

Kentucky Silage Corn Hybrid Performance Report: 2005

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 Lincoln County, Adair County and Clinton County.

Every effort has been made to conduct the tests in an unbiased manner according to accepted agronomic practices. Seed corn companies submitted seed lots of hybrids to be tested. University of Kentucky personnel assisted in planting each test, using farmer equipment. 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.

Two-County Average, 2005 Lincoln and Adair Counties.		Previous Crop: Corn		Tillage: No-Till				Lincoln: 2 replications Adair: Strip plots			
HYBRID	FRESH YIELD* ton/acre	DRY MATTER %	DRY YIELD ton/acre	CP %	ADF %	NDF %	TDN %	NE lact	VALUE \$/ton	VALUE \$/acre	RFV
NK Syngenta N82-A7	26.6	49.7	9.3	7.18	27.97	46.76	69.43	0.72	36.16	962.12	139
Pioneer 32D99	25.0	44.2	8.8	6.60	27.32	45.11	69.71	0.72	35.84	900.80	143
Wyffels W8603	24.7	45.6	8.7	8.36	23.16	41.05	71.48	0.76	38.78	956.77	161
Asgrow RX715RR2	23.2	40.3	8.1	6.82	29.73	48.58	68.69	0.70	35.24	820.73	127
DeKalb 6971RR2	22.6	39.0	7.9	7.81	30.77	51.13	68.24	0.69	35.80	805.96	118
Garst 8270RR	22.5	41.9	7.9	8.04	29.44	49.63	68.81	0.71	36.44	820.98	124
So States SS842RR2	22.4	44.7	7.8	7.02	31.10	50.82	68.10	0.69	34.97	798.31	122
NK Syngenta N91-R9	21.7	36.2	7.6	8.00	31.15	51.05	68.08	0.69	35.87	785.53	119
Asgrow RX940RR2	21.1	41.6	7.4	7.22	28.61	41.15	69.16	0.71	35.95	759.72	152
So States SS746RR2	20.1	39.7	7.0	6.65	33.81	53.87	66.95	0.67	33.74	675.24	109
Caverndale CF890RR2	20.0	40.2	7.0	7.46	27.44	45.03	69.66	0.72	36.54	731.03	142
Caverndale CF1051RR2	19.6	39.3	6.8	7.55	28.99	48.21	69.00	0.71	36.12	705.88	131
Exsegen 213ND	18.7	39.6	6.5	8.47	25.51	44.10	70.48	0.74	38.12	709.60	147
Exsegen ES112	18.7	43.4	6.5	8.72	26.68	44.67	69.98	0.73	37.98	707.36	143
Garst 8364 RR/YG1	18.6	38.4	6.5	7.59	26.48	44.94	70.07	0.73	37.00	687.94	142
Pioneer 33D63	18.6	40.2	6.5	8.97	26.55	44.80	70.04	0.73	38.22	704.76	142
DeKalb 6706	18.6	39.5	6.5	8.06	26.83	45.09	69.92	0.73	37.31	692.46	141
Average	21.4	41.4	7.5	7.71	28.42	47.05	69.24	0.71	36.47	781.44	134

* Fresh yield adjusted to 65% moisture (35% dry matter). Hybrids are placed in order of dry matter yield.

The hybrid yields are the average of two replications from Lincoln County and a single replication at Adair County. Some of the differences in hybrid performance may be due to hybrid maturity in 2005. The dry weather conditions and the interaction of hybrid maturity can greatly affect yields. Individual location data is presented below, but extreme caution must be used when interpreting the results of the single location data. Again, dry weather, hybrid maturity and hybrid placement in the field can all influence yield.

Lincoln County, 2005

Cooperator: John Elliot, Jr.

Previous Crop: Corn

Tillage: No-Till

2 Randomized Replications

HYBRID	FRESH YIELD* ton/acre	DRY MATTER %	DRY YIELD ton/acre	CP %	ADF %	NDF %	TDN %	NE lact	VALUE \$/ton	VALUE \$/acre	RFV
Wyffels W8603	28.7	45.3	10.1	7.49	23.13	39.80	71.49	0.76	38.01	1090.89	166
NK Syngenta N82-A7	26.9	53.1	9.4	6.72	22.74	38.63	71.66	0.76	37.45	1007.41	171
Pioneer 32D99	26.7	45.8	9.4	7.40	23.89	39.11	71.17	0.75	37.66	1005.52	167
DeKalb 6971RR2	25.9	42.3	9.1	6.47	31.75	50.55	67.83	0.69	34.29	888.11	118
Caverdale CF890RR2	23.3	48.0	8.2	6.46	24.42	39.52	70.94	0.74	36.61	853.01	164
Pioneer 33D63	22.1	43.9	7.8	7.44	25.95	42.80	70.29	0.73	37.03	818.36	149
So. States SS746RR2	21.3	47.6	7.5	4.79	36.12	55.55	65.97	0.65	31.29	666.48	102
Exegen ES112	21.1	49.7	7.4	6.95	25.36	40.85	70.54	0.74	36.82	776.90	157
DeKalb 6706	21.0	40.9	7.4	7.12	26.21	44.07	70.19	0.73	36.68	770.28	145
Asgrow RX940RR2	20.6	44.8	7.2	6.80	24.52	38.90	70.90	0.74	36.89	759.93	167
Asgrow RX715RR2	20.4	39.6	7.2	6.12	33.20	51.06	67.21	0.67	33.45	682.38	115
Syngenta N91-R9	19.3	36.1	6.8	6.20	35.26	55.50	66.34	0.66	32.89	634.77	103
So. States SS842RR2	19.3	50.9	6.8	4.94	38.35	58.15	65.03	0.63	30.73	593.09	94
Garst 8364 RR/YG1	18.7	40.4	6.6	6.04	27.37	43.42	69.69	0.72	35.28	659.74	145
Caverdale CF1051RR2	18.6	45.9	6.5	6.66	25.65	41.52	70.42	0.74	36.40	677.04	154
Garst 8270RR	15.7	43.4	5.5	6.46	33.77	51.57	66.97	0.67	33.60	527.52	113
LSD (0.1)	9.1	7.6	3.2	1.30	8.60	10.50	3.70	0.07			
AVERAGE	21.6	45.2	7.6	6.50	28.41	45.39	69.25	0.71	35.40	775.18	140

*Fresh yield adjusted to 65% moisture (35% dry matter). Values in bold are within the LSD to highest value in that column.

The values for hybrid yield performance are the average of two replications that have been analyzed statistically. The LSD implies that over 9 tons of yield is likely due to hybrid locations in the field. In dry years, such as this one, small differences in soil water holding capacity are magnified. Those differences in the soil affected yield and probably caused increased variability in hybrid performance this year.

Adair County, 2005

Cooperator:

Rowe Farms, Inc.

Previous Crop: Corn

Tillage: No-Till

Strip trial with check hybrid

FLD LOC*	HYBRID	FRESH	DRY	DRY	CP	ADF	NDF	TDN	NE	VALUE	VALUE	RFV
		YIELD**	MATTER	YIELD					lact	\$/ton	\$/acre	
		ton/acre	%	ton/acre	%	%	%	%				
1	Caverndale CF1051RR2	20.5	32.7	7.2	8.44	32.33	54.90	67.58	0.68	35.84	734.72	108
2	Garst 8270RR	28.8	43.9	10.1	7.90	31.20	52.40	68.06	0.69	35.77	1030.18	115
3	Pioneer 32D99	23.4	42.5	8.2	5.80	30.75	51.10	68.25	0.69	34.02	796.07	118
4	Asgrow RX715RR2	25.9	41.1	9.1	7.51	26.26	46.10	70.16	0.73	37.03	959.08	138
5	Wyffels W8603	20.8	46.0	7.3	9.23	23.18	42.29	71.47	0.76	39.55	822.64	156
6	NK Syngenta N82-A7	26.3	46.2	9.2	7.63	33.20	54.90	67.21	0.67	34.86	916.82	107
7	So. States SS842RR2	25.6	38.4	8.9	9.10	23.85	43.50	71.18	0.75	39.20	1003.52	150
8	Garst 8270RR	24.8	41.0	8.7	8.52	27.22	47.06	69.75	0.72	37.59	932.23	134
9	Pioneer 33D63	15.0	36.5	5.3	10.50	27.15	46.80	69.78	0.72	39.41	591.15	135
10	NK Syngenta N91-R9	24.1	36.4	8.4	9.80	27.05	46.59	69.82	0.72	38.85	936.29	135
11	DeKalb 6971RR2	19.4	35.8	6.8	9.15	29.80	51.70	68.65	0.70	37.31	723.81	118
12	DeKalb 6706	16.2	38.2	5.7	9.01	27.45	46.10	69.65	0.72	37.94	614.63	136
13	So. States SS746RR2	18.9	31.8	6.6	8.50	31.50	52.19	67.93	0.69	36.19	684.00	115
14	Garst 8270RR	26.1	42.7	9.1	8.11	26.92	47.19	69.88	0.73	37.31	973.79	134
15	Exsegen ES112	16.3	37.1	5.7	10.50	28.01	48.48	69.42	0.72	39.13	637.82	129
16	Caverndale CF890RR2	16.7	32.4	5.8	8.46	30.45	50.54	68.38	0.70	36.47	609.05	120
17	Asgrow RX940RR2	21.7	38.5	7.6	7.63	32.70	43.40	67.42	0.68	35.00	759.50	136
19	Garst 8364 RR/YG1	18.5	36.4	6.5	9.13	25.60	46.46	70.44	0.74	38.71	716.14	138
20	Garst 8270RR	16.9	38.5	5.9	9.20	28.10	49.94	69.38	0.72	37.94	641.19	125
	STUDY AVERAGE	21.1	38.6	7.4	8.71	28.42	48.42	69.24	0.71	37.38	786.76	129
	CHECK AVERAGE	24.2	41.5	8.5	8.43	28.36	49.15	69.27	0.71	37.15	894.35	127

* FLD LOC = Field Location. Hybrids are listed in order of hybrid placement in field.

**Fresh yield adjusted to 65% moisture (35% dry matter).

Note that the check hybrid at field location 20 (Garst 8270RR) yielded less than the same hybrid at the other field locations. Hybrids near field location 20 may have been under worse growing conditions than hybrids closer to field location 1.

Clinton County, 2005

Cooperator: Bill Guffey		Previous Crop: Corn			Tillage: No-Till				Strip trial with check hybrid			
FLD	HYBRID	FRESH	DRY	DRY	CP	ADF	NDF	TDN	NE	VALUE	VALUE	RFV
LOC*		YIELD**	MATTER	YIELD					lact			
		ton/acre	%	ton/acre	%	%	%	%		\$/ton	\$/acre	
1	Garst 8270 RR	28.5	28.53	6.5	7.98	28.78	46.70	69.09	0.71	36.61	1043.39	132
2	Pioneer 31R87 RR	32.9	32.91	8.3	7.07	26.65	43.11	69.99	0.73	36.47	1199.86	147
3	NK N75B1	35.1	35.11	10.1	7.90	22.30	38.60	71.84	0.76	38.64	1356.26	172
4	Pioneer 31G97	29.3	29.33	10.5	7.25	29.07	47.52	68.97	0.71	38.84	1138.01	130
5	Garst 8270 RR	34.8	34.76	13.5	8.15	23.74	40.10	71.23	0.75	38.43	1337.36	163
6	Laser L64C2	34.5	34.47	10.7	8.25	20.96	37.60	72.41	0.77	39.41	1359.65	180
7	Garst 8213 RR	26.6	26.64	9.2	9.01	30.70	51.70	68.27	0.69	36.89	981.27	117
8	Garst 8225 RR	29.3	29.29	11.7	8.13	23.38	40.40	71.38	0.75	38.50	1128.05	163
9	Garst 8270 RR	29.8	29.79	9.3	8.76	25.72	43.40	70.39	0.73	38.29	1141.04	148
STUDY AVERAGE		31.2	31.2	10.0	8.06	25.70	43.24	70.40	0.73	38.01	1187.21	150
CHECK AVERAGE		31.0	31.0	9.8	8.30	26.08	43.40	70.24	0.73	28.33	880.45	111

* FLD LOC = Field Location. Hybrids are listed in order of hybrid placement in field.

**Fresh yield adjusted to 65% moisture (35% dry matter).

Note that the check hybrid (Garst 8270 RR) yielded higher at field location 5 than either field location 1 or 9.

Explanation of terms:

- CP – Crude Protein, protein content.
- ADF – Acid Detergent Fiber
- NDF – Neutral Detergent Fiber
- TDN - Total Digestible Nutrients, An energy value.
- NE Lact – Net Energy for Lactation, Main energy value in dairy ration balancing
- Value (\$/acre) and (\$/ton) are based on the University of Missouri “Feed Value” program which estimates feeding value based on expected animal nutritional performance. Feed costs were averaged from local mills. The cost of the cracked corn was \$3.24/bushel, and of the soybean meal 48% was \$227.79/ton.
- LSD – Least Significant Difference, statistical value to determine differences. The LSD basically measures the amount of difference between hybrids caused by the experiment itself (for example, hybrid location in the field). Differences less than the LSD value are most likely due to the experiment. Differences larger than the LSD value are most likely due to hybrid performance.

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

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