2025

Professional Dairy Managers of Pennsylvania (PDMP)

Corn Silage Hybrid Performance Trial Results

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

Site:	Pennsylvania Furance, PA
Cooperator	Penn State Agronomy Farm
Planting Date	5/20/2025
Soil Type	Hagerstown silt loam
Herbicides pre-	1.5 qt Lexar, 1.5 pt ATZ, 1.25 qt Credit
post-	1.25 qt Powermax, 3 oz Status
Previous Crop	Soybeans
Tillage	None
Starter Fertilizer	15 gal UAN
Insecticide	None
Manure	None
Fertilizer	40 gal UAN
Harvest Date	9/10/2025

Field Summary:

Overall, emergence and stand counts were good. There was some weed pressure, however not yield limiting. Starting in early August, every 5-7 days leading up to harvest, whole plant moisture samples were taken to help timing of harvest for the ideal moisture range.

Weather Summary:

Month	Precip. In.	GDD
May 20 - 31	2.4	55
June	5.2	594
July	3.8	764
August	4.9	529
September 1 - 10	0.2	116
Seasonal Total	**16.50**	**2058**

Precip. Data: http://wunderground.com

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

PDMP Corn Silage Hybrid Testing Program 2025

PDMP Professional Dairy Managers of Pennsylvania

in collaboration with

PennState Extension College of Agricultural Sciences

Early maturity (88-103) day RM silage hybrids in Pennsylvania Furance, PA

Notes: SEE BACKGROUND TAB

Cooperator: Penn State Agronomy Research Farm

Brand	Hybrid	Traits[1]	Relative Maturity	Pop. Plants/ac	Dry Matter %[2]	Crude Protein %DM	Lignin %DM	Ash %DM	Starch %DM	TFA %DM	NDFom %DM	uNDF 240 hr %DM	NDFD 30 %NDF	IVSD %Starch[3]	Fresh Yield tons/ac[4]	OM Yield tons/ac[5]	DOM Yield tons/ac[6]	OMD %[7]
88-97 day hybrids																		
Seed Consultants	SC976PCE	33	97	34,000	35.9	7.3	1.8	2.9	40.2	2.5	31.7	8.2	60.6	70.7	21.3	7.2	5.0	68.4
Kings Agriseeds	RedTail RT 38T89	17	88	34,000	35.5	7.9	2.1	3.0	38.5	2.5	33.5	9.4	58.2	68.6	19.4	6.6	4.4	66.4
Channel	193-40VT4PRIB	53	93	34,000	35.3	7.1	1.9	2.6	39.2	2.6	33.0	8.1	62.3	70.5	22.6	7.7	5.3	68.8
Channel	193-42VT4PRIB	53	93	34,000	35.3	7.3	1.9	2.7	39.2	2.6	33.8	8.6	61.8	69.8	22.4	7.6	5.2	68.2
Syngenta	E097K6-D	17	97	34,000	35.1	8.2	2.1	3.1	38.2	2.6	31.8	8.4	60.6	68.0	20.9	7.1	4.8	67.3
Revere	091-P42RIB	50	91	34,000	35.0	7.8	2.1	3.1	35.9	2.5	34.9	9.0	61.6	68.9	18.1	6.2	4.2	67.7
Kings Agriseeds	RedTail RT 45T09	19	95	34,000	34.8	8.0	1.9	2.9	39.1	2.6	30.8	8.0	61.0	68.8	20.3	6.9	4.7	67.9
Seed Consultants	SC946PCE	33	94	34,000	34.4	7.7	2.3	3.1	37.6	2.3	31.8	9.3	55.9	70.3	17.5	5.9	3.9	66.3
Shur Grow Seeds	SG5788DV	19	97	34,000	34.1	7.8	2.1	3.0	39.4	2.7	32.0	9.1	58.8	69.5	18.4	6.3	4.2	67.2
Pine Creek Seeds	R9115V	44	91	34,000	33.6	8.2	2.3	3.3	36.8	2.5	31.7	9.8	56.0	69.3	18.8	6.4	4.2	66.2
Growmark FS	INVISION FS 4559PC	32	95	34,000	33.5	7.4	2.2	3.0	36.1	2.2	34.0	9.5	58.3	71.0	19.7	6.7	4.5	67.2
Syngenta	NK9771-DV	21	97	34,000	33.3	7.7	2.2	3.0	35.3	2.4	34.3	9.6	58.2	69.6	20.0	6.8	4.5	66.6
Channel	197-99SSPRIB	40	97	34,000	33.2	7.5	2.0	2.6	37.3	2.7	35.0	8.3	64.8	69.4	18.8	6.4	4.4	69.1
Seed Consultants	SC964PCE	33	96	34,000	32.4	7.8	2.1	3.1	37.9	2.5	33.5	9.0	60.7	70.7	20.6	7.0	4.8	68.4
Dekalb	DKC093-05RIB	39	93	34,000	31.3	7.8	2.3	3.3	32.7	2.2	37.0	10.9	57.8	69.9	20.2	6.8	4.5	66.1
Revere	093-V37EZ	44	93	34,000	30.3	7.9	2.1	3.2	37.3	2.4	32.7	9.2	58.8	70.0	18.6	6.3	4.3	67.4
Shur Grow Seeds	SG5440DV	19	94	34,000	29.9	7.9	2.1	3.3	35.6	2.4	33.8	9.5	59.6	70.3	20.2	6.8	4.6	67.7
				88-97 day means	***33.7***	***7.7***	***2.1***	***3.0***	***37.4***	***2.5***	***33.3***	***9.1***	***59.7***	***69.7***	***19.9***	***6.7***	***4.6***	***67.5***
98-103 day hybrids																		
Dekalb	DKC098-55RIB	39	98	34,000	35.2	7.4	1.9	2.8	35.8	2.4	35.2	8.7	62.8	69.4	19.1	6.5	4.4	68.3
Revere	9827SSXRIB	39	98	34,000	34.1	7.7	2.1	3.1	36.0	2.4	34.7	8.9	61.2	69.5	20.6	7.0	4.7	67.8
Channel	198-99SSPRIB	40	98	34,000	33.5	7.3	2.0	2.8	37.2	2.5	34.1	8.3	61.9	70.3	21.5	7.3	5.0	68.5
Shur Grow Seeds	SG5885PCE	33	98	34,000	33.4	7.6	2.1	3.2	35.7	2.1	34.4	9.6	58.0	70.5	21.4	7.3	4.9	66.9
Chemgro	6364PCE	33	103	34,000	33.3	7.6	2.0	3.0	36.4	2.5	34.0	8.7	62.3	69.6	19.5	6.6	4.5	68.3
Seed Consultants	SC1006PCE	33	100	34,000	33.1	8.0	2.0	3.3	35.4	2.2	33.9	9.3	59.4	70.1	20.4	6.9	4.7	67.4
Pine Creek Seeds	R9917DV	19	99	34,000	33.0	8.0	2.2	3.3	35.0	2.3	33.9	9.2	60.1	69.8	18.8	6.4	4.3	67.6
Dekalb	DKC101-33RIB	40	101	34,000	33.0	7.8	2.1	3.1	35.2	2.4	34.9	9.0	61.8	69.4	19.9	6.8	4.6	68.0
Pine Creek Seeds	R9916PC	33	99	34,000	31.9	8.5	2.1	3.5	32.8	2.3	33.2	9.5	58.6	70.0	15.9	5.4	3.6	67.2
Growmark FS	INVISION FS 5159PC	32	101	34,000	29.6	8.0	2.2	3.4	30.5	2.2	36.6	9.1	63.2	70.6	16.6	5.6	3.9	68.8
				98-103 day means	***33.0***	***7.8***	***2.1***	***3.2***	***35.0***	***2.3***	***34.5***	***9.0***	***60.9***	***69.9***	***19.4***	***6.6***	***4.5***	***67.9***
				Overall Mean	**33.4**	**7.7**	**2.1**	**3.1**	**36.5**	**2.4**	**33.7**	**9.1**	**60.2**	**69.8**	**19.7**	**6.7**	**4.5**	**67.6**
				LSD(0.1)	**2.4**	**0.4**	**NS**	**0.4**	**NS**	**0.3**	**NS**	**NS**	**2.2**	**1.0**	**2.4**	**0.8**	**0.6**	**1.0**
				CV%	**5.3**	**3.6**	**9.6**	**8.8**	**9.3**	**7.8**	**7.9**	**9.9**	**2.7**	**1.0**	**9.0**	**9.1**	**9.3**	**1.1**

[1] **Traits:** See tab " Trait Key" for individual trait designation.

[2] **Dry Matter:** Tables are sorted by dry matter. *Avoid making comparisons with hybrids that differ significantly in dry matter.*

[3] **IVSD:** Starch digestibiliy (% of starch) is analyzed by an NIRS method on samples ground through a 4-mm screen and incubated for 7 hours (IVSD).

[4] **Fresh Yield:** Silage yields are expressed on a 35 percent DM basis; all other parameters are expressed on a dry matter basis.

[5] **OM Yield:** Silage yield (tons/ac) expressed on an organic matter (OM) basis.

[6] **DOM Yield:** Yield of digestible organic matter.

[7] **OMD: Organic Matter Digestibility -** Please see "OMD Story" tab for information on how to use this column

NS = Not Significant

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The Handy Bt Trait Table for U.S. Corn Production

Updated August 2025

Compiled by
Chris DiFonzo
Michigan State University

Web site hosted by
Pat Porter
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The most up-to-date version and related extension materials are free online at:
www.texasinsects.org/bt-corn-trait-table.html Questions? difonzo@msu.edu

Trait Key #	TABLE 2 Principal trait packages available in the U.S. (alternate names in parentheses)	letter code	Traits in the package ********** Font type denotes target: caterpillar or *rootworm*	Expected control by traits in thepackage *one or more remain effective (x) *resistance to all, widespread (R) / localized(RL)											Refuge in northern states (higher in the south)	Weed control Trait *check bag tag
				BCW	CEW	ECB	FAW	SB	SCB	SWCB	TAW	WBC	*NCR*	*WCR*		
0	Conventional	C														
3	AcreMax	AM	Cry1Ab Cry1F	x	R	RL	RL	x	x	RL		R			5% blend	GLY LL
4	AcreMax Leptra	AML	Cry1Ab Cry1F Vip3A	x	x	RL	x	x	x	x	x	x			5% blend	GLY LL
6	AcreMax Xtra	AMX	Cry1Ab Cry1F *Cry34/35Ab1*	x	R	RL	RL	x	x	RL		R	RL	R	10% blend	GLY LL
7	AcreMax Xtreme	AMXT	Cry1Ab Cry1F *Cry34/35Ab1 mCry3A*	x		RL	RL	x	x	RL		R	x	R	5% blend	GLY LL
11+12	Agrisure Above (Agrisure3120EZ) AA Refuge Renew (Agrisure3120)	AA	Cry1Ab Cry1F	x	R	RL	RL	x	x	RL		R			5% blend Renew: 5%	GLY LL*
13+14	Agrisure Total (Agrisure3122EZ) AT Refuge Renew (Agrisure3122)	AT	Cry1Ab Cry1F *Cry34/35Ab1 mCry3A*	x	R	RL	RL	x	x	RL		R	x	R	5% blend Renew: 5%	GLY LL*
15	Agrisure Viptera 3110	3110	Cry1Ab Vip3A	x	x	RL	x	x	x	x	x	x			20%	GLY LL
16	Agrisure Viptera 3111	3111	Cry1Ab Vip3A *mCry3A*	x	x	RL	x	x	x	x	x	x	x	R	20%	GLY LL
17+18	Duracade (Agrisure5122EZ) D Refuge Renew (Agrisure5122)	D	Cry1Ab Cry1F *eCry3.1Ab mCry3A*	x	R	RL	RL	x	x	RL		R	x	R	5% blend Renew: 5%	GLY LL*
19+20	Duracade Viptera (Agrisure5222EZ) DV Refuge Renew (Agrisure 5222)	DV	Cry1Ab Cry1F Vip3A *eCry3.1Ab mCry3A*	x	x	RL	x	x	x	x	x	x	x	R	5% blend Renew: 5%	GLY LL*
21+22	Duracade Viptera Z3 (Agrisure5332EZ) DVZ Refuge Renew (Agrisure5332)	DVZ	Cry1Ab Cry1A.105 Cry2Ab2 Vip3A *eCry3.1Ab mCry3A*	x	x	RL	x	x	x	x	x	x	x	R	5% blend Renew: 5%	GLY LL*
29	Intrasect	YHR	Cry1Ab Cry1F	x	R	RL	RL	x	x	RL		R			5%	GLY LL
30	Leptra	VYHR	Cry1Ab Cry1F Vip3A	x	x	RL	x	x	x	x	x	x			5%	GLY LL
32	PowerCore Refuge Adv.	PWRA	Cry1A.105 Cry2Ab2 Cry1F	x	R	RL	x	x	x	RL		R			5% blend	GLY LL
33	PowerCore Enlist or Enlist Refuge Advanced	PWE PCE	Cry1A.105 Cry2Ab2 Cry1F	x	R	RL	x	x	x	RL		R			5% Adv 5% blend	GLY LL Enlist
57	PowerCore Ultra Enlist or Ultra Enlist Refuge Advanced	PWUE PCUE	Cry1A.105 Cry2Ab2 Cry1F Vip3A	x	x	RL	x	x	x	x	x	x			5% Adv 5% blend	GLY LL Enlist
34	QROME	Q	Cry1Ab Cry1F *Cry34/35Ab1 mCry3A*	x	R	RL	RL	x	x	RL		R	x	R	5% blend	GLY LL
35	SmartStax or Genuity SS	SS SX	Cry1A.105 Cry2Ab2 Cry1F *Cry3Bb1 Cry34/35Ab1*	x	R	RL	x	x	x	RL		R	RL	R	5%	GLY LL
36	SmartStax Enlist SS Enlist Refuge Advanced	SSE	Same as SmartStax	x	R	RL	x	x	x	RL		R	RL	R	5% Adv 5% blend	GLY LL Enlist
38	SmartStax Refuge Advanced SmartStax RIB Complete	SXRA	Same as SmartStax	x	R	RL	x	x	x	RL		R	RL	R	5% blend	GLY LL
40	SmartStax PRO	SSPro	Cry1A.105 Cry2Ab2 Cry1F *Cry3Bb1 Cry34/35Ab1 dvSnf7*	x	R	RL	x	x	x	RL		R	x	x	5%	GLY LL
41	SmartStax PRO Enlist SSPro Enlist Refuge Advanced	SSPro	Same as SmartStax Pro	x	R	RL	x	x	x	RL		R	x	x	5% Adv 5% blend	GLY LL Enlist
42	SmartStax PRO Refuge Advanced RIB Complete or w/RNAi Tech	SSPro	Same as SmartStax Pro	x	R	RL	x	x	x	RL		R	x	x	5% blend	GLY LL
43	Trecepta RIB Complete	TRERIB	Cry1A.105 Cry2Ab2 Vip3A	x	x	RL	x	x	x	x	x	x			5% blend	GLY
44+45	Viptera (Agrisure3220EZ) Vip Refuge Renew (Agrisure3220)	V	Cry1Ab Cry1F Vip3A	x	x	RL	x	x	x	x	x	x			5% blend Renew: 5%	GLY LL*
46+47	Viptera Z3 (Agrisure3330EZ) VZ Refuge Renew (Agrisure3330)	VZ	Cry1Ab Cry1A.105 Cry2Ab2 Vip3A	x	x	RL	x	x	x	x	x	x			5% blend Renew: 5%	GLY LL*
48	Vorceed Enlist	V	Cry1A.105 Cry2Ab2 Cry1F *Cry3Bb1 Cry34/35Ab1 dvSnf7*	x	R	RL	x	x	x	RL		R	x	x	5% blend	GLY LL Enlist
NA	Vorceed Enlist Structured *- Expected in 2026*	VS	Cry1A.105 Cry2Ab2 Cry1F *Cry3Bb1 Cry34/35Ab1 dvSnf7*	x	R	RL	x	x	x	RL		R	x	x	5%	GLY LL Enlist
49	VT Double PRO	VT2P	Cry1A.105 Cry2Ab2		R	RL	x	x	x	RL					5%	GLY
50	VT2 PRO RIB Complete	VT2PRIB	Cry1A.105 Cry2Ab2		R	RL	x	x	x	RL					5% blend	GLY
52	VT3 PRO RIB Complete	VT3PRIB	Cry1A.105 Cry2Ab2 *Cry3Bb1*		R	RL	x	x	x	RL			RL	R	10% blend	GLY
53	VT4 PRO w/RNAi Technology	VT4PRO	Cry1A.105 Cry2Ab2 Vip3A *Cry3Bb1 dvSnf7*	x	x	RL	x	x	x	x	x	x	x	x	5% blend	GLY

The OMD Index

The digestibility of nutrients in corn silage is paramount when determining nutritional value. Starch and NDF are responsible for much of the digestible energy in corn silage. In order to give dairy producers and nutritionist a tool to evaluate corn silage hybrids, we developed a new digestibility index, called the Organic Matter Digestibility Index (OMDI or just OMD), and is based on digestibility of protein, fat, NDF, and starch. The sum of which makes up approximately 86-88% of the organic matter in corn silage.

The OMD index represents the digestible portion of silage organic matter and is based on chemical analyses only. It does not predict dry matter intake or milk production, although numerous studies clearly show that digestibility of forage organic matter is directly related to lactation performance of dairy cows. The OMD index does not represent the absolute digestibility of silage organic matter, as this can be reliably determined only in experiments with live animals. But, OMD is representative of the potentially digestible organic matter of the whole plant and can be used to compare silage hybrids. Furthermore, simulation analyses using the Cornell Net Carbohydrate and Protein System (CNCPS v. 6.55; Cornell University, Ithaca, NY) show that OMD correlates reasonably well with model-predicted milk production of dairy cows fed a standard diet containing approx. 40% corn silage (dry matter basis).

How is the OMD Index Used?

Feeding value of corn silage is mostly associated with digestibility of NDF or starch. A long-standing goal of PDMP is to create a single measure of silage nutritive value using several variables associated with digestibility. Traditional variables, crude protein (accounted for fiber-bound nitrogen), NDF, starch, lignin, and fat, are combined with digestibility determinations for NDF (NDFD30*) and starch (IVSD; 7-hour, 1-mm grind). Once combined, these digestibility coefficients sum to predict OMD.

The OMD Index is calculated using the following equation: OMDI (%) = {[(crude protein – NDICP) × 0.89] + (total fatty acids × 0.75) + (starch × IVSD ÷ 100) + [(aNDFom - lignin) × NDFD30 ÷ 100)]} ÷ [(crude protein – NDICP) + total fatty acids + starch + (aNDFom – lignin)] × 100.

Where: OMDI (%) is Organic Matter Digestibility Index; crude protein, total fatty acids, starch, NDICP (NDF-bound crude protein), aNDFom (ash-free basis, amylase-treated NDF), and lignin (ash-free) are expressed as % of corn silage dry matter; 0.89 is assumed (based on literature data) coefficient of digestibility of silage crude protein; 0.75 is assumed (based on literature data) coefficient of digestibility of silage total fatty acids; IVSD is starch digestibility (by NIRS at 7-hour and sample ground through a 4-mm sieve) expressed as % of starch; and NDFD30.

Use of OMDI: The OMD index is intended to represent the digestible portion of silage dry matter and is based on chemical analyses. OMD does not represent the absolute digestibility of silage organic matter, but it is representative of the potentially digestible organic matter and can be used when comparing silage hybrids. ***Simply put, the higher the OMD value, the higher the overall expected digestibility of the silage.*** OMD reflects the digestibility of key nutrients within the entire plant. Producers without carryover of silage should consider the interaction of OMD and DOM (digestible organic matter yield per acre) as yield of digestible organic matter will be equally as relevant as OMD.

Conclusion

Organic matter digestibility is not a new measure. For years, researchers and nutritionists have used digestibility estimates to formulate rations for dairy cattle. Today, integrating these data is a useful practice to gauge silage value and match hybrid to farm needs. Put simply, OMD measures whole plant digestibility. Emphasis is on digestibility of all main nutrients. In the end, we hope OMD serves to facilitate discussion among producer, seed consultant, and dairy nutritionist as to which hybrids offer the best nutrient value for dairy cows.