UK COOPERATIVE EXTENSION SERVICE
University of Kentucky – College of Agriculture

LEXINGTON, KY 40546

Kentucky Silage Corn Hybrid Performance Report: 2006

Table 1. Combined location performance.

Two Locations, 2006 — Uniform stands at both locations.
Replicated trials at both locations. — No difference among hybrids in final stands at either location.

HYBRID	FRESH YIELD*	DRY MATTER	DRY YIELD	CP	ADF	NDF	TDN	NE lact	VALUE	VALUE
	tons/a	%	tons/a	%	%	%			$/Ton	$/Acre
Asgrow RX715RR	23.0	43.7	8.1	5.9	35.1	54.5	66.4	0.660	38.15	877.95
Asgrow RX940RR	22.1	30.1	7.7	6.6	42.4	63.9	63.3	0.601	36.07	782.15
Caverndale CF1015RR	24.2	34.3	8.5	6.7	30.3	48.5	68.5	0.698	40.84	990.15
Caverndale CR1015A RR	23.2	29.7	8.1	6.7	38.1	58.3	65.1	0.636	42.18	972.45
Crows 5176RR	21.4	32.8	7.5	6.3	38.2	58.8	65.1	0.634	37.32	800.85
Crows 8S214RR	24.5	35.8	8.6	6.8	29.3	47.1	68.9	0.706	41.34	1017.30
Dekalb DKC 69-68RR	25.8	41.5	9.0	6.6	30.4	49.2	68.4	0.698	40.72	1051.75
Dekalb DKC64-77	23.8	39.6	8.4	7.4	26.5	43.5	70.0	0.728	42.98	1022.25
Garst 8225RR	28.6	41.5	10.0	7.4	22.9	38.3	71.6	0.757	44.40	1270.10
Garst 8248RR	23.9	36.7	8.3	6.6	34.4	53.1	66.7	0.665	38.95	943.10
NK Syngenta N78-D6RR	20.9	39.0	7.3	7.0	41.0	60.7	63.9	0.612	36.85	769.25
NK Syngenta N91-J1	25.6	30.8	9.0	7.1	36.4	56.4	65.9	0.649	38.70	987.75
Pioneer 31G71RR	25.0	32.8	8.7	7.7	38.6	61.5	64.9	0.631	38.41	958.00
Pioneer 33M57RR/BT	22.3	31.3	7.8	7.1	34.9	55.0	66.5	0.661	39.33	878.95
Southern States 804RR	18.3	31.7	6.4	6.2	43.5	66.3	62.9	0.593	35.16	643.20
Southern States 842RR	25.4	39.4	8.9	7.2	27.0	43.9	69.9	0.724	42.49	1084.60
Wyfells W8721RR	21.0	33.7	7.3	5.9	43.2	66.4	63.0	0.595	35.00	735.00
Wyffels W7300RR	17.3	31.7	6.1	6.8	40.3	62.7	64.2	0.618	36.89	637.75
LSD (0.10)	2.3	5.2		1.6	ns	15.2	4.6	0.086	ns	205.46
CV	10.4									
Average	23.1	35.3	8.1	6.8	35.1	54.9	66.4	0.659	39.21	912.36
Maximum	28.6	43.7	10.0	7.7	43.5	66.4	71.6	0.757	44.40	1270.10
Minimum	17.3	29.7	6.1	5.9	22.9	38.3	62.9	0.593	35.00	637.75

*Fresh yields adjusted to 35% dry matter. Dry matter column is measured dry matter at harvest.
Values in bold with gray box are numerically highest value for that column. Other bold values in the same column are within one LSD of highest yield.

Comments about the 2006 growing season.

Corn was planted in late May at each location, which is later than desired. The wet weather during the spring prevented timely planting. Many farmers near these two locations had difficulty planting corn in a timely fashion. Final stand counts at both locations were higher than targeted seeding rates, indicating 1) excellent conditions for germination and 2) seed rate charts may be slightly underestimating final seed drop. June was slightly drier than normal, but July, August and September all had ample to excessive rainfall. Final yields averaged 8.1 dry tons per acre, which are good. Whole plant percent dry matter was different across hybrids, indicating differences in plant maturity at harvest. However, dry matter yields did not correlate with hybrid maturity, implying that some early hybrids may do as well as later-maturing hybrids for silage yields.

Table 1 above is the combined hybrid performance across two locations.

Table 2 on page two includes hybrid performance for each location. More information regarding the structure of the hybrid performance test and a key for abbreviations in the tables are on page 3.

Table 2. Individual location performance.

Adair County, 2006 | Previous Crop: Corn | Planted: May 30, 2006 | Target Seed Rate: 27,500 seeds/a
Randomized Trial | Tillage: No-Till | Harvested: Sept. 22, 2006 | Actual Stand: 28,150 plants/a
3 replications | Cooperator: Greg Burton | Soil Type: Bewleyville Silt Loam

HYBRID	FRESH YIELD* tons/a	DRY MATTER %	DRY YIELD tons/a	CP %	ADF %	NDF %	TDN	NE lact	VALUE $/Ton	VALUE $/Acre
Asgrow RX715RR	23.7	43.0	8.3	5.4	31.4	49.5	68.0	0.689	39.22	929.60
Asgrow RX940RR	25.5	34.5	8.9	4.4	49.9	72.5	60.1	0.541	31.06	792.10
Caverndale CF1015RR	23.6	34.9	8.3	6.9	30.1	47.9	68.5	0.699	41.15	971.10
Caverndale CR1015A RR	20.8	29.0	7.3	5.9	43.3	63.5	62.9	0.594	43.87	912.50
Crows 5176RR	23.0	36.0	8.1	6.3	35.1	53.5	66.4	0.659	38.74	891.00
Crows 8S214RR	23.1	35.8	8.1	6.3	32.5	51.5	67.5	0.680	39.62	915.30
Dekalb DKC 69-68RR	24.4	37.6	8.5	5.8	34.6	54.3	66.6	0.664	38.32	935.00
Dekalb DKC64-77	24.5	43.6	8.6	6.1	26.1	42.9	70.3	0.732	42.12	1032.00
Garst 8225RR	**28.3**	41.4	**9.9**	7.1	23.0	37.4	71.5	0.756	44.07	**1247.40**
Garst 8248RR	26.8	37.6	9.4	7.7	26.7	41.6	70.0	0.727	43.14	1156.20
NK Syngenta N78-D6RR	22.6	39.2	7.9	5.9	39.7	56.4	64.5	0.622	36.35	821.60
NK Syngenta N91-J1	26.5	29.7	9.3	6.5	38.2	58.8	65.1	0.634	37.55	995.10
Pioneer 31G71RR	24.1	31.6	8.5	7.3	37.0	56.3	65.6	0.644	38.8	935.00
Pioneer 33M57RR/BT	21.9	30.6	7.7	6.4	45.9	69.8	61.8	0.573	34.46	754.60
Southern States 804RR	18.4	31.8	6.4	5.5	45.9	71.9	61.8	0.573	33.39	614.40
Southern States 842RR	23.9	37.4	8.4	6.5	30.9	49.1	68.2	0.693	40.41	966.00
Wyfells W8721RR	21.9	33.9	7.7	5.2	41.4	64.6	63.7	0.609	35.16	770.00
Wyffels W7300RR	17.7	34.4	6.2	6.1	41.6	65.3	63.7	0.607	35.73	632.40
LSD (0.10)	3.3									
CV	10.3									
Average	23.4	35.7	8.2	6.2	36.3	55.9	65.9	0.650	38.51	903.96

Boyle County, 2006 | Previous Crop: Soybeans | Planted: May 24, 2006 | Target Seed Rate: 27,500 seeds/a
Randomized Trial | Tillage: Minimum Till | Harvested: Sept. 27, 2006 | Actual Stand: 27,782 plants/a
3 replications | Cooperator: Clyde Jackson | Soil Type: Nolin Silt Loam

HYBRID	FRESH YIELD* tons/a	DRY MATTER %	DRY YIELD tons/a	CP %	ADF %	NDF %	TDN	NE lact	VALUE $/Ton	VALUE $/Acre
Asgrow RX715RR	22.3	44.5	7.8	6.4	38.8	59.4	64.9	0.630	37.08	826.30
Asgrow RX940RR	18.8	25.6	6.6	8.9	34.9	55.3	66.5	0.661	41.07	772.20
Caverndale CF1015RR	24.9	33.6	8.7	6.5	30.5	49.2	68.4	0.696	40.53	1009.20
Caverndale CR1015A RR	25.5	30.5	8.9	7.5	32.8	53.1	67.4	0.677	40.48	1032.40
Crows 5176RR	19.8	29.7	6.9	6.3	41.4	64.1	63.8	0.609	35.89	710.70
Crows 8S214RR	26.0	35.8	9.1	7.3	26.2	42.6	70.2	0.731	43.05	1119.30
Dekalb DKC 69-68RR	27.1	45.4	9.5	7.4	26.2	44.1	70.2	0.731	43.12	1168.50
Dekalb DKC64-77	23.1	35.7	8.1	8.6	27.0	44.1	69.8	0.724	43.83	1012.50
Garst 8225RR	**28.9**	41.7	**10.1**	7.8	22.7	39.1	71.7	0.758	44.73	**1292.80**
Garst 8248RR	21.0	35.8	7.3	5.5	42.2	64.5	63.4	0.602	34.76	730.00
NK Syngenta N78-D6RR	19.2	38.7	6.7	8.2	42.3	65.0	63.4	0.602	37.34	716.90
NK Syngenta N91-J1	24.6	31.9	8.6	7.6	34.5	53.9	66.6	0.664	39.85	980.40
Pioneer 31G71RR	25.8	34.0	9.0	8.2	40.3	66.7	64.2	0.618	38.02	981.00
Pioneer 33M57RR/BT	22.7	31.9	7.9	7.9	23.9	40.2	71.2	0.749	44.20	1003.30
Southern States 804RR	18.2	31.5	6.4	6.9	41.0	60.6	63.9	0.612	36.92	672.00
Southern States 842RR	27.0	41.4	9.4	7.9	23.1	38.8	71.5	0.755	44.56	1203.20
Wyfells W8721RR	20.1	33.5	7.0	6.7	44.9	68.1	62.2	0.581	34.83	700.00
Wyffels W7300RR	16.9	28.9	5.9	7.6	39.0	60.0	64.7	0.628	38.05	643.10
LSD (0.10)	3.3									
CV	10.6									
Average	21.3	35.0	8.0	7.4	34.0	53.8	66.9	0.668	39.91	920.77

*Fresh yields adjusted to 35% dry matter. Dry matter column is measured dry matter at harvest.
Values in bold with gray box are numerically highest value for that column. Other bold values in the same column are within one LSD of highest yield.

Procedure for the Kentucky Silage Corn Hybrid Performance Report: 2006

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 has been made to conduct the tests in an unbiased manner according to accepted agronomic practices. Brands were allowed to submit up to two (2) hybrids. Each company chose which brands to submit and were allowed to submit up to two (2) hybrids for a brand. Total study size is kept to about 20 hybrids. 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.

Hybrids at both locations were randomly planted in three replications at each farm. Each hybrid was planted in three rows, each row being 30 inches apart and about 40 ft long. Two 10-ft sections of were harvested from each plot. The entire harvested corn sample was chopped and weighed. Whole plant weights were averaged across all three replications to obtain a whole plant yield. Subsamples from each of the three replications were combined and analyzed for dry matter content as well as forage quality.

Hybrids were planted late due to the wet spring weather in 2006. However, these conditions were similar to the farmer as well. Final yields were adequate and uniform enough for comparison of hybrid performance.

Individual location data is presented in Table 2, but extreme caution must be used when interpreting the results of the single location data.

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 $3.78/bushel, and of the soybean meal 48% was $243.00/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.

Research conducted by:
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Available online at: http://www.uky.edu/Ag/GrainCrops/varietytesting.htm

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