

# 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>	Bellefonte, Centre Co.
<b>Cooperator</b>	Dan Ulmer
<b>Planting Date</b>	8-May
<b>Soil Type</b>	HaA Hagerstown silt loam 0-3% slope
<b>Herbicides</b>	pre- Atrazine, Roundup, Dual, Callisto
	post- None
<b>Previous Crop</b>	Soybeans
<b>Tillage</b>	None
<b>Starter Fertilizer</b>	10.5 gal - 10-34-0
<b>Insecticide</b>	Force 3G
<b>Manure</b>	6000 gallons pit manure
<b>Fertilizer</b>	100 lbs of N as 30%
<b>Harvest Date</b>	9/10/2019
<b>Field Summary:</b>	Excellent weed control and adequate fertility. Rainfall was adequate during pollination time. Corn looked very consistent across plot. Might have some very minor hail damage. There was adequate rain at pollination time.

**Weather Summary:**

Month	Precip.	GDD
May 8th-June 1st	5.51	294
June 1st-July 1st	3.84	498
July 1st-August 1st	3.84	769
August 1st-September 10	3.05	775
<b>Seasonal Total</b>	<b>16.24</b>	<b>2336</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 maturity (99-111 day RM) silage hybrids in Central PA**

**Centre County location**

Notes: SEE BACKGROUND TAB

Cooperator: Ulmer Farms

Brand	Hybrid	Traits*	Dry Yield									NDFD				uNDF 240 %DM	Pop. plants/ac	Relative Maturity
			Matter %**	Tons/ Acre***	CP %DM	NDF %DM	Lignin %DM	Starch %DM	Ash %DM	Fat <sup>2</sup> %DM	NEL Mcal/lb	12hr	30hr	120hr	240hr			
<b>Early (100-104) RM Silage Hybrids</b>																		
Syngenta	NK0472-3120	6	44.7	19.5	7.6	36.7	3.0	41.3	2.8	2.9	0.78	29.9	53.6	60.9	64.6	13.0	34,000	104
LG Seeds	LG51C48VT2PRO	31	43.2	22.5	7.3	31.5	2.4	46.8	2.3	3.0	0.81	32.4	58.9	66.8	70.2	9.4	33,500	101
Chemgro Seeds	6295RDP	31	40.6	21.8	6.9	34.1	2.5	41.8	2.8	2.8	0.79	32.8	58.2	66.7	69.6	10.4	32,833	102
Local Seeds	LC0488 SSXRIB	34	40.0	22.6	6.6	34.6	2.6	43.1	2.4	2.6	0.79	30.8	56.0	64.4	67.8	11.2	33,667	104
Growmark FS	FS 53R85SS	34	39.8	20.9	7.0	34.9	2.7	40.5	2.6	2.6	0.79	31.0	56.3	63.6	66.6	11.7	34,000	103
Seed Consultants, Inc.	SCS 1018YHR	16	39.2	22.1	7.1	32.1	2.2	45.6	2.5	2.9	0.81	35.3	61.1	69.8	72.7	8.7	33,667	101
Syngenta	NK0440-3122	7	37.9	21.7	7.1	36.7	2.7	40.8	2.3	2.5	0.78	31.5	56.5	63.7	66.9	12.1	33,667	104
Seed Consultants, Inc.	EX-SC 105YHR	21	37.3	20.5	7.2	32.5	2.2	43.7	2.6	2.6	0.80	34.2	60.8	70.2	73.2	8.7	33,167	104
Blue River Organic Seed	51T59	Conv.	36.9	19.3	6.8	36.2	2.7	41.2	2.4	2.7	0.78	32.1	55.1	64.2	67.5	11.8	33,333	103
<b>100-104 day means</b>			<b>40.0</b>	<b>21.2</b>	<b>7.1</b>	<b>34.4</b>	<b>2.6</b>	<b>42.8</b>	<b>2.5</b>	<b>2.7</b>	<b>0.79</b>	<b>32.2</b>	<b>57.4</b>	<b>65.6</b>	<b>68.8</b>	<b>10.8</b>	<b>33,537</b>	

<b>Medium (105-111) RM Silage Hybrids</b>																		
LG Seeds	LG5525VT2RIB	31	43.5	20.5	6.7	34.0	2.5	44.3	2.1	2.8	0.80	32.3	57.5	63.9	67.0	11.2	34,000	105
Local Seeds	LC0657 SSXRIB	34	40.8	22.7	7.3	35.7	2.8	41.8	2.5	2.5	0.77	29.3	55.5	61.7	65.8	12.2	34,000	106
Dekalb	DKC55-85RIB	31	40.5	21.4	6.9	33.6	2.4	44.3	2.2	2.7	0.80	33.0	59.5	64.8	70.0	10.1	34,000	105
Syngenta	NK0968-3000GT	3	39.9	22.4	7.0	33.0	2.5	44.6	2.4	2.6	0.80	32.6	57.9	65.4	68.4	10.5	33,667	109
Dekalb	DKC55-37RIB	34	39.8	20.6	7.2	34.2	2.6	42.1	2.8	2.6	0.78	31.1	57.2	64.7	67.5	11.1	34,000	105
Prairie Hybrids	5787	Conv.	39.8	20.5	7.0	32.5	2.5	44.4	2.2	2.7	0.80	32.0	57.5	64.0	67.0	10.8	34,000	108
Local Seeds	LC0877 VT2PRIB	31	39.2	21.3	7.2	35.4	2.6	41.1	2.5	2.6	0.78	32.1	57.5	64.9	68.2	11.2	33,167	108
Masters Choice	MCT5790	Conv.	38.7	20.9	7.1	32.7	2.3	43.2	2.4	2.8	0.80	33.9	59.4	66.8	69.7	9.9	34,000	107
Channel	209-155TXRIB	34	38.7	21.0	7.5	32.4	2.4	44.0	2.6	2.9	0.81	33.1	59.9	67.5	70.4	9.6	34,000	109
Local Seeds	LCX07-90	Conv.	38.6	21.6	6.9	37.0	3.0	39.5	2.4	2.6	0.78	28.9	53.5	61.1	64.9	13.0	33,167	107
Channel	211-445TXRIB	34	38.6	23.3	6.8	34.2	2.7	42.5	2.5	2.6	0.79	31.7	57.1	63.9	67.4	11.2	34,000	111
Dekalb	DKC59-82RIB	31	38.0	21.6	6.8	33.7	2.6	42.9	2.3	2.7	0.79	30.3	55.9	62.3	66.1	12.1	34,000	109
Seedway LLC	SW5440 GENSS (RIB)	34	37.7	19.1	7.1	37.1	2.8	37.6	2.4	2.7	0.78	31.2	55.9	62.9	65.9	12.6	33,167	105
Pioneer	P0789AMXT	27	37.6	23.8	6.7	35.5	2.7	41.5	2.6	2.5	0.76	30.9	55.1	65.2	68.0	11.4	34,000	107
Syngenta	NK0886-3110	6	37.5	19.8	7.2	33.6	2.5	42.9	2.8	2.7	0.79	31.9	57.7	65.2	68.4	10.6	34,000	108
Prairie Hybrids	5447	Conv.	36.8	19.4	7.2	35.9	2.5	39.1	2.5	2.5	0.78	33.1	58.4	65.4	68.4	11.3	33,500	109
Chemgro Seeds	6859V3	5	36.7	21.7	6.9	36.3	2.5	39.4	2.5	2.5	0.79	33.8	58.9	65.9	68.9	11.3	33,919	108
Growmark FS	FS 5699X RIB	34	36.4	19.6	6.8	37.2	2.6	37.7	2.3	2.6	0.79	31.4	56.5	64.4	67.2	12.6	31,500	105
Seedway LLC	SW6540 GENVT2P (RIB)	31	36.4	20.6	7.0	33.9	2.7	41.2	2.8	2.9	0.79	30.8	57.2	62.5	65.8	11.7	34,000	107
Growmark FS	FS 6199X RIB	34	36.4	19.7	6.9	34.3	2.6	42.2	2.4	2.7	0.79	31.4	58.3	64.6	67.7	11.1	33,500	110
Prairie Hybrids	5200	Conv.	36.3	22.2	7.1	33.9	2.6	42.5	2.5	2.7	0.80	34.0	59.8	66.6	69.6	11.0	33,333	108
Mycogen	2098Q	36	36.0	20.2	6.7	37.2	2.6	38.9	2.5	2.4	0.77	32.9	57.6	66.3	69.2	11.4	34,000	110
Pioneer	P1089AMXT	27	36.0	22.4	7.2	34.4	2.4	39.8	2.7	2.4	0.79	32.8	58.3	66.5	69.4	10.5	34,000	110
Dekalb	DKC59-07RIB	34	35.9	22.6	6.9	35.8	2.7	39.6	2.7	2.7	0.79	32.4	57.7	64.7	67.6	11.6	34,000	109
Seed Consultants, Inc.	EX-SC 110YHR	21	35.5	21.0	6.6	37.0	2.8	33.5	2.8	2.5	0.77	31.9	57.4	63.7	66.4	11.9	31,167	108
Nutrien Ag Solutions/Dyna-Gro	D495S70	34	35.3	19.1	6.9	33.7	2.5	41.1	2.3	2.7	0.80	32.5	59.4	65.7	68.5	10.7	33,667	109
Blue River Organic Seed	62G22	Conv.	35.3	23.5	7.0	34.2	2.5	40.2	2.7	2.8	0.80	32.4	57.7	64.9	67.7	11.1	34,000	110
Seed Consultants, Inc.	SCS 1069YHR	16	35.1	21.2	7.3	34.6	2.5	41.8	2.7	2.7	0.79	31.9	57.8	65.7	68.6	10.9	33,919	106
Pioneer	P0843AM	21	34.9	21.3	7.5	35.2	2.5	39.6	2.7	2.6	0.79	33.4	57.9	66.6	69.4	10.8	33,500	108
Local Seeds	ZS1098 3330EZ	9	34.2	21.0	7.8	37.8	2.7	36.7	2.8	2.3	0.77	32.1	57.7	64.1	67.1	12.5	33,500	110
Seed Consultants, Inc.	SCS 1087YHR	16	33.9	21.0	7.1	35.9	2.4	39.6	2.4	2.4	0.78	33.3	58.8	67.5	70.4	10.6	33,667	108
Channel	210-985TXRIB	34	33.7	20.8	6.8	37.6	2.7	37.3	2.4	2.4	0.77	32.4	58.8	65.6	68.5	11.9	33,500	110
Mycogen	TMF2H708	34	33.6	20.8	7.1	40.3	3.0	34.0	2.7	2.1	0.75	30.1	57.6	64.1	66.9	13.4	31,419	109
<b>105-111 day means</b>			<b>37.2</b>	<b>21.2</b>	<b>7.0</b>	<b>35.1</b>	<b>2.6</b>	<b>40.6</b>	<b>2.5</b>	<b>2.6</b>	<b>0.79</b>	<b>32.0</b>	<b>57.7</b>	<b>64.8</b>	<b>67.9</b>	<b>11.3</b>	<b>33,553</b>	

<b>Overall Mean</b>		<b>37.8</b>	<b>21.2</b>	<b>7.0</b>	<b>35.0</b>	<b>2.6</b>	<b>41.1</b>	<b>2.5</b>	<b>2.6</b>	<b>0.79</b>	<b>32.1</b>	<b>57.6</b>	<b>65.0</b>	<b>68.1</b>	<b>11.2</b>	
<b>LSD(0.1)</b>		<b>2.6</b>	<b>2.0</b>	<b>0.5</b>	<b>2.8</b>	<b>0.3</b>	<b>3.8</b>	<b>0.4</b>	<b>0.2</b>	<b>0.02</b>	<b>1.6</b>	<b>1.7</b>	<b>2.3</b>	<b>2.5</b>	<b>1.5</b>	
<b>CV%</b>		<b>5.0</b>	<b>6.8</b>	<b>5.2</b>	<b>5.8</b>	<b>8.6</b>	<b>6.9</b>	<b>10.5</b>	<b>5.7</b>	<b>1.65</b>	<b>3.7</b>	<b>2.2</b>	<b>2.6</b>	<b>2.7</b>	<b>10.0</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.

1 - NS = Not Significant , 2 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 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	
<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				