



## Kentucky Silage Hybrid Performance Report, 2013

### Combined Locations

COMPANY	BRAND	MAT	Milk Line <sup>1</sup>	DM, %	Tons/A 35% DM <sup>2</sup>
Agrigold	A6533VT2RIB	113	0.50	39.3	<b>26.5</b>
Agrigold	A6573VT3PRIB	114	0.46	38.9	<b>28.5</b>
Augusta	5565VT3Pro	115	0.38	38.0	<b>29.0</b>
Augusta	6866GT3000	116	0.38	35.5	<b>28.2</b>
Beck's	6543HR	113	0.50	40.5	<b>29.9</b>
Beck's Phoenix	6442AY	113	0.38	35.4	<b>28.1</b>
Caverndale Farms	CF 1026 GT	120	0.46	36.7	<b>26.1</b>
Caverndale Farms	CF 878 3000GT	117	0.25	32.5	23.8
DEKALB	DKC66-86VT3P	116	0.63	37.1	24.7
DEKALB	DKC67-57VT3P	117	0.46	39.8	<b>29.4</b>
Dyna-Gro	D53VC13	113	0.50	38.2	<b>27.2</b>
Dyna-Gro	D57VP75	117	0.50	34.7	<b>29.0</b>
Master's Choice	MCT 6753 3000GT	117	0.58	36.7	<b>25.8</b>
Master's Choice	MCT 6894	118	0.50	39.1	<b>27.9</b>
Mycogen	TMF2L825	117	0.58	34.1	<b>28.7</b>
Mycogen	TMF2W727	113	0.50	37.1	<b>28.7</b>
NK Seeds	N78S-3111	116	0.69	34.8	<b>29.7</b>
NK Seeds	N82V3111	117	0.54	36.6	24.3
Pioneer	P1449XR	114	0.50	35.5	24.7
Pioneer	P2088YXR	120	0.54	36.4	<b>29.0</b>
Southern States	SS63-32GENVT3P	113	0.54	37.6	<b>27.7</b>
Southern States	SS824GENVT3PRO	117	0.38	37.4	<b>27.3</b>
Wyffels	W7477RIB	112	0.42	35.9	<b>30.3</b>
Wyffels	W7888RIB	114	0.46	37.9	<b>26.2</b>
CHECK	CHECK	115	0.25	34.9	<b>25.0</b>
	LSD (0.10)				5.6
	CV				19.7
	Grand Mean		0.50	36.8	<b>27.6</b>

<sup>1</sup> Milk line measures the starch formation on the corn kernel. About 0.50 to 0.75 is ideal, depending on whole plant moisture.

<sup>2</sup> Yields adjusted to 35% dry matter (DM); highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield.

**Boyle County, Kentucky, 2013**

**Note: Single location data is not as reliable as the combined location average.**

COMPANY	BRAND	MAT	Milk Line <sup>1</sup>	Tons/A 35% DM <sup>2</sup>
Agrigold	A6533VT2RIB	113	0.50	<b>26.9</b>
Agrigold	A6573VT3PRIB	114	0.50	26.0
Augusta	5565VT3Pro	115	0.25	<b>30.2</b>
Augusta	6866GT3000	116	0.25	<b>29.2</b>
Beck's	6543HR	113	0.50	<b>28.3</b>
Beck's Phoenix	6442AY	113	0.50	<b>32.4</b>
Caverndale Farms	CF 1026 GT	120	0.50	<b>27.3</b>
Caverndale Farms	CF 878 3000GT	117	0.50	<b>28.6</b>
DEKALB	DKC66-86VT3P	116	0.50	22.8
DEKALB	DKC67-57VT3P	117	0.75	<b>27.8</b>
Dyna-Gro	D53VC13	113	0.50	26.1
Dyna-Gro	D57VP75	117	0.25	<b>32.7</b>
Master's Choice	MCT 6753 3000GT	117	0.75	<b>26.9</b>
Master's Choice	MCT 6894	118	0.50	24.5
Mycogen	TMF2L825	117	0.50	<b>33.1</b>
Mycogen	TMF2W727	113	0.50	<b>32.3</b>
NK Seeds	N78S-3111	116	0.50	<b>32.4</b>
NK Seeds	N82V3111	117	0.50	24.2
Pioneer	P1449XR	114	0.50	<b>26.7</b>
Pioneer	P2088YXR	120	0.50	<b>32.5</b>
Southern States	SS63-32GENVT3P	113	0.50	<b>27.2</b>
Southern States	SS824GENVT3PRO	117	0.50	<b>27.4</b>
Wyffels	W7477RIB	112	0.80	<b>32.0</b>
Wyffels	W7888RIB	114	0.50	26.1
CHECK	CHECK	115	0.50	<b>28.2</b>
	LSD (0.10)			6.7
	CV			17.1
	Grand Mean			28.5

<sup>1</sup> Milk line measures the starch formation on the corn kernel. About 0.50 to 0.75 is ideal, depending on whole plant moisture.

<sup>2</sup> Yields adjusted to 35% dry matter (DM); highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield. For Boyle County, 2013, a dry matter of 34.8% was used for all hybrids based on a composite sample.

<b>Cooperator</b>	Barry Welty, Caverndale Farms			<b>Study Design</b>	Randomized Complete Block
<b>Soil</b>	Dunning silt loam	<b>Seed Rate</b>	31,000 seeds/acre	<b>Replications:</b>	3
<b>Tillage</b>	Conventional	<b>N-P-K-Zn</b>	207-Variable Rate-Variable Rate-0		
<b>Planting Date</b>	26-May-13	<b>Weed Control</b>	Corvus + Roundup PowerMax		

**Mason County, Kentucky, 2013**

**Note: Single location data is not as reliable as the combined location average.**

COMPANY	BRAND	MAT	Milk		Tons/A 35% DM <sup>2</sup>	Milk Yield		NEL Mcal/lb	NEG Mcal/lb	Quality, %			
			Line <sup>1</sup>	DM, %		lbs/ton	lbs/acre			CP	ADF	NDF	Lignin
Agrigold	A6533VT2RIB	113	0.50	43.8	<b>26.2</b>	3,008	78,762	0.80	0.53	5.7	20.6	38.4	2.3
Agrigold	A6573VT3PRIB	114	0.42	43.0	<b>31.0</b>	3,531	<b>109,558</b>	0.83	0.55	6.4	18.6	34.4	2.6
Augusta	5565VT3Pro	115	0.50	41.1	<b>27.8</b>	3,340	92,738	0.84	0.57	7.2	17.9	34.0	2.5
Augusta	6866GT3000	116	0.50	36.1	<b>27.2</b>	3,489	94,861	0.81	0.54	6.5	22.0	39.2	2.6
Beck's	6543HR	113	0.50	46.2	<b>31.6</b>	3,060	96,552	0.85	0.57	6.4	17.0	31.2	2.1
Beck's Phoenix	6442AY	113	0.50	36.0	<b>23.8</b>	3,396	80,818	0.78	0.52	6.0	23.0	41.1	2.8
Caverndale Farms	CF 1026 GT	120	0.25	38.5	<b>24.9</b>	3,041	75,825	0.73	0.46	5.4	24.9	43.0	3.2
Caverndale Farms	CF 878 3000GT	117	0.42	30.1	19.0	3,216	60,943	0.79	0.52	5.6	20.6	38.5	2.4
DEKALB	DKC66-86VT3P	116	0.58	39.3	<b>26.6</b>	3,294	87,526	0.82	0.54	5.8	18.7	35.0	2.3
DEKALB	DKC67-57VT3P	117	0.50	44.7	<b>31.0</b>	3,171	98,151	0.86	0.59	6.9	17.7	33.2	2.2
Dyna-Gro	D53VC13	113	0.58	41.5	<b>28.3</b>	3,052	86,503	0.77	0.5	6.3	23.3	42.4	3.2
Dyna-Gro	D57VP75	117	0.50	34.5	<b>25.4</b>	2,874	72,976	0.73	0.46	6.2	26.4	43.9	4.1
Master's Choice	MCT 6753 3000GT	117	0.50	38.5	<b>24.7</b>	3,180	78,676	0.77	0.5	6.4	23.4	42.3	2.9
Master's Choice	MCT 6894	118	0.42	43.3	<b>31.3</b>	3,215	100,691	0.85	0.58	6.9	17.2	33.3	2.3
Mycogen	TMF2L825	117	0.33	33.4	<b>24.4</b>	3,150	76,742	0.73	0.46	6.0	26.2	43.8	3.6
Mycogen	TMF2W727	113	0.42	39.3	<b>25.1</b>	3,154	79,134	0.77	0.5	6.3	22.8	41.2	3.0
NK Seeds	N78S-3111	116	0.50	34.7	<b>27.0</b>	3,487	94,101	0.78	0.52	6.5	22.9	41.1	3.2
NK Seeds	N82V3111	117	0.50	38.3	<b>24.5</b>	3,258	79,709	0.78	0.52	5.8	23.2	40.7	3.0
Pioneer	P1449XR	114	0.67	36.1	22.6	<b>3,682</b>	83,125	0.86	0.6	6.5	19.6	36.3	2.4
Pioneer	P2088YXR	120	0.50	38.0	<b>25.4</b>	3,487	88,562	0.82	0.56	5.8	20.6	37.4	2.7
Southern States	SS63-32GENVT3P	113	0.67	40.3	<b>28.2</b>	3,104	87,396	0.77	0.5	5.3	22.0	39.9	3.0
Southern States	SS824GENVT3PRO	117	0.50	40.0	<b>27.2</b>	3,022	82,347	0.76	0.48	5.3	23.1	40.4	2.7
Wyffels	W7477RIB	112	0.58	36.9	<b>28.7</b>	3,246	93,042	0.76	0.49	6.3	23.5	41.9	3.3
Wyffels	W7888RIB	114	0.58	41.0	<b>26.3</b>	3,243	85,445	0.82	0.55	6.1	19.5	37.3	2.3
CHECK	CHECK	115	0.58	35.0	21.8	3,550	77,351	0.81	0.55	6.9	22.0	39.5	3.1
	LSD (0.10)		0.20		8.4								
	CV		27.70		22.3								
	Grand Mean		0.5	39.0	27.4	3243	89107	0.80	0.53	6.2	21.4	38.6	2.8

<sup>1</sup> Milk line measures the starch formation on the corn kernel. About 0.50 to 0.75 is ideal, depending on whole plant moisture.

<sup>2</sup> Yields adjusted to 35% dry matter (DM); highest numerical yield is bold with gray box; bold yields are not significantly different from highest yield.

<sup>3</sup> Milk Yield was calculated with Milk 2000. Milk per ton of silage was rounded to the nearest ten and milk per acre was rounded to the nearest hundred.

<sup>4</sup> Net energy for lactation (NEL) and gain (NEG).

<sup>5</sup> Quality measurements based on dry weight and are calculated from composite samples at each site.

Cooperator	Ronnie and Jerry Lowe		Seed Rate	31,000 seeds/acre	Study Design:	Randomized Complete Block
Soil	Faywood-Lowell silt loams		N-P-K-Zn	188-50-90-4	Replications:	3
Tillage	No-Tillage		Weed Control	Gramoxone + Lexar + Atrazine fb Touchdown		
Planting Date	5-Jun-13		Insect Control	Hero		

## Procedures for the 2013 Kentucky Silage Corn Hybrid Performance Test

### 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:

Hybrids were evaluated for silage performance on cooperating farms. Representatives from seed companies submitted hybrids of their choosing. The total study size was kept to about 20 hybrids.

University of Kentucky personnel or third-party contractors planted the hybrid seeds. Farmers applied the soil fertility 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. In some cases, fertilizer rates are above recommendations. Hybrids were arranged in a randomized complete block design with three replications at each farm. Hybrid seed was planted with standard planters at a target seeding rate near 30,000 seeds per acre. Fields were monitored for pests. When most hybrids were near 35% dry matter (65% moisture), two 10-ft sections of each hybrid were harvested by hand from each plot. The entire harvested corn sample was weighed. All whole plants from each hybrid were chopped through a silage chopper and a subsample was collected. Forage quality analyses and dry matter determination were from composite samples of

each hybrid at each location and were analyzed by Dairy One Forage Lab, who also calculated milk yield.

Hybrid performance reported here includes silage yield adjusted to 35% dry matter, milk yield per ton and per acre, net energy for gain and for lactation, crude protein, acid detergent fiber, neutral detergent fiber, and lignin. Forage components are not reported for Boyle County and thus, are not averaged across both locations.

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.

### Explanation of Terms:

- Milk Line – visible line on the kernel resulting from starch deposition. As starch fills the kernel, the milk line moves from the bottom to top of the kernel. About 0.50 to 0.75 (1/2 to 3/4) milk line is ideal for silage, depending on whole plant moisture.
- Milk Yield – calculated with Milk 2000 (Univ. of Wisconsin)
- 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.
- Lignin – indigestible fiber.
- RIB – refuge in a bag

### 2013 Season Comments

The Adair County site was lost due to an early flood that severely stunted areas of the study, leaving only Boyle County and Mason County. Forage values are not reported for Boyle County and thus, not reported in the averages of both locations. Growing conditions at Boyle and Mason were excellent throughout the season resulting in excellent silage yields. The yields reported for those two locations are representative of the upward limits of silage yield with limited stress.

Normally, a combination of silage yield and forage values should be used when selecting hybrids. Ideally, we would have data from multiple locations. The best method this season might be to examine the hybrids with excellent forage quality at Mason County and compare them with the ones that had excellent yield across both locations.

Maturity had no effect on silage yield or dry matter content in 2013 across both locations (Figures 1 and 2). At Mason County, later-maturity hybrids had smaller milk lines (Figure 3), meaning that kernels were less developed than earlier-maturing hybrids. However, dry matter content is the primary factor on when to chop corn for silage. For 2013, a range of maturities did not affect when those maturities were suitable to harvest

Figure 1. Maturity Effect on Silage Yield, 2013 Both Locations

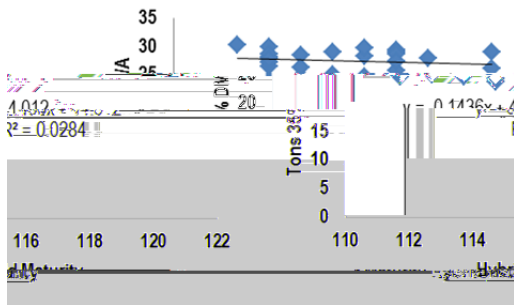


Figure 2. Hybrid Maturity Effect on Dry Matter, 2013 Both Locations

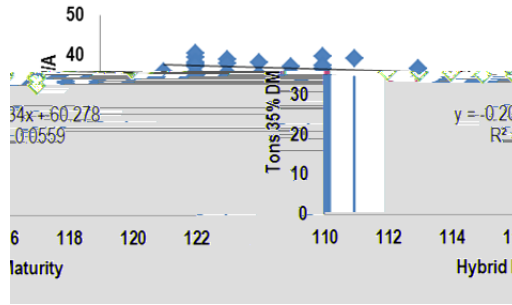
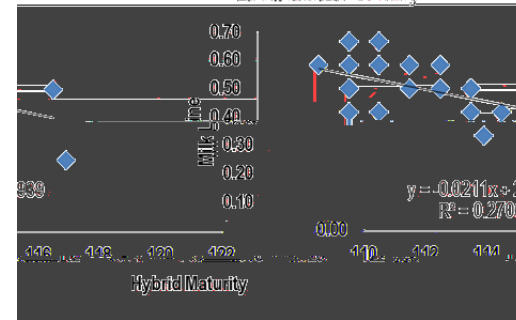


Figure 3. Maturity Effect on Milk Line, 2013, Mason County



Research conducted by:

County Extension Agents for Agriculture:

ANR Agent	County	test site
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Jerry Little	Boyle	test site
Tad Campbell	Mason	test site
David Appelman	Bracken	
Will Stallard	Casey	
Jeff Smith	Fleming	
Jay Hettmansperger	Garrard	
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Dan Grigson	Lincoln	
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Available online at: <http://www.uky.edu/Ag/GrainCrops/varietytesting.htm>