

# Corn for Silage

**Chad Lee, Ph.D.**  
Extension Agronomist  
University of Kentucky  
email: [cdlee2@uky.edu](mailto:cdlee2@uky.edu)  
website: [www.uky.edu/Ag/GrainCrops/](http://www.uky.edu/Ag/GrainCrops/)

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	Grain	Silage
Planting Date	April 1 to May 15	April 1 to May 22
Seeding Rates	22,000 to 30,000	24,000 to 34,000
Seeding Depth	1.5 inches	1.5 inches
Row Width	30 inches	30 inches or less
Hybrid Maturity	110 to 118	110 to 120
Nitrogen	120 to 200 lbs	120 to 200 lbs
Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Critical value: 60 lbs/A	Critical value: 60 lbs/A
Potassium (K <sub>2</sub> O)	Critical value: 300 lbs/A	Critical value: 420 lbs/A
Tillage	Only to break up compaction	Only to break up compaction
Weed Control	Critical	Critical

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	Grain	Silage
Hybrid Type	High Grain Yield	Tonnage vs. Quality
Stalk Strength	Very Important	Somewhat Important
Insect Resistance	Important	More Important
Disease Tolerance	Important	Important
Harvest Timing	30% to 15% grain moisture	65% to 70% moisture and about $\frac{3}{4}$ milk-line

## High yield system for Corn

1. Productive soils (deep, adequate fertility, no compaction)
2. Adequate, timely rainfall (or irrigation)
3. Using good genetics
4. Rotating crops
5. Planting on time (not necessarily early)
6. Capturing nearly 100% sunlight at by about R1
7. Getting excellent weed control (no trophy-hunting)
8. Scouting for diseases and pests

**Kentucky Silage Corn Hybrid Performance Report: 2011**

**Table 1. Corn Hybrid Performance for Silage, Combined Locations (Boyle & Mason counties), Kentucky, 2011.**

Brand	Hybrid	Milk Line <sup>1</sup>	Tons/A <sup>2</sup>	Milk Yield <sup>3</sup>	NEL <sup>4</sup>	NEG	CP	ADF	NDF	Lignin	
		Line <sup>1</sup>	35% DM <sup>2</sup>	lb/Ton	lb/A	Mcal/lb	Mcal/lb				
Agrow	RX 940 RR2	0.38	24.1	3314	27939	0.77	0.50	7.8	25	42	3.4
Becks	6733 HXR	0.42	23.5	2486	28577	0.79	0.53	8.1	24	40	3.3
Becks	6903 HR	0.42	25.3	3406	30085	0.77	0.50	7.8	24	41	3.3
Caverdale Farms	CF 1026 GT	0.25	21.1	2918	21405	0.66	0.41	6.9	30	50	4.3
Caverdale Farms	CF 907 GTCBLL	0.50	21.9	3135	24004	0.73	0.46	7.7	26	45	3.6
Caverdale Farms	CF 926 GT	0.30	22.0	3315	25606	0.76	0.49	7.6	25	42	3.4
DeKalb	DKC 64-69	0.54	24.1	3176	26735	0.75	0.49	7.5	25	44	3.3
DeKalb	DKC 66-96	0.38	25.4	3544	31421	0.82	0.55	7.5	20	36	2.9
Dyna-Gro	DS8V930	0.33	26.8	3445	32309	0.81	0.54	7.8	22	38	2.9
Dyna-Gro	V5683V73	0.42	25.5	3245	28907	0.77	0.51	7.7	24	41	3.2
MycoGen	TMF2H918	0.25	25.2	3084	27198	0.70	0.43	8.1	28	46	4.6
MycoGen	TMF2W727	0.25	24.1	3411	28739	0.78	0.51	7.9	25	41	3.6
NK Seeds	N73V-3000GT	0.46	23.6	3109	25642	0.71	0.46	7.6	28	47	3.9
NK Seeds	N82V-3000GT	0.42	26.1	3390	30842	0.80	0.53	7.5	22	38	3.1
Pioneer	31G67A91 BLEND	0.38	22.1	3263	25142	0.74	0.48	7.8	26	44	3.5
Pioneer	P1615 HR	0.46	24.1	3286	27558	0.76	0.49	7.5	25	42	3.3
Seed Consultants	SCS11HQ38	0.46	21.5	3316	24894	0.76	0.49	8.0	26	43	4.2
Seed Consultants	SCS11HR70	0.42	24.7	3290	28320	0.75	0.49	7.3	24	41	3.6
Southern States	SS 818 GENVT3PRO	0.38	23.5	3180	26113	0.74	0.47	7.7	27	44	3.9
Southern States	SS 868 GENVT3PRO	0.42	23.9	3180	26454	0.76	0.49	7.4	24	41	3.3
Wyffels Hybrids	W7213	0.42	25.2	3390	29873	0.80	0.52	8.1	21	37	3.1
Wyffels Hybrids	W8681	0.46	22.0	3469	26729	0.78	0.51	7.8	25	42	3.4
	LSD (0.10)	0.09	3.7								
	CV	24	11.6								
	Grand Mean	0.39	23.9								

<sup>1</sup> Milk line measures the starch formation on the corn kernel. 0.75 milk line is considered 35% dry matter. Higher numerical yield is bold with grey box.  
<sup>2</sup> Milk Yield was calculated with Milk 2000. Milk per ton of silage was rounded to 100.  
<sup>3</sup> Net energy for lactation (NEL) and gain (NEG).  
<sup>4</sup> Quality measurements based on dry weight and are calculated from composite.

Range: Tons/A: 21.1 to 26.8  
 LSD: 0.09 tons/A  
 Range: Milk Yield/A: 2918 to 3544

## Hybrid Types

- “Dual-purpose” hybrids
  - Ear: ½ of total weight
  - Stalk, leaves: ½ of total weight
- Increasing total ear weight will increase silage yield.
- Grain yields help estimate tonnage yields.
- Need forage analysis to know the Milk Yield.



## R5, Dent Stage

Dent on end of Kernels

“Milk Line”



## Nutrient Removal Rates

	Removal Rate		Forage Yield		Nutrients Removed	
	Phosphorus P <sub>2</sub> O <sub>5</sub> lbs/ton	Potassium K <sub>2</sub> O	DM	Fresh Tons/A	Phosphorus P <sub>2</sub> O <sub>5</sub> lbs/acre	Potassium K <sub>2</sub> O
Corn Silage	3.5	8	7.9	22.6	79.1	180.8
Wheat silage	4	20	2.4	6.9	27.87	138.9
<b>Total</b>					<b>107</b>	<b>320</b>
Corn Silage	3.5	8	10.5	30.0	105	240
Wheat silage	4	20	2.4	8.0	32	160
<b>Total</b>					<b>137</b>	<b>400</b>

Source	unit	Water %	N lbs/unit	P <sub>2</sub> O <sub>5</sub> lbs/unit	K <sub>2</sub> O lbs/unit
Dairy Cattle	ton	80%	11	9	12
Beef	ton	80%	11	7	10

Assume 95% organic material in dry matter  
 40 to 45% carbon by weight in dry matter

  

Source	Rate	unit	Nitrogen N	Phosphorus P <sub>2</sub> O <sub>5</sub>	Potassium K <sub>2</sub> O	Sulfur S	Organic Carbon
			lbs/acre				
Dairy Cattle	2	ton	22	18	24		320
Dairy Cattle	4	ton	44	36	48		640
Beef	2	ton	22	14	20		320
Beef	4	ton	44	28	40		640

AGR-1: Lime and Fertilizer Recommendations

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Table 13. Recommended application of nitrogen (lb N/A), corn.

Previous Crop	Tillage <sup>1</sup>	Soil Drainage Class <sup>2</sup>		
		Well-Drained	Moderately Well-Drained	Poorly Drained
Corn, sorghum, soybean, small grain, fallow	Intensive	100-140	140-175	175-200
	Conservation	125-165	165-200	
Grass, grass-legume sod (4 yr or less), winter annual legume cover	Intensive	75-115	115-150	150-175
	Conservation	100-140	140-175	
Grass, grass-legume sod (5 yr or more)	Intensive	50-90	90-125	125-150
	Conservation	75-115	115-150	

<sup>1</sup> Intensive tillage has less than 30% residue cover; and conservation tillage has more than 30% residue cover on the soil at planting.

<sup>2</sup> Soil drainage class examples are given on page 3.

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# AGR-79 Producing Corn for Silage

**UK** COOPERATIVE EXTENSION SERVICE AGR-79  
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

## Producing Corn for Silage

*Chad D. Lee, James H. Herbek, Garry Lacefield, and Roy Smith, Department of Plant and Soil Sciences*



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