

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID:** 6497 **Year:** 2020
Personnel: Joe Lauer, Kent Kohn, Thierno Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS392 **Previous Crop:** Alfalfa **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 11/1 /16 **pH** 6.6 **OM (%)** 2.8 **P (ppm)** 23 **K (ppm)** 89

Plot Management

Tillage Operations: 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: 10/29/20	Harvest Method:	S: New Holland 707 G: Massey Ferguson 8XP

Experimental Design

Design: RCB split-plot (2 x 4 Factorial for split) **Replications:** 4
Plot Size Seeded: 10' x 30' **Experiment Size:** 1.7 A
Harvest Plot Size: S: 30' x 2.5'
G: 30' x 5' **Harvest Plant Density:** 34550 plants per acre

Factors/Treatments:

<u>Planting Date:</u>	<u>Hybrid:</u>	<u>Harvest Date:</u>
1) April 21	1) Pioneer P9608Q	1) September 01
2) April 30	2) Jung 58SS529	2) September 24
3) May 15		
4) June 01		
5) June 15		

Results: Tables 2003-01, 2003-02 & 2003-03.

**Table: 2003-01. Planting Date Influence on Corn Grain Performance.
Arlington, WI - 2020.**

Planting date	Hybrid	Grain													
		Harvest population	Yield	Moisture	Test weight	Lodged			AGI	Silking date	Early dent	Kernel Milk			Black layer
						Total	Stalk	Root				75%	50%	25%	
		plants/A	bu/A	%	lbs/bu	%	%	%	\$/A	doy	doy	doy	doy	doy	doy
	Jung 58SS529	34800	246	30.5	53	16	2	14	757	211	249	254	-	-	-
	Pioneer P9608Q	34300	239	21.8	57	9	2	7	771	205	240	245	252	256	257
April 21		34125	261	21.3	58	20	2	18	845	200	237	245	253	253	250
April 30		33750	261	22.3	57	17	2	15	840	201	238	247	255	258	252
May 15		34875	265	24.0	56	4	2	2	843	204	239	248	256	257	270
June 01		34625	252	27.6	54	5	2	2	784	210	248	257	-	-	-
Jun 15		35375	173	35.9	51	17	1	16	509	223	262	-	-	-	-
April 21	Jung 58SS529	34500	276	24.7	55	29	2	26	875	203	243	251	259	-	-
April 30	Jung 58SS529	34250	258	25.0	56	29	3	26	814	205	244	252	260	-	-
May 15	Jung 58SS529	35250	275	26.0	53	6	4	3	864	208	243	252	259	-	-
June 01	Jung 58SS529	34250	248	31.9	51	6	1	4	750	212	253	260	-	-	-
June 15	Jung 58SS529	35750	174	45.2	50	11	1	10	481	226	264	-	-	-	-
April 21	Pioneer P9608Q	33750	246	17.8	60	11	1	10	814	196	231	239	246	253	250
April 30	Pioneer P9608Q	33250	265	19.6	58	5	2	4	867	198	232	242	250	258	252
May 15	Pioneer P9608Q	34500	255	22.0	58	2	1	1	821	201	234	244	253	257	270
June 01	Pioneer P9608Q	35000	256	23.3	57	4	3	1	817	208	243	254	259	-	-
June 15	Pioneer P9608Q	35000	171	26.5	52	23	1	21	536	220	260	-	-	-	-
Mean		34550	242	26.2	55	12	2	11	764	208	245	249	255	256	257

Probability(%)

Hybrid(H)	28.7	26.5	0.1	0.1	15.6	45.2	17.5	51.4	0.1	0.1	0.1	0.2	-	-
PlantDate(P)	10.5	0.0	0.0	0.0	0.4	67.7	0.3	0.0	0.0	0.0	0.0	0.0	5.7	-
HxP	62.0	15.8	0.0	5.7	0.8	29.5	1.4	13.2	13.6	0.4	12.3	8.8	-	-

LSD (0.10)

Hybrid(H)	NS	NS	1.8	1	NS	NS	NS	NS	1	2	2	-	-	-
PlantDate(P)	NS	21	2.9	1	12	NS	12	74	2	3	2	3	4	-
HxP	NS	NS	2.1	1	8	NS	8	NS	NS	2	NS	2	-	-

**Table: 2003-02. Planting Date and Harvest Timing Influence on Corn Silage Performance.
Arlington, WI - 2020.**

Planting date	Hybrid	Harvest date	Plant density plants/A	Whole Plant													
				Dry Matter		Kernel milk %	KMR 0-5	SMR 0-5	VMR 0-10	Crude protein %	<i>In Vitro</i>					Milk per	
				yield tons/A	Moisture %						ADF %	NDF %	Digest %	NDFD %	Starch %	Ton lbs/T	Acre lbs/A
	Jung 58SS529		36518	9.6	71.5	74	3.7	2.5	6.2	7.6	22.6	41.3	83.8	60.7	23.4	2911	28454
	P9608Q		35719	10.1	65.3	53	2.7	1.9	4.5	7.1	21.2	38.8	84.4	59.9	28.5	3066	31193
April 21			36191	9.9	63.6	48	2.4	1.4	3.8	6.9	19.8	37.0	85.2	59.8	30.3	3110	30795
April 30			36300	10.8	64.3	50	2.5	1.7	4.2	7.0	19.4	36.5	85.6	60.6	31.2	3199	34586
May 15			35175	10.4	66.2	53	2.7	1.2	3.9	7.0	20.1	37.6	85.3	60.7	29.9	3167	33098
June 1			36590	10.4	70.4	74	3.7	2.5	6.2	7.4	22.5	40.8	83.8	60.1	25.1	2976	31028
June 15			36336	7.7	77.5	94	4.7	4.0	8.7	8.2	27.8	48.4	80.7	60.4	13.1	2490	19611
		Sept 1	37041	9.0	73.6	82	4.1	3.1	7.2	7.8	24.3	43.5	83.2	61.8	21.7	2939	26958
		Sept 24	35196	10.7	63.2	45	2.3	1.2	3.5	6.8	19.5	36.6	85.0	58.8	30.2	3038	32689
April 21	Jung 58SS529		36227	9.2	67.6	64	3.2	1.9	5.1	6.9	20.7	38.4	84.6	60.0	27.4	3013	27497
April 30	Jung 58SS529		37171	10.4	68.9	63	3.1	2.1	5.2	7.4	20.0	37.7	85.3	61.1	28.9	3181	33344
May 15	Jung 58SS529		35138	10.4	68.4	66	3.3	1.5	4.8	7.1	21.0	39.0	84.7	60.7	27.8	3105	32280
June 1	Jung 58SS529		37679	10.2	73.4	84	4.2	3.0	7.2	7.8	23.5	42.5	83.0	60.0	21.8	2840	29184
June 15	Jung 58SS529		36373	7.9	79.1	95	4.8	4.0	8.8	8.6	27.8	49.0	81.1	61.9	10.9	2414	19964
April 21	P9608Q		36155	10.7	59.5	32	1.6	1.0	2.6	6.8	18.8	35.5	85.7	59.7	33.3	3207	34093
April 30	P9608Q		35429	11.2	59.8	37	1.9	1.3	3.1	6.7	18.7	35.3	85.9	60.2	33.6	3217	35827
May 15	P9608Q		35211	10.5	64.0	41	2.0	0.9	3.0	6.9	19.2	36.2	85.8	60.7	32.0	3228	33916
June 1	P9608Q		35501	10.6	67.3	64	3.2	2.1	5.3	7.1	21.5	39.0	84.5	60.3	28.4	3112	32872
June 15	P9608Q		36300	7.4	75.9	93	4.6	4.0	8.6	7.8	27.8	47.8	80.3	58.9	15.2	2565	19257
	Jung 58SS529	Sept 1	37258	8.7	76.2	87	4.3	3.4	7.8	8.1	25.5	45.5	82.6	62.0	18.0	2770	24605
	Jung 58SS529	Sept 24	35777	10.6	66.8	62	3.1	1.5	4.6	7.0	19.8	37.2	84.9	59.4	28.8	3052	32303
	P9608Q	Sept 1	36823	9.2	71.0	78	3.9	2.8	6.7	7.5	23.2	41.6	83.9	61.6	25.4	3107	29311
	P9608Q	Sept 24	34616	10.9	59.6	28	1.4	0.9	2.4	6.7	19.2	36.0	85.0	58.3	31.6	3024	33075
April 21		Sept 1	37099	9.4	69.1	72	3.6	2.3	5.9	7.2	20.7	38.5	85.4	62.1	28.9	3227	30266
April 21		Sept 24	35284	10.5	58.1	24	1.2	0.6	1.8	6.5	18.8	35.5	84.9	57.6	31.8	2993	31325
April 30		Sept 1	36518	10.4	69.5	78	3.9	2.6	6.5	7.4	20.6	38.5	86.0	63.6	29.0	3277	34119
April 30		Sept 24	36082	11.2	59.2	22	1.1	0.7	1.8	6.7	18.1	34.6	85.3	57.6	33.5	3122	35052
May 15		Sept 1	36155	9.5	71.2	79	3.9	1.9	5.8	7.4	22.4	40.7	84.8	62.6	26.3	3156	30108
May 15		Sept 24	34195	11.3	61.2	28	1.4	0.5	2.0	6.6	17.8	34.5	85.7	58.7	33.6	3178	36089
June 1		Sept 1	38188	9.1	76.1	86	4.3	3.7	8.0	8.0	24.9	44.1	83.3	62.3	20.8	2930	26744
June 1		Sept 24	34993	11.7	64.7	62	3.1	1.4	4.5	6.8	20.1	37.4	84.3	58.0	29.4	3021	35313
June 15		Sept 1	37244	6.4	82.1	98	4.9	5.0	9.9	8.9	33.1	56.0	76.8	58.5	3.5	2104	13554
June 15		Sept 24	35429	8.9	72.9	89	4.5	3.0	7.4	7.5	22.5	40.8	84.6	62.3	22.6	2875	25667

continued

**Table: 2003-03. Planting Date and Hybrid Influence on Corn Leaf Development.
Arlington, WI - 2020.**

Hybrid	Date of planting	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	
		day of year				inches
		153	1.8	3.5	3.9	4.2
		167	4.4	6.2	7.9	12.2
		181	7.0	9.5	10.7	31.6
		195	12.0	13.9	15.0	69.9
		209	16.6	17.3	17.7	98.3
	April 21		10.5	11.9	13.0	56.0
	April 30		9.8	11.5	12.3	52.0
	May 15		9.1	10.7	11.6	47.8
	June 1		8.6	10.5	11.6	46.3
	June 15		6.5	8.8	9.8	32.0
	April 21	153	2.4	4.1	4.7	4.9
	April 21	167	5.8	7.7	9.8	16.8
	April 21	181	9.5	12.3	14.0	51.0
	April 21	195	15.8	16.3	17.3	97.1
	April 21	209	19.1	19.1	19.1	110.3
	April 30	153	2.0	3.9	4.0	4.6
	April 30	167	5.1	7.2	8.8	15.0
	April 30	181	8.6	11.6	13.0	43.6
	April 30	195	14.7	15.9	16.9	89.9
	April 30	209	18.7	18.7	18.7	107.1
	May 15	153	1.0	2.5	3.0	3.1
	May 15	167	4.6	6.4	7.9	11.9
	May 15	181	8.1	11.0	12.5	36.4
	May 15	195	13.3	14.9	16.1	80.8
	May 15	209	18.6	18.6	18.6	107.0
	June 1	153	-	-	-	-
	June 1	167	2.3	3.6	5.1	5.0
	June 1	181	6.0	8.4	9.4	21.1
	June 1	195	10.1	13.6	14.6	58.5
	June 1	209	16.2	16.4	17.4	100.4
	June 15	153	-	-	-	-
	June 15	167	-	-	-	-
	June 15	181	2.8	3.9	4.8	6.0
	June 15	195	6.1	8.9	9.9	23.3
	June 15	209	10.6	13.5	14.6	66.9

Continued

Table: 2003-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2020.**

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	
Jung 58SS529			9.4	11.2	12.1	47.4
Pioneer P9608Q			8.9	10.5	11.5	49.0
Jung 58SS529		153	1.8	3.5	3.8	4.1
Jung 58SS529		167	4.5	6.3	7.9	11.9
Jung 58SS529		181	7.0	9.6	10.8	31.1
Jung 58SS529		195	12.1	14.5	15.5	68.3
Jung 58SS529		209	17.4	18.1	18.5	97.3
Pioneer P9608Q		153	1.8	3.5	4.0	4.3
Pioneer P9608Q		167	4.3	6.1	7.9	12.4
Pioneer P9608Q		181	7.0	9.4	10.7	32.2
Pioneer P9608Q		195	11.9	13.4	14.5	71.6
Pioneer P9608Q		209	15.8	16.4	16.8	99.3
Jung 58SS529	April 21		10.6	12.1	13.1	52.9
Jung 58SS529	April 30		10.0	12.0	12.7	50.8
Jung 58SS529	May 15		9.6	11.3	12.1	48.0
Jung 58SS529	June 1		8.8	10.7	11.8	46.2
Jung 58SS529	June 15		6.6	9.0	10.0	33.2
Pioneer P9608Q	April 21		10.4	11.7	12.8	59.1
Pioneer P9608Q	April 30		9.6	10.9	11.9	53.2
Pioneer P9608Q	May 15		8.7	10.1	11.1	47.7
Pioneer P9608Q	June 1		8.5	10.3	11.4	46.3
Pioneer P9608Q	June 15		6.4	8.6	9.5	30.9
Jung 58SS529	April 21	153	2.3	3.9	4.4	4.5
Jung 58SS529	April 21	167	5.8	7.8	9.8	16.1
Jung 58SS529	April 21	181	9.3	12.0	13.9	48.3
Jung 58SS529	April 21	195	15.8	16.6	17.6	90.6
Jung 58SS529	April 21	209	20.0	20.0	20.0	105.1
Jung 58SS529	April 30	153	2.0	4.0	4.0	4.6
Jung 58SS529	April 30	167	5.1	7.4	8.8	14.8
Jung 58SS529	April 30	181	8.5	12.1	13.1	42.6
Jung 58SS529	April 30	195	14.8	16.8	17.8	86.8
Jung 58SS529	April 30	209	19.8	19.8	19.8	105.4

Continued

Table: 2003-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2020.**

Hybrid	Date of planting	Observation date day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	
Jung 58SS529	May 15	153	1.0	2.5	3.0	3.3
Jung 58SS529	May 15	167	5.0	6.5	7.9	11.9
Jung 58SS529	May 15	181	8.4	11.5	12.9	37.3
Jung 58SS529	May 15	195	13.5	16.0	17.0	81.1
Jung 58SS529	May 15	209	19.9	19.9	19.9	106.5
Jung 58SS529	June 1	153	-	-	-	-
Jung 58SS529	June 1	167	2.3	3.6	5.1	5.0
Jung 58SS529	June 1	181	6.0	8.4	9.4	20.6
Jung 58SS529	June 1	195	10.1	13.9	15.0	59.4
Jung 58SS529	June 1	209	16.8	16.9	17.9	99.9
Jung 58SS529	June 15	153	-	-	-	-
Jung 58SS529	June 15	167	-	-	-	-
Jung 58SS529	June 15	181	2.9	3.9	4.8	6.5
Jung 58SS529	June 15	195	6.3	9.0	10.1	23.4
Jung 58SS529	June 15	209	10.8	14.0	15.0	69.8
Pioneer P9608Q	April 21	153	2.5	4.3	5.0	5.3
Pioneer P9608Q	April 21	167	5.8	7.6	9.8	17.4
Pioneer P9608Q	April 21	181	9.8	12.6	14.1	53.8
Pioneer P9608Q	April 21	195	15.8	15.9	17.0	103.6
Pioneer P9608Q	April 21	209	18.3	18.3	18.3	115.4
Pioneer P9608Q	April 30	153	2.0	3.8	4.0	4.6
Pioneer P9608Q	April 30	167	5.0	7.0	8.9	15.3
Pioneer P9608Q	April 30	181	8.6	11.1	12.9	44.5
Pioneer P9608Q	April 30	195	14.6	15.0	16.1	93.0
Pioneer P9608Q	April 30	209	17.6	17.6	17.6	108.8
Pioneer P9608Q	May 15	153	1.0	2.5	3.0	2.9
Pioneer P9608Q	May 15	167	4.1	6.3	8.0	11.9
Pioneer P9608Q	May 15	181	7.8	10.5	12.1	35.6
Pioneer P9608Q	May 15	195	13.1	13.9	15.1	80.4
Pioneer P9608Q	May 15	209	17.3	17.3	17.3	107.5
Pioneer P9608Q	June 1	153	-	-	-	-
Pioneer P9608Q	June 1	167	2.4	3.6	5.0	5.0
Pioneer P9608Q	June 1	181	6.0	8.5	9.5	21.6
Pioneer P9608Q	June 1	195	10.0	13.3	14.3	57.6
Pioneer P9608Q	June 1	209	15.6	16.0	16.9	101.0

Continued

Table: 2003-03. Planting Date and Hybrid Influence on Corn Leaf Development.
 (continued) **Arlington, WI - 2020.**

Hybrid	Date of planting	Observation date day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	
Pioneer P9608Q	June 15	153	-	-	-	-
Pioneer P9608Q	June 15	167	-	-	-	-
Pioneer P9608Q	June 15	181	2.8	4.0	4.8	5.5
Pioneer P9608Q	June 15	195	6.0	8.8	9.8	23.1
Pioneer P9608Q	June 15	209	10.4	13.0	14.1	64.0
Mean			9.1	10.8	11.8	48.2

Probability(%)

Hybrid(H)	7.9	2.9	4.4	49.4
Date of Planting (D)	0.0	0.0	0.0	0.0
HxD	0.3	0.0	0.0	0.0
Sample DOY (S)	0.0	0.0	0.0	0.0
H x S	0.0	0.0	0.0	16.0
DxS	0.0	0.0	0.0	0.0
HxDxS	17.4	51.7	31.0	53.9

LSD(0.10)

Hybrid(H)	0.2	0.2	0.2	NS
Date of Planting (D)	0.2	0.2	0.2	1.6
HxD	0.3	0.3	0.2	2.2
Sample DOY (S)	0.2	0.2	0.2	1.6
H x S	0.3	0.3	0.2	NS
DxS	0.4	0.4	0.4	3.5
HxDxS	NS	NS	NS	NS