

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield  
**Experiment:** 03DOP **Trial ID:** 6052 **Year:** 2016  
**Personnel:** Joe Lauer, Kent Kohn, Thierno Diallo  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** ARS392 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/1 /14 **pH:** 6.9 **OM (%)** 2.9 **P (ppm)** 51 **K (ppm)** 124

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### Plot Management

**Tillage Operations:** Disk Chisel Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
<b>Preplant :</b>	46-0-0	150 lbs/A	N/A
<b>Starter :</b>	N/A	N/A	N/A
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A
<b>Herbicide:</b>	Dual II 1.5 pt/A Hornet 4.0 oz/A	<b>Insecticide:</b>	Force 3G 4.4 lb/A
<b>Irrigation:</b>	None	<b>Hybrid:</b>	Dekalb DKC54-38RIB
<b>Planting Date:</b>	See Factors	<b>Planting Depth:</b>	1.5" <span style="margin-left: 50px;"><b>Row Width:</b> 30"</span>
<b>Target Plant Density:</b>	34000 plants per acre	<b>Planting Method:</b>	JD1700 w RTK
<b>Harvest Date:</b>	S: See Factors G: 10/24/16	<b>Harvest Method:</b>	S: New Holland 707 G: Massey Ferguson 8XP
<b>Notes:</b>	Observed no lodging at grain harvest, no lodging values recorded.		

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### Experimental Design

**Design:** RCB split-plot **Replications:** 3  
**Plot Size Seeded:** 10' x 31' **Experiment Size:** 0.5 A  
**Harvest Plot Size:** S: 31' x 2.5'  
G: 31' x 5' **Harvest Plant Density:** 39574 plants per acre

### Factors/Treatments:

<u>Planting Date:</u>	<u>Silage Harvest Date</u>
1) April 14	1) August 26
2) May 03	2) September 09
3) May 15	3) September 26
4) May 31	
5) June 16	
6) July 01	

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**Results: Tables 1603-01, 1603-02 & 1603-03.**

**Table: 1603-01. Planting Date Influence on Corn Grain Performance.**  
**Arlington, WI - 2016.**

Planting date	Grain												
	Test			Lodged			AGI	Silking	Early	Kernel Milk			Black
	Yield	Moisture	weight	Total	Stalk	Root	\$3.44	date	dent	75%	50%	25%	layer
	bu/A	%	lbs/bu	%	%	%	\$/A	doy	doy	doy	doy	doy	doy
April 14	268	18.6	58	0	0	0	845	196	227	236	244	251	260
May 3	263	18.5	57	0	0	0	830	199	228	239	248	255	262
May 16	254	20.4	57	0	0	0	792	201	236	244	251	259	268
May 31	258	22.1	56	0	0	0	795	211	247	256	263	273	285
June 16	216	28.3	51	0	0	0	639	224	261	268	277	286	-
July 1	126	49.9	50	0	0	0	317	240	284	291	-	-	-
Mean	231	26.3	55	0	0	0	703	212	247	256	257	265	269
<b><u>Probability(%)</u></b>													
Planting Date	0.0	0.0	0.0	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b><u>LSD (0.10)</u></b>													
Planting Date	18	1.2	2	-	-	-	54	1	2	3	3	3	3

**Table: 1603-02. Planting Date and Harvest Timing Influence on Corn Silage Performance.****Arlington, WI - 2016.**

Planting date	Harvest date	Whole Plant																
		Dry Matter		Density		Kernel milk	KMR	SMR	VMR	Crude			In Vitro			Milk per		
		yield	Moisture	Harvest	Ears					protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acres	
tons/A	%	plants/A	ears/A	%	0-5	0-5	0-10	%	%	%	%	%	%	lbs/T	lbs/A			
April 14		10.6	58.5	34473	34848	36	1.8	1.6	3.4	6.8	15.6	31.9	88.3	63.2	35.9	3461	36930	
May 3		10.8	60.1	34036	34598	36	1.8	1.8	3.6	6.9	15.5	31.9	88.4	63.5	35.5	3440	37279	
May 16		10.3	62.8	33349	33599	49	2.5	2.0	4.4	7.0	16.7	33.2	87.7	62.8	34.0	3384	35039	
May 31		9.4	69.0	42967	43029	68	3.4	2.7	6.1	7.3	19.8	37.3	86.2	63.1	26.9	3057	29028	
June 16		7.9	76.1	46526	46589	86	4.3	3.6	7.9	7.7	26.0	46.1	81.2	59.4	14.7	2467	20395	
July 1		4.8	81.9	46089	46402	100	5.0	4.2	9.2	9.3	30.7	53.6	79.2	61.1	3.9	2149	10252	
	August 26	7.7	74.9	40843	41124	94	4.7	4.0	8.7	8.2	23.6	43.4	84.2	64.3	18.2	2753	22371	
	September 9	9.1	69.2	38939	39469	62	3.1	2.3	5.4	7.4	20.2	38.5	85.3	62.0	25.3	2966	28283	
	September 26	10.1	60.1	38939	38939	31	1.6	1.7	3.3	7.0	18.3	35.2	86.0	60.2	31.9	3260	33808	
April 14	August 26	10.1	67.1	35785	36159	82	4.1	3.7	7.8	7.2	16.7	33.7	89.2	68.1	32.9	3434	34874	
April 14	September 9	10.3	61.2	33349	34099	27	1.3	1.0	2.3	7.0	16.1	32.5	87.5	61.8	33.7	3306	34148	
April 14	September 26	11.5	47.2	34286	34286	0	0.0	0.1	0.1	6.4	14.0	29.5	88.1	59.8	41.0	3644	41768	
May 3	August 26	9.8	69.5	34286	35223	85	4.3	3.7	8.0	7.1	18.4	36.0	87.4	65.0	29.4	3212	31362	
May 3	September 9	10.6	61.3	33349	34099	22	1.1	1.2	2.3	6.9	15.3	31.8	88.3	63.2	35.1	3399	36045	
May 3	September 26	12.0	49.5	34473	34473	0	0.0	0.4	0.4	6.8	12.8	28.1	89.4	62.2	42.1	3707	44431	
May 16	August 26	9.2	70.7	33724	34099	100	5.0	3.7	8.7	7.5	18.0	35.5	88.2	66.7	28.7	3199	29553	
May 16	September 9	10.7	63.0	32225	32600	48	2.4	1.5	3.9	6.9	15.5	31.8	88.3	63.2	36.3	3497	37462	
May 16	September 26	11.0	54.7	34099	34099	0	0.0	0.7	0.7	6.6	16.6	32.4	86.6	58.6	36.9	3455	38102	
May 31	August 26	8.2	75.5	44778	44778	100	5.0	4.0	9.0	7.8	22.7	41.5	85.3	64.8	18.1	2645	21709	
May 31	September 9	9.8	70.7	41780	41967	77	3.8	2.6	6.4	7.3	18.9	35.6	87.0	63.6	29.6	3189	31175	
May 31	September 26	10.2	60.9	42342	42342	28	1.4	1.6	3.0	6.8	17.7	34.7	86.4	60.9	33.1	3335	34200	
June 16	August 26	5.7	81.6	47401	47401	100	5.0	4.0	9.0	8.5	31.9	55.5	76.6	57.8	0.0	1778	10214	
June 16	September 9	8.5	76.3	47963	48150	100	5.0	3.6	8.6	7.6	24.3	43.7	82.7	60.5	17.3	2579	21779	
June 16	September 26	9.6	70.4	44216	44216	58	2.9	3.2	6.1	6.9	21.7	39.2	84.2	59.8	26.9	3044	29193	
July 1	August 26	2.9	85.2	49087	49087	100	5.0	4.7	9.7	10.9	34.0	58.0	78.8	63.4	0.0	2250	6511	
July 1	September 9	5.0	82.9	44965	45902	100	5.0	3.7	8.7	8.5	31.1	55.2	77.8	59.8	0.0	1823	9090	
July 1	September 26	6.4	77.6	44216	44216	100	5.0	4.2	9.2	8.4	27.0	47.4	81.1	60.2	11.7	2372	15154	
Mean		9.0	68.1	39574	39844	62.6	3.1	2.6	5.8	7.5	20.7	39.0	85	62	25	2993	28153.9	
<b>Probability(%)</b>																		
Planting Date (D)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	
Harvest Timing (H)		0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	
D x H		0.5	0.0	6.3	23.7	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0	0.3	
<b>LSD (0.10)</b>																		
Planting Date (D)		0.6	1.1	1369	1518	2	0.1	0.3	0.3	0.3	1.3	1.4	1.3	2.0	1.6	103	2553	
Harvest Timing (H)		0.3	0.7	914	1013	1	0.1	0.2	0.2	0.2	0.7	0.8	0.7	1.1	1.1	69	1427	
D x H		0.8	1.8	2238	NS	3	0.1	0	0.5	0.6	1.8	2.1	1.8	2.9	2.7	168	3707	

**Table: 1603-03. Planting Date and Hybrid Influence on Corn Leaf Development.  
Arlington, WI - 2016.**

Date of planting	Observation date	Leaf Development			Plant height
		Leaf collars	Hail adjusters method	Total leaves	
	day of year	no./plant	no./plant	no./plant	inches
	146	2.7	3.8	4.3	3.6
	158	5.0	6.5	7.4	11.3
	172	6.8	9.0	10.9	26.4
	187	9.6	11.8	13.1	49.5
	201	13.4	14.2	15.1	70.2
	214	16.0	16.6	17.1	86.6
	228	18.0	18.2	18.4	98.1
April 14		13.1	14.2	14.9	61.4
May 3		12.1	13.1	13.8	60.4
May 16		12.4	13.3	14.3	66.9
May 31		12.2	13.4	14.2	64.1
June 16		11.0	12.4	13.3	59.0
July 1		8.2	9.5	10.7	37.8
April 14	146	3.5	4.7	5.0	4.3
April 14	158	6.0	7.8	8.8	13.0
April 14	172	9.0	11.7	14.0	36.2
April 14	187	13.8	15.7	17.0	74.5
April 14	201	19.8	19.8	19.8	101.0
April 14	214	19.8	19.8	19.8	99.0
April 14	228	19.8	19.8	19.8	101.7
May 3	146	1.8	2.8	3.5	3.0
May 3	158	5.0	6.5	7.3	12.8
May 3	172	7.7	9.8	12.2	31.3
May 3	187	12.0	14.3	15.8	67.7
May 3	201	19.3	19.3	19.3	102.2
May 3	214	19.3	19.3	19.3	102.7
May 3	228	19.3	19.3	19.3	102.8
May 16	146	-	-	-	-
May 16	158	4.0	5.2	6.0	8.2
May 16	172	6.7	8.7	10.5	29.2
May 16	187	10.5	13.0	14.5	60.5
May 16	201	16.7	16.8	18.2	96.2
May 16	214	18.2	18.2	18.2	103.3
May 16	228	18.2	18.2	18.2	104.3

Continued

**Table: 1603-03. Planting Date and Hybrid Influence on Corn Leaf Development.**(continued) **Arlington, WI - 2016.**

Date of planting	Observation date day of year	Leaf Development			Plant height inches
		Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 31	146	-	-	-	-
May 31	158	-	-	-	-
May 31	172	4.0	5.8	6.8	9.0
May 31	187	7.2	9.7	11.0	32.7
May 31	201	11.8	13.7	15.0	70.7
May 31	214	19.0	19.0	19.0	102.7
May 31	228	19.0	19.0	19.0	105.7
June 16	146	-	-	-	-
June 16	158	-	-	-	-
June 16	172	-	-	-	-
June 16	187	4.7	6.3	7.0	12.0
June 16	201	7.8	10.0	11.3	39.7
June 16	214	12.3	14.2	15.7	75.5
June 16	228	19.2	19.2	19.2	109.0
July 1	146	-	-	-	-
July 1	158	-	-	-	-
July 1	172	-	-	-	-
July 1	187	-	-	-	-
July 1	201	4.7	5.7	6.7	11.5
July 1	214	7.3	9.3	10.7	36.5
July 1	228	12.7	13.5	14.7	65.3
		11.9	13.0	13.8	60.1
<b><u>Probability(%)</u></b>					
Date of Planting (D)		0.0	0.0	0.0	0.0
Sample DOY (S)		0.0	0.0	0.0	0.0
D x S		0.0	0.0	0.0	0.0
<b><u>LSD(0.10)</u></b>					
Date of Planting (D)		0.4	0.4	0.4	2.4
Sample DOY (S)		0.2	0.2	0.2	1.8
D x S		0.4	0.6	0.5	4.4