

# **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

<b>Site:</b>	Chester Co., PA					
<b>Cooperator</b>	Wal-Moore Holsteins					
<b>Planting Date</b>	5/18/2019					
<b>Soil Type</b>	GgB Glenelg silt loam 3-8% slopes					
<b>Herbicides</b>	<b>pre-</b>	50 unit 30%	1.6 qts Bicep	3.5 floz Mesotrione	1.3 floz Lamcap	1 pt Helmquat
	<b>post-</b>	1 qt Atrazine	.75 floz Impact	.3 oz Primero	2.5 oz Status	1pt Peptoil
<b>Previous Crop</b>	Silage					
<b>Tillage</b>	None					
<b>Starter Fertilizer</b>	10 gal 10-34-0					
<b>Insecticide</b>	Force 3G					
<b>Manure</b>	25 T/ac semi-solid manure					
<b>Fertilizer</b>	200 lbs Nitrogen					
<b>Harvest Date</b>	9/4/2019					

<b>Field Summary:</b>	Excellent weed control. Disease and insect pressure were low. Tall plants and big ears. Stand establishment and fertility were excellent. Rainfall was adequate during pollination time.
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### Weather Summary:

Month	Precip.	GDD
May 18th-June 1st	1.42	269
June 1st -July 1st	7.94	617
July 1st- August 1st	6.03	862
August 1st- September 4th	3.21	819
<b>Seasonal Total</b>	<b>18.60</b>	<b>2567</b>

<b>Precip. Data:</b>	<a href="https://www.accuweather.com/">https://www.accuweather.com/</a>
<b>GDD data:</b>	<a href="http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/">http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/</a>

**Penn State/PDMP Corn Silage Hybrid Testing Program 2019**  
**(Medium-Late) maturity (111-120) day RM silage hybrids in Chester PA**



**Chester County location**

Notes: SEE BACKGROUND TAB

Cooperator: Walmoore Holsteins, Inc.

Brand	Hybrid	Traits*	Dry Matter %**	Yield Tons/Acre***	CP %DM	NDF %DM	Lignin %DM	Starch %DM	Ash %DM	Fat <sup>2</sup> %DM	NEL Mcal/lb	NDFD				uNDF 240 %DM	Pop. plants/ac	Relative Maturity
												12hr	30hr	120hr	240hr			
<b>Medium-late (111-115 day) RM Silage Hybrids</b>																		
Dekalb	DKC61-98RIB	31	41.6	25.7	7.9	32.3	2.5	43.5	2.7	2.9	0.80	31.1	58.1	64.6	67.4	10.6	34,000	111
Local Seeds	ZS1487	Conv.	41.6	26.0	6.6	35.4	2.6	42.2	2.6	2.5	0.78	29.8	55.4	63.8	66.5	11.8	33,167	114
Mid-Atlantic Seeds, Inc.	MA8128VT2P	31	41.4	24.1	7.2	34.8	2.7	42.0	2.5	2.6	0.79	29.7	56.4	63.4	66.1	11.8	33,638	112
LG Seeds	LG5643VT2RIB	31	41.2	25.8	7.0	36.2	3.0	40.1	2.6	2.6	0.78	27.6	53.2	59.2	61.7	13.9	34,000	114
Dekalb	DKC64-25RIB	31	40.9	23.9	6.6	35.6	2.9	39.3	2.8	2.6	0.78	27.2	53.4	60.2	62.8	13.3	34,000	114
Pioneer	P1422AMXT	27	40.6	26.2	8.0	32.6	2.7	41.8	2.9	2.7	0.79	29.0	56.5	62.6	65.3	11.3	34,000	114
Seedway LLC	SW6790 GENVT2P (RIB)	31	40.4	25.4	7.0	32.6	2.5	44.4	2.4	2.9	0.80	30.0	56.6	64.1	66.8	10.8	33,500	112
Growmark FS	FS 65R87SS	34	40.4	27.2	7.2	30.6	2.6	46.8	2.3	3.1	0.81	30.0	55.2	61.1	64.7	10.9	33,167	115
Channel	211-44STXRIB	34	40.0	23.6	7.6	31.4	2.6	43.6	2.7	2.8	0.80	29.6	55.8	62.4	65.1	11.0	32,667	111
Agri-Gold	A641-54VT2PRO	34	39.5	23.2	7.1	33.3	2.7	42.6	2.7	3.0	0.80	28.6	54.6	61.7	64.4	11.9	34,000	111
Syngenta	NK1205-3120	6	39.3	25.2	7.8	32.9	2.5	43.3	2.5	2.5	0.79	30.3	57.6	63.5	66.2	11.1	33,245	112
Syngenta	NK1573-3000GT	3	39.3	25.9	7.5	30.5	2.4	44.8	2.7	2.7	0.80	29.5	57.1	64.6	67.3	10.0	33,167	115
Mid-Atlantic Seeds, Inc.	MA8150VT3P	32	39.3	26.0	7.0	32.6	2.4	42.3	2.7	2.8	0.80	31.6	56.1	62.9	66.0	11.1	33,846	115
Growmark FS	FS 63R85SS	34	38.4	25.8	7.7	33.3	2.6	41.6	2.6	2.7	0.80	29.0	56.1	62.5	65.3	11.6	33,333	113
Masters Choice	MCT6552	4	38.3	24.5	7.3	33.5	2.6	42.2	2.6	2.6	0.79	31.2	56.9	64.0	66.8	11.1	34,000	115
Nutrien Ag Solutions/Dyna-Gro	D55VC80	31	38.1	27.9	7.3	36.0	2.8	38.2	2.6	2.7	0.78	29.2	56.9	63.0	65.7	12.4	34,000	115
Pioneer	P1442AM	21	37.9	28.3	8.2	31.0	2.5	44.7	2.7	2.8	0.80	30.5	56.7	64.0	66.8	10.3	33,333	114
Mycogen	2580Q	36	37.7	26.1	7.8	32.8	2.6	41.4	3.1	2.9	0.79	30.8	56.4	63.7	66.4	11.0	33,500	115
Prairie Hybrids	8290	Conv.	37.6	26.9	7.7	32.1	2.4	42.2	3.0	2.9	0.80	32.2	58.4	65.7	68.5	10.1	31,167	114
Chemgro Seeds	7399D4Z	10	37.3	25.7	7.1	36.4	2.8	41.5	2.6	2.3	0.77	29.8	56.3	64.6	67.3	12.5	32,667	113
Local Seeds	LC1586 TC	33	37.2	25.0	7.6	33.2	2.6	42.2	2.5	2.7	0.79	29.6	56.3	63.1	65.8	11.4	31,667	115
Prairie Hybrids	7387	Conv.	37.1	24.7	7.5	35.3	2.9	40.4	2.9	2.7	0.77	29.7	55.5	63.0	65.7	12.2	32,333	112
Seed Consultants, Inc.	SCS 1158YHR	16	37.0	24.4	7.7	35.9	2.7	38.6	2.7	2.4	0.78	30.8	57.1	64.7	67.4	11.7	33,500	115
Dekalb	DKC62-53RIB	31	36.9	25.2	7.6	32.0	2.6	43.9	2.4	3.0	0.81	30.1	56.3	62.2	64.8	11.3	33,667	112
Agri-Gold	A641-06STXRIB	34	36.6	24.6	7.7	33.4	2.6	41.6	2.7	2.9	0.80	31.2	58.2	64.4	67.1	11.0	34,000	111
Masters Choice	MCT6363	3	36.6	23.4	7.0	32.7	2.4	41.4	2.6	2.7	0.80	29.3	56.9	64.1	66.8	10.8	29,333	113
Mycogen	2499AM	23	35.9	27.6	7.7	34.6	2.6	39.6	2.7	2.5	0.78	29.6	56.9	64.2	66.9	11.5	33,167	114
Prairie Hybrids	8759	Conv.	35.9	23.5	6.8	37.9	2.9	37.4	3.0	2.3	0.76	28.7	53.8	63.1	65.8	13.0	33,333	114
Channel	213-93STXRIB	34	35.7	24.1	7.4	34.3	2.8	40.0	2.8	2.6	0.78	28.8	54.3	62.9	65.5	11.9	34,000	113
Seed Consultants, Inc.	SCS 1125YHR	16	35.2	26.3	7.8	30.6	2.5	41.9	2.7	2.7	0.80	29.8	57.2	64.1	66.9	10.6	33,333	112
Mid-Atlantic Seeds, Inc.	MA8141DGVT2P	31	34.9	26.0	7.5	33.5	2.7	39.9	3.1	2.4	0.79	28.8	55.7	63.4	66.1	11.4	33,500	114
Mycogen	BMR15B15	34	34.8	23.5	7.9	42.7	2.3	28.6	3.0	2.1	0.76	37.5	68.2	77.8	76.0	9.8	33,500	115
Local Seeds	LC1349 SXRIB	31	34.6	22.7	7.5	35.7	3.1	38.3	3.0	2.6	0.77	26.0	51.8	58.5	61.0	13.9	33,000	113
Mycogen	TMF14R77	34	32.0	22.0	7.5	36.5	2.8	35.7	3.0	2.5	0.77	29.1	54.9	62.0	64.7	12.9	28,333	114
	<b>111-115 day means</b>		<b>38.0</b>	<b>25.2</b>	<b>7.4</b>	<b>33.9</b>	<b>2.6</b>	<b>41.1</b>	<b>2.7</b>	<b>2.7</b>	<b>0.79</b>	<b>29.9</b>	<b>56.4</b>	<b>63.5</b>	<b>66.1</b>	<b>11.5</b>	<b>33,090</b>	
<b>Late (116-120 day) RM Silage Hybrids</b>																		
Local Seeds	LC1688 SXRIB	34	41.8	25.5	7.0	34.2	2.7	41.3	2.2	2.9	0.80	29.2	55.8	61.3	63.9	12.3	33,333	116
Agri-Gold	A647-46VT2PRO	34	40.1	24.7	7.5	32.7	2.6	42.2	2.5	2.8	0.80	28.0	56.0	61.3	63.9	11.8	32,500	117
Seedway LLC	SW8109 3000GT	3	39.2	25.7	7.6	35.6	2.6	38.8	2.4	2.5	0.78	31.7	59.4	64.9	67.7	11.5	33,454	117
Local Seeds	LC1776 VT2P	31	38.9	27.5	7.4	34.4	2.6	40.7	2.6	2.8	0.79	30.3	57.1	63.5	66.2	11.6	34,000	117
Dekalb	DKC68-69RIB	31	38.9	26.9	7.5	34.7	2.8	39.7	2.3	2.8	0.79	29.4	56.2	61.3	64.1	12.5	34,000	118
Dekalb	DKC67-44RIB	31	38.6	27.8	7.4	33.9	2.7	41.6	2.5	2.8	0.79	29.6	55.7	61.2	63.9	12.2	34,000	117
Masters Choice	MCT6653	3	38.3	25.6	7.8	35.7	2.7	37.6	2.5	2.4	0.78	30.9	56.8	65.5	68.3	12.8	34,000	116
Chemgro Seeds	7658G3	3	37.8	24.6	7.3	36.5	2.5	38.8	2.5	2.6	0.79	32.3	59.7	67.1	69.9	10.9	31,000	116
Blue River Organic Seed	74B75	Conv.	37.8	24.1	6.8	35.7	2.7	40.0	2.7	2.4	0.78	29.6	54.4	63.8	66.5	11.9	32,833	116
Growmark FS	FS 6797X RIB	34	37.6	24.6	7.9	33.6	2.6	42.1	2.4	2.6	0.79	30.7	57.3	63.2	66.1	11.4	34,000	117
LG Seeds	LG66C32VT2PRO	31	37.3	26.2	7.3	31.8	2.7	44.7	2.8	3.0	0.80	28.4	54.8	61.4	64.5	11.3	33,333	116
Agri-Gold	A6652STXRIB	34	36.7	22.7	6.9	38.3	2.9	37.7	2.6	2.3	0.76	29.0	55.0	62.6	65.3	13.3	32,833	116
Chemgro Seeds	7789RSX	34	36.7	24.2	7.4	33.1	2.5	41.9	2.4	2.8	0.80	30.6	57.2	63.5	66.2	11.2	33,000	117
Pioneer	P1847AMXT	27	36.4	25.5	7.4	32.6	2.6	41.1	2.7	2.9	0.80	28.3	57.1	62.8	65.5	11.2	32,833	118
Mid-Atlantic Seeds, Inc.	MA5166GT3VIP	5	36.0	26.0	7.5	35.0	2.6	38.9	2.3	2.5	0.79	30.7	58.4	63.9	66.6	11.7	34,000	116
Seed Consultants, Inc.	SCS 1188AM	21	35.5	25.2	7.6	35.7	2.9	39.2	2.9	2.6	0.78	29.3	55.4	62.7	65.3	12.4	32,500	118
Chemgro Seeds	7799D5Z	11	34.9	25.0	7.6	37.3	2.8	34.8	2.9	2.1	0.76	28.9	55.9	62.5	65.2	13.0	34,000	117
Syngenta	NK1808-3111	5	34.0	26.7	7.6	36.6	2.8	36.2	2.9	2.2	0.77	29.9	57.7	64.4	67.2	12.0	33,167	118
Seed Consultants, Inc.	SCS 1168YHR	16	33.5	24.9	7.3	37.1	2.8	37.1	2.8	2.6	0.77	29.3	55.6	63.0	65.7	12.7	33,167	116
Mycogen	TMF16S87	34	32.3	25.5	7.7	36.2	2.9	34.9	2.8	2.6	0.78	27.9	53.3	58.3	60.7	14.2	33,500	116
	<b>116-120 day means</b>		<b>37.1</b>	<b>25.4</b>	<b>7.4</b>	<b>35.0</b>	<b>2.7</b>	<b>39.5</b>	<b>2.6</b>	<b>2.6</b>	<b>0.79</b>	<b>29.7</b>	<b>56.4</b>	<b>62.9</b>	<b>65.6</b>	<b>12.1</b>	<b>33,273</b>	
	<b>Overall Mean</b>		<b>37.7</b>	<b>25.3</b>	<b>7.4</b>	<b>34.4</b>	<b>2.7</b>	<b>40.5</b>	<b>2.7</b>	<b>2.6</b>	<b>0.79</b>	<b>29.8</b>	<b>56.4</b>	<b>63.3</b>	<b>65.9</b>	<b>11.7</b>		
	<b>LSD(0.1)</b>		<b>3.7</b>	<b>2.3</b>	<b>0.3</b>	<b>2.6</b>	<b>0.3</b>	<b>3.8</b>	<b>0.3</b>	<b>0.2</b>	<b>0.02</b>	<b>2.1</b>	<b>1.8</b>	<b>2.5</b>	<b>2.5</b>	<b>1.4</b>		
	<b>CV%</b>		<b>7.3</b>	<b>6.8</b>	<b>3.1</b>	<b>5.7</b>	<b>6.8</b>	<b>7.0</b>	<b>8.7</b>	<b>6.0</b>	<b>1.65</b>	<b>5.1</b>	<b>2.3</b>	<b>2.9</b>	<b>2.8</b>	<b>8.5</b>		

\* 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.

<sup>1</sup> - NS = Not Significant , <sup>2</sup> - Fat = Total Fatty Acids

Prepared by : Jessica Williamson, Alan Cook, and James Breining (Department of Plant Science).

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
<b>Agrisure</b>					
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 EZ1= 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	
<b>Herculex</b>					
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	
<b>Optimum</b>					
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
<b>Yieldgard/Genuity</b>					
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
<b>Others</b>					
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
	<b>BCW</b> = black cutworm	<b>SB</b> = stalk borer	<b>GT</b> = glyphosate tolerant		
	<b>CEW</b> = corn earworm	<b>SWCB</b> = southern corn borer	<b>LL</b> = Liberty Link, glufosinate tolerant		
	<b>ECB</b> = European corn borer	<b>TAW</b> = true armyworm	<b>RR2</b> = Roundup Ready 2, glyphosate tolerant		
	<b>FAW</b> = fall armyworm	<b>WBC</b> = western bean cutworm			
	<b>RW</b> = corn rootworm				