

2019 Penn State/PDMP Corn Silage Hybrid Performance Trial Results

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Produced in cooperation with the Professional Dairy Managers of Pennsylvania (PDMP).

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Production Details: Penn State/PDMP Corn Silage Hybrid Evaluation Trials

Site:	Bedford County, PA
Cooperator	Kulp Family Dairy
Planting Date	5/22/2019
Soil Type	HuB Hublersburg Cherty silt loam 3-8% slope
Herbicides	pre-
	post- 1 oz. Impact/ac, COC 1-1.5gal/100, UAN 1.25-2.5gal/100
Previous Crop	Corn Silage
Tillage	None
Starter Fertilizer	10.5 gal - 10-34-0
Insecticide	Force 3G
Manure	6000 gal/ac liquid manure (27.3N-10.8P-25.7K) per 1000 gallons
Fertilizer	160 lbs of N +30 lbs S dry fert. Applied at 18-24" corn height
Harvest Date	9/11/2019

Field Summary: Had some grassy weeds early in the spring. Corn was tall and ears were girthy. Disease and insect pressure were low. Fertility was excellent. Rainfall was adequate during pollination time.

Weather Summary:

Month	Precip.	GDD
May 22-June 1st	3.09	175
June 1st- July 1st	2.85	480
July 1st- August 1st	3.96	733
August 1st- Sept 11	3.58	781
Seasonal Total	13.48	2169

Precip. Data: <https://www.accuweather.com/>

GDD data: <http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/>

Penn State/PDMP Corn Silage Hybrid Testing Program 2019

Medium maturity (101-111 day RM) silage hybrids in Central PA

Bedford County location

Notes: SEE BACKGROUND TAB

Cooperator: Kulp Family Dairy



Brand	Hybrid	Traits*	Dry Yield									NDFD				uNDF %DM	Pop. plants/ac	Relative Maturity
			Matter %**	Tons/ Acre***	CP %DM	NDF %DM	Lignin %DM	Starch %DM	Ash %DM	Fat ² %DM	NEL Mcal/lb	12hr	30hr	120hr	240hr			
Early (101-104 day) RM Silage Hybrids																		
Syngenta	NK0472-3120	6	41.5	16.5	7.1	39.4	3.1	36.2	2.8	2.5	0.76	29.8	54.5	63.1	65.7	13.5	34,000	104
Chemgro Seeds	6295RDP	31	40.0	20.7	6.8	35.7	2.7	39.0	3.0	2.5	0.78	29.4	55.7	65.4	68.2	11.3	33,333	102
Local Seeds	LC0488 SSXRIB	34	39.1	20.2	6.3	35.9	2.7	40.4	2.7	2.5	0.78	30.0	55.8	65.6	68.4	11.4	33,167	104
Growmark FS	FS 53R85SS	34	38.7	20.0	6.8	34.4	2.7	40.8	2.8	2.7	0.79	29.8	56.3	65.2	68.0	11.0	34,000	103
LG Seeds	LG51C48VT2PRO	31	37.0	20.7	6.7	37.2	2.7	36.7	2.9	2.4	0.77	30.2	57.4	66.2	69.0	11.6	34,000	101
Syngenta	NK0440-3122	7	36.0	19.4	6.8	38.2	2.8	35.1	3.0	2.2	0.76	29.4	56.3	65.5	68.3	12.2	33,833	104
Seed Consultants, Inc.	SCS 1018YHR	16	35.7	21.5	7.0	36.6	2.5	37.8	3.1	2.3	0.78	32.3	60.1	69.9	72.9	9.9	34,000	101
Blue River Organic Seed	51T59	Conv.	35.0	21.7	6.8	35.2	2.6	38.7	3.0	2.4	0.78	30.2	56.2	66.3	69.2	10.8	34,000	103
Seed Consultants, Inc.	EX-SC 105YHR	21	34.1	19.5	7.3	36.3	2.5	36.6	3.1	2.3	0.77	31.3	58.8	67.9	70.8	10.6	33,333	104
101-104 day means			37.5	20.0	6.8	36.5	2.7	37.9	2.9	2.4	0.77	30.3	56.8	66.1	68.9	11.4	33,741	
Medium (105-111 day) RM Silage Hybrids																		
LG Seeds	LG5525VT2RIB	31	40.4	20.3	6.5	35.6	2.6	40.8	2.8	2.7	0.79	30.7	57.7	67.5	70.4	10.5	34,000	105
Syngenta	NK0968-300GT	3	38.9	20.8	7.0	36.8	2.8	38.2	2.8	2.4	0.77	29.4	55.8	64.1	66.8	12.2	34,000	109
Seedway LLC	3W0340 GENV1ZF (RIB)	31	38.4	20.7	7.0	33.2	2.4	40.8	2.7	2.7	0.80	30.8	58.3	66.2	69.0	10.3	33,333	107
Dekalb	DKC55-85RIB	31	37.6	19.7	7.2	35.7	2.5	39.3	2.8	2.6	0.79	31.6	58.3	67.0	69.8	10.8	33,333	105
Dekalb	DKC55-37RIB	34	37.4	20.7	7.1	36.7	2.6	36.6	3.2	2.4	0.77	28.3	56.5	64.7	67.4	12.0	33,333	105
Local Seeds	LC0657 SSXRIB	34	36.8	18.2	7.7	34.1	2.6	38.2	3.0	2.4	0.77	28.2	54.4	63.6	66.3	10.9	33,500	106
Prairie Hybrids	5787	Conv.	36.8	19.3	6.7	36.0	2.7	37.9	3.1	2.3	0.77	29.6	56.3	65.9	68.7	11.2	34,000	108
Channel	211-44STXRIB	34	36.4	20.4	6.8	37.4	2.8	37.1	2.8	2.3	0.77	29.8	57.1	65.2	67.9	12.0	33,500	111
Channel	210-98STXRIB	34	36.1	20.4	7.3	37.5	2.6	35.2	2.8	2.3	0.77	30.1	57.0	64.7	67.5	11.8	34,000	110
Seedway LLC	SW5440 GENSS (RIB)	34	35.9	21.0	7.1	36.6	3.0	36.4	2.9	2.5	0.77	27.5	52.5	61.4	64.2	13.1	33,923	105
Dekalb	DKC59-07RIB	34	35.9	20.3	6.7	37.2	2.7	36.7	2.7	2.4	0.78	30.4	57.1	65.5	68.4	11.7	34,000	109
Local Seeds	LC0877 VT2PRIB	31	35.8	18.5	7.4	39.1	2.6	34.6	3.0	2.3	0.77	32.7	59.1	67.5	70.4	11.6	33,950	108
Channel	209-15STXRIB	34	35.8	20.4	7.2	36.2	2.6	37.8	2.8	2.6	0.78	31.1	57.4	66.3	69.2	11.2	34,000	109
Growmark FS	FS 5699X RIB	34	35.6	20.4	7.0	36.8	2.9	35.9	3.0	2.4	0.77	28.4	54.8	62.7	65.4	12.8	31,833	105
Pioneer	P0843AM	21	35.5	19.4	7.0	37.8	2.6	35.9	3.0	2.3	0.77	30.9	57.6	67.5	70.3	11.2	33,500	108
Dekalb	DKC59-82RIB	31	35.5	21.4	7.2	35.4	2.7	38.3	3.0	2.4	0.78	29.1	55.9	64.9	67.7	11.5	34,000	109
Prairie Hybrids	5447	Conv.	35.5	19.8	7.3	36.3	2.6	36.6	2.8	2.4	0.78	29.9	57.5	66.0	68.8	11.3	34,000	109
Local Seeds	LCX07-90	Conv.	35.4	20.0	6.6	40.0	3.2	32.8	2.7	2.2	0.75	26.5	52.7	61.3	63.9	14.5	34,000	107
Chemgro Seeds	6859V3	5	35.4	20.0	7.2	37.6	2.6	34.6	3.1	2.3	0.77	31.7	57.8	67.0	69.9	11.3	34,000	108
Prairie Hybrids	5200	Conv.	35.4	21.1	7.1	36.6	2.6	36.1	2.9	2.4	0.77	30.5	57.1	66.0	68.8	11.4	34,000	108
Growmark FS	FS 6199X RIB	34	35.4	20.3	6.9	36.2	2.7	37.4	2.7	2.5	0.78	29.1	56.3	63.8	66.5	12.2	33,333	110
Local Seeds	ZS1098 3330EZ	9	35.2	18.9	7.5	39.5	2.8	32.8	3.0	2.1	0.75	31.2	56.9	65.2	68.1	12.6	32,908	110
Nutrien Ag Solutions/Dyna-Gro	D49SS70	34	35.1	20.8	7.1	36.3	2.8	36.6	2.8	2.5	0.78	28.6	56.2	63.2	65.9	12.4	34,000	109
Masters Choice	MCT5790	Conv.	34.9	19.7	7.7	38.4	2.7	36.5	2.9	2.2	0.76	29.4	55.3	63.8	66.5	12.9	33,333	107
Pioneer	P0789AMXT	27	34.9	24.3	7.0	39.5	3.1	34.2	3.0	2.2	0.75	26.7	53.3	62.5	65.2	13.7	33,500	107
Seed Consultants, Inc.	EX-SC 110YHR	21	34.8	19.6	7.3	38.6	2.7	32.7	3.3	2.1	0.76	31.3	58.7	67.2	70.1	11.5	30,667	108
Mycogen	2098Q	36	34.8	22.5	6.9	38.0	2.7	35.2	2.9	2.2	0.76	30.4	57.0	66.9	69.8	11.5	33,333	110
Seed Consultants, Inc.	SCS 1069YHR	16	33.6	19.8	6.9	36.9	2.7	36.4	3.0	2.4	0.77	30.2	56.5	66.3	69.1	11.4	34,000	106
Syngenta	NK0886-3110	6	33.6	19.1	7.4	36.1	2.7	36.9	3.1	2.5	0.77	29.9	56.5	64.9	67.7	11.6	34,000	108
Seed Consultants, Inc.	SCS 1087YHR	16	33.5	18.1	6.8	40.7	2.8	30.6	2.9	1.9	0.75	30.2	58.0	66.7	69.5	12.5	34,000	108
Pioneer	P1089AMXT	27	33.4	20.2	7.2	38.1	2.6	32.9	3.3	2.0	0.76	30.8	58.2	68.0	71.0	11.1	34,000	110
Blue River Organic Seed	62G22	Conv.	32.4	21.4	6.9	39.6	3.0	32.9	3.0	2.4	0.76	27.5	52.6	62.7	65.3	13.8	34,000	110
Mycogen	TMF2H708	34	32.1	19.4	7.4	42.6	3.4	27.3	3.4	1.9	0.73	26.6	54.5	62.2	64.8	15.1	33,333	109
105-111 day means			35.6	20.2	7.1	37.4	2.7	35.8	2.9	2.3	0.77	29.7	56.4	65.1	67.9	12.0	33,594	
Overall Mean			36.0	20.2	7.0	37.2	2.7	36.3	2.9	2.4	0.77	29.8	56.5	65.3	68.1	11.9		
LSD(0.1)			2.5	2.1	0.4	2.9	0.3	4.1	0.3	0.2	0.02	1.6	1.8	2.1	2.2	1.6		
CV%			5.2	7.6	3.8	5.8	7.0	8.4	6.8	7.4	1.93	4.0	2.4	2.4	2.4	9.9		

* See tab " Trait Key" for individual trait designation.

**Tables are sorted by dry matter. Avoid making comparisons with hybrids that differ significantly in dry matter.

*** Silage yields are expressed on a 35 percent DM basis; all other parameters are expressed on a dry matter basis. CP=crude protein, NDF= neutral detergent fiber, NEL=net energy for lactation, and NDFD=neutral detergent fiber digestibility.

¹ - NS = Not Significant , ² - Fat = Total Fatty Acids

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Table Key #	Trait Family Product	Bt protein(s)	Marketed for control of:	Resistance to a Bt protein in the trait package has developed in :	Herbicide tolerant?
Conv.	Conventional	None	None	---	No
RR2	Roundup Ready 2	None	None	---	GT
Agrisure					
1	Agrisure GT	None	None	---	GT
2	Agrisure 3010 & 3010A	Cry1Ab	ECB SWCB	---	GT LL
3	Agrisure 3000 GT, 3011A	Cry1Ab, mCry3A	ECB SWCB RW	RW	GT LL
4	Agrisure Viptera 3110	Cry1Ab, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	GT LL
5	Agrisure Viptera 3111	Cry1Ab, mCry3A, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC RW	RW	GT LL
6	Agrisure 3120 E-Z Refuge	Cry1Ab, Cry1F	BCW ECB FAW SB SWCB	FAW WBC	REFER TO BAG FOR SPECIFIC LETTER CODE: E20=GT ONLY E21= GT LL
7	Agrisure 3122 E-Z Refuge	Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	
8	Agrisure Viptera 3220 E-Z Refuge	Cry1Ab, Cry1F, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	
9	Agrisure Viptera 3330 E-Z Refuge	CryAb, Vip3A, Cry1A.105+CryAb2	BCW CEW ECB FAW SB SWCB TAW WBC	---	
10	Agrisure Duracade 5122 E-Z Refuge	Cry1Ab, Cry1F, mCry3A, eCry3.1Ab	BCW ECB FAW SB SWCB RW	FAW WBC RW	
11	Agrisure Duracade 5222 E-Z Refuge	Cry1Ab, Cry1F, Vip3A, mCry3A, eCry3.1Ab	BCW CEW ECB FAW SB SWCB TAW WBC RW	RW	
Herculex					
12	Herculex 1 (HX1)	Cry1F	BCW ECB FAW SB SWCB	ECB FAW SWCB WBC	LL RR2 (most)
13	Herculex RW (HXRW)	Cry34/35Ab1	RW	RW	
14	Herculex XTRA (HXX)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW SWCB WBC RW	
Optimum					
15	TRIssect (CHR)	Cry1F, mCry3A	BCW ECB FAW SB SWCB RW	ECB FAW SWCB WBC RW	LL RR2
16	Intrasect (YHR)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
17	Intrasect TRIssect (CYHR)	Cry1Ab, Cry1F, mCry3A	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
18	Leptra (VYHR)	Cry1F, Cry1Ab, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	LL RR2
19	Intrasect Xtra (YXR)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
20	Intrasect Xtreme (CYXR)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
21	AcreMax (AM)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
22	AcreMax CRW (AMRW)	Cry34/35Ab1	RW	RW	LL RR2
23	AcreMax1 (AM1)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW SWCB WBC RW	LL RR2
24	AcreMax Leptra (AML)	Cry1Ab, Cry1F, Vip3A	BCW ECB FAW SB SWCB TAW WBC CEW	---	LL RR2
25	AcreMax TRIssect (AMT)	Cry1F, Cry1Ab, mCry3A	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
26	AcreMax Xtra (AMX)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
27	AcreMax Xtreme (AMXT)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB RW	FAW WBC RW	LL RR2
Yieldgard/Genuity					
28	YieldGard CB (YGCB)	Cry1Ab	ECB SWCB	---	RR2
29	YieldGard VT Rootworm (YGRW)	Cry3Bb1	RW	RW	RR2
30	YieldGard VT Triple	Cry1Ab, Cry3Bb1	ECB SWCB RW	RW	RR2
31	VT Double PRO VT Double PRO RIB complete	Cry1A.105, Cry2Ab2	CEW ECB FAW SB SWCB	CEW	RR2
32	VT Triple PRO VT Triple PRO RIB complete	Cry1A.105, Cry2Ab2, Cry3Bb1	CEW ECB FAW SB SWCB RW	CEW RW	RR2
33	Trecepta (or RIB complete)	Cry1A.105, Cry2Ab2, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	RR2
Others					
34	Smartstax Smartstax Refuge Advanced Smartstax RIB Complete	Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34/35Ab1	BCW CEW ECB FAW SB SWCB RW	CEW WBC RW	LL RR2
35	Powercore (or Refuge Advanced)	Cry1A.105, Cry2Ab2, Cry1F	BCW ECB FAW SB SWCB CEW	CEW WBC	LL RR2
36	QROME (Q)	Cry1Ab, Cry1F, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
	BCW = black cutworm	SB = stalk borer	GT = glyphosate tolerant		
	CEW = corn earworm	SWCB = southern corn borer	LL = Liberty Link, glufosinate tolerant		
	ECB = European corn borer	TAW = true armyworm	RR2 = Roundup Ready 2, glyphosate tolerant		
	FAW = fall armyworm	WBC = western bean cutworm			
	RW = corn rootworm				