

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield  
**Experiment:** 03DOP **Trial ID:** 5945 **Year:** 2015  
**Personnel:** Joe Lauer, Kent Kohn, Thierno Diallo  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

### Site Information

**Field:** ARS358 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/1 /15 **pH:** 6.1 **OM (%)** 2.9 **P (ppm)** 27 **K (ppm)** 161

### Plot Management

**Tillage Operations:** Spring Chisel Field Cultivator prior to each DOP

		<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>	<b>Preplant :</b>	46-0-0	150lbs/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>Hybrid:</b> Dekalb DKC54-38RIB	
<b>Irrigation:</b>	none			
<b>Planting Date:</b>	See Factors	<b>Planting Depth:</b> 1.5"	<b>Row Width:</b> 30"	
<b>Target Plant Density:</b>	34000 plants per acre		<b>Planting Method:</b> JD 1700	
<b>Harvest Date:</b>	S: See Factors G: 11/3/15		<b>Harvest Method:</b> S: New Holland 707 G: Massey Ferguson 8XP	

### Experimental Design

**Design:** RCB split-plot **Replications:** 3  
**Plot Size Seeded:** 40' x 35' **Experiment Size:** 1.1 A  
**Harvest Plot Size:** S: 32' x 2.5'  
G: 32' x 5' **Harvest Plant Density:** 34206 plants per acre

### Factors/Treatments:

<u>Planting Date:</u>	<u>Silage Harvest Date</u>
1) April 16	1) September 04
2) May 01	2) September 22
3) May 14	3) September 30
4) June 01	
5) June 17	
6) July 01	

**Results: Tables 1503-01, 1503-02 & 1503-03.**

**Table: 1503-01. Planting Date Influence on Corn Grain Performance.  
Arlington, WI - 2015.**

Planting date	Grain																
	Density				Yield	Moisture	Test weight	Lodged			AGI \$3.44 \$/A	Silking date doy	Early dent doy	Kernel Milk			Black layer doy
	Emerge plants/A	Harvest plants/A	Ears ears/A	bu/A				Total %	Stalk %	Root %				75 % doy	50 % doy	25 % doy	
April 16	34122	33487	33487	259	18.3	59	6	6	0	808	199	231	239	246	253	265	
May 01	33215	33033	33124	261	18.8	60	3	3	0	813	201	236	242	249	257	266	
May 14	34031	33124	33215	256	20.1	59	1	1	0	789	206	242	249	255	262	273	
June 01	34394	34213	34213	249	23.1	55	1	1	0	753	214	254	260	266	274	283	
June 17	34576	34304	34394	203	30.3	50	1	1	0	585	228	269	277	284	288	-	
July 01	35120	36391	36391	114	46.5	48	10	9	0	293	241	281	288	-	-	-	
Mean	34243	34092	34137	224	26.2	55	4	4	0	674	215	252	259	260	267	272	
<b><u>Probability(%)</u></b>																	
Date of Planting (D)	16.2	1.9	2.1	0.0	0.0	0.0	31.0	30.6	46.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
<b><u>LSD (0.10)</u></b>																	
Date of Planting (D)	NS	1483	1474	14	1.9	1	NS	NS	NS	41	2	2	2	3	4	5	

**Table: 1503-02. Planting Date and Harvest Timing Influence on Corn Silage Performance.  
Arlington, WI - 2015.**

Planting date	Harvest date	Whole Plant														
		Dry Matter		Harvest population	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Crude			<i>In Vitro</i>		Milk per		
		yield tons/A	Moisture %						protein %	ADF %	NDF %	Digest %	NDFD %	Starch %	Ton lbs/T	Acre lbs/A
May 01		10.7	53.1	34162	29	1.4	0.9	2.4	6.3	25.6	45.4	81.8	59.8	36.9	3320	35688
May 14		10.1	59.0	32912	33	1.6	1.6	3.3	6.6	26.5	46.9	81.6	60.7	33.7	3295	33280
June 01		9.8	66.9	35635	72	3.6	2.5	6.1	6.9	28.4	50.2	80.5	61.3	29.6	3209	31813
June 17		6.8	75.2	34727	91	4.6	3.8	8.4	8.1	33.7	59.8	78.1	63.2	17.4	2982	20609
July 01		4.4	80.1	35393	99	5.0	3.9	8.9	9.3	36.5	64.8	76.5	63.6	9.3	2844	12889
	September 04	7.1	73.7	34243	85	4.2	3.2	7.5	8.3	32.8	58.5	78.1	62.4	20.9	2995	22026
	September 22	9.2	61.4	34596	49	2.5	2.0	4.4	6.8	27.9	49.6	81.2	61.9	29.4	3249	30320
	September 30	9.9	57.6	34122	37	1.9	1.5	3.4	6.6	27.0	47.3	81.2	60.2	32.0	3270	32627
April 16	September 04	9.1	65.3	31763	55	2.8	1.6	4.4	7.0	27.5	48.8	81.2	61.4	33.4	3255	29703
April 16	September 22	11.1	46.5	33215	2	0.1	0.2	0.3	5.8	24.1	43.0	82.9	60.3	39.0	3405	37631
April 16	September 30	11.4	41.0	34304	0	0.0	0.3	0.3	6.1	22.5	39.9	83.8	59.5	41.3	3476	39667
May 01	September 04	9.9	64.8	34304	75	3.8	2.0	5.8	6.8	26.3	47.8	82.3	63.0	34.6	3326	33097
May 01	September 22	11.1	49.6	35695	12	0.6	0.5	1.1	6.0	24.6	43.5	82.3	59.3	38.8	3365	37471
May 01	September 30	11.2	45.1	32489	0	0.0	0.3	0.3	6.0	25.9	44.8	80.8	57.1	37.2	3269	36498
May 14	September 04	8.8	70.0	33578	78	3.9	2.9	6.9	7.1	28.6	51.1	80.4	61.6	30.3	3191	28087
May 14	September 22	10.4	56.1	32670	17	0.8	1.2	2.1	6.3	25.5	45.8	82.2	61.2	34.5	3340	34844
May 14	September 30	11.0	51.0	32489	3	0.2	0.7	0.8	6.3	25.4	43.7	82.2	59.3	36.3	3355	36908
June 01	September 04	7.6	75.4	35574	100	5.0	3.2	8.2	8.2	31.8	56.1	77.8	60.5	23.5	3005	22812
June 01	September 22	10.8	63.5	36300	72	3.6	2.5	6.1	6.3	27.0	48.3	82.1	63.1	32.2	3312	35778
June 01	September 30	11.1	61.8	35030	43	2.2	1.8	3.9	6.3	26.4	46.1	81.7	60.4	32.9	3309	36850
June 17	September 04	4.8	82.0	34848	100	5.0	4.8	9.8	9.6	40.4	72.3	73.9	63.9	2.6	2639	12626
June 17	September 22	7.0	73.2	34304	95	4.8	3.6	8.4	7.7	31.3	54.7	79.5	62.6	22.9	3108	21924
June 17	September 30	8.5	70.4	35030	78	3.9	3.0	6.9	7.0	29.5	52.3	80.8	63.2	26.5	3200	27279
July 01	September 04	2.3	84.7	35393	100	5.0	4.8	9.8	10.9	42.0	75.2	72.9	64.0	0.9	2555	5833
July 01	September 22	4.8	79.2	35393	100	5.0	3.7	8.7	8.9	35.1	62.2	78.4	65.2	9.2	2965	14270
July 01	September 30	6.2	76.3	35393	98	4.9	3.2	8.1	8.0	32.5	57.1	78.1	61.6	17.8	3012	18563
Mean		8.7	64.2	34320	57	2.9	2.2	5.1	7.2	29.2	51.8	80.2	61.5	27.5	3172	28325
<b>Probability(%)</b>																
Date of Planting (D)		0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Harvest Timing (H)		0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
D x H		0.1	0.0	41.8	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.1	9.1	0.0	0.0	0.5
<b>LSD (0.10)</b>																
Date of Planting (D)		0.8	2.4	1665	9	0.4	0.3	0.5	0.3	1.7	2.1	1.6	1.9	2.5	101	2718
Harvest Timing (H)		0	1	NS	4	0.2	0.2	0.3	0.2	0.8	1.2	0.7	1.0	1.3	48	1175
D x H		0.9	2.7	NS	11	0.6	NS	0.8	0.4	2.3	3.1	2.1	2.6	3.4	133	3408

**Table: 1503-03. Planting Date and Hybrid Influence on Corn Leaf Development.  
Arlington, WI - 2015.**

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
	147	3.1	3.8	5.2	3.5
	159	4.7	6.2	7.1	9.8
	174	7.0	9.1	10.6	22.7
	187	9.1	11.1	12.4	42.1
	201	12.8	14.2	14.9	60.9
	215	15.6	16.6	17.2	81.2
	229	17.8	18.3	18.5	94.4
	243	18.9	19.1	19.1	99.2
April 16		13.5	14.3	15.1	61.1
May 01		13.2	14.1	14.9	62.1
May 14		13.5	14.4	15.1	67.9
June 01		12.9	14.1	14.6	65.6
June 17		11.9	13.3	14.2	58.9
July 01		9.9	11.8	12.6	50.7
April 16	147	3.2	4.0	5.3	4.0
April 16	159	5.2	7.0	8.0	11.1
April 16	174	9.0	11.2	13.2	30.0
April 16	187	12.3	14.5	16.2	62.8
April 16	201	19.5	19.5	19.5	89.8
April 16	215	19.5	19.5	19.5	96.0
April 16	229	19.5	19.5	19.5	97.5
April 16	243	19.5	19.5	19.5	97.5
May 01	147	3.0	3.5	5.0	3.0
May 01	159	5.0	6.7	7.7	11.8
May 01	174	8.5	10.7	12.3	30.8
May 01	187	11.8	14.5	15.8	61.0
May 01	201	18.2	18.8	19.2	90.5
May 01	215	19.7	19.7	19.7	99.5
May 01	229	19.7	19.7	19.7	100.2
May 01	243	19.7	19.7	19.7	100.2
May 14	147	-	-	-	-
May 14	159	3.8	4.8	5.7	6.4
May 14	174	6.7	8.7	10.2	21.3
May 14	187	9.8	12.5	13.8	48.3
May 14	201	15.3	16.3	17.3	81.7
May 14	215	19.7	19.5	19.5	104.0
May 14	229	19.5	19.5	19.5	106.7
May 14	243	19.5	19.5	19.5	106.7

Continued

**Table: 1503-03. Planting Date and Hybrid Influence on Corn Leaf Development.**  
 (continued) **Arlington, WI - 2015.**

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	
June 01	147	-	-	-	-
June 01	159	-	-	-	-
June 01	174	4.0	5.8	6.8	8.5
June 01	187	7.2	9.2	10.2	29.2
June 01	201	11.3	13.8	14.8	61.2
June 01	215	16.7	17.8	17.8	89.0
June 01	229	19.0	19.0	19.0	103.0
June 01	243	19.0	19.0	19.0	103.0
June 17	147	-	-	-	-
June 17	159	-	-	-	-
June 17	174	-	-	-	-
June 17	187	4.2	5.0	6.2	9.3
June 17	201	7.5	10.3	11.3	29.7
June 17	215	11.0	13.2	15.3	63.3
June 17	229	17.7	18.5	18.8	93.2
June 17	243	19.3	19.3	19.3	99.2
July 01	147	-	-	-	-
July 01	159	-	-	-	-
July 01	174	-	-	-	-
July 01	187	-	-	-	-
July 01	201	5.0	6.2	7.2	12.3
July 01	215	7.0	10.2	11.3	35.5
July 01	229	11.3	13.3	14.7	66.2
July 01	243	16.3	17.3	17.3	88.8
Mean		12.7	13.9	14.6	61.9
<b>Probability(%)</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>LSD(0.10)</b>					
Date of Planting (D)		0.5	0.5	0.5	3.8
Sample DOY (S)		0.3	0.3	0.2	1.5
D x S		0.6	0.6	0.5	3.8