

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID:** 5787 **Year:** 2014
Personnel: Joe Lauer, Kent Kohn, Thierno Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS369 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/1 /14 **pH:** 5.9 **OM (%)** 2.8 **P (ppm)** 41 **K (ppm)** 94

Plot Management

Tillage Operations: Spring Chisel Field Cultivator prior to each DOP

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer: Preplant :	46-0-0	150lbs/A	N/A
Starter :	9-23-30	150lbs/A	See Factors
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A

Herbicide: Dual II 1.5 pt/A **Insecticide:** Force 3G 4.4 lb/A
 Hornet 4.0 oz/A **Hybrid:** Dekalb DKC53-56RIB

Irrigation: none

Planting Date: See Factors **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 plants per acre **Planting Method:** Kinze no-till planter

Harvest Date: S: See Factors **Harvest Method:** S: New Holland 707
 G: 11/7/14 G: Massey Ferguson 8XP

Experimental Design

Design: RCB split-plot **Replications:** 4

Plot Size Seeded: 40' x 25' **Experiment Size:** 1.1 A

Harvest Plot Size: S: 21' x 2.5' **Harvest Plant Density:** 29156 plants per acre
 G: 21' x 5'

Factors/Treatments:

<u>Planting Date:</u>	<u>Silage Harvest Dates:</u>
1) April 22	1) August 29
2) May 05	2) September 16
3) May 19	3) October 01
4) June 05	
5) June 26	

Results: Tables 1403-01, 1403-02 & 1403-03.

**Table: 1403-01. Planting Date Influence on Corn Grain Performance.
Arlington, WI - 2014.**

Planting date	Grain																
	Density				Test weight	Moisture %	Lodged			AGI \$3.67 \$/A	Plant height inches	Silking date doy	Early dent doy	Kernel Milk			Black layer doy
	Emerge plants/A	Harvest plants/A	Ears ears/A	Yield bu/A			Total %	Stalk %	Root %					75 % doy	50 % doy	25 % doy	
April 22	33500	33292	34329	240	21.8	55	0	0	0	795	94	204	245	252	260	269	282
May 05	31218	33915	34226	235	23.3	55	0	0	0	771	95	204	244	251	261	271	284
May 19	36300	34329	35055	242	24.5	54	0	0	0	789	100	209	250	256	263	275	288
June 05	36300	35263	35885	182	31.8	50	0	0	0	567	100	220	258	271	284	291	-
June 26	35574	35055	35159	24	61.2	45	1	0	1	60	44	245	293	-	-	-	-
Mean	34578	34371	34931	184	32.5	52	0	0	0	596	86	216	258	258	267	277	284
Probability(%)																	
Date of Planting (D)	0.0	70.9	85.7	0.0	0.0	0.0	44.5	44.5	44.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8
LSD (0.10)																	
Date of Planting (D)	1505	NS	NS	15	2.8	2	NS	NS	NS	59	5	1	3	2	3	4	3

Table: 1403-02. Planting Date and Harvest Timing Influence on Corn Silage Performance.**Arlington, WI - 2014.**

Planting date	Harvest date	Whole Plant														
		Dry Matter		Harvest population	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Crude			In Vitro		Starch	Milk per	
		yield tons/A	Moisture %						protein %	ADF %	NDF %	Digest %	NDFD %		Ton lbs/T	Acre lbs/A
April 22		9.0	60.9	27936	54.6	2.7	2.3	5.0	6.9	26.9	48.4	81.9	62.6	30.8	3332	30093
May 05		8.6	62.5	26659	53.3	2.7	2.5	5.1	7.0	27.9	50.2	81.3	62.9	29.2	3287	28390
May 19		9.2	63.3	30724	65.0	3.3	2.3	5.5	6.8	29.2	51.6	81.2	63.5	28.2	3268	30383
June 05		7.1	72.2	30957	88.8	4.4	3.6	8.0	7.5	32.7	57.6	79.5	64.4	17.7	3129	22553
June 26		3.7	78.1	29505	99.2	5.0	4.3	9.3	9.2	36.9	64.8	79.8	69.0	4.0	2840	10733
	August 29	5.8	76.8	29272	95.5	4.8	4.0	8.8	8.8	36.8	63.8	77.0	63.7	13.7	2935	17385
	September 16	8.1	67.0	29447	76.3	3.8	3.0	6.8	6.8	28.9	52.2	82.5	66.3	23.9	3252	26731
	October 01	8.7	58.5	28750	44.8	2.2	1.9	4.2	6.9	26.4	47.6	82.8	63.4	28.3	3327	29175
April 22	August 29	7.3	72.2	27704	91.3	4.6	3.5	8.1	8.2	32.0	56.2	78.8	62.2	22.9	3097	22597
April 22	September 16	9.7	61.1	28227	63.8	3.2	2.4	5.6	6.3	25.7	47.1	83.2	64.4	32.3	3419	33094
April 22	October 01	9.9	49.3	27878	8.7	0.4	1.0	1.5	6.3	23.1	42.1	83.7	61.2	37.2	3481	34590
May 05	August 29	7.2	73.2	27878	92.5	4.6	3.9	8.6	8.0	32.8	57.1	78.2	61.8	22.8	3061	21990
May 05	September 16	9.2	62.3	27181	60.0	3.0	2.4	5.4	6.4	27.1	49.8	82.4	64.9	30.5	3353	30885
May 05	October 01	9.4	52.1	24916	7.5	0.4	1.0	1.4	6.6	23.9	43.7	83.4	61.9	34.2	3448	32295
May 19	August 29	7.5	75.0	30840	93.8	4.7	3.4	8.1	8.1	35.4	60.9	77.3	62.8	18.8	2984	22371
May 19	September 16	9.6	62.8	30318	67.5	3.4	2.2	5.6	5.9	27.7	50.0	82.7	65.4	30.5	3367	32416
May 19	October 01	10.5	52.1	31015	33.8	1.7	1.2	2.9	6.3	24.5	44.0	83.4	62.3	35.3	3452	36360
June 05	August 29	5.0	80.6	31363	100.0	5.0	4.4	9.4	8.8	40.9	70.5	75.0	64.5	3.9	2775	13778
June 05	September 16	7.8	70.6	31015	92.5	4.6	3.6	8.2	6.8	28.9	51.7	82.2	65.6	23.5	3323	25984
June 05	October 01	8.5	65.4	30492	73.8	3.7	2.7	6.4	6.8	28.2	50.5	81.4	63.1	25.8	3289	27897
June 26	August 29	2.2	82.8	28575	100.0	5.0	4.9	9.9	10.7	43.1	74.4	75.5	67.1	0.0	2757	6190
June 26	September 16	4.0	78.1	30492	97.5	4.9	4.4	9.3	8.5	35.3	62.4	82.0	71.2	2.8	2799	11276
June 26	October 01	5.0	73.5	29447	100.0	5.0	3.6	8.6	8.3	32.4	57.6	81.9	68.6	9.3	2962	14733
Mean		7.5	67.4	29156	72.2	3.6	3.0	6.6	7.5	30.7	54.5	80.7	64.5	22.0	3171	24430
Probability(%)																
Date of Planting (D)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Harvest Timing (H)		0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D x H		6.7	0.0	8.9	0.0	0.0	7.4	0.0	50.4	0.9	0.1	36.2	63.7	0.0	0.2	1.1
LSD (0.10)																
Date of Planting (D)		0.5	0.9	1212	5.6	0.3	0.4	0.5	0.4	1.2	1.9	0.9	1.1	1.7	66	1490
Harvest Timing (H)		0	1	NS	3.4	0.2	0	0.3	0.2	0.8	1.1	1	0.8	1.1	49	937
D x H		0.6	1.4	1659	8.1	0.4	0.6	0.7	NS	1.8	2.7	NS	NS	2.6	109.2	2204

**Table: 1403-03. Planting Date and Hybrid Influence on Corn Leaf Development.
Arlington, WI - 2014.**

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	
	154	2.8	4.1	4.8	5.6
	168	5.5	8.0	8.9	16.2
	181	8.0	11.2	12.5	37.3
	196	10.6	12.3	13.7	56.2
	224	17.2	17.8	18.0	86.2
April 22		10.5	12.3	13.2	48.7
May 05		10.0	11.8	12.6	46.0
May 19		9.7	11.5	12.4	46.6
June 05		10.7	12.3	13.2	52.5
June 26		6.5	8.8	9.8	31.3
April 22	154	3.5	4.9	5.6	6.7
April 22	168	5.9	8.6	9.5	17.8
April 22	181	9.4	13.3	14.8	45.4
April 22	196	14.1	15.0	16.4	80.2
April 22	224	19.5	19.5	19.5	93.4
May 05	154	3.0	4.3	4.8	5.4
May 05	168	5.6	8.0	8.9	16.5
May 05	181	9.0	12.9	14.1	44.8
May 05	196	13.1	14.6	16.0	74.2
May 05	224	19.0	19.0	19.0	89.3
May 19	154	2.0	3.3	4.0	4.7
May 19	168	5.0	7.4	8.4	14.3
May 19	181	8.5	11.8	13.1	43.8
May 19	196	13.4	15.4	17.0	75.0
May 19	224	19.5	19.5	19.5	95.3
June 05	154	-	-	-	-
June 05	168	-	-	-	-
June 05	181	5.0	7.0	8.0	15.5
June 05	196	8.3	11.0	12.6	42.1
June 05	224	18.9	18.9	18.9	99.8
June 26	154	-	-	-	-
June 26	168	-	-	-	-
June 26	181	-	-	-	-
June 26	196	3.9	5.5	6.5	9.4
June 26	224	9.1	12.1	13.1	53.3
Mean		9.8	11.6	12.5	46.3
Probability(%)					
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
LSD(0.10)					
Date of Planting (D)		0.5	0.5	0.5	1.8
Sample DOY (S)		0.4	0.4	0.5	0.9
D x S		0.9	1.0	1.0	2.1