

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID:** 6162 **Year:** 2017
Personnel: Joe Lauer, Kent Kohn, Thierno Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS373 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 11/1 /17 **pH:** 5.9 **OM (%)** 2.8 **P (ppm)** 16 **K (ppm)** 39

Plot Management

Tillage Operations: Disk Chisel Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325 lbs/A	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A
Herbicide:	Dual II 1.5 pt/A Hornet 4.0 oz/A	Insecticide: None	
		Hybrid: Factor	
Irrigation:	None		
Planting Date:	See Factors	Planting Depth: 1.5"	Row Width: 30"
Target Plant Density:	34000 plants per acre	Planting Method:	JD1700 w RTK
Harvest Date:	S: See Factors G: 11/02/17	Harvest Method:	S: New Holland 707 G: Massey Ferguson 8XP

Notes:

Experimental Design

Design: RCB split-plot (2 x 3 Factorial for split) **Replications:** 3
Plot Size Seeded: 10' x 30' **Experiment Size:** 1.3A
Harvest Plot Size: S: 30' x 2.5'
G: 30' x 5' **Harvest Plant Density:** 31600 plants per acre

Factors/Treatments:

<u>Planting Date:</u>	<u>Hybrid:</u>	<u>Harvest Date:</u>
1) April 17	1) NK Brand N45P3011A	1) September 06
2) May 05	2) DeKalb DKC58-06RIB	2) September 26
3) May 19		
4) June 06		
5) June 16		

Results: Tables 1703-01, 1703-02 & 1703-03.

Table: 1703-01. Planting Date Influence on Corn Grain Performance.
Arlington, WI - 2017.

Planting date	Hybrid	Grain														
		Harvest			Test		Lodged			AGI	Silking	Early	Kernel Milk			Black
		population	Yield	Moisture	weight	Total	Stalk	Root	\$/A	date	dent	75%	50%	25%	layer	
		plants/A	bu/A	%	lbs/bu	%	%	%	\$/A	doy	doy	doy	doy	doy	doy	
	Dekalb DKC58-06	32067	185	40.5	55	8	1	7	480	221	263	270	278	285	-	
	NK Brand N45P11A	31133	156	37.4	54	1	1	1	419	219	260	269	277	283	285	
April 17		30500	223	26.9	55	0	0	0	619	207	248	256	265	273	281	
May 05		32167	227	27.2	55	1	1	0	629	210	248	258	265	272	280	
May 19		30667	199	31.8	54	3	1	1	534	217	262	267	274	281	293	
June 06		33000	159	47.3	54	11	3	8	380	230	271	276	282	290	-	
June 16		31667	44	61.6	53	9	0	9	84	237	279	291	301	304	-	
April 17	Dekalb DKC58-06	31333	245	28.0	55	0	0	0	678	209	249	257	267	275	284	
May 05	Dekalb DKC58-06	33333	244	29.6	54	1	1	0	666	211	248	260	268	275	282	
May 19	Dekalb DKC58-06	30667	211	34.5	55	4	2	1	556	218	264	267	274	283	298	
June 06	Dekalb DKC58-06	33000	161	49.9	55	20	3	17	375	230	271	278	283	290	-	
June 16	Dekalb DKC58-06	32000	62	60.7	56	17	0	17	123	238	283	287	298	304	-	
April 17	NK Brand N45P11A	29667	200	25.8	56	0	0	0	560	206	248	254	263	271	278	
May 05	NK Brand N45P11A	31000	209	24.8	56	1	1	0	592	209	247	257	263	270	277	
May 19	NK Brand N45P11A	30667	187	29.2	54	2	1	1	511	217	261	268	274	280	288	
June 06	NK Brand N45P11A	33000	157	44.7	54	2	2	0	385	230	270	275	281	289	296	
June 16	NK Brand N45P11A	31333	25	62.5	50	1	0	1	45	236	275	294	303	304		
Mean		31600	170	39.0	55	5	1	4	449	220	262	270	278	284	286	
Probability(%)																
	Hybrid(H)	28.3	3.5	10.8	15.8	2.0	42.8	1.6	5.5	9.3	13.2	78.8	45.6	15.7	4.4	
	PlantDate(P)	12.6	0.0	0.0	12.1	0.0	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	HxP	72.0	16.9	34.0	0.9	0.0	82.3	0.0	12.7	51.0	31.1	9.8	29.6	61.0	47.8	
LSD (0.10)																
	Hybrid(H)	NS	16	NS	NS	3	NS	2	44	2	NS	NS	NS	NS	3	
	PlantDate(P)	NS	15	3.2	NS	3	1	2	42	1	3	4	4	3	3	
	HxP	NS	NS	NS	2	4	NS	3	NS	NS	NS	5	NS	NS	NS	

**Table: 1703-02. Planting Date and Harvest Timing Influence on Corn Silage Performance.
Arlington, WI - 2017.**

Hybrid	Planting date	Harvest date	Whole Plant													Milk per	
			Dry Matter		Kernel	KMR	SMR	VMR	Crude	In Vitro							
			yield	Moisture	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre	
	tons/A	%	%	0-5	0-5	0-10	%	%	%	%	%	%	lbs/T	lbs/A			
Dekalb DKC58-06			7.4	70.9	86	4.3	4.0	8.3	7.4	22.1	41.2	84.9	63.7	20.2	2727	21015	
NK Brand N45P11A			6.4	69.9	82	4.1	3.7	7.8	7.6	21.7	40.9	85.3	64.3	20.3	2729	18144	
	April 17		8.0	63.8	60	3.0	3.5	6.5	7.0	16.6	33.5	89.1	67.3	31.9	3227	25951	
	May 05		8.1	64.2	78	3.9	3.5	7.4	7.1	17.8	35.1	87.7	64.9	30.4	3163	25809	
	May 19		7.0	69.6	86	4.3	3.8	8.1	7.4	20.7	39.3	85.9	64.0	22.8	2864	20478	
	June 06		6.8	74.5	95	4.8	4.1	8.9	7.7	24.6	44.8	83.0	62.1	14.1	2445	17102	
	June 16		4.4	79.9	100	5.0	4.3	9.3	8.5	29.8	52.7	79.8	61.6	2.1	1939	8557	
		September 06	6.0	75.1	98	4.9	5.0	10.0	7.9	24.1	44.1	84.8	65.9	13.6	2462	15322	
		September 26	7.7	65.7	69	3.5	2.7	6.1	7.2	19.7	38.1	85.5	62.0	26.9	2994	23837	
Dekalb DKC58-06	April 17		8.8	64.1	66	3.3	4.0	7.3	6.8	16.1	32.5	89.5	67.5	33.3	3294	28978	
Dekalb DKC58-06	May 05		8.5	65.6	79	4.0	3.6	7.6	7.0	18.2	35.5	87.4	64.4	29.3	3109	26772	
Dekalb DKC58-06	May 19		7.5	70.2	88	4.4	3.9	8.3	7.2	21.1	39.6	85.4	63.1	22.7	2847	21825	
Dekalb DKC58-06	June 06		7.2	74.8	95	4.8	4.2	8.9	7.6	24.8	45.1	82.9	62.1	13.5	2408	17921	
Dekalb DKC58-06	June 16		4.8	79.9	100	5.0	4.3	9.3	8.5	30.1	53.4	79.3	61.2	2.3	1975	9579	
NK Brand N45P11A	April 17		7.2	63.5	54	2.7	3.0	5.7	7.1	17.1	34.4	88.7	67.0	30.5	3159	22925	
NK Brand N45P11A	May 05		7.7	62.9	77	3.8	3.5	7.3	7.2	17.4	34.7	88.0	65.4	31.4	3218	24846	
NK Brand N45P11A	May 19		6.5	69.0	83	4.2	3.7	7.9	7.6	20.3	39.0	86.4	64.9	22.9	2881	19132	
NK Brand N45P11A	June 06		6.4	74.2	96	4.8	4.0	8.8	7.8	24.4	44.5	83.2	62.1	14.7	2482	16284	
NK Brand N45P11A	June 16		4.0	79.8	100	5.0	4.2	9.2	8.5	29.4	52.0	80.3	62.1	1.9	1903	7535	
Dekalb DKC58-06		September 06	6.4	75.2	98	4.9	5.1	10.0	7.8	24.2	44.2	84.5	65.5	13.3	2435	16036	
Dekalb DKC58-06		September 26	8.4	66.7	73	3.7	2.9	6.6	7.1	19.9	38.3	85.3	61.8	27.1	3018	25993	
NK Brand N45P11A		September 06	5.6	75.0	98	4.9	5.0	9.9	7.9	23.9	43.9	85.0	66.4	13.8	2488	14609	
NK Brand N45P11A		September 26	7.1	64.7	66	3.3	2.4	5.7	7.4	19.5	37.9	85.6	62.2	26.8	2970	21680	
	April 17	September 06	7.2	69.6	92	4.6	5.2	9.8	7.2	18.0	35.5	89.4	70.2	26.7	3093	22226	
	April 17	September 26	8.8	57.9	28	1.4	1.9	3.3	6.8	15.2	31.5	88.8	64.4	37.1	3360	29677	
	May 05	September 06	7.2	70.2	100	5.0	5.0	10.0	7.3	20.0	38.1	87.7	67.9	24.2	3002	21635	
	May 05	September 26	9.0	58.2	56	2.8	2.1	4.9	6.9	15.6	32.1	87.7	62.0	36.5	3325	29983	
	May 05	September 06	6.1	75.1	100	5.0	5.0	10.0	7.8	23.9	43.7	85.2	66.2	13.3	2423	14880	
	May 05	September 26	7.9	64.2	72	3.6	2.6	6.2	7.1	17.6	34.9	86.6	61.8	32.4	3305	26076	
	June 06	September 06	5.8	78.3	100	5.0	5.0	10.0	8.1	27.6	49.1	81.9	63.2	3.7	1900	10912	
	June 06	September 26	7.8	70.8	91	4.5	3.2	7.7	7.3	21.6	40.5	84.2	60.9	24.4	2991	23293	
	June 16	September 06	3.7	82.3	100	5.0	5.0	10.0	8.9	30.8	54.0	79.6	62.2	0.0	1890	6958	
	June 16	September 26	5.1	77.4	100	5.0	3.5	8.5	8.0	28.7	51.4	79.9	61.0	4.2	1989	10156	

continued

**Table: 1703-03. Planting Date and Hybrid Influence on Corn Leaf Development.
Arlington, WI - 2017.**

Hybrid	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
		149	2.0	2.5	3.5	3.2
		161	3.2	4.3	5.2	6.2
		177	4.5	5.2	6.4	14.3
		191	7.2	8.4	10.4	28.2
		205	11.6	11.0	14.1	61.4
		219	15.6	16.3	16.9	85.5
	April 17		9.2	9.8	11.2	41.0
	May 05		9.4	9.6	11.2	42.2
	May 19		8.9	9.6	11.3	43.0
	June 06		6.7	7.4	8.9	34.0
	June 16		5.4	6.4	7.7	23.5
	April 17	149	2.0	2.8	3.8	3.3
	April 17	161	5.3	6.5	7.5	8.3
	April 17	177	6.5	8.1	9.3	22.6
	April 17	191	9.0	10.5	13.0	39.8
	April 17	205	14.9	13.3	16.1	80.5
	April 17	219	17.5	17.5	17.5	91.5
	May 05	149	2.0	2.3	3.3	3.1
	May 05	161	5.3	6.5	7.4	9.3
	May 05	177	6.6	7.7	9.1	22.8
	May 05	191	9.1	10.2	13.2	41.0
	May 05	205	15.4	13.1	16.5	82.1
	May 05	219	17.8	17.8	17.8	94.8
	May 19	149	-	-	-	-
	May 19	161	1.0	2.8	3.8	4.8
	May 19	177	5.3	6.3	7.4	15.1
	May 19	191	7.7	9.3	11.5	30.1
	May 19	205	12.3	11.8	15.3	65.8
	May 19	219	18.0	18.0	18.4	99.3
	June 06	149	-	-	-	-
	June 06	161	1.0	1.3	2.0	2.3
	June 06	177	3.1	4.1	5.1	8.9
	June 06	191	6.3	7.3	8.8	21.3
	June 06	205	8.8	9.2	12.7	50.1
	June 06	219	14.1	14.9	16.1	87.3

Continued

Table: 1703-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2017.**

Hybrid	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 16	149	-	-	-	-
	June 16	161	-	-	-	-
	June 16	177	0.9	0.0	1.2	2.2
	June 16	191	3.9	4.8	5.4	8.6
	June 16	205	6.4	7.5	9.7	28.3
	June 16	219	10.5	13.3	14.7	54.8
Dekalb DKC5806			8.3	9.0	10.6	38.5
NK Brand N45P11A			7.9	8.4	9.9	36.7
Dekalb DKC5806		149	2.0	2.8	3.7	3.3
Dekalb DKC5806		161	3.1	4.5	5.3	6.4
Dekalb DKC5806		177	4.6	5.4	6.7	15.1
Dekalb DKC5806		191	7.4	8.8	10.7	29.0
Dekalb DKC5806		205	11.8	11.1	14.5	62.4
Dekalb DKC5806		219	16.0	16.8	17.5	87.4
NK Brand N45P11A		149	2.0	2.3	3.3	3.1
NK Brand N45P11A		161	3.2	4.1	5.0	6.0
NK Brand N45P11A		177	4.4	5.0	6.1	13.5
NK Brand N45P11A		191	7.0	8.0	10.1	27.3
NK Brand N45P11A		205	11.3	10.8	13.6	60.3
NK Brand N45P11A		219	15.1	15.8	16.3	83.7
Dekalb DKC5806	April 17		9.4	10.1	11.5	41.3
Dekalb DKC5806	June 06		6.8	7.7	9.2	34.1
Dekalb DKC5806	June 16		5.8	6.7	8.3	26.9
Dekalb DKC5806	May 05		9.4	9.7	11.4	42.9
Dekalb DKC5806	May 19		9.1	10.0	11.7	43.7
NK Brand N45P11A	April 17		9.0	9.5	10.9	40.7
NK Brand N45P11A	June 06		6.5	7.0	8.7	33.9
NK Brand N45P11A	June 16		5.1	6.1	7.1	20.1
NK Brand N45P11A	May 05		9.3	9.5	11.0	41.5
NK Brand N45P11A	May 19		8.7	9.2	10.8	42.3
Dekalb DKC5806	April 17	149	2.0	3.2	4.0	3.3
Dekalb DKC5806	April 17	161	5.2	6.5	7.5	8.2
Dekalb DKC5806	April 17	177	6.7	8.3	9.7	23.0
Dekalb DKC5806	April 17	191	9.3	11.0	13.3	40.0
Dekalb DKC5806	April 17	205	15.0	13.2	16.2	78.8
Dekalb DKC5806	April 17	219	18.3	18.3	18.3	94.5

Continued

Table: 1703-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2017.**

Hybrid	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	
Dekalb DKC5806	May 05	149	2.0	2.5	3.3	3.3
Dekalb DKC5806	May 05	161	5.3	6.7	7.7	9.8
Dekalb DKC5806	May 05	177	6.7	7.8	9.3	24.6
Dekalb DKC5806	May 05	191	9.0	10.0	13.3	41.0
Dekalb DKC5806	May 05	205	15.7	13.2	16.8	82.7
Dekalb DKC5806	May 05	219	18.0	18.0	18.0	96.0
Dekalb DKC5806	May 19	149	-	-	-	-
Dekalb DKC5806	May 19	161	1.0	3.3	4.2	5.2
Dekalb DKC5806	May 19	177	5.5	6.7	7.8	15.8
Dekalb DKC5806	May 19	191	7.8	9.7	11.5	32.2
Dekalb DKC5806	May 19	205	12.5	12.0	16.0	66.8
Dekalb DKC5806	May 19	219	18.5	18.5	19.2	98.7
Dekalb DKC5806	June 06	149	-	-	-	-
Dekalb DKC5806	June 06	161	1.0	1.3	2.0	2.5
Dekalb DKC5806	June 06	177	3.2	4.3	5.3	9.8
Dekalb DKC5806	June 06	191	6.7	8.2	9.3	21.3
Dekalb DKC5806	June 06	205	9.2	9.3	13.0	51.3
Dekalb DKC5806	June 06	219	14.0	15.2	16.3	85.7
Dekalb DKC5806	June 16	149	-	-	-	-
Dekalb DKC5806	June 16	161	-	-	-	-
Dekalb DKC5806	June 16	177	1.0	0.0	1.3	2.4
Dekalb DKC5806	June 16	191	4.0	5.0	5.8	10.7
Dekalb DKC5806	June 16	205	6.8	7.7	10.5	32.2
Dekalb DKC5806	June 16	219	11.3	14.2	15.7	62.2
NK Brand N45P11A	April 17	149	2.0	2.5	3.5	3.3
NK Brand N45P11A	April 17	161	5.5	6.5	7.5	8.3
NK Brand N45P11A	April 17	177	6.3	7.8	8.8	22.2
NK Brand N45P11A	April 17	191	8.7	10.0	12.7	39.7
NK Brand N45P11A	April 17	205	14.8	13.3	16.0	82.2
NK Brand N45P11A	April 17	219	16.7	16.7	16.7	88.5
NK Brand N45P11A	June 06	149	-	-	-	-
NK Brand N45P11A	June 06	161	1.0	1.3	2.0	2.2
NK Brand N45P11A	June 06	177	3.0	3.8	4.8	8.1
NK Brand N45P11A	June 06	191	6.0	6.3	8.3	21.2
NK Brand N45P11A	June 06	205	8.3	9.0	12.3	48.8
NK Brand N45P11A	June 06	219	14.2	14.7	15.8	89.0
NK Brand N45P11A	June 16	149	-	-	-	-
NK Brand N45P11A	June 16	161	-	-	-	-
NK Brand N45P11A	June 16	177	0.8	0.0	1.0	1.9
NK Brand N45P11A	June 16	191	3.8	4.7	5.0	6.5
NK Brand N45P11A	June 16	205	6.0	7.3	8.8	24.5
NK Brand N45P11A	June 16	219	9.7	12.3	13.7	47.3

Continued

Table: 1703-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2017.**

Hybrid	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	
NK Brand N45P11A	May 05	149	2.0	2.0	3.2	2.9
NK Brand N45P11A	May 05	161	5.3	6.3	7.2	8.8
NK Brand N45P11A	May 05	177	6.5	7.5	8.8	21.0
NK Brand N45P11A	May 05	191	9.2	10.3	13.0	41.0
NK Brand N45P11A	May 05	205	15.2	13.0	16.2	81.5
NK Brand N45P11A	May 05	219	17.7	17.7	17.7	93.5
NK Brand N45P11A	May 19	149	-	-	-	-
NK Brand N45P11A	May 19	161	1.0	2.3	3.3	4.5
NK Brand N45P11A	May 19	177	5.2	6.0	7.0	14.3
NK Brand N45P11A	May 19	191	7.5	8.8	11.5	28.0
NK Brand N45P11A	May 19	205	12.2	11.5	14.7	64.7
NK Brand N45P11A	May 19	219	17.5	17.5	17.7	100.0
Mean			8.1	8.7	10.2	37.6
<u>Probability(%)</u>						
Hybrid(H)			13.4	6.8	4.1	2.0
Date of Planting (D)			0.0	0.0	0.0	0.0
HxD			83.4	61.2	45.2	6.6
Sample DOY (S)			0.0	0.0	0.0	0.0
H x S			20.8	32.8	40.8	91.2
DxS			0.0	0.0	0.0	0.0
HxDxS			87.6	78.5	86.1	48.2
<u>LSD(0.10)</u>						
Hybrid(H)			NS	0.3	0.2	0.3
Date of Planting (D)			6.5	0.3	0.3	1.9
HxD			NS	NS	NS	NS
Sample DOY (S)			7.1	0.4	0.4	2.0
H x S			NS	NS	NS	NS
DxS			15.9	0.8	0.8	4.6
HxDxS			NS	NS	NS	NS