

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield  
**Experiment:** 03DOP **Trial ID:** 3374 **Year:** 2010  
**Personnel:** J.G. Lauer, K.D. Kohn and T.H. Diallo  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

### Site Information

**Field:** ARS369 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/21/10 **pH:** 5.6 **OM (%)** 3.1 **P (ppm)** 43 **K (ppm)** 112

### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
<b>Preplant :</b>	46-0-0	325	4 /10/10
<b>Starter :</b>	9-23-30	150	See Factors
<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> See Factors
<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> 30000 plants per acre		<b>Planting Method:</b> Kinze Plot Planter	
<b>Harvest Date:</b> S: 9/2-4/14, 4/30 & 5/17 DOP S: 9/29- 6/1& 6/18 DOP G: 10/19/10		<b>Harvest Method:</b> S: New Holland 707 G: Massey Ferguson 8XP	

### Experimental Design

**Design:** RCB Split-Plot **Replications:** 4  
**Plot Size Seeded:** 30' x 20' **Experiment Size:** 1.1 A  
**Harvest Plot Size:** S: 25' x 2.5'  
G: 25' x 5' **Harvest Plant Density:** 30570 plants per acre

### Factors/Treatments:

<u>Date of Planting:</u>	<u>Hybrids:</u>
April 14	Jung 7426VT3
April 30	Mycogen F2F622
May 17	Pioneer 35F40
June 01	
June 18	

**Results: Tables C-30 thru C-34.**

**Table C- 30. Planting Date and Hybrid Influence on Corn Grain and Silage Performance.  
Arlington, WI - 2010.**

Planting date	Hybrid	Grain													
		Yield	Moisture	Test weight	Lodged			Grower return	Harvest		Grain Composition			Ethanol	
					Total	Stalk	Root		plants	ears	Oil	Starch	Protein	per bu	per A
bu/A	%	lbs/bu	%	%	%	\$/A	plants/A	ears/A	%	%	%	gallons	gallons		
April 14		239	14.2	56	2	2	0	1074	29447	29926	2.4	62.1	7.3	2.92	699
April 30		242	14.8	56	4	4	0	1086	29447	30187	2.4	60.9	7.7	2.88	571
May 17		237	14.9	56	4	4	0	1063	30884	31276	2.6	59.4	8.7	2.80	265
June 01		198	22.6	52	0	0	0	863	31058	31407	2.4	61.1	7.4	2.91	704
June 18		95	39.7	44	0	0	0	380	32017	32191	2.4	61.3	7.4	2.91	690
	Jung 7426VT3	207	20.0	52	4	4	0	912	32078	32426	2.6	62.5	7.6	2.88	598
	Pioneer 35F40	198	22.5	53	0	0	0	874	29063	29569	2.3	59.4	7.8	2.89	574
April 14	Jung 7426VT3	223	13.2	54	4	4	0	1002	31450	31886	2.8	64.6	7.2	2.93	653
April 14	Pioneer 35F40	255	15.3	58	0	0	0	1146	27443	27966	2.1	59.6	7.4	2.92	745
April 30	Jung 7426VT3	231	13.7	54	9	9	0	1036	31015	31625	2.4	61.5	7.7	2.88	597
April 30	Pioneer 35F40	253	15.9	58	0	0	0	1135	27878	28750	2.4	60.2	7.7	2.88	545
May 17	Jung 7426VT3	235	13.6	54	8	8	0	1056	32060	32234	2.6	60.9	8.5	2.80	386
May 17	Pioneer 35F40	239	16.3	57	0	0	0	1070	29708	30318	2.6	57.8	8.9	2.81	143
June 01	Jung 7426VT3	207	20.6	51	0	0	0	908	32931	33280	2.6	62.8	7.4	2.91	671
June 01	Pioneer 35F40	189	24.6	52	0	0	0	817	29185	29534	2.1	59.3	7.5	2.91	737
June 18	Jung 7426VT3	138	39.0	46	0	0	0	556	32931	33106	2.6	62.8	7.3	2.91	683
June 18	Pioneer 35F40	51	40.3	42	0	0	0	203	31102	31276	2.2	59.8	7.4	2.92	697
Mean		202	21.2	53	2	2	0	893	30570	30997	2.4	60.9	7.7	2.88	586
<b>Probability(%)</b>															
Date of Planting (D)		0.0	0.0	0.0	27.5	28.2	44.5	0.0	0.7	3.6	1.7	0.1	0.0	0.0	0.0
Hybrid (H)		8.9	0.0	0.3	1.9	2.0	33.3	12.1	0.0	0.0	0.0	0.0	0.4	52.4	11.0
D x H		0.0	48.3	0.1	26.4	27.1	43.8	0.0	43.1	43.3	0.0	1.4	8.8	62.8	0.0
<b>LSD (0.10)</b>															
Date of Planting (D)		20	1.3	3	NS	NS	NS	87	1150	1231	0.1	0.8	0.3	0.01	58
Hybrid (H)		9	0.8	1	3	3	NS	NS	715	766	0.1	0.5	0.1	NS	NS
D x H		24	NS	3	NS	NS	NS	104	NS	NS	0.1	1.1	0.3	0.02	68

continued

**Table C- 30. Planting Date and Hybrid Influence on Corn Grain and Silage Performance.**

(continued) **Arlington, WI - 2010.**

Planting date	Hybrid	Dry Matter		Whole Plant										Milk per	
		yield	moisture	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Crude protein	ADF	NDF	<i>In Vitro</i>		Starch	Ton	Acre
		tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
April 14		9.6	68.8	55.0	2.8	1.8	4.5	7.0	29.3	50.8	77.3	55.2	29.0	2954	28392
April 30		9.0	72.0	70.6	3.5	2.1	5.6	7.1	31.5	52.7	75.5	53.5	26.9	2836	25605
May 17		8.7	73.2	77.5	3.9	2.4	6.2	7.3	33.2	55.5	74.2	53.4	24.3	2737	23980
June 01		8.4	62.6	63.8	3.2	0.7	3.8	7.4	27.5	48.9	78.5	55.6	23.4	2979	25365
June 18		7.1	70.6	81.9	4.1	0.9	5.0	8.4	31.4	56.5	77.9	60.8	8.6	2493	17672
	Mycogen F2F622	8.2	71.0	79.0	4.0	1.5	5.5	7.5	32.5	56.4	76.6	58.4	18.4	2719	22490
	Pioneer 35F40	8.9	67.9	60.5	3.0	1.6	4.6	7.3	28.7	49.3	76.8	52.9	26.5	2881	25916
April 14	Mycogen F2F622	9.1	69.1	60.0	3.0	1.7	4.7	7.0	31.1	53.8	77.0	57.3	26.7	2907	26590
April 14	Pioneer 35F40	10.0	68.5	50.0	2.5	1.9	4.4	7.0	27.6	47.7	77.6	53.1	31.3	3001	30194
April 30	Mycogen F2F622	8.9	72.8	80.0	4.0	2.0	6.0	7.4	31.7	54.0	76.2	55.8	26.1	2858	25503
April 30	Pioneer 35F40	9.0	71.2	61.3	3.1	2.1	5.2	6.7	31.2	51.5	74.8	51.2	27.7	2814	25708
May 17	Mycogen F2F622	8.8	74.8	91.3	4.6	2.5	7.1	7.4	34.0	57.5	75.2	57.0	22.2	2770	24340
May 17	Pioneer 35F40	8.7	71.6	63.8	3.2	2.2	5.4	7.2	32.3	53.4	73.1	49.8	26.4	2703	23620
June 01	Mycogen F2F622	7.5	66.5	76.3	3.8	0.6	4.4	7.5	32.0	56.4	76.6	58.6	13.6	2742	20642
June 01	Pioneer 35F40	9.3	58.7	51.3	2.6	0.7	3.2	7.4	23.0	41.4	80.4	52.6	33.1	3216	30088
June 18	Mycogen F2F622	6.7	71.7	87.5	4.4	0.7	5.1	8.4	33.7	60.3	78.0	63.6	3.1	2318	15374
June 18	Pioneer 35F40	7.5	69.4	76.3	3.8	1.1	4.9	8.4	29.2	52.6	77.9	57.9	14.2	2669	19971
Mean		8.6	69.4	69.8	3.5	1.5	5.0	7.4	30.6	52.9	76.7	55.7	22.4	2800	24203
<b>Probability(%)</b>															
Date of Planting (D)		2.2	0.0	0.0	0.0	0.0	0.0	0.0	5.8	6.9	2.3	0.0	0.0	0.4	0.8
Hybrid (H)		1.7	0.1	0.0	0.0	42.5	0.0	12.4	0.0	0.0	81.3	0.0	0.0	0.2	0.8
D x H		25.4	6.2	9.4	9.4	22.8	0.6	31.9	1.2	0.8	6.3	52.6	0.1	0.4	8.1
<b>LSD (0.10)</b>															
Date of Planting (D)		1.1	2.4	6.4	0.3	0.3	0.5	0.3	3.2	4.7	2.2	1.6	5.8	191	4207
Hybrid (H)		0.5	1.3	4.0	0.2	NS	0.2	NS	1.2	1.7	NS	1.0	2.0	76	1976
D x H		NS	3.1	8.9	0.4	NS	0.6	NS	3.5	5.1	2.7	NS	6.2	217	5100

**Table C-31. Planting Date and Hybrid Influence on Corn Grain and Silage Performance.  
Arlington, WI - 2010.**

Planting Date	Hybrid	V4 population	Percent emerged	Silking date	Plant height	Ear height	Early dent	Kernel Milk			Black layer
								75 %	50 %	25 %	
		plants/A	%	doy	inches	inches	doy	doy	doy	doy	doy
	Jung 7426VT3	40912	92	207	104	47	242	251	257	259	265
	Mycogen F2F622	42114	94	210	112	52	249	258	260	262	264
	Pioneer 35F40	38890	87	206	106	43	240	250	259	263	270
April 14		41832	94	198	103	42	232	239	246	253	260
April 30		38057	85	199	105	47	235	242	249	256	264
May 17		43313	97	203	107	49	237	246	252	258	267
June 01		42456	95	214	113	50	249	261	272	279	286
June 18		37534	84	224	109	50	264	276	284	286	-
April 14	Jung 7426VT3	43299	97	197	101	40	230	236	242	248	256
April 14	Mycogen F2F622	43473	97	200	107	51	239	244	250	256	261
April 14	Pioneer 35F40	38725	87	197	100	36	228	236	245	255	263
April 30	Jung 7426VT3	38943	87	199	97	44	233	241	246	253	261
April 30	Mycogen F2F622	39640	89	201	112	53	241	247	253	258	265
April 30	Pioneer 35F40	35589	80	198	108	45	231	239	248	257	266
May 17	Jung 7426VT3	43647	98	202	106	56	236	244	249	256	264
May 17	Mycogen F2F622	44344	99	206	109	48	242	251	257	262	269
May 17	Pioneer 35F40	41948	94	200	106	43	234	244	251	259	270
June 01	Jung 7426VT3	41992	94	213	108	47	249	259	270	278	285
June 01	Mycogen F2F622	43473	97	216	119	60	254	267	279	285	-
June 01	Pioneer 35F40	41905	94	212	111	45	245	258	268	278	286
June 18	Jung 7426VT3	36678	82	224	108	50	261	276	285	-	-
June 18	Mycogen F2F622	39640	89	226	112	53	267	278	286	-	-
June 18	Pioneer 35F40	36285	81	223	107	47	264	273	284	286	-
Mean		40639	91	208	107	48	244	253	259	261	267

**Probability(%)**

Date of Planting (D)	0.0	0.0	0.0	12.9	1.1	0.0	0.0	0.0	0.0	0.0
Hybrid (H)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D x H	42.0	42.0	2.0	35.2	12.4	0.0	5.2	17.7	17.2	27.1

**LSD (0.10)**

Date of Planting (D)	1151	3	1	NS	4	1	1	2	0	1
Hybrid (H)	840	2	0	2	4	1	1	1	0	1
D x H	NS	NS	1	NS	NS	1	2	NS	NS	NS

**Table C-32. Planting Date and Hybrid Influence on Corn Leaf Development.  
Arlington, WI - 2010.**

Date of planting	Hybrid	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
		day of year	no./plant	no./plant	no./plant	inches
		152	4.1	6.8	6.8	7.2
		165	5.3	6.7	8.6	15.0
		179	7.4	8.8	11.4	29.8
		193	12.8	13.7	15.2	66.9
		207	16.4	17.0	17.6	90.9
		221	18.9	18.8	18.9	106.7
		235	19.3	19.3	19.3	107.7
	Jung 7426VT3		13.1	13.9	14.8	65.1
	Mycogen F2F622		12.4	13.4	14.4	65.9
	Pioneer 35F40		12.4	13.3	14.3	63.4
	Jung 7426VT3	152	4.4	7.0	7.0	7.2
	Jung 7426VT3	165	5.7	6.8	8.8	15.9
	Jung 7426VT3	179	7.8	9.1	11.6	32.1
	Jung 7426VT3	193	13.4	14.1	15.4	68.6
	Jung 7426VT3	207	16.6	17.2	17.8	89.3
	Jung 7426VT3	221	19.3	19.2	19.3	104.4
	Jung 7426VT3	235	19.6	19.6	19.6	105.3
	Mycogen F2F622	152	4.0	6.6	6.6	7.2
	Mycogen F2F622	165	5.0	6.6	8.5	14.6
	Mycogen F2F622	179	7.2	8.6	11.4	27.8
	Mycogen F2F622	193	12.1	13.4	15.1	63.9
	Mycogen F2F622	207	16.1	16.8	17.5	92.8
	Mycogen F2F622	221	18.5	18.5	18.5	109.3
	Mycogen F2F622	235	19.2	19.2	19.2	111.8
	Pioneer 35F40	152	4.0	6.7	6.7	7.1
	Pioneer 35F40	165	5.2	6.7	8.6	14.7
	Pioneer 35F40	179	7.3	8.6	11.3	29.5
	Pioneer 35F40	193	12.9	13.6	15.2	68.3
	Pioneer 35F40	207	16.4	17.0	17.5	90.6
	Pioneer 35F40	221	18.9	18.9	18.9	106.4
	Pioneer 35F40	235	19.2	19.2	19.2	105.9
April 14			14.3	15.2	16.1	68.0
April 30			13.7	14.6	15.5	68.0
May 17			12.9	13.9	14.8	66.1
June 01			11.0	11.9	13.0	60.9
June 18			10.2	10.9	12.2	58.3
April 14		152	5.0	7.9	7.9	8.4
April 14		165	7.3	9.0	11.3	21.0

continued

**Table C-32. Planting Date and Hybrid Influence on Corn Leaf Development.**

(continued)

**Arlington, WI - 2010.**

Date of planting	Hybrid	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
		day of year	no./plant	no./plant	no./plant	inches
April 14		179	11.0	12.7	15.9	45.9
April 14		193	17.5	17.7	18.4	92.5
April 14		207	19.8	19.8	19.8	102.7
April 14		221	19.8	19.8	19.8	102.7
April 14		235	19.8	19.8	19.8	102.7
April 30		152	4.2	6.9	6.9	7.5
April 30		165	6.6	8.1	10.3	18.8
April 30		179	10.3	12.0	15.1	44.2
April 30		193	16.3	16.7	17.8	89.4
April 30		207	19.5	19.5	19.5	105.1
April 30		221	19.5	19.5	19.5	105.4
April 30		235	19.5	19.5	19.5	105.4
May 17		152	3.1	5.5	5.5	5.7
May 17		165	5.3	6.9	8.9	16.3
May 17		179	9.0	10.6	13.8	37.9
May 17		193	14.7	15.6	16.8	82.0
May 17		207	19.4	19.4	19.4	106.3
May 17		221	19.5	19.5	19.5	108.3
May 17		235	19.4	19.4	19.4	106.5
June 01		152				
June 01		165	2.0	2.7	4.0	4.1
June 01		179	4.9	6.3	8.3	16.2
June 01		193	9.3	11.0	13.3	48.5
June 01		207	14.7	15.8	16.8	86.6
June 01		221	19.3	19.3	19.3	116.3
June 01		235	19.3	19.3	19.3	116.3
June 18		152	-	-	-	-
June 18		165	-	-	-	-
'June 18		179	1.9	2.2	3.9	4.7
'June 18		193	6.0	7.6	9.8	22.2
June 18		207	8.0	10.1	12.2	53.2
June 18		221	16.3	16.2	16.4	102.4
June 18		235	18.6	18.6	18.6	109.2
April 14	Jung 7426VT3		14.8	15.6	16.4	69.0
April 14	Mycogen F2F622		14.0	15.1	16.0	68.5
April 14	Pioneer 35F40		14.2	15.1	16.0	66.5
April 30	Jung 7426VT3		14.1	14.9	15.7	63.8
April 30	Mycogen F2F622		13.4	14.5	15.5	70.1
April 30	Pioneer 35F40		13.6	14.5	15.4	70.0
May 17	Jung 7426VT3		13.4	14.3	15.1	66.2
May 17	Mycogen F2F622		12.6	13.6	14.5	65.4
May 17	Pioneer 35F40		12.8	13.8	14.6	66.8

continued

**Table C-32. Planting Date and Hybrid Influence on Corn Leaf Development.**

(continued)

**Arlington, WI - 2010.**

Date of planting	Hybrid	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
		day of year	no./plant	no./plant	no./plant	inches
June 01	Jung 7426VT3		12.0	12.8	13.8	65.7
June 01	Mycogen F2F622		11.0	12.0	13.2	64.7
June 01	Pioneer 35F40		9.6	10.5	11.9	49.2
June 18	Jung 7426VT3		10.2	10.9	12.2	59.2
June 18	Mycogen F2F622		10.0	10.9	12.1	58.2
June 18	Pioneer 35F40		10.3	11.0	12.3	57.6
April 14	Jung 7426VT3	152	5.5	8.1	8.1	8.4
April 14	Jung 7426VT3	165	7.8	9.1	11.6	23.0
April 14	Jung 7426VT3	179	11.9	13.3	16.1	50.8
April 14	Jung 7426VT3	193	18.3	18.4	18.9	97.3
April 14	Jung 7426VT3	207	20.1	20.1	20.1	101.1
April 14	Jung 7426VT3	221	20.0	20.0	20.0	101.1
April 14	Jung 7426VT3	235	20.0	20.0	20.0	101.1
April 14	Mycogen F2F622	152	4.9	7.9	7.9	8.4
April 14	Mycogen F2F622	165	7.0	9.1	11.1	20.6
April 14	Mycogen F2F622	179	10.5	12.4	15.6	42.3
April 14	Mycogen F2F622	193	16.1	16.5	17.8	86.8
April 14	Mycogen F2F622	207	19.9	19.9	19.9	107.3
April 14	Mycogen F2F622	221	19.9	19.9	19.9	107.3
April 14	Mycogen F2F622	235	19.9	19.9	19.9	107.3
April 14	Pioneer 35F40	152	4.8	7.6	7.6	8.2
April 14	Pioneer 35F40	165	7.1	8.9	11.1	19.5
April 14	Pioneer 35F40	179	10.6	12.5	16.0	44.8
April 14	Pioneer 35F40	193	18.1	18.1	18.5	93.6
April 14	Pioneer 35F40	207	19.5	19.5	19.5	99.8
April 14	Pioneer 35F40	221	19.5	19.5	19.5	99.8
April 14	Pioneer 35F40	235	19.5	19.5	19.5	99.8
April 30	Jung 7426VT3	152	4.4	7.0	7.0	7.2
April 30	Jung 7426VT3	165	7.0	8.0	10.4	19.1
April 30	Jung 7426VT3	179	10.6	12.6	15.0	44.8
April 30	Jung 7426VT3	193	16.8	16.9	17.9	84.5
April 30	Jung 7426VT3	207	19.9	19.9	19.9	97.0
April 30	Jung 7426VT3	221	19.9	19.9	19.9	97.0
April 30	Jung 7426VT3	235	19.9	19.9	19.9	97.0
April 30	Mycogen F2F622	152	4.0	6.8	6.8	7.8
April 30	Mycogen F2F622	165	6.3	7.9	10.1	18.6
April 30	Mycogen F2F622	179	9.9	11.9	15.3	42.3
April 30	Mycogen F2F622	193	15.5	16.5	17.8	87.4
April 30	Mycogen F2F622	207	19.5	19.5	19.5	111.5
April 30	Mycogen F2F622	221	19.5	19.5	19.5	111.5
April 30	Mycogen F2F622	235	19.5	19.5	19.5	111.5

continued

**Table C-32. Planting Date and Hybrid Influence on Corn Leaf Development.**

(continued)

**Arlington, WI - 2010.**

Date of planting	Hybrid	Observation date	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
		day of year	no./plant	no./plant	no./plant	inches
April 30	Pioneer 35F40	152	4.1	7.0	7.0	7.6
April 30	Pioneer 35F40	165	6.6	8.4	10.5	18.6
April 30	Pioneer 35F40	179	10.3	11.6	15.1	45.5
April 30	Pioneer 35F40	193	16.6	16.6	17.8	96.3
April 30	Pioneer 35F40	207	19.3	19.3	19.3	106.9
April 30	Pioneer 35F40	221	19.3	19.3	19.3	107.8
April 30	Pioneer 35F40	235	19.3	19.3	19.3	107.8
May 17	Jung 7426VT3	152	3.3	6.0	6.0	6.0
May 17	Jung 7426VT3	165	6.0	7.3	9.4	17.4
May 17	Jung 7426VT3	179	9.6	11.0	14.3	43.1
May 17	Jung 7426VT3	193	15.6	16.4	17.1	86.4
May 17	Jung 7426VT3	207	19.8	19.8	19.8	103.5
May 17	Jung 7426VT3	221	19.8	19.8	19.8	103.5
May 17	Jung 7426VT3	235	19.8	19.8	19.8	103.5
May 17	Mycogen F2F622	152	3.0	5.3	5.3	5.3
May 17	Mycogen F2F622	165	5.0	6.6	8.8	15.0
May 17	Mycogen F2F622	179	8.9	10.4	13.6	34.3
May 17	Mycogen F2F622	193	14.0	15.3	16.8	76.3
May 17	Mycogen F2F622	207	19.1	19.1	19.1	109.0
May 17	Mycogen F2F622	221	19.1	19.1	19.1	109.0
May 17	Mycogen F2F622	235	19.1	19.1	19.1	109.0
May 17	Pioneer 35F40	152	3.0	5.4	5.4	5.7
May 17	Pioneer 35F40	165	5.0	6.9	8.6	16.4
May 17	Pioneer 35F40	179	8.6	10.5	13.4	36.4
May 17	Pioneer 35F40	193	14.5	15.3	16.5	83.3
May 17	Pioneer 35F40	207	19.4	19.4	19.4	106.4
May 17	Pioneer 35F40	221	19.6	19.6	19.6	112.5
May 17	Pioneer 35F40	235	19.4	19.4	19.4	106.9
June 01	Jung 7426VT3	152	-	-	-	-
June 01	Jung 7426VT3	165	2.0	2.9	4.0	4.0
June 01	Jung 7426VT3	179	4.9	6.4	8.4	17.1
June 01	Jung 7426VT3	193	9.9	11.3	13.3	51.4
June 01	Jung 7426VT3	207	15.1	16.1	17.0	88.5
June 01	Jung 7426VT3	221	20.0	20.0	20.0	116.6
June 01	Jung 7426VT3	235	20.0	20.0	20.0	116.6
June 01	Mycogen F2F622	152	-	-	-	-
June 01	Mycogen F2F622	165	1.9	2.6	3.9	4.1
June 01	Mycogen F2F622	179	4.6	6.3	8.4	15.4
June 01	Mycogen F2F622	193	8.9	10.9	13.5	47.0
June 01	Mycogen F2F622	207	13.8	15.1	16.3	84.8
June 01	Mycogen F2F622	221	18.5	18.5	18.5	118.6
June 01	Mycogen F2F622	235	18.5	18.5	18.5	118.6

continued

**Table C-32. Planting Date and Hybrid Influence on Corn Leaf Development.**

(continued)

**Arlington, WI - 2010.**

Date of planting	Hybrid	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	Pioneer 35F40	152	-	-	-	-
June 01	Pioneer 35F40	165	2.0	2.6	4.1	4.3
June 01	Pioneer 35F40	179	5.1	6.3	8.3	16.0
June 01	Pioneer 35F40	193	9.1	10.8	13.1	47.0
June 01	Pioneer 35F40	207	15.5	16.5	17.3	86.5
June 01	Pioneer 35F40	221	19.3	19.3	19.3	111.0
June 01	Pioneer 35F40	235	19.3	19.3	19.3	111.0
June 18	Jung 7426VT3	152	-	-	-	-
June 18	Jung 7426VT3	165	-	-	-	-
June 18	Jung 7426VT3	179	2.0	2.3	4.0	4.6
June 18	Jung 7426VT3	193	6.3	7.8	9.9	23.3
June 18	Jung 7426VT3	207	8.1	10.1	12.1	56.3
June 18	Jung 7426VT3	221	16.6	16.4	16.6	103.6
June 18	Jung 7426VT3	235	18.1	18.1	18.1	108.3
June 18	Mycogen F2F622	152	-	-	-	-
June 18	Mycogen F2F622	165	-	-	-	-
June 18	Mycogen F2F622	179	1.9	2.3	3.9	4.9
June 18	Mycogen F2F622	193	5.8	7.6	9.5	21.9
June 18	Mycogen F2F622	207	8.0	10.3	12.5	51.6
June 18	Mycogen F2F622	221	15.4	15.4	15.6	100.1
June 18	Mycogen F2F622	235	19.0	19.0	19.0	112.4
June 18	Pioneer 35F40	152	-	-	-	-
June 18	Pioneer 35F40	165	-	-	-	-
June 18	Pioneer 35F40	179	1.8	2.0	3.8	4.6
June 18	Pioneer 35F40	193	6.0	7.4	9.9	21.5
June 18	Pioneer 35F40	207	8.0	10.0	12.0	51.6
June 18	Pioneer 35F40	221	17.0	16.9	17.0	103.4
June 18	Pioneer 35F40	235	18.8	18.8	18.8	106.9
Mean			12.6	13.5	14.5	64.8
<b>Probability(%)</b>						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			0.0	0.0	0.0	50.4
D x H			0.0	0.7	0.8	0.0
Sample DOY (S)			0.0	0.0	0.0	0.0
D x S			0.0	0.0	0.0	0.0
H x S			0.0	34.6	68.0	0.0
D x H x S			0.0	0.6	0.3	0.1
<b>LSD(0.10)</b>						
Date of Planting (D)			0.2	0.2	0.3	2.1
Hybrid (H)			0.1	0.1	0.1	0.8
D x H			0.2	0.3	0.2	2.0
Sample DOY (S)			0.1	0.2	0.1	1.2
D x S			0.3	0.4	0.3	2.6
H x S			0.2	NS	NS	1.0
D x H x S			0.5	0.6	0.6	4.5

**Table C-33. Planting Date Influence on Corn Stover Agronomic and Biofuel Measurements. Arlington, WI - 2010.†**

Planting Date		Hybrid	Harvest		Yield			CP	ADF	NDF	NDFD	ADL	Lignin	Cell	Hem
Target	Actual		Density	Moisture	Stover	Etoh									
			plants/ A	%	g/plant	T/A	g/L	-----%				-----			
April 15	April 14		29500	48.7	112	3.6	4.84	5.2	48.0	73.9	44.8	7.0	19.0	40.8	26.7
May 01	April 30		29400	54.3	112	3.6	4.92	5.4	48.4	75.2	44.2	7.1	18.5	42.3	26.3
May 15	May 17		30900	48.8	122	4.1	4.68	5.6	47.8	74.1	44.5	7.0	18.8	41.0	26.7
June 15	June 18		32000	69.9	140	4.9	7.95	7.4	41.3	65.2	45.8	5.8	17.7	34.8	26.6
		Jung 7426	32100	47.7	95	3.3	4.16	5.9	49.3	74.8	43.7	7.4	19.0	41.9	27.1
		Pioneer 35F40	29100	63.1	148	4.8	7.04	5.9	43.4	69.4	46.0	6.1	18.0	37.6	26.1
	April 14	Jung 7426	31500	36.5	82	2.8	3.43	5.2	50.7	76.8	43.9	7.5	19.4	43.2	27.3
	April 14	Pioneer 35F40	27400	60.8	142	4.3	6.24	5.1	45.2	71.0	45.7	6.5	18.5	38.4	26.0
	April 30	Jung 7426	31000	48.2	97	3.3	3.44	5.4	50.8	77.5	42.9	7.7	19.3	43.7	26.8
	April 30	Pioneer 35F40	27900	60.3	127	3.9	6.40	5.3	46.1	73.0	45.4	6.5	17.7	40.9	25.9
	May 17	Jung 7426	32100	34.9	93	3.3	3.33	5.8	50.5	77.2	43.8	7.7	19.3	43.2	27.5
	May 17	Pioneer 35F40	29700	62.6	151	4.9	6.03	5.4	45.1	71.1	45.2	6.2	18.4	38.8	26.0
	June 18	Jung 7426	32900	71.3	108	3.9	6.44	7.0	45.3	67.6	44.1	6.6	17.9	37.4	26.8
	June 18	Pioneer 35F40	31100	68.6	173	5.9	9.47	7.8	37.3	62.7	47.6	5.1	17.5	32.2	26.5
Mean			30600	55.4	122	4.1	5.60	5.9	46.4	72.1	44.8	6.7	18.5	39.7	26.6
<b>Probability (%)</b>															
Date of Planting (D)			0.7	0.0	3.2	0.7	0.6	0.0	0.0	0.0	2.7	0.7	0.4	0.0	38.0
Hybrid (H)			0.0	0.0	0.0	0.0	0.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D x H			43.1	0.0	24.0	20.8	99.2	14.3	5.8	21.6	5.1	55.5	13.4	5.9	12.6
<b>LSD (0.05)</b>															
Date of Planting (D)			1406	4.0	19.8	0.7	1.7	0.6	1.2	1.0	1.1	0.7	0.5	0.9	NS
Hybrid (H)			870	2.7	13.5	0.5	0.9	NS	0.8	0.6	0.5	0.3	0.3	0.6	0.4
D x H			NS	5.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF, neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose.

**Table C-34. Planting Date, Plant Segment, and Hybrid Influence on Corn Stover Agronomic and Biofuel Measurements. Arlington, WI - 2010.†**

Planting Date		Hybrid	Plant Part	Harvest Density plants/ A	Moisture %	Yield			CP	ADF	NDF	NDFD	ADL	Lignin	Cell	Hem
Target	Actual					Stover	Etoh	g/plant T/A								
April 15	April 14			31515	52.0	28.1	2.4	5.02	5.3	48.6	73.7	43.3	7.5	18.9	40.8	26.0
May 01	April 30			31919	55.4	28.1	2.4	4.88	5.5	48.5	75.1	42.9	7.2	18.7	42.3	26.0
May 15	May 17			33374	51.5	30.6	2.8	6.39	5.7	48.1	74.1	43.2	7.2	19.0	41.2	26.2
June 15	June 18			34222	71.0	35.1	3.3	7.00	7.3	42.2	63.8	44.2	6.0	17.6	34.6	25.4
		Jung 7426		33455	50.0	23.8	2.2	6.92	5.9	49.7	74.8	42.0	7.6	19.1	42.1	26.6
		Pioneer 35F40		32081	64.9	37.1	3.3	4.73	5.9	44.1	68.5	44.8	6.4	18.0	37.4	25.2
			Ground		71.1	11.9	1.1	6.99	5.7	48.8	70.1	34.2	7.6	18.6	39.9	23.0
			Low		66.6	25.7	2.3	5.58	5.3	50.7	72.2	44.7	9.6	18.6	42.4	23.4
			Mid		53.4	28.7	2.6	4.84	7.1	45.7	70.9	44.1	7.0	19.0	38.8	26.1
			High		38.8	55.5	4.9	5.88	5.6	42.3	73.6	50.2	3.8	17.9	37.9	31.0
	April 14		Ground		67.8	10.4	0.9	5.89	5.1	51.4	72.9	34.9	8.8	18.8	40.4	23.7
	April 14		Low		61.5	22.8	1.9	5.18	4.5	51.4	74.2	45.4	9.5	18.9	43.3	23.8
	April 14		Mid		48.2	24.7	2.1	4.70	6.4	47.6	72.7	43.3	7.6	19.3	40.0	25.8
	April 14		High		30.5	54.1	4.6	4.29	5.0	44.3	75.1	49.5	4.0	18.8	39.7	30.6
	April 30		Ground		72.1	12.1	1.1	5.21	5.7	49.1	74.1	32.8	8.2	19.1	43.3	23.6
	April 30		Low		69.2	22.3	1.9	4.94	4.5	53.4	78.5	45.5	9.3	18.5	46.7	23.9
	April 30		Mid		48.9	27.1	2.4	5.00	6.4	47.5	72.6	43.6	7.6	19.3	39.9	25.9
	April 30		High		31.7	50.9	4.4	4.39	5.2	44.1	75.0	49.5	3.9	17.7	39.4	30.6
	May 17		Ground		68.4	11.8	1.1	7.52	5.7	49.8	73.8	34.0	7.8	19.4	41.9	23.4
	May 17		Low		61.6	25.2	2.3	3.69	4.8	51.8	74.9	45.7	9.7	13.2	43.7	24.2
	May 17		Mid		45.6	30.8	2.8	6.07	6.9	47.4	72.6	43.6	7.5	19.4	39.9	26.5
	May 17		High		30.2	54.6	5.0	4.98	5.5	43.6	74.9	49.5	3.9	17.9	39.1	30.9
	June 18		Ground		76.2	13.3	1.2	9.33	6.3	45.1	59.4	36.5	5.6	17.2	34.0	21.5

continued

**Table C-34. Planting Date, Plant Segment, and Hybrid Influence on Corn Stover Agronomic and Biofuel (continued) Measurements. Arlington, WI - 2010.†**

Planting Date		Hybrid	Plant Part	Harvest Density	Moisture	Yield			CP	ADF	NDF	NDFD	ADL	Lignin	Cell	Hem
Target	Actual					Stover	Etoh									
				plants/ A	%	g/plant	T/A	g/L	-----%-----							
	June 18		Low		74.0	32.7	3.1	6.42	7.5	46.4	61.0	42.2	10.1	17.8	35.8	21.9
	June 18		Mid		71.0	32.1	3.0	6.54	8.7	40.3	65.6	45.8	5.4	18.1	35.3	26.2
	June 18		High		63.0	62.4	5.8	5.71	6.8	37.0	69.4	52.2	3.1	17.3	33.3	32.1
		Jung 7426	Ground		68.1	9.4	0.9	9.02	6.1	52.1	75.1	30.2	7.8	19.2	43.9	24.2
		Jung 7426	Low		61.1	20.3	1.9	6.76	5.4	53.2	74.8	46.7	10.5	19.3	45.2	24.5
		Jung 7426	Mid		42.2	24.3	2.2	6.33	7.0	47.9	74.3	41.7	7.6	19.6	40.4	26.8
		Jung 7426	High		28.7	41.3	3.8	5.56	5.3	45.6	75.1	49.3	4.3	18.3	39.1	31.1
		Pioneer 35F40	Ground		74.2	14.4	1.3	4.95	5.3	45.6	65.0	38.9	7.4	18.0	36.1	21.9
		Pioneer 35F40	Low		72.1	31.2	2.8	5.01	5.3	48.3	69.5	42.7	8.8	17.9	39.5	22.4
		Pioneer 35F40	Mid		64.6	33.0	2.9	4.83	7.2	43.5	67.4	46.4	6.4	18.4	37.1	25.4
		Pioneer 35F40	High		49.0	69.7	6.1	4.13	6.0	38.9	72.1	51.1	3.2	17.6	36.6	31.0
April 14	Jung 7426			29293	40.3	20.6	1.9	6.65	5.4	51.5	77.0	42.1	7.9	19.5	43.6	26.6
April 14	Pioneer 35F40			29737	63.6	35.5	2.9	3.38	5.1	45.8	70.5	44.5	7.0	18.4	38.1	25.3
April 30	Jung 7426			32606	48.7	24.3	2.2	8.96	5.5	50.7	77.6	41.4	7.7	19.4	43.7	26.6
April 30	Pioneer 35F40			31232	62.2	31.9	2.7	5.04	5.4	46.3	72.6	44.4	6.8	17.9	41.0	25.4
May 17	Jung 7426			33818	38.5	23.4	2.2	6.49	5.9	51.1	77.3	42.1	8.0	19.5	43.6	26.9
May 17	Pioneer 35F40			32889	64.4	37.8	3.4	3.28	5.5	45.2	70.9	44.2	6.5	18.5	38.7	25.5
June 18	Jung 7426			34020	72.6	27.0	2.5	5.56	6.9	45.6	67.5	42.3	6.6	19.7	37.6	26.3
June 18	Pioneer 35F40			34424	69.5	43.3	4.1	7.22	8.0	38.9	60.1	46.1	5.5	17.2	31.6	24.5
April 14	Jung 7426	Ground			61.0	8.4	0.8	8.90	5.7	54.5	77.1	31.4	8.7	19.4	44.6	24.8
April 14	Jung 7426	Low			50.9	15.9	1.4	6.71	5.0	54.8	78.4	47.2	10.5	19.5	46.5	24.7
April 14	Jung 7426	Mid			32.5	19.8	1.8	5.83	6.1	50.0	75.9	41.1	8.2	19.7	41.7	26.2
April 14	Jung 7426	High			17.0	38.2	3.5	5.07	4.7	46.7	76.6	48.6	4.4	19.3	41.4	30.8
April 14	Pioneer 35F40	Ground			17.2	12.5	1.0	2.79	4.5	48.3	68.6	38.4	8.9	18.2	36.1	22.6

continued

**Table C-34. Planting Date, Plant Segment, and Hybrid Influence on Corn Stover Agronomic and Biofuel (continued) Measurements. Arlington, WI - 2010.†**

Planting Date		Hybrid	Plant Part	Harvest Density	Moisture	Yield			CP	ADF	NDF	NDFD	ADL	Lignin	Cell	Hem	
Target	Actual					Stover	Etoh										plants/ A
	April 14	Pioneer 35F40	Low		74.6		29.6	2.4	3.66	4.0	48.0	70.1	43.6	8.5	18.4	40.0	23.0
	April 14	Pioneer 35F40	Mid		72.2		29.6	2.4	3.57	6.7	45.2	69.5	45.5	6.9	18.8	38.3	25.3
	April 14	Pioneer 35F40	High		63.8		70.0	5.7	3.51	5.2	41.9	73.6	50.4	3.7	18.3	38.1	30.3
	April 30	Jung 7426	Ground		69.7		9.8	0.9	12.94	6.2	51.7	79.0	58.3	8.1	20.2	45.5	24.5
	April 30	Jung 7426	Low		66.1		20.7	1.9	7.87	4.7	54.2	78.3	47.2	10.0	19.3	46.5	24.8
	April 30	Jung 7426	Mid		39.1		24.8	2.2	7.75	6.3	50.1	76.2	41.3	8.4	20.0	41.8	26.3
	April 30	Jung 7426	High		19.8		42.0	3.8	7.29	4.9	46.8	76.8	48.5	4.3	18.3	41.0	30.8
	April 30	Pioneer 35F40	Ground		74.4		14.4	1.2	5.73	5.1	46.4	69.3	37.0	8.3	18.1	41.1	22.7
	April 30	Pioneer 35F40	Low		72.3		24.0	2.0	4.98	4.3	52.6	78.8	43.8	8.6	17.7	47.0	23.0
	April 30	Pioneer 35F40	Mid		58.7		29.4	2.5	5.32	6.6	44.9	69.1	46.0	6.8	18.6	38.1	25.5
	April 30	Pioneer 35F40	High		43.6		59.6	5.1	4.13	5.6	41.4	73.2	50.6	3.6	17.1	37.8	30.4
	May 17	Jung 7426	Ground		60.1		8.8	0.8	7.48	6.1	53.5	78.2	30.8	7.9	19.8	45.7	24.5
	May 17	Jung 7426	Low		50.1		19.0	1.8	6.66	5.3	54.5	78.4	47.6	11.5	20.0	46.3	25.1
	May 17	Jung 7426	Mid		26.3		26.0	2.4	6.50	7.3	49.3	75.3	41.9	8.0	20.1	41.3	27.1
	May 17	Jung 7426	High		17.3		39.6	3.7	5.34	5.1	46.8	77.5	48.2	4.5	18.0	41.0	31.1
	May 17	Pioneer 35F40	Ground		76.7		14.8	1.3	2.95	5.2	46.0	69.5	37.1	7.7	19.1	38.2	22.3
	May 17	Pioneer 35F40	Low		73.1		31.3	2.8	3.21	4.3	49.1	71.4	43.8	7.8	18.4	41.2	23.2
	May 17	Pioneer 35F40	Mid		65.0		35.6	3.2	3.50	6.5	45.4	70.0	45.3	7.0	18.7	38.5	25.9
	May 17	Pioneer 35F40	High		43.0		69.6	6.3	3.45	5.9	40.5	72.7	50.7	3.3	17.9	37.2	30.7
	June 18	Jung 7426	Ground		44.0		10.5	1.0	6.69	6.2	48.7	66.0	30.0	6.7	17.5	38.8	22.9
	June 18	Jung 7426	Low		81.4		25.4	2.4	5.79	6.6	49.4	64.1	44.8	9.8	18.3	41.6	23.2
	June 18	Jung 7426	Mid		77.3		26.8	2.5	5.22	8.4	42.2	70.0	42.6	6.0	18.6	37.0	27.5
	June 18	Jung 7426	High		71.0		45.2	4.2	4.53	6.4	42.1	69.9	51.6	4.0	17.5	33.1	31.8
	June 18	Pioneer 35F40	Ground		60.6		16.1	1.5	8.35	6.4	41.6	52.8	43.1	4.5	16.8	29.2	20.1
	June 18	Pioneer 35F40	Low		70.8		39.9	3.8	8.18	8.4	43.4	57.9	39.6	10.4	17.3	30.0	20.6
	June 18	Pioneer 35F40	Mid		70.9		37.5	3.5	6.92	8.9	38.5	61.1	48.9	4.7	17.6	33.7	24.8
	June 18	Pioneer 35F40	High		65.4		79.5	7.5	5.44	7.1	32.0	68.8	52.8	2.2	17.1	33.5	32.4

continued

**Table C-34. Planting Date, Plant Segment, and Hybrid Influence on Corn Stover Agronomic and Biofuel (continued) Measurements. Arlington, WI - 2010.†**

Planting Date		Hybrid	Plant Part	Harvest Density	Moisture	Yield			CP	ADF	NDF	NDFD	ADL	Lignin	Cell	Hem
Target	Actual					Stover	Etoh									
				plants/ A	%	g/plant	T/A	g/L	-----%							
Mean				32800	56.8	30.5	2.7	5.78	5.9	46.9	71.7	43.8	7.0	18.5	39.7	25.9
<b>Probability (%)</b>																
Date of Planting (D)				0.15	0.0	1.1	0.2	4.7	0.0	0.0	0.0	45.8	0.4	0.3	0.0	2.8
Plant Part (PP)					0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hybrid (H)				0.23	0.0	0.0	0.0	0.0	80.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D x PP					0.0	49.1	25.3	86.6	0.0	1.8	0.0	0.0	0.0	12.0	0.0	0.0
D x H				1.34	0.0	4.2	1.0	0.0	0.1	4.2	7.7	40.8	45.7	26.6	0.0	27.8
H x PP					0.0	0.0	0.0	11.9	0.0	1.2	0.0	0.0	0.1	41.9	0.0	0.0
D x H x PP					31.9	90.3	84.2	90.7	3.3	2.9	0.0	20.3	0.0	96.5	0.0	7.6
<b>LSD (0.05)</b>																
Date of Planting (D)				1140	3.3	4.1	0.4	1.6	0.5	0.9	1.3	NS	0.7	0.6	0.9	0.5
Plant Part (PP)					2.5	3.3	0.3	1.3	0.3	0.8	0.9	1.1	0.4	0.4	0.7	0.3
Hybrid (H)				772	1.8	2.3	0.2	0.9	NS	0.6	0.6	0.7	0.3	0.3	0.5	0.2
D x PP					5.0	NS	NS	NS	0.7	1.6	1.9	2.1	1.0	NS	1.5	0.7
D x H				1550	3.6	4.8	0.5	1.9	0.5	1.1	NS	NS	NS	NS	1.0	NS
H x PP					3.8	4.6	0.4	NS	0.4	1.2	1.4	1.5	0.7	NS	1.1	0.6
D x H x PP					NS	NS	NS	NS	0.9	2.3	2.7	NS	1.3	NS	2.1	NS

† TEP, Theoretical ethanol potential; TE, Theoretical ethanol; Etoh, ethanol; CP, crude protein; ADF, acid detergent fiber; NDF; neutral detergent fiber; NDFD, neutral detergent fiber digestibility; ADL, acid detergent lignin; Cell, cellulose; Hem, hemicellulose