

Kentucky Silage Corn Hybrid Performance Report: 2009

Table I. Corn Hybrid Performance, Combined Locations, Kentucky, 2009

Brand	Hybrid	Tons/A ¹	Milk Yield ²		TDN ³	NEL ⁴	NEG ⁴	Forage Quality, % ⁵					Moist.
		35% DM	lbs/ton	lbs/acre		Mcal/lb	Mcal/lb	CP	ADF	NDF	NDFD	Lignin	%
Mycogen	TMF2H9I8	33.8	3431	40600	70	0.80	0.44	6.8	23	41	65	3.0	64.5
Pioneer	31G70 HHXRR2	32.1	3273	36800	75	0.78	0.51	6.5	23	40	59	2.7	61.5
Northrup King	N82V-3000GT	30.9	3368	36500	76	0.81	0.53	6.4	21	38	62	2.4	61.7
Asgrow	DKC-RX940 RR2	30.4	3550	37700	79	0.80	0.56	6.7	21	39	61	2.8	66.1
Dyna-Gro	V5683VT3	29.7	3173	32900	74	0.78	0.51	6.4	23	38	30	2.8	62.4
Wyffels	W8681 PP	29.6	3195	33200	76	0.80	0.53	6.5	21	38	58	3.0	64.2
Caverndale Farms	CF 889 YGVT/Triple	29.5	3361	34700	77	0.81	0.54	6.4	19	35	59	1.9	60.7
Wyffels	W9211	29.3	3476	35600	73	0.77	0.50	6.0	21	38	55	2.2	67.1
Beck's	B6733 HXR	29.2	3434	35100	75	0.79	0.52	6.8	22	39	59	2.9	63.5
Southern States	SS777 RR2YGPL	29.2	3269	33400	76	0.80	0.53	6.1	23	39	60	3.2	60.0
Pioneer	31R87 RR2	28.9	3125	31600	70	0.72	0.45	6.1	26	44	54	3.6	66.4
DeKalb	DKC67-87 RR2/YGCB	28.7	2890	29000	69	0.69	0.43	6.2	28	48	53	3.9	63.9
Caverndale Farms	CF 914 YGVT/Triple	28.1	3295	32400	74	0.77	0.50	6.4	23	40	59	3.0	64.9
Beck's	B5684 VT3	27.8	3319	32300	78	0.82	0.55	6.1	20	35	60	2.8	58.5
Southern States	SS842 RR2YGCB	26.4	3440	31800	77	0.80	0.53	6.9	23	40	62	3.1	66.3
DeKalb	DKC63-42VT3	26.1	3519	32200	74	0.78	0.51	6.3	21	38	53	2.9	66.5
Caverndale Farms	CF 866 GT	26.1	3385	30900	75	0.78	0.51	6.7	22	39	58	2.7	64.5
Northrup King	N78N-3000GT	25.8	3064	27700	77	0.73	0.54	6.4	25	44	57	3.4	64.6
Dyna-Gro	57V05	25.5	3271	29200	73	0.76	0.49	6.1	23	39	53	3.2	65.7
Mycogen	F2F700	22.7	3682	29300	72	0.83	0.46	7.1	23	49	65	2.4	64.6
	LSD (0.05)	3.7											
	average	28.5	3326	33145		0.78		6.4	22.5	40.1	57	2.9	63.9

1 Yields adjusted to 35% dry matter; highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield.

2 Milk yield calculated with MILK2000.

3 Total digestible nutrients.

4 Net energy for lactation (NEL) and gain (NEG).

5 Quality parameters based on percent dry weight, except for NDFD, which is percent of NDF.

Table 2. Corn Hybrid Performance, Adair County, Kentucky, 2009

Brand	Hybrid	Tons/A ¹	Milk Yield ²		TDN ³	NEL ⁴	NEG ⁴	Forage Quality, % ⁵					Moist.
		35% DM	lbs/ton	lbs/acre		Mcal/lb	Mcal/lb	CP	ADF	NDF	NDFD	Lignin	%
Dyna-Gro	V5683VT3	34.0	3259	38800	80	0.87	0.59	7.7	18	28	59	2.3	58.8
Pioneer	31G70 HHXRR2	33.3	3031	35300	74	0.77	0.50	6.4	23	41	58	2.5	59.1
Caverndale Farms	CF 889 YGVT/Triple	32.9	3071	35300	76	0.80	0.54	6.8	21	38	61	2.2	57.5
Mycogen	TMF2H918	32.9	3340	38400	76	0.80	0.53	6.5	23	41	64	3.0	62.8
Northrup King	N82V-3000GT	32.5	3196	36300	77	0.82	0.54	6.8	21	37	64	2.8	59.3
Pioneer	31R87 RR2	30.9	3028	32800	70	0.72	0.45	6.5	25	43	55	3.9	65.3
Beck's	B6733 HXR	30.2	3448	36400	75	0.80	0.53	7.5	21	37	58	3.0	66.2
Wyffels	W8681 PP	30.0	2994	31400	79	0.85	0.58	7.5	18	33	59	2.6	63.1
Southern States	SS777 RR2YGPL	29.4	3176	32600	79	0.83	0.57	7.0	21	37	63	3.4	57.0
Caverndale Farms	CF 914 YGVT/Triple	28.5	3218	32100	75	0.79	0.52	7.1	23	40	64	3.1	62.1
Southern States	SS842 RR2YGCB	28.0	3524	34500	80	0.85	0.58	7.3	19	34	66	2.9	62.4
DeKalb	DKC67-87 RR2/YGCB	27.2	2596	24700	69	0.67	0.42	6.7	32	52	58	4.4	62.7
Asgrow	DKC-RX940 RR2	26.2	3522	32400	79	0.80	0.57	7.1	23	41	65	3.0	66.2
Beck's	B5684 VT3	26.1	3219	29400	79	0.83	0.57	6.8	20	36	65	2.6	58.2
Dyna-Gro	57V05	25.9	3353	30400	75	0.80	0.52	7.0	20	35	54	2.7	64.0
Northrup King	N78N-3000GT	25.6	2994	26800	78	0.76	0.55	6.6	24	43	59	3.1	63.3
Caverndale Farms	CF 866 GT	21.1	3369	24800	74	0.76	0.50	7.5	24	41	58	3.3	69.8
Mycogen	F2F700	21.0	3690	27100	74	0.84	0.49	7.9	25	57	63	2.5	65.6
DeKalb	DKC63-42VT3 †												
Wyffels	W9211 †												
	LSD (0.05)	5.1											
	average	28.6	3224	32194	76	0.80	0.53	7.0	22.2	39.7	61	3.0	62.4

¹ Yields adjusted to 35% dry matter; highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield.

² Milk yield calculated with MILK2000.

³ Total digestible nutrients.

⁴ Net energy for lactation (NEL) and gain (NEG).

⁵ Quality parameters based on percent dry weight, except for NDFD, which is percent of NDF.

† Hybrids were lodged in all three replications and ears were removed, most likely from raccoons. No yield data was collected.

Agronomics, Adair County, 2009

Randomized Trial
3 replications

Previous Crop: corn
Tillage: Conventional
Cooperator: Bruce Held

Planted: May 21, 2009
Harvested: Sep. 2, 2009
Soil Type: Etowah silt loam

Target Seed Rate: 28,000 seeds/a
Actual Stand: 27,000 plants/a

Table 3. Corn Hybrid Performance, Boyle County, Kentucky, 2009

Brand	Hybrid	Tons/A ¹	Milk Yield ²		TDN ³	NEL ⁴	NEG ⁴	Forage Quality, % ⁵					Moist. %
		35% DM	lbs/ton	lbs/acre		Mcal/lb	Mcal/lb	CP	ADF	NDF	NDFD	Lignin	
Mycogen	TMF2H918	34.8	3522	42900	64	0.80	0.35	7.1	23	41	65	3.0	66.2
Asgrow	DKC-RX940 RR2	34.5	3578	43200	78	0.79	0.55	6.3	20	37	57	2.6	66.0
Caverndale Farms	CF 866 GT	31.1	3400	37000	75	0.79	0.52	5.9	21	38	57	2.0	59.2
Pioneer	31G70 HHXRR2	30.3	3514	37300	75	0.78	0.51	6.6	23	40	59	2.9	65.2
DeKalb	DKC67-87 RR2/YGCB	30.2	3183	33600	69	0.71	0.44	5.7	24	44	47	3.4	65.1
Beck's	B5684 VT3	29.5	3418	35200	76	0.81	0.53	5.4	19	34	55	2.9	58.8
Northrup King	N82V-3000GT	29.4	3539	36400	75	0.79	0.52	5.9	21	39	59	2.0	64.0
Wyffels	W9211	29.3	3476	35600	73	0.77	0.50	6.0	21	38	55	2.2	67.1
Wyffels	W8681 PP	29.3	3396	34800	73	0.75	0.48	5.4	24	43	57	3.3	65.3
Southern States	SS777 RR2YGPL	29.0	3361	34100	73	0.76	0.49	5.2	24	41	56	3.0	63.0
Beck's	B6733 HXR	28.2	3420	33800	75	0.78	0.51	6.1	22	40	60	2.7	60.8
Caverndale Farms	CF 914 YGVT/Triple	27.5	3372	32400	72	0.75	0.48	5.6	24	41	54	2.8	69.0
Caverndale Farms	CF 889 YGVT/Triple	27.2	3650	34700	77	0.82	0.54	6.0	18	33	57	1.5	62.9
Pioneer	31R87 RR2	26.9	3222	30400	70	0.72	0.45	5.6	26	46	53	3.2	67.5
DeKalb	DKC63-42VT3	26.1	3519	32200	74	0.78	0.51	6.3	21	38	53	2.9	66.5
Northrup King	N78N-3000GT	26.1	3133	28600	75	0.70	0.52	6.1	27	45	55	3.7	65.9
Dyna-Gro	V5683VT3	25.4	3086	27400	68	0.68	0.42	5.1	28	47	68	3.3	66.0
Dyna-Gro	57V05	25.2	3189	28100	70	0.72	0.45	5.2	25	43	52	3.7	67.3
Southern States	SS842 RR2YGCB	24.9	3355	29200	73	0.74	0.48	6.5	27	46	58	3.2	70.1
Mycogen	F2F700	24.5	3673	31400	69	0.81	0.43	6.2	22	40	66	2.3	63.5
	LSD (0.05)	5.2											
	average	28.5	3400	33915	73	0.76	0.48	5.9	23.0	40.7	57	2.8	65.0

¹ Yields adjusted to 35% dry matter; highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield.

² Milk yield calculated with MILK2000, using the corn processor option.

³ Total digestible nutrients.

⁴ Net energy for lactation (NEL) and gain (NEG).

⁵ Quality parameters based on percent dry weight, except for NDFD, which is percent of NDF.

Agronomics, Boyle County, 2009

Randomized Trial

3 replications

Previous Crop: Corn

Tillage: Conventional

Cooperator: Caverndale Farms

Planted: May 20, 2009

Harvested: Sep. 11, 2009

Soil Type: Dunning silt loam

Target Seed Rate: 32,000 seeds/a

Actual Stand: 32,000 plants/a

Procedures for the 2009 Kentucky Silage Corn Hybrid Performance Report



Silage Plots, Adair County, 2009. Corn adjacent to the research plots was harvested previously.

Objective:

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

General Procedures:

Hybrids were evaluated for silage performance on cooperating farms in Adair County and Boyle County.

Every effort was made to conduct the tests in an unbiased manner according to accepted agronomic practices. Representatives from seed companies submitted hybrids for a total of 20 hybrids. Corn seed was 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.

Hybrids at both locations were planted in three replications at each farm. Hybrids were arranged in a random design. Two 10-ft sections of each hybrid were harvested by hand from each plot. The entire harvested corn sample was weighed. Five to six whole plants from each hybrid were chopped through a

silage chopper and a subsample was collected. A kernel processor was used at Boyle County and not at Adair County. Whole plant weights were averaged across all three replications to obtain a whole plant yield.

Forage quality analyses were composite samples of each location and were analyzed by Dairy One Forage Lab, who also calculated milk yield using MILK2000.

Hybrid performance is recorded in Table 1 (Combined data), Table 2 (Adair County) and Table 3 (Boyle County). Table 1 provides the performance of hybrids across two environments and is a better indicator of hybrid performance next season.

Explanation of Terms:

Milk Yield: calculated with MILK2000 (Univ. of Wisconsin)

TDN: total digestible nutrients

NEL: net energy for lactation: Main energy value for dairy ration balancing

NEG: net energy for gain.

CP: crude protein

ADF: acid detergent fiber

NDF: neutral detergent fiber: higher NDF generally indicates lower forage intake and lower animal performance.

NDFD: neutral detergent fiber digestibility: based on 48 h digestion and reported as a percent of NDF.

Lignin: indigestible fiber.

LSD: Least Significant Difference. A statistical measurement to identify field variability and differences between hybrids.

Research conducted by:

County Extension Agents for Agriculture: Nick Roy, Adair County; Jerry Little, Boyle County; Dan Grigson, Lincoln County; Tom Mills, Rockcastle County; Jay Hettmansperger, Garrard County; Linda McClanahan, Mercer County; Will Stallard, Casey County; Richard Whitis, Pulaski County; Keenan Turner, emeritus; and Plant & Soil Sciences Department: Chad Lee, James Dollarhide, Katie Russell, and Krista Brown.

Available online at:

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



Assessing stands and kernel milk line prior to harvest, Adair County, 2009.

Feeding whole plants into the chopper and collecting the chopped subsample, Boyle County, 2009.

