

2018 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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Penn State/PDMP Corn Silage Hybrid Testing Program 2018

Medium maturity (99-110 RM) silage hybrids in (Central) PA

Combined hybrid performance across Bedford, Blair and Centre Counties



Notes: Penn England was delayed two weeks due to cool and wet weather through mid-May. Ulmer's performance was very consistent throughout the growing season. Wet field conditions through most of the summer resulted in lower than expected performance at Kulp's.

Cooperators: Kulp Family Dairy, Penn-England Farms and Dan Ulmer

Brand	Hybrid	Traits*	Dry	Yield	CP	NDF	Lignin	Starch	Ash	Fat ²	NEL	NDFD			uNDF	Pop.	Relative
			Matter	Tons/Acre***								%**	%	%	%		
Early (99-104 day) RM Silage Hybrids																	
Doebler's PA Hybrids	4115AMXT	26	49.3	18.8	6.9	35.6	2.8	43.0	2.8	2.5	0.77	54.3	64.5	67.3	32.7	32,278	101
Hubner	H6257RCSS	32	48.0	18.2	6.9	33.9	2.7	45.3	2.4	3.0	0.79	55.3	63.0	66.5	33.5	33,729	104
Masters Choice	MCT 5375	7	47.2	18.7	7.1	34.7	2.9	43.5	2.5	2.9	0.78	53.0	62.6	65.6	34.4	32,833	103
Local Seed Co.	LC04885SX	32	46.4	16.5	6.7	37.0	3.1	41.1	2.4	2.7	0.77	52.1	59.2	62.2	37.8	31,389	104
Hubner	H6219RCSS	32	46.0	16.8	7.1	38.3	3.3	39.7	2.7	2.7	0.76	50.8	58.8	62.0	38.0	33,222	99
Doebler's PA Hybrids	4018AMXT	26	45.9	18.6	6.7	37.1	2.8	41.1	2.8	2.7	0.77	55.7	65.2	67.9	32.1	33,278	100
Hubner	H6225RCSS	32	43.8	16.9	6.7	40.7	3.5	38.1	2.7	2.4	0.74	48.9	58.5	61.7	38.3	32,611	102
Doebler's PA Hybrids	4219AM	20	43.0	18.6	7.2	36.8	3.0	39.3	2.8	2.7	0.77	53.2	62.3	65.0	35.0	33,167	102
Doebler's PA Hybrids	4318AMXT	26	41.0	18.9	7.3	37.0	3.2	40.2	2.8	2.5	0.76	50.9	59.2	63.0	37.0	33,000	103
99-104 day means			45.6	18.0	6.9	36.8	3.0	41.2	2.6	2.7	0.77	52.7	61.5	64.6	35.4	32,834	
Medium (105-110 day) RM Silage Hybrids																	
Local Seed Co.	LC0657 S5XRIB	30	49.9	16.7	7.3	36.0	3.1	43.2	2.6	2.5	0.76	51.3	58.6	61.5	38.5	29111****	106
Growmark FS	FS 56R71SS	32	49.0	18.5	7.3	34.9	3.0	44.1	2.7	2.7	0.78	52.2	60.6	64.2	35.8	33,261	106
Dekalb	DKC55-21RIB	30	48.8	18.1	7.0	35.7	3.0	43.6	2.6	2.8	0.77	51.8	61.0	64.5	35.5	32,833	105
Local Seed Co.	LC0877VT2P	30	47.9	18.5	6.9	36.1	2.8	42.5	2.6	2.6	0.77	54.5	63.5	66.5	33.5	33,333	108
Dekalb	DKC57-75RIB	32	46.9	17.3	6.9	36.3	3.0	43.1	2.8	3.0	0.77	53.2	61.7	65.3	34.8	33,056	107
Prairie Hybrids	4718	Conv.	46.0	15.7	6.4	37.0	3.1	42.1	2.8	2.6	0.77	51.9	59.3	62.3	37.7	32,500	106
Seedway	SW5440	32	45.9	18.5	7.0	37.1	3.1	41.8	2.7	2.8	0.77	51.4	59.7	63.1	36.9	32,778	105
Dekalb	DKC60-88RIB	30	45.6	18.4	6.8	38.1	3.3	40.9	2.7	2.6	0.75	50.9	59.8	63.1	36.9	32,167	110
Augusta	Augusta 4959	4	45.5	18.4	7.1	39.8	3.3	37.8	3.0	2.8	0.75	52.6	61.1	64.1	35.9	33,167	109
Syngenta	NK0886-3010	2	45.2	16.9	7.2	36.9	3.1	40.6	2.9	2.7	0.76	52.4	60.9	64.1	35.9	32,167	108
Growmark FS	FS 60R76VT2P	30	45.0	20.3	6.6	36.3	3.0	42.9	2.5	2.8	0.77	52.3	62.4	65.6	34.4	33,611	110
Augusta	Augusta 4858	2	44.9	17.0	7.3	35.8	3.1	42.2	3.1	2.8	0.77	51.8	60.4	63.5	36.5	33,080	108
Channel	207-90STXRIB	32	44.7	18.6	6.9	39.0	3.0	38.8	2.6	2.6	0.76	54.3	62.0	65.1	34.9	33,111	107
CPS Dynagro	D49VC70	30	44.4	19.8	7.0	35.0	2.9	42.6	2.6	2.9	0.78	54.1	62.0	64.9	35.1	32,667	109
Dupont Pioneer	P0843AM	20	44.2	19.7	7.2	33.7	2.6	44.6	2.5	3.0	0.79	55.9	64.3	67.2	32.8	32,500	108
Mycogen	TMF09597	34	44.1	18.8	7.1	42.3	3.5	35.1	2.7	2.5	0.74	50.3	59.4	62.4	37.6	32,889	109
Chemgro	Chemgro 7095RDP	30	43.7	20.1	7.1	36.1	3.0	41.8	2.7	2.7	0.77	52.8	61.9	65.2	34.8	33,222	110
Dekalb	DKC58-08RIB	30	43.7	18.9	6.8	37.0	3.1	40.4	2.7	2.7	0.76	52.1	61.5	64.9	35.1	32,278	108
Syngenta	NK0968-3111	5	43.5	18.8	7.3	35.8	3.0	42.1	2.9	2.7	0.77	52.1	61.6	64.3	35.7	32,778	109
Dupont Pioneer	P0789AMXT	26	43.2	21.0	7.1	38.6	3.3	38.6	2.8	2.8	0.76	50.7	59.6	62.8	37.2	33,000	107
Doebler's PA Hybrids	4919AM	20	43.1	18.7	6.8	38.2	3.0	40.2	2.6	2.3	0.76	52.2	61.6	64.6	35.5	33,000	109
Channel	206-11STXRIB	32	43.0	17.6	7.2	37.5	3.0	38.9	2.8	2.7	0.77	54.5	62.1	64.9	35.1	32,556	106
Masters Choice	MC 5790	Conv.	42.9	17.8	7.3	38.1	3.0	38.4	2.8	2.7	0.76	53.2	60.9	63.7	36.3	31,556	107
Doebler's PA Hybrids	4717AMX	25	42.8	19.0	7.2	37.0	3.1	40.3	2.6	2.8	0.77	52.4	61.1	64.2	35.8	30,278	107
Augusta	Augusta 4759	5	42.8	20.1	7.0	36.4	2.7	41.4	2.6	2.7	0.77	55.3	64.3	67.1	32.9	32,944	109
Mycogen	MY09B16	35	42.8	19.4	6.9	38.2	3.2	38.8	2.7	2.8	0.76	51.8	60.5	63.2	36.8	32,993	105
Dekalb	DKC59-07RIB	32	42.7	18.7	7.0	34.9	2.9	42.6	2.7	3.1	0.78	54.2	62.1	65.0	35.1	32,667	109
Augusta	Augusta 4860	8	42.3	17.0	7.1	37.7	2.8	40.4	2.5	2.5	0.77	54.7	62.4	65.2	34.8	33,056	110
Dupont Pioneer	P0977AM	20	41.9	20.9	7.1	36.5	3.0	40.5	3.0	2.7	0.77	52.9	62.5	65.2	34.8	33,222	109
Growmark FS	FS 55R25SS	32	40.8	18.1	7.0	38.1	3.2	39.9	2.6	2.6	0.76	50.6	60.7	63.6	36.4	32,444	105
Chemgro	Chemgro 6859V3	5	40.3	19.2	6.8	39.4	3.0	36.9	2.8	2.7	0.76	53.4	63.0	65.7	34.3	33,000	108
Prairie Hybrids	5200	Conv.	40.1	19.4	7.2	39.8	3.2	36.5	2.9	2.6	0.75	53.0	61.9	64.6	35.4	32,710	108
Growmark FS	FS 58R47VT2P	30	39.9	19.8	7.2	39.5	3.4	37.3	2.9	2.7	0.75	51.2	61.6	63.5	36.5	33,368	108
Mycogen	TMF2H708	34	39.1	18.4	7.1	42.2	3.7	34.6	3.0	2.4	0.73	47.8	59.3	61.6	38.4	33000	109
Doebler's PA Hybrids	5018AM	20	38.4	20.9	7.2	38.4	3.0	38.5	2.8	2.5	0.76	54.4	64.8	67.6	32.4	32,944	110
Channel	210-98STXRIB	32	37.3	21.1	7.2	39.0	3.2	37.9	2.9	2.9	0.76	53.3	62.4	65.3	34.7	32,556	110
105-110 day means			43.7	18.8	7.0	37.4	3.1	40.3	2.7	2.7	0.76	52.6	61.5	64.4	35.6	32,661	
Overall Mean			44.06	18.6	7.0	37.3	3.1	40.5	2.7	2.7	0.8	52.6	61.5	64.5	35.5	32695.7	
LSD(0.1)			5	2.7	0.5	5.8	0.6	6.9	0.5	0.4	0.0	4.39	3.9	4.1	4.1	1993.1	
CV%			8.43	10.6	5.0	11.5	14.1	12.6	13.4	10.5	3.7	6.2	4.7	4.7	8.5	4.5	

* 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.

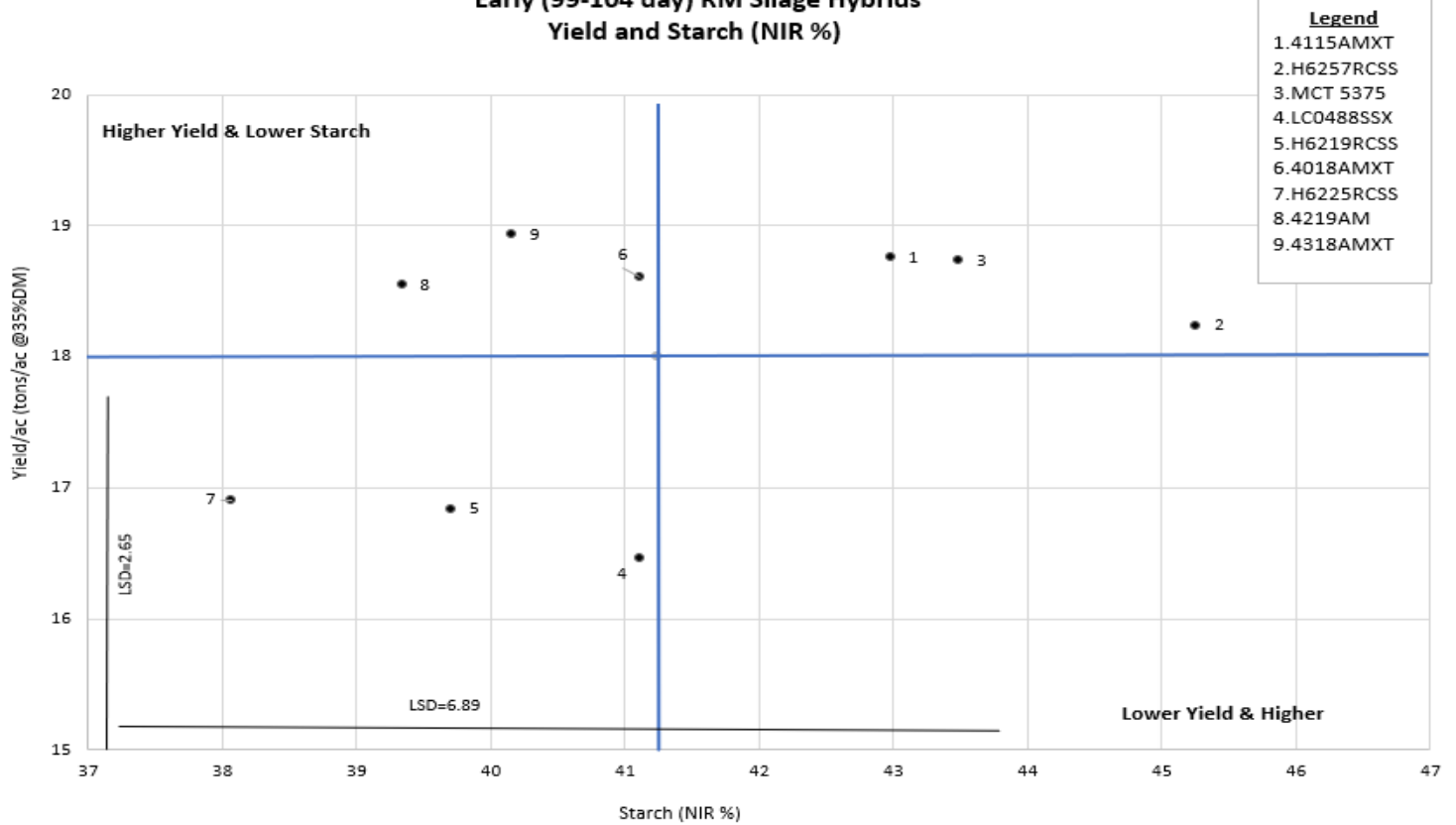
**** This variety had low populations at the Blair location

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

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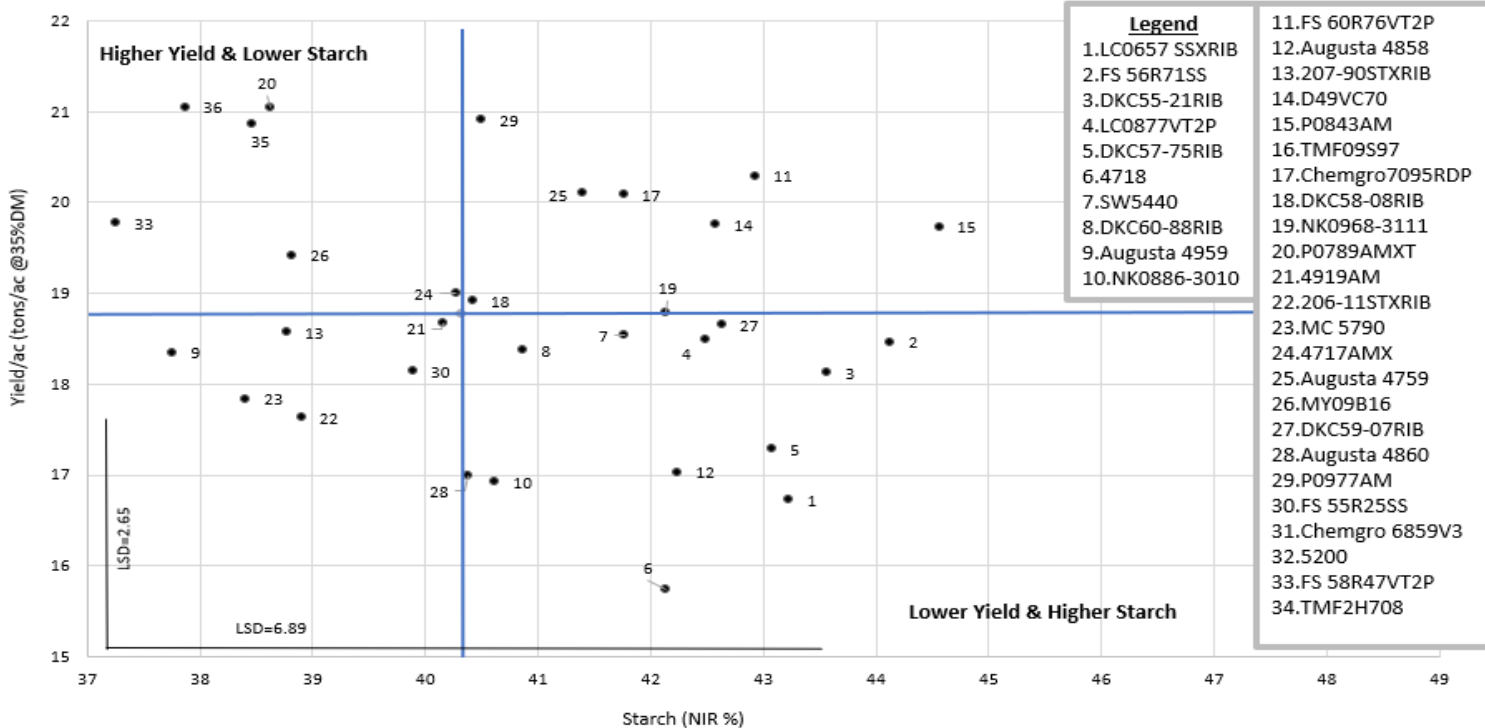
Table Key #	Trait Family Product	Bt protein(s)	Marketed for control of:	Resistance to a Bt protein in the trait package has developed in :	Herbicide tolerant?
Conv.	Conventional	None	None	---	No
RR2	Roundup Ready 2	None	None	---	GT
Agrisure					
1	Agrisure GT	None	None	---	GT
2	Agrisure GT/CB/LL,3010A	Cry1Ab	ECB SWCB	---	GT LL
3	Agrisure 3000 GT, 3011A	Cry1Ab, mCry3A	ECB SWCB	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	GT LL
6	Agrisure 3120 E-Z Refuge	Cry1Ab, Cry1F	BCW ECB FAW SB SWCB	FAW WBC	REFER TO BAG FOR SPECIFIC LETTER CODE: EZO=GT ONLY EZ1= GT LL
7	Agrisure 3122 E-Z Refuge	Cry1Ab,Cry1F, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	
8	Agrisure Viptera 3220 E-Z Refuge	Cry1Ab, Cry1F, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	
9	Agrisure Duracade 5122 E-Z Refuge	Cry1Ab, Cry1F, mCry3A, eCry3.1Ab	BCW ECB FAW SB SWCB	FAW WBC RW	
10	Agrisure Duracade 5222 E-Z Refuge	Cry1Ab, Cry1F, Vip3A, mCry3A, eCry3.1Ab	BCW CEW ECB FAW SB SWCB TAW WBC	RW	
Herculex					
11	Herculex 1 (HX1)	Cry1F	BCW ECB FAW SB SWCB	FAW SWCB WBC	LL RR2 (most)
12	Herculex RW (HXRW)	Cry34/35Ab1	---	RW	
13	Herculex Xtra (HXX)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW SWCB WBC RW	
Optimum					
14	TRIssect (CHR)	Cry1F, mCry3A	BCW ECB FAW SB SWCB	FAW SWCB WBC RW	LL RR2
15	Intrasect (YHR)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
16	Intrasect TRIssect (CYHR)	Cry1Ab, Cry1F, mCry3A	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
17	Leptra (VYHR)	Cry1F, Cry1Ab, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	LL RR2
18	Intrasect Xtra (YXR)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
19	Intrasect Xtreme (CYXR)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
20	AcreMax (AM)	Cry1F, Cry1Ab	BCW ECB FAW SB SWCB	FAW WBC	LL RR2
21	AcreMax CRW (AMRW)	Cry34/35Ab1	---	RW	LL RR2
22	AcreMax1 (AM1)	Cry1F, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW SWCB WBC RW	LL RR2
23	AcreMax Leptra (AML)	Cry1Ab, Cry1F, Vip3A	BCW ECB FAW SB SWCB TAW WBC CEW	---	LL RR2
24	AcreMax TRIssect (AMT)	Cry1F, Cry1Ab, mCry3A	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
25	AcreMax Xtra (AMX)	Cry1F, Cry1Ab, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
26	AcreMax Xtreme (AMXT)	Cry1F, Cry1Ab, mCry3A, Cry34/35Ab1	BCW ECB FAW SB SWCB	FAW WBC RW	LL RR2
Yieldgard/Genuity					
27	YieldGard CB (YGCB)	Cry1Ab	ECB SWCB	---	RR2
28	YieldGard VT Rootworm	Cry3Bb1	---	RW	RR2
29	YieldGard VT Triple	Cry1Ab, Cry3Bb1	ECB SWCB	RW	RR2
30	Genuity VT Double PRO (or as RIB complete)	Cry1A.105, Cry2Ab2	CEW ECB FAW SB SWCB	CEW	RR2
31	Genuity VT Triple PRO (or as RIB complete)	Cry1A.105, Cry2Ab2, Cry3Bb1	CEW ECB FAW SB SWCB	CEW RW	RR2
32	Genuity SmartStax RIB Complete	Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34/35Ab1	BCW CEW ECB FAW SB SWCB WBC	RW	LL RR2
33	Trecepta (or RIB complete)	Cry1A.105, Cry2Ab2, Vip3A	BCW CEW ECB FAW SB SWCB TAW WBC	---	RR2
Others					
34	Smartstax (or as Refuge Advanced)	Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34/35Ab1	BCW CEW ECB FAW SB SWCB	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				

Early (99-104 day) RM Silage Hybrids Yield and Starch (NIR %)



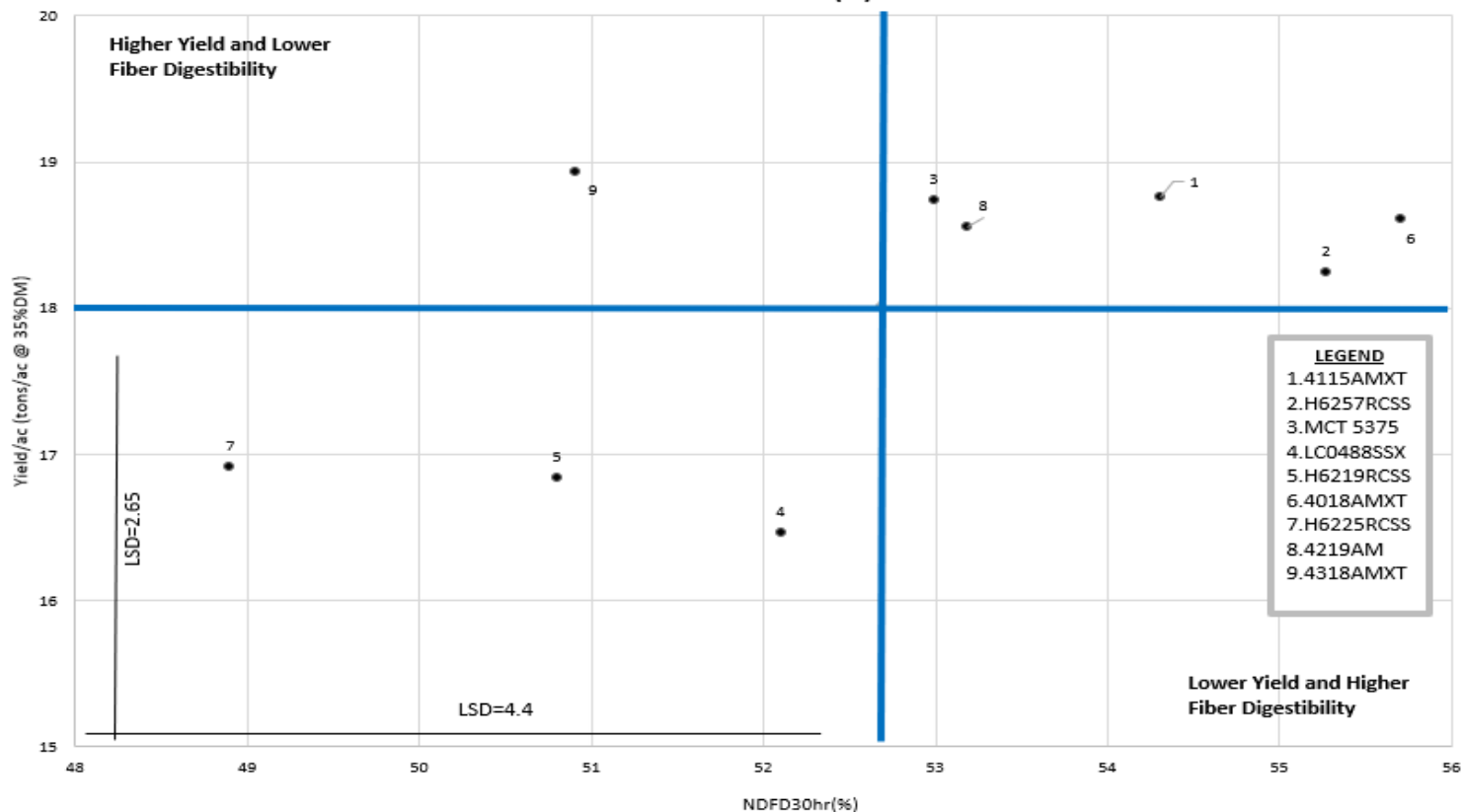
* How to use this chart: This chart can be used to determine yield (tons/ac) and Starch (NIR%) of corn silage hybrids. The horizontal line represents the Starch (NIR %) mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to Starch (NIR%). The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

Late (105-110 day) RM Silage Hybrids Yield and Starch (NIR %)



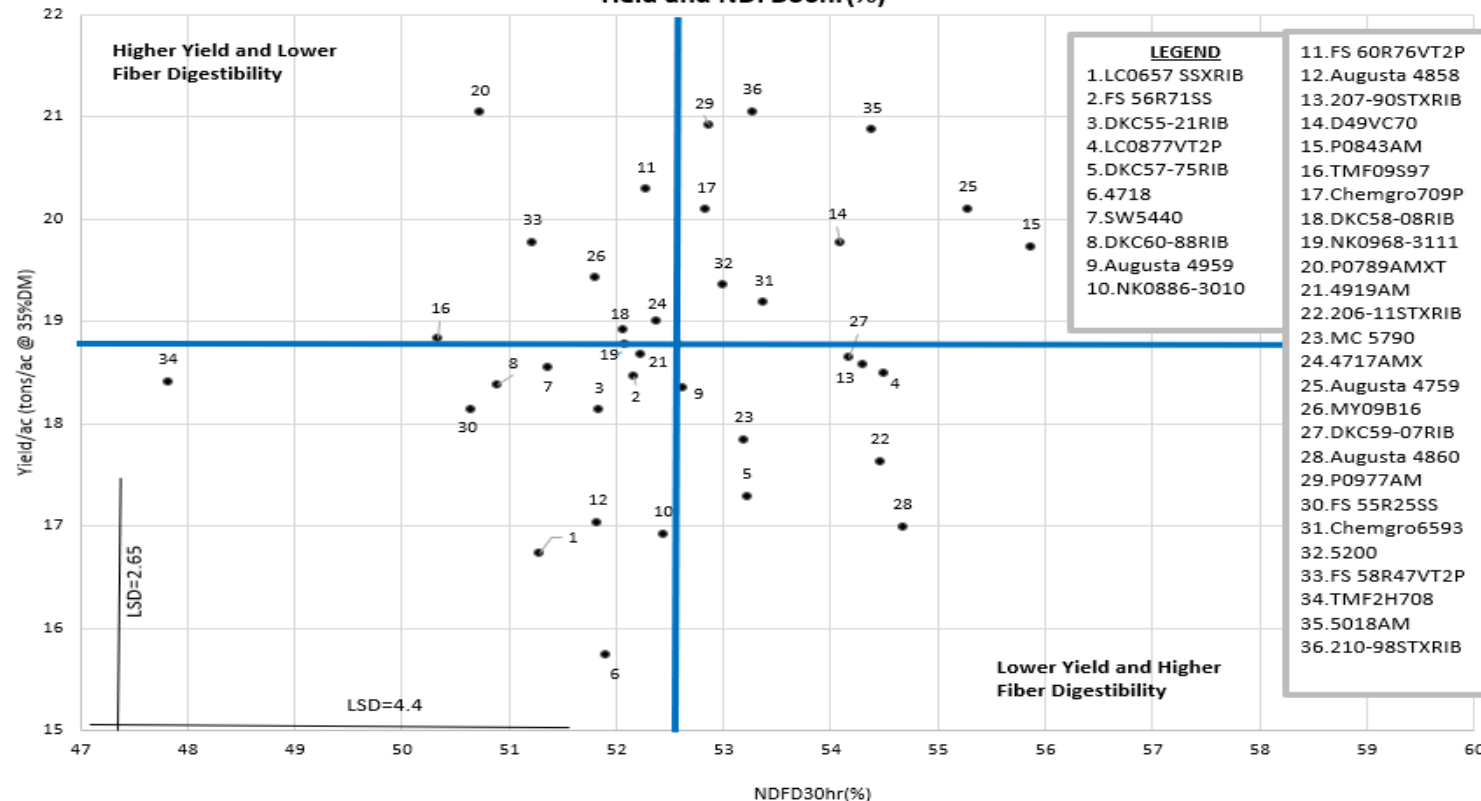
* How to use this chart: This chart can be used to determine yield (tons/ac) and Starch (NIR%) of corn silage hybrids. The horizontal line represents the Starch (NIR %) mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to Starch (NIR%). The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

Early (99-104 day) RM Silage Hybrids Yield and NDFD30hr(%)



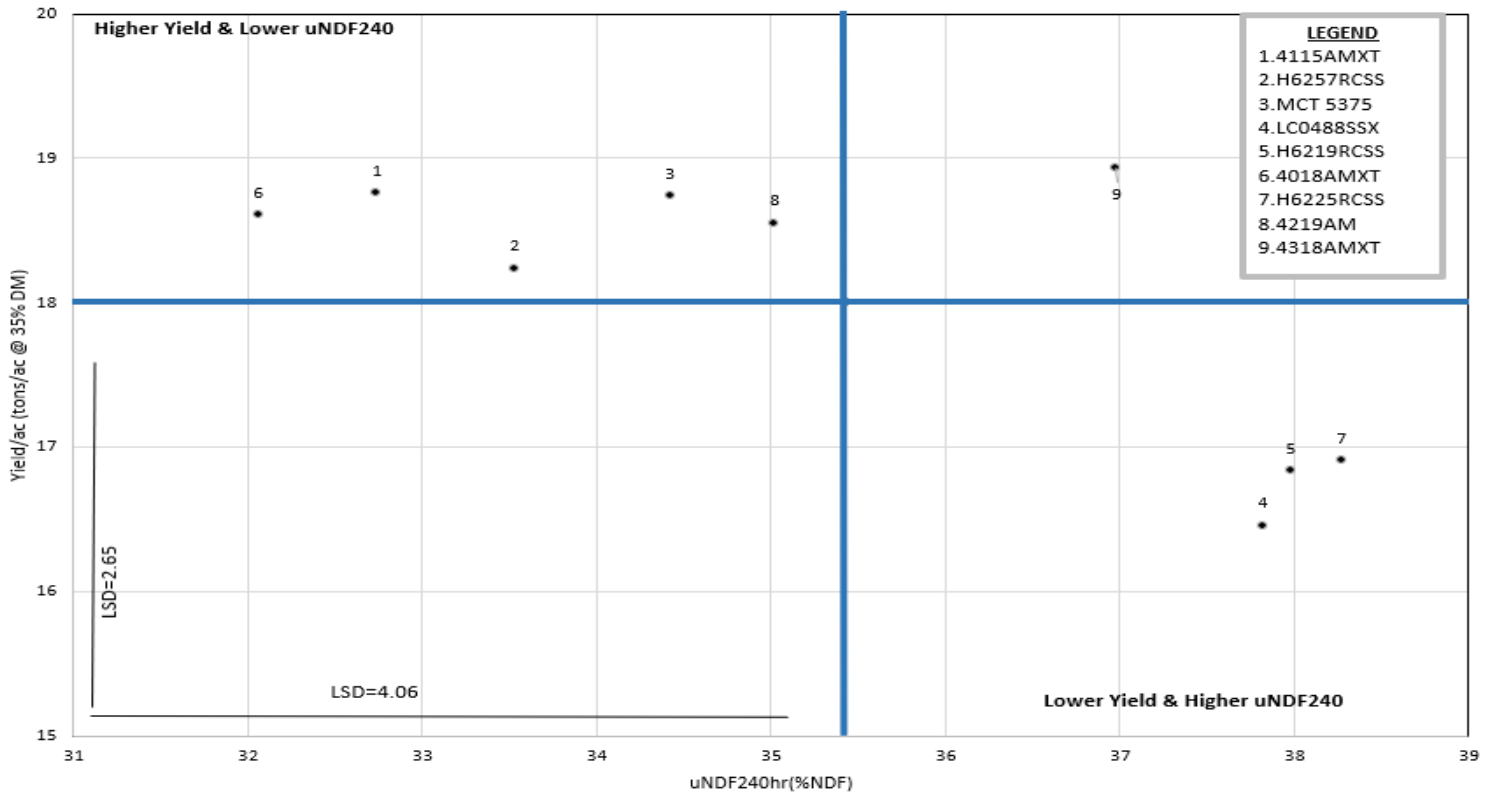
* How to use this chart: This chart can be used to determine yield (tons/ac) and NDFD30(%) of corn silage hybrids. The horizontal line represents NDFD30 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects yield to NDFD30. The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

Late (105-110 day) RM Silage Hybrids Yield and NDFD30hr(%)



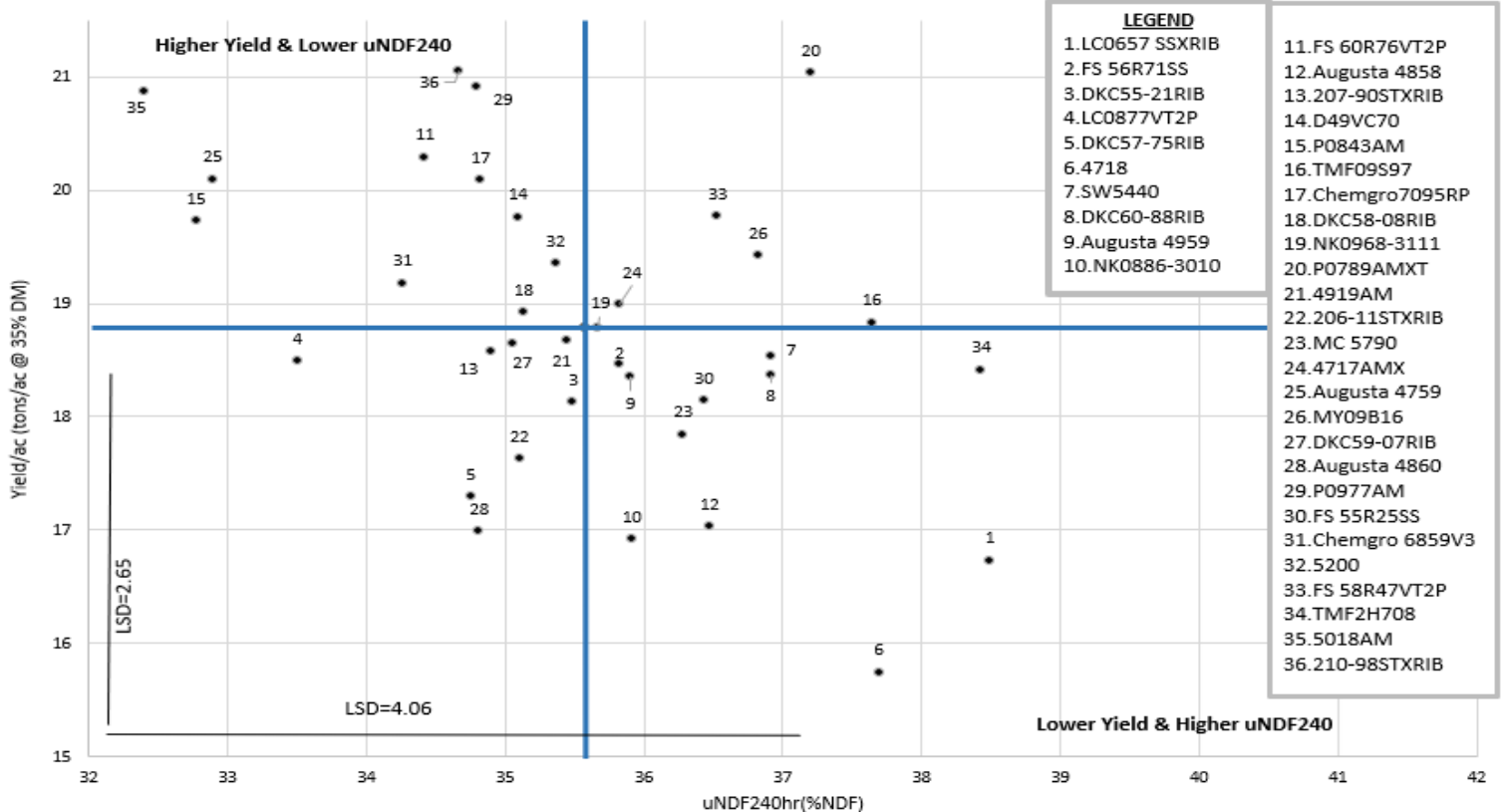
* How to use this chart: This chart can be used to determine yield (tons/ac) and NDFD30(%) of corn silage hybrids. The horizontal line represents NDFD30 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects yield to NDFD30. The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

Early (99-104 day) RM Silage Hybrids Yield and uNDF240hr(%NDF)



* How to use this chart: This chart can be used to determine yield (tons/ac) and uNDF240hr(%NDF) of corn silage hybrids. The horizontal line represents the uNDF240 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to uNDF240. The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.

Late (105-110 day) RM Silage Hybrids Yield and uNDF240hr(%NDF)



* How to use this chart: This chart can be used to determine yield (tons/ac) and uNDF240hr(%NDF) of corn silage hybrids. The horizontal line represents the uNDF240 mean in this group of data. The vertical line represents the YIELD mean in this group of data. Each point represents a data point that reflects dry matter yield in tons to uNDF240. The number beside the data point can be referenced to the hybrid name located within the Legend. The LSD lines represent the differences between hybrids that are significantly different at the 0.1 level.