7.2	27.0	43.9	69.9	0.724	3,154	28,075	93.53	2,378.33
Wyffels	W8721RR	21.0	33.7	7.3	5.9	43.2	66.4	63.0	0.595	2,504	18,280	71.08	1,482.53
Wyffels	W7300RR	17.3	31.7	6.1	6.8	40.3	62.7	64.2	0.618	2,617	15,966	78.47	1,367.62
	LSD (0.10)	2.3	5.2		1.6	ns	15.2	4.6	0.086				
	CV	10.4											
	Mean	23.1	35.3	8.1	6.8	35.1	54.9	66.4	0.659	2,830	23,038	84.23	1,963.94
	Maximum	28.6	43.7	10.0	7.7	43.5	66.4	71.6	0.757	3,154	29,017	96.15	2,747.14
	Minimum	17.3	29.7	6.1	5.9	22.9	38.3	62.9	0.593	2,504	15,966	70.68	1,292.43

¹ Fresh yield adjusted to 35% dry matter basis. Silage yields and quality parameters were based on 2006 data. Milk yields and silage values were calculated using the same 2008 numbers used in Table 1.

Comments on the 2008 and 2006 Trials

Since only one location was harvested in 2008, the 2006 trial results are included. No silage study was conducted in 2007. Variability in the performance of hybrids was much greater in the 2008 study than in the 2006. Rainfall was less consistent week to week during the 2008 growing season. The lack of consistent rainfall may have caused greater variability in hybrid performance. The greater variability makes determining differences between hybrids more difficult.

Procedures for the 2008 Kentucky Silage Corn Hybrid Performance Report



Objective:

To provide unbiased forage yield and quality performance data for corn hybrids commonly grown for silage in Kentucky.

General Procedures:

Only glyphosate-resistant hybrids were tested in 2008, based on the request of the cooperating farmers in both counties.

Hybrids were evaluated for silage performance on cooperating farms in Adair County and Boyle County. The Adair County test was not harvested due to excessively dry weather and damage to the test plots. The Boyle County location received timely rains early up through pollination, but was dry during grain fill.

Every effort was made to conduct the tests in an unbiased manner according to accepted agronomic practices. Representative seed companies were allowed to submit hybrids. Total study size is kept to about 20 hybrids. Test plots were either planted by university personnel or third-party contractors, and not any seed company. Fertility and pest management were

conducted by each cooperating farmer. University of Kentucky personnel harvested, weighed, chopped and packaged corn for quality analysis. Quality analyses were conducted Custom Labs, Golden City, MO.

Fresh yield and dry yield are reported as well as crude protein, acid detergent fiber, neutral detergent fiber and total digestible nutrients. In addition, feed values per ton, per acre and the relative feed values are reported.

Hybrids at both locations were randomly planted in three replications at each farm. In Boyle County, each hybrid was planted in four rows, each row being 30 inches apart and about 40 ft long. Two 10-ft sections of each hybrid were harvested by hand from each plot. The entire harvested corn sample was weighed. One half of the harvested area was chopped. A subsample of the chopped plant material was analyzed for dry matter concentration and silage quality. Whole plant weights were averaged across all three replications to obtain a whole plant yield. Subsamples from each of the three replications were analyzed for dry matter content as well as forage quality.

Only a single location is reported in 2008 and extreme caution must be used when interpreting the results of the single location data.

Explanation of Terms:

- CP – Crude Protein
- ADF – Acid Detergent Fiber
- NDF – Neutral Detergent Fiber: higher NDF generally indicates lower forage intake and lower animal performance.
- TDN – Total Digestible Nutrients: An energy value

- NE lact – Net Energy for Lactation: Main energy value for dairy ration balancing
- Milk Yield – calculated with Milk 2006 (Univ. of Wisconsin) with test values of CP and NDF as well as book values for starch, ash and fat. Calculations made by Nick Roy.
- Feed Value – calculate with Feedval2 (Univ. of Missouri) which estimates feeding value based on expected animal nutritional performance. Feed costs are reported in Table 1. Calculations made by Nick Roy.
- LSD – Least Significant Difference. The LSD attempts to separate differences due to field variability from differences due to hybrids. If differences between hybrids are greater than the LSD, then there is a very good chance that differences between these two hybrids are real. If differences between two hybrids are less than the LSD, then there is a chance that the differences are not due hybrid potential.

Research conducted by:

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Available online at:

<http://www.uky.edu/Ag/GrainCrops/varietytesting.htm>