

# Kentucky Corn Silage Hybrid Performance Report, 2024

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## Procedures for the 2024 Kentucky Silage Corn Hybrid Performance Trials

### Objective:

The objective of the Silage Corn Hybrid Performance Test is to provide unbiased forage yield and quality data for corn hybrids commonly grown for silage in Kentucky.

### General Procedures:

Corn hybrids were evaluated for silage performance on cooperating farms. Representatives from seed companies submitted hybrids of their choosing.

University of Kentucky personnel planted the hybrid seeds. Farmers applied the soil amendments and pest management. University of Kentucky personnel harvested, weighed, chopped and packaged corn for quality analysis. University personnel conducted the statistical analyses and final reporting of hybrid performance.

Every effort was made to conduct the tests in an unbiased manner according to accepted agronomic practices. Corn hybrids were arranged in a randomized complete block design with three replications at each farm. Hybrid seed was planted in four row plots with Wintersteiger Dynamic Disk precision planter that planted each plot at 32,000 seeds per acre. Fields were monitored for pests.

When most hybrids were near 35% dry matter (65% moisture), the two center rows of each plot were harvested with a John Deere

5400 modified for small plots. The entire harvested corn sample was weighed and a subsample was collected.

Forage quality analyses and dry matter determination were from composite chopped samples of each hybrid at each location and were analyzed by Dairyland Labs, who also calculated milk and beef yield.

Hybrid performance reported here includes silage yield adjusted to 35% dry matter, milk yield per ton and per acre, beef per ton and per acre, in vitro true digestibility, crude protein, acid detergent fiber, neutral detergent fiber, and total digestible nutrients.

Silage yield was separated using the Least Significant Difference (or LSD). The LSD is a method of separating hybrid performance from field variability. Hybrids with yields within one (1) LSD of each other have a very good chance of performing similar to each other next year.

## 2024 Season Comments

Corn silage trials were planted in Caldwell, Fayette, and Casey counties. The 2024 growing season started wet, delaying planting, then turned dry just before harvest. Due to the dry conditions, yields were significantly affected at two locations.

We thank our farmer cooperator, Woodrum Bros Farms, for allowing us access to his farm to conduct this trial.

**Table 1 - State Summary**

Hybrid	Tons/A at 35%DM			Forage Quality***				Milk Yield****		Beef Yield*****	
	2024	2023-24	2022-24	CP	ADF	aNDF	TDN	lb/T	lb/A	lb/T	lb/A
Partners Brand PB 8961	21.6	20.1		8.0	23.8	40.3	71.2	3175	21080.2	233	1580.1
DEKALB DKC67-66	21.2	20.2	20.6	7.7	21.5	37.9	72.8	3364	21818.2	268	1738.2
INTEGRA 6493 VT2P	20.9			7.8	19.4	33.7	74.2	3526	22525.1	278	1783.3
Pioneer P2089AML	20.4			7.8	21.5	37.6	72.8	3437	24850.3	276	2002.9
Revere 1398	20.3			7.8	19.0	33.4	74.6	3545	23066.6	287	1884.1
Pioneer P13777V	20.2			7.9	20.7	36.0	73.4	3475	22981.4	282	1876.1
Pioneer P1587Q	19.9			7.8	20.5	35.2	73.5	3500	22217.6	282	1811.1
INTEGRA 6891 3110	19.7			8.0	19.1	33.4	74.4	3526	22385.1	289	1852.0
Revere 1839	19.3			7.8	20.6	35.2	73.4	3465	22377.9	275	1796.1
Pioneer P17677Q	19.0			7.8	19.3	33.4	74.4	3520	22948.4	287	1890.6

Shaded cells are not significantly different from top yield (0.10)

\*Percent dry matter (DM) represents the corn forage sample at harvest. Silage yields were adjusted to 35% DM; highest numerical yield is bold with gray box; yields with a gray box are not significantly different from highest yield.

\*\*In vitro True Digestibility (IVTD) estimates digestibility from anaerobic fermentation by incubating samples in rumen fluid.

\*\*\*Quality measurements are based on dry weight and calculated from composite samples at each site. Higher crude protein (CP) and total digestible nutrients (TDN) values indicate better forage quality. Lower acid detergent fiber (ADF) and neutral detergent fiber.

\*\*\*\*Milk Yield was calculated through Dairyland Labs. Milk per ton (Milk Yield, lb/T) was calculated from DM yields and Milk yield per acre was the product of Milk yield per ton by silage yield per acre.

\*\*\*\*\*Beef Yield was calculated through Dairyland Labs. Beef per ton was calculated from DM yields and Beef per acre was the product of Beef yield per ton by silage yield per acre.

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**Table 1 - State Summary (continued)**

Hybrid	Tons/A at 35%DM			Forage Quality***				Milk Yield****		Beef Yield*****	
	2024	2023-24	2022-24	CP	ADF	aNDF	TDN	lb/T	lb/A	lb/T	lb/A
Partners Brand PB 8653	18.8	19.3		7.8	19.2	33.6	74.4	3530	21659.5	289	1784.9
Pioneer P1742Q	18.8			8.2	20.7	35.6	73.4	3450	20632.2	273	1623.5
DEKALB DKC70-94	18.5	18.8	19.5	8.1	21.3	37.4	73.0	3325	20744.0	262	1659.3
NuTech 75C1	18.5	18.8		8.2	20.6	35.4	73.4	3491	21230.0	280	1712.7
Pioneer P1380Q	17.9			8.0	21.8	36.8	72.6	3315	19678.0	259	1547.3
Pioneer P1718AML	17.9			8.4	21.7	37.8	72.7	3346	21564.6	270	1747.5
Pioneer P14830Q	17.8			8.2	20.7	35.5	73.3	3377	18328.5	270	1485.2
DEKALB DKC64-44RIB	17.5	18.0	19.0	7.9	22.7	39.9	71.9	3430	18353.2	273	1458.8
INTEGRA 6588 VT2P	17.4			8.2	20.7	35.9	73.4	3470	19294.2	276	1544.4
DEKALB DKC113-26RIB	16.9			7.9	18.1	31.0	75.2	3588	19490.8	277	1533.4
Partners Brand PB SB116	16.8			8.4	23.1	40.5	71.7	3345	19824.2	267	1584.6
<b>Average</b>	<b>18.2</b>	<b>19.2</b>	<b>19.7</b>	<b>8.0</b>	<b>20.8</b>	<b>36.0</b>	<b>73.3</b>	<b>3438</b>	<b>21288.1</b>	<b>274</b>	<b>1709.3</b>
C.V.	12.1	10.8	10.3								
LSD	2.4	2.7	2.1								

Shaded cells are not significantly different from top yield (0.10)

\*Percent dry matter (DM) represents the corn forage sample at harvest. Silage yields were adjusted to 35% DM; highest numerical yield is bold with gray box; yields with a gray box are not significantly different from highest yield.

\*\*In vitro True Digestibility (IVTD) estimates digestibility from anaerobic fermentation by incubating samples in rumen fluid.

\*\*\*Quality measurements are based on dry weight and calculated from composite samples at each site. Higher crude protein (CP) and total digestible nutrients (TDN) values indicate better forage quality. Lower acid detergent fiber (ADF) and neutral detergent fiber.

\*\*\*\*Milk Yield was calculated through Dairyland Labs. Milk per ton (Milk Yield, lb/T) was calculated from DM yields and Milk yield per acre was the product of Milk yield per ton by silage yield per acre.

\*\*\*\*\*Beef Yield was calculated through Dairyland Labs. Beef per ton was calculated from DM yields and Beef per acre was the product of Beef yield per ton by silage yield per acre.

**Table 2 - Caldwell County**

Hybrid	Tons/A at 35%DM			Forage Quality***				Milk Yield****		Beef Yield*****	
	2024	2023-24	2022-24	CP	ADF	aNDF	TDN	lb/T	lb/A	lb/T	lb/A
DEKALB DKC67-66	26.4	21.9	22.3	6.3	22.4	39.9	72.2	3222	29207.5	252	2284.4
INTEGRA 6493 VT2P	25.2			6.7	21.5	38.0	72.8	3286	25429.9	258	1996.6
Revere 1398	24.6			7.0	19.7	34.8	74.0	3402	24107.5	278	1970.0
Pioneer P1742Q	24.1			6.8	21.1	35.9	73.0	3295	26594.8	252	2034.0
Partners Brand PB 8961	24.1	21.9		7.2	21.9	37.9	72.5	3194	23927.2	245	1835.4
Pioneer P13777V	24.1			7.4	21.2	36.8	73.0	3344	21944.4	266	1745.6
Pioneer P17677Q	23.7			6.9	18.2	31.0	75.1	3460	28505.1	290	2389.2
Pioneer P2089AML	23.4			6.5	22.1	39.7	72.4	3306	26702.6	268	2164.6
DEKALB DKC70-94	22.9	20.1	20.9	6.8	21.6	38.2	72.8	3305	27358.7	263	2177.1
INTEGRA 6588 VT2P	22.7			7.0	22.2	38.7	72.3	3335	27030.7	264	2139.8
Pioneer P14830Q	22.6			7.0	22.0	37.3	72.4	3261	24480.7	259	1944.3
Pioneer P1587Q	22.6			6.5	22.0	37.7	72.4	3319	24436.2	266	1958.4
Pioneer P1718AML	22.6			6.9	20.5	34.4	73.5	3394	28831.7	274	2327.6
Partners Brand PB 8653	22.6	21.2		7.1	19.4	34.4	74.3	3469	26619.3	291	2233.0
INTEGRA 6891 3110	22.2			6.7	18.7	33.1	74.8	3495	24098.0	291	2006.4
Pioneer P1380Q	22.0			6.9	20.9	35.2	73.2	3320	20908.5	264	1662.6
DEKALB DKC64-44RIB	21.9	19.6	20.3	6.5	23.7	42.3	71.3	3282	24131.6	259	1904.4
NuTech 75C1	21.6	20.2		7.1	19.8	35.1	74.0	3455	27537.7	285	2271.6
Revere 1839	21.5			6.8	22.0	36.7	72.4	3265	23600.7	256	1850.5
Partners Brand PB SB116	21.0			7.0	24.0	42.6	71.1	3257	22267.7	258	1763.9
DEKALB DKC113-26RIB	20.6			6.1	18.8	34.0	74.7	3572	23731.9	301	1999.8
<b>Average</b>	<b>23.1</b>	<b>20.8</b>	<b>21.2</b>	<b>6.8</b>	<b>21.1</b>	<b>36.8</b>	<b>73.1</b>	<b>3345</b>	<b>25307.3</b>	<b>269</b>	<b>2031.4</b>
C.V.	9.4	8.8	8.9								
LSD	4.3	2.7	2.2								

Shaded cells are not significantly different from top yield (0.10).

\*Percent dry matter (DM) represents the corn forage sample at harvest. Silage yields were adjusted to 35% DM; highest numerical yield is bold with gray box; yields with a gray box are not significantly different from highest yield.

\*\*In vitro True Digestibility (IVTD) estimates digestibility from anaerobic fermentation by incubating samples in rumen fluid.

\*\*\*Quality measurements are based on dry weight and calculated from composite samples at each site. Higher crude protein (CP) and total digestible nutrients (TDN) values indicate better forage quality. Lower acid detergent fiber (ADF) and neutral detergent fiber.

\*\*\*\*Milk Yield was calculated through Dairyland Labs. Milk per ton (Milk Yield, lb/T) was calculated from DM yields and Milk yield per acre was the product of Milk yield per ton by silage yield per acre.

\*\*\*\*\*Beef Yield was calculated through Dairyland Labs. Beef per ton was calculated from DM yields and Beef per acre was the product of Beef yield per ton by silage yield per acre.

**Table 3 - Casey County**

Hybrid	Tons/A at 35%DM			Forage Quality***				Milk Yield****		Beef Yield*****	
	2024	2023-24	2022-24	CP	ADF	aNDF	TDN	lb/T	lb/A	lb/T	lb/A
Partners Brand PB 8961	27.2	22.3		7.5	19.2	32.2	74.4	3400	26275.9	270	2086.6
Pioneer P1587Q	24.1			7.6	17.3	29.9	75.8	3589	27944.4	307	2390.3
Pioneer P2089AML	23.6			7.6	17.2	29.6	75.8	3555	27233.1	299	2290.5
INTEGRA 6891 3110	23.4			7.5	13.7	23.8	78.2	3713	25707.7	329	2277.9
Revere 1398	23.1			7.7	17.4	30.4	75.7	3522	28475.2	296	2393.1
Revere 1839	22.9			7.4	17.5	30.1	75.6	3575	27057.6	307	2323.5
INTEGRA 6493 VT2P	22.8			7.4	16.8	29.2	76.1	3597	22742.1	307	1941.0
DEKALB DKC67-66	22.5	21.5	21.8	7.2	16.5	28.7	76.3	3597	20548.9	314	1793.8
DEKALB DKC70-94	21.7	21.2	21.9	7.1	15.5	27.4	77.0	3623	22584.8	316	1969.9
Pioneer P17677Q	21.0			7.0	17.0	29.9	76.0	3621	24285.1	312	2092.5
Pioneer P13777V	21.0			7.5	17.9	31.1	75.3	3562	28038.3	305	2400.8
Partners Brand PB 8653	20.8	20.6		7.3	15.2	26.6	77.2	3633	21258.2	319	1866.6
Pioneer P14830Q	19.7			7.6	14.8	25.5	77.5	3667	20330.4	320	1774.1
Partners Brand PB SB116	19.4			8.1	19.0	31.8	74.6	3482	22880.0	283	1859.6
Pioneer P1718AML	19.3			8.0	18.2	31.5	75.1	3424	22140.8	286	1849.4
Pioneer P1380Q	19.2			7.0	20.1	34.0	73.8	3303	22096.3	273	1826.3
INTEGRA 6588 VT2P	18.7			8.3	16.0	27.7	76.6	3637	18463.5	313	1589.0
Pioneer P1742Q	18.7			7.6	17.7	31.2	75.4	3546	18125.2	307	1569.2
NuTech 75C1	18.7	19.6		7.6	22.1	36.7	72.4	3332	18363.6	275	1515.6
DEKALB DKC64-44RIB	17.9	18.4	19.6	7.4	23.4	39.3	71.5	3320	13955.8	275	1156.0
DEKALB DKC113-26RIB	17.8			7.8	15.8	26.2	76.8	3530	19740.3	287	1604.9
<b>Average</b>	<b>18.5</b>	<b>20.6</b>	<b>21.1</b>	<b>7.5</b>	<b>17.5</b>	<b>30.1</b>	<b>75.6</b>	<b>3535</b>	<b>22773.7</b>	<b>300</b>	<b>1931.9</b>
C.V.	14.4	11.6	11.2								
LSD	5.2	3.0	2.4								

Shaded cells are not significantly different from top yield (0.10).

\*Percent dry matter (DM) represents the corn forage sample at harvest. Silage yields were adjusted to 35% DM; highest numerical yield is bold with gray box; yields with a gray box are not significantly different from highest yield.

\*\*In vitro True Digestibility (IVTD) estimates digestibility from anaerobic fermentation by incubating samples in rumen fluid.

\*\*\*Quality measurements are based on dry weight and calculated from composite samples at each site. Higher crude protein (CP) and total digestible nutrients (TDN) values indicate better forage quality. Lower acid detergent fiber (ADF) and neutral detergent fiber.

\*\*\*\*Milk Yield was calculated through Dairyland Labs. Milk per ton (Milk Yield, lb/T) was calculated from DM yields and Milk yield per acre was the product of Milk yield per ton by silage yield per acre.

\*\*\*\*\*Beef Yield was calculated through Dairyland Labs. Beef per ton was calculated from DM yields and Beef per acre was the product of Beef yield per ton by silage yield per acre.

**Table 4 - Fayette County**

Hybrid	Tons/A at 35%DM			Forage Quality***				Milk Yield****		Beef Yield*****	
	2024	2023-24	2022-24	CP	ADF	aNDF	TDN	lb/T	lb/A	lb/T	lb/A
Pioneer P13777V	15.4			8.8	22.8	40.1	71.9	3519	18961.4	275	1481.8
NuTech 75C1	15.0	16.8		9.8	20.1	34.4	73.8	3687	17788.7	280	1350.9
INTEGRA 6493 VT2P	14.8			9.4	19.9	34.1	73.9	3696	19403.3	269	1412.2
DEKALB DKC67-66	14.7	17.2	17.6	9.5	25.7	45.2	69.9	3274	15698.2	237	1136.4
Pioneer P2089AML	14.2			9.3	25.3	43.6	70.1	3450	20615.3	260	1553.6
INTEGRA 6891 3110	13.7			9.6	25.1	43.4	70.3	3370	17349.6	247	1271.6
Revere 1839	13.5			9.3	22.4	38.9	72.2	3555	16475.4	262	1214.2
Pioneer P1742Q	13.5			10.1	23.1	39.6	71.7	3510	17176.5	259	1267.4
Partners Brand PB 8961	13.4	16.3		9.5	30.1	50.8	66.8	2931	13037.6	184	818.5
Revere 1398	13.1			8.8	19.7	34.9	74.1	3712	16617.0	288	1289.2
Partners Brand PB 8653	13.1	16.0		9.2	23.0	39.7	71.7	3488	17101.0	256	1255.1
Pioneer P1587Q	13.0			9.4	22.1	38.2	72.4	3593	14272.2	273	1084.4
DEKALB DKC64-44RIB	12.7	16.1	17.2	9.7	21.1	38.1	73.1	3688	16972.3	286	1316.2
Pioneer P1380Q	12.5			10.1	24.3	41.3	70.8	3323	16029.3	239	1152.9
Pioneer P17677Q	12.3			9.4	22.6	39.2	72.0	3480	16055.1	258	1190.3
DEKALB DKC113-26RIB	12.2			9.6	19.7	32.7	74.1	3662	15000.3	243	995.4
Pioneer P1718AML	11.9			10.2	26.3	47.6	69.4	3219	13721.5	250	1065.7
Pioneer P14830Q	11.0			10.0	25.4	43.6	70.1	3202	10174.5	232	737.2
DEKALB DKC70-94	10.9	15.2	15.6	10.5	26.7	46.6	69.1	3046	12288.5	206	831.1
INTEGRA 6588 VT2P	10.9			9.3	23.7	41.3	71.2	3438	12388.4	251	904.4
Partners Brand PB SB116	10.0			10.0	26.3	47.2	69.4	3295	14325.0	260	1130.3
<b>Average</b>	<b>12.9</b>	<b>16.2</b>	<b>16.8</b>	<b>9.6</b>	<b>23.6</b>	<b>41.0</b>	<b>71.3</b>	<b>3435</b>	<b>15783.4</b>	<b>253</b>	<b>1164.7</b>
C.V.	12.4	12.8	11.2								
LSD	3.1	2.5	1.8								

Shaded cells are not significantly different from top yield (0.10).

\*Percent dry matter (DM) represents the corn forage sample at harvest. Silage yields were adjusted to 35% DM; highest numerical yield is bold with gray box; yields with a gray box are not significantly different from highest yield.

\*\*In vitro True Digestibility (IVTD) estimates digestibility from anaerobic fermentation by incubating samples in rumen fluid.

\*\*\*Quality measurements are based on dry weight and calculated from composite samples at each site. Higher crude protein (CP) and total digestible nutrients (TDN) values indicate better forage quality. Lower acid detergent fiber (ADF) and neutral detergent fiber.

\*\*\*\*Milk Yield was calculated through Dairyland Labs. Milk per ton (Milk Yield, lb/T) was calculated from DM yields and Milk yield per acre was the product of Milk yield per ton by silage yield per acre.

\*\*\*\*\*Beef Yield was calculated through Dairyland Labs. Beef per ton was calculated from DM yields and Beef per acre was the product of Beef yield per ton by silage yield per acre.

**Table 5. Agronomic practices.**

Management	Caldwell County	Fayette County	Casey County
Planting	4/22/2024	4/25/2024	5/13/2024
N/P/K	200/0/70	182/0/70	200/0/0
Soil	Crider Silt Loam	Lanton Silt Loam	Nolin Silt Loam
Harvest	8/19/2024	8/20/2024	9/4/2024



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