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Virginia Tech Corn Silage Trials, 2023

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Companies Participating

Table 1. Companies Participating in the 2022 Virginia Tech Corn Silage Hybrid Trials

Company	Brand	Address
Augusta Seed	Augusta Seed	PO Box 899, Verona, VA 24482
Corteva Agriscience Ag. Division Dow/Dupont	Pioneer	7200 NW 62 nd Ave., Johnston, IA 50131
GROWMARK	FS	308 NE Front Street, Milford, DE 19963
King's Agriseeds	Red Tail	1828 Freedom Rd #101, Lancaster, PA 17601
Mid-Atlantic Seeds	Mid-Atlantic	204 St. Charles Way #163, York, PA 17402
Seed Consultants, Inc.	Seed Consultants	648 Miami Trace Rd., Washington Court House, OH 43160
Seedway, LLC	Seedway	1734 Railroad Pl, Hall, NY 14463
Syngenta Seeds	NK Brand	4013 Fairmount Pike, Signal Mountain, TN 37377

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Introduction

This report contains the results for performance trials from commercial corn hybrids produced for silage at four locations in Virginia in 2023, as well as two-year average performance when available. In order to avoid problems with comparisons over sites and years, multi-year yields are presented as a percentage of the total, called relative yield, at that particular site-year combination. All locations were planted with a SRES Step 4 Plot planter and harvested with commercial silage equipment. Yields are presented on a dry matter and 35% dry matter basis for comparison. Quality analysis was performed using a Foss NIR XDS Rapid Content Analyzer. All hybrids entered in the Virginia trials were submitted for testing by commercial companies. The locations at which particular hybrids were entered were specified by the company. Companies entering hybrids were charged a fee for each hybrid per location to support the Virginia Corn Silage Performance Trials.

Yield Differences

Experimental plots vary in yield and other measurements due to location in the field and other factors which cannot be controlled. Statistics given in the tables are intended to help the reader make valid comparisons between hybrids. The magnitude of difference due to uncontrollable variation has been computed for the data and is listed at the bottom of columns as the LSD (.10) (least significant difference with 90% confidence). Differences less than the LSD are assumed not to be real differences with 90% confidence.

Hybrid Selection

Multi-year results are more reliable than single-year results.

When making hybrid selections it is important to realize that hybrids differ in their performance under differing environments. Some hybrids are more adapted to a wide range of environments. Hybrid performance may differ with year and location variations of rainfall, temperature, pests and other environmental variables. In these experiments, many hybrids have essentially the same yield, and great care should be taken in interpreting the results of a single year's tests, especially at only one location.

For these reasons it is important, whenever possible, to also look at a hybrid's average yield across locations when making selections. Multi-year averages give greater confidence to hybrid performance decisions. Relative yield tables compare the yield of a hybrid to the average yield of all hybrids in the test. These tables are an excellent summary of yield potential compared to other hybrids.

Understanding Relative Yield

Companies entering silage hybrids decide which hybrids are planted at which locations. In 2023, some hybrids were planted at all four locations and others at only one or two sites.

Combining and comparing absolute yield and other results from multiple sites is inappropriate when not all hybrids are planted at all locations. For example, one hybrid might have an unfair advantage in such a comparison because it was tested only at sites with ideal growing conditions. Another hybrid tested at sites with less-than-ideal growing conditions would have yields that tended to be lower. In this example, it would be difficult to determine whether yield differences were because of differences in genetic yield

potential or simply because of differences in the environmental conditions under which they were tested. The solution is to compare hybrids based on relative yields rather than absolute yields.

To calculate relative yield, the yield for each hybrid at each site is divided by the average yield for all hybrids tested at that same site and multiplied by 100. Once each hybrid at each site has been assigned a relative yield, comparisons can be made between hybrids tested at the same site or different sites. For hybrids tested at multiple sites, we can also calculate a multi-site relative yield average.

Relative yields of 100 indicate hybrids that were average performers. Relative yields greater than 100 indicate yields above-average. Relative yields less than 100 indicate yields below-average. The magnitude of the relative yield numbers indicates how far above or below average a hybrid performed. For example, a hybrid with a relative yield of 110 yielded 10% above the average yield for all hybrids at that site.

Selecting hybrids for both yield and quality

Milk2006 is used to condense multiple corn silage quality and digestibility factors into one easy-to-compare “milk-per-ton” number. This system also generates a “milk-per-acre” rating for each hybrid, calculated by multiplying yield (tons-per-acre) by quality (pounds of milk per ton). The same problem described above for multi-site yield comparisons exists for yield by quality comparisons: not all hybrids were tested at all sites. Therefore, relative quality and relative yield x quality ratings were calculated.

Milk2006 is a system developed by University of Wisconsin researchers to simplify quality comparisons between corn silage samples. Included in the analysis are variety identification, kernel processing, dry matter, crude protein, NDF, in-vitro NDF digestibility, starch percent and yield per acre. Compared to Milk2000, Milk2006 values more accurately address the effects of fiber digestibility on silage quality. Milk2006 has proven to more accurately reflect actual milk production than earlier versions of the program.

Milk2006 was designed solely as an index to be used when making quality comparisons between silage samples or hybrids. Milk-per-ton or milk-per-acre numbers should not be used to predict actual milk production on your farm. Milk-per-ton is more accurate at predicting cow performance since it includes quality factors that affect milk production. Milk-per-acre allows consideration of yield as well as quality factors.

Use other information

Consider as much other information as possible from other independent sources before selecting hybrids. Look for agronomic, as well as silage quality data.

2023 Virginia Tech Corn Silage Hybrid Trials Plot Information

(Rates are on a per acre basis.)

Blackstone (Southern Piedmont Agricultural Research & Extension Center)

Planted: April 2023, conventional tillage
Harvested: August 2023
Population: 27,878 plants/acre
Pesticide: 2.5qt Bicep, April 2023
Fertilizer: 1000 lbs 10-10-10, April 2023; 60 lbs UAN top-dressed, May 2022.
Plot Size: 2 rows 27.5' x 30" 4 replications
Soil Type: Appling sandy loam
Cooperator: Ned Jones

Orange (Northern Piedmont Center)

Planted: April 2023, no-till into soybean stubble
Harvested: August 2023
Population: 24,111 plants/acre
Pesticide: 1.5 qt Lumax® + 2 qt glyphosate + 1 pt atrazine, April 2023; .67 oz Accent, April 2023
Fertilizer: 183 lbs 30-60-20, April 2023; 100 lb N, June 2023
Plot Size: 2 rows 25' x 30" 4 replications
Soil Type: Davidson clay
Previous crop: Soybeans
Cooperators: Greg Lillard

Shenandoah Valley (Thanks to David Yutzy, Windcrest Holsteins.)

Planted: May 2023, no-till

Harvested: September 2023

Population: 20,482 plants/acre

Pesticide: 1 qt glyphosate + 1 pt atrazine preplant, 3.6 pt Halex at V5.

Fertilizer: 50 lb potash and 40 lb sulfur in January; 5,000 gallons dairy manure injected preplant; 17 gal 15- 15-0-2S-.13B-.25Zn at planting; 75 lb N from urea side-dressed

Plot Size: 2 rows 37.5' x 30" 4 replications

Cooperators: Doug Horn and David Yutzy

Washington County (Southwest Virginia Agricultural Research & Extension Center)

Planted: May 2023, no-till

Harvested: September 2023

Pesticide: 2 quarts Trizmet, 1 quart glyphosate

Fertilizer: 155-53 -141- 26S - 6 Zn preplant; Side dressed with 78 pounds N at V8

Plot Size: 2 rows 35' x 30" 4 replications

Soil Type: Wyrick-Marbie silt loam

Cooperator: Phil Blevins

2023 Virginia Tech Corn Silage Trials, List of Hybrids

Table 2. List of Hybrids in the 2023 Virginia Tech Corn Silage Hybrid Test.

Company	Brand	Hybrid	ID	¹ DTM	Blackstone, Southern Piedmont	Orange, Northern Piedmont	Holland, Shenandoah Valley	Southwest Virginia/Mountain	Seed Treatment	Genetic Trait Package	² OBS
Augusta Seed Corporation	Augusta Seed	A4961	10316	107		1		1	Cruiser®	AA	2
Augusta Seed Corporation	Augusta Seed	A6362	10307	112		1		1	Cruiser®	DV	2
Augusta Seed Corporation	Augusta Seed	A1964	10314	114		1		1	Cruiser®	3110GT	2
Augusta Seed Corporation	Augusta Seed	A2464	10317	114		1		1	Cruiser®	DV	2
Augusta Seed Corporation	Augusta Seed	A2064	10318	114		1			Cruiser®	D	1
Augusta Seed Corporation	Augusta Seed	A1265	10311	115		1		1	Cruiser®	DV	2
Augusta Seed Corporation	Augusta Seed	A2067	8056	117		1		1	Cruiser®	D	2
Corteva Agriscience	Pioneer	P1380Q	5102	113	1	1	1	1	Poncho 1250		4
Corteva Agriscience	Pioneer	P1903A M	5107	119	1	1	1	1	Poncho 1251		4
GROWMARK INC.	FS InVISION	FS 6217X RIB	1565	112	1	1	1	1	Poncho Votivo	STX RIB	4
GROWMARK INC.	FS InVISION	FS 6306T RIB	1553	113	1	1	1	1	Poncho Votivo	TRE RIB	4
GROWMARK INC.	FS InVISION	FS 6595X RIB	1560	115	1	1	1	1	Poncho Votivo	STX RIB	4
GROWMARK INC.	FS InVISION	FS 6627T RIB	1564	116	1	1	1	1	Poncho Votivo	TRE RIB	4
King's Agriseeds	Redtail	RT 64T39-D1	6209	114		1	1		Cruiser®	Duracade 5122 EZ	2
King's Agriseeds	Redtail	RT 65T09-D1	6206	115		1	1		Cruiser®	Duracade 5122 EZ	2
Mid-Atlantic Seeds	Mid-Atlantic Seeds	MA5103 D	6133	110	1	1	1	1	C250	D1	4

Company	Brand	Hybrid	ID	¹ DTM	Blackstone, Southern Piedmont	Orange, Northern Piedmont	Holland, Shenandoah Valley	Southwest Virginia/Mountain	Seed Treatment	Genetic Trait Package	² OBS
Mid-Atlantic Seeds	Mid-Atlantic Seeds	MA5144 D	6131	114	1	1	1	1	C250	D1	4
Mid-Atlantic Seeds	Mid-Atlantic Seeds	MA5161 DV	6124	116	1	1	1	1	C250	D2	4
Mid-Atlantic Seeds	Mid-Atlantic Seeds	MA5168 DV	6132	116	1	1	1	1	C250	D2	4
Seed Consultants, Inc	Seed Consultants	SC1134A M	5459	113		1	1	1	LumiGEN	AM	3
Seed Consultants, Inc	Seed Consultants	SC1154A M	5460	115		1	1	1	LumiGEN	AM	3
Seed Consultants, Inc	Seed Consultants	SC1183A M	5458	118		1	1	1	LumiGEN	AM	3
Seedway	Seedway	SW 1421VT	1508	114		1	1		Poncho 501	SmartSta x RIB Complete	2
Seedway	Seedway	SW 1579SS	1502	115		1	1		Poncho 500	SmartSta x RIB Complete	2
Seedway	Seedway	SW 1661SS	1509	116		1	1		Poncho 502	SmartSta x RIB Complete	2

¹ Days to maturity (DTM) provided by company; differences in maturity rating methods may exist.

² Number of observations hybrid occurred; the greater the observations, the more reliable the data.

Note: Shaded hybrids indicate hybrids entered in less than 3 locations. Hybrids are sorted by Brand then DTM.

Multi-Year, Multi-Site Relative yields and quality.

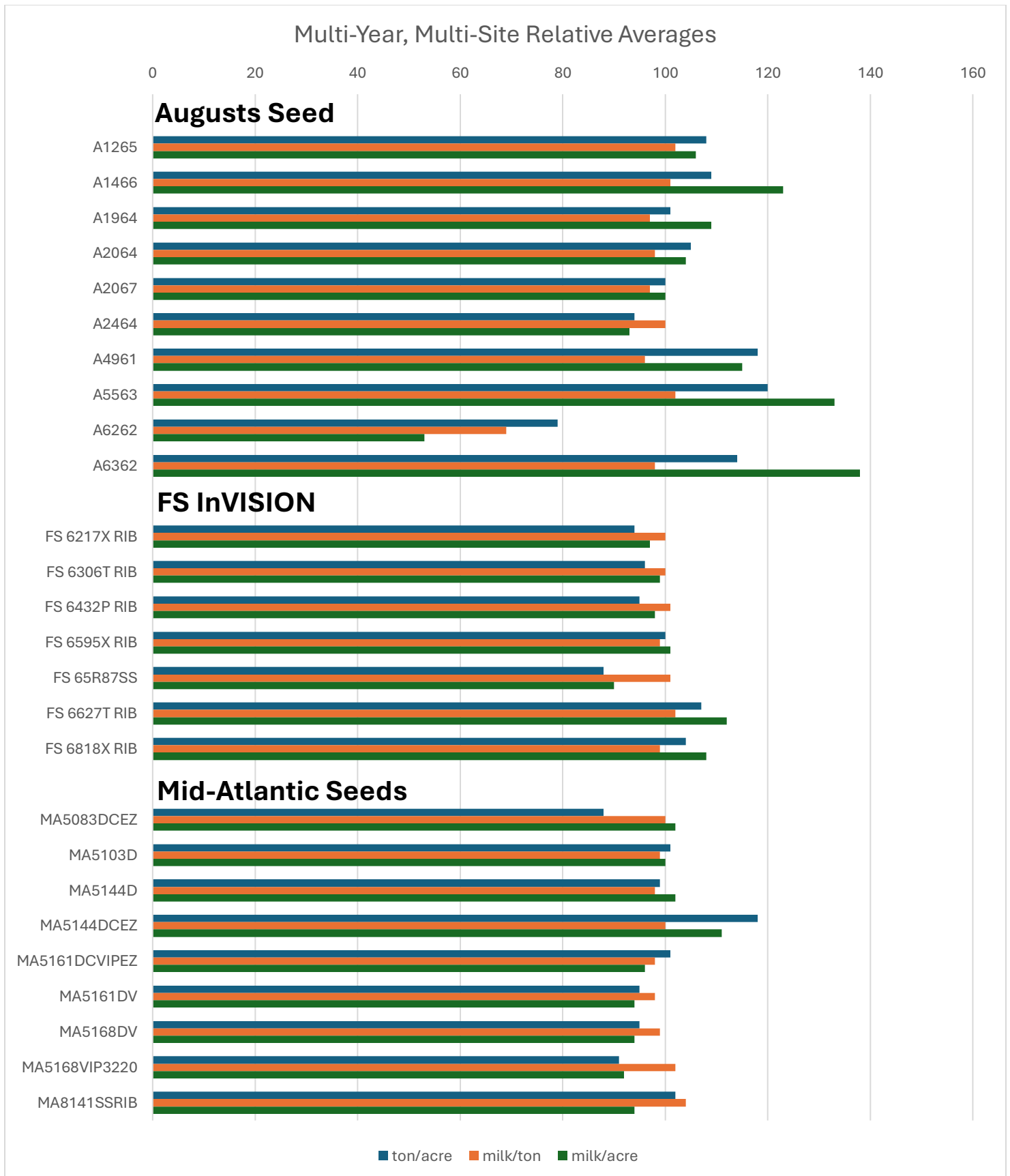


Figure 1.1. Chart displaying the multi-year, multi-site relative averages of tons per acre yield, pounds of milk per ton, and pounds of milk per acre. Chart does not consider the number of observations; see tables below for more details.

Multi-Year, Multi-Site Relative Averages (Continued)

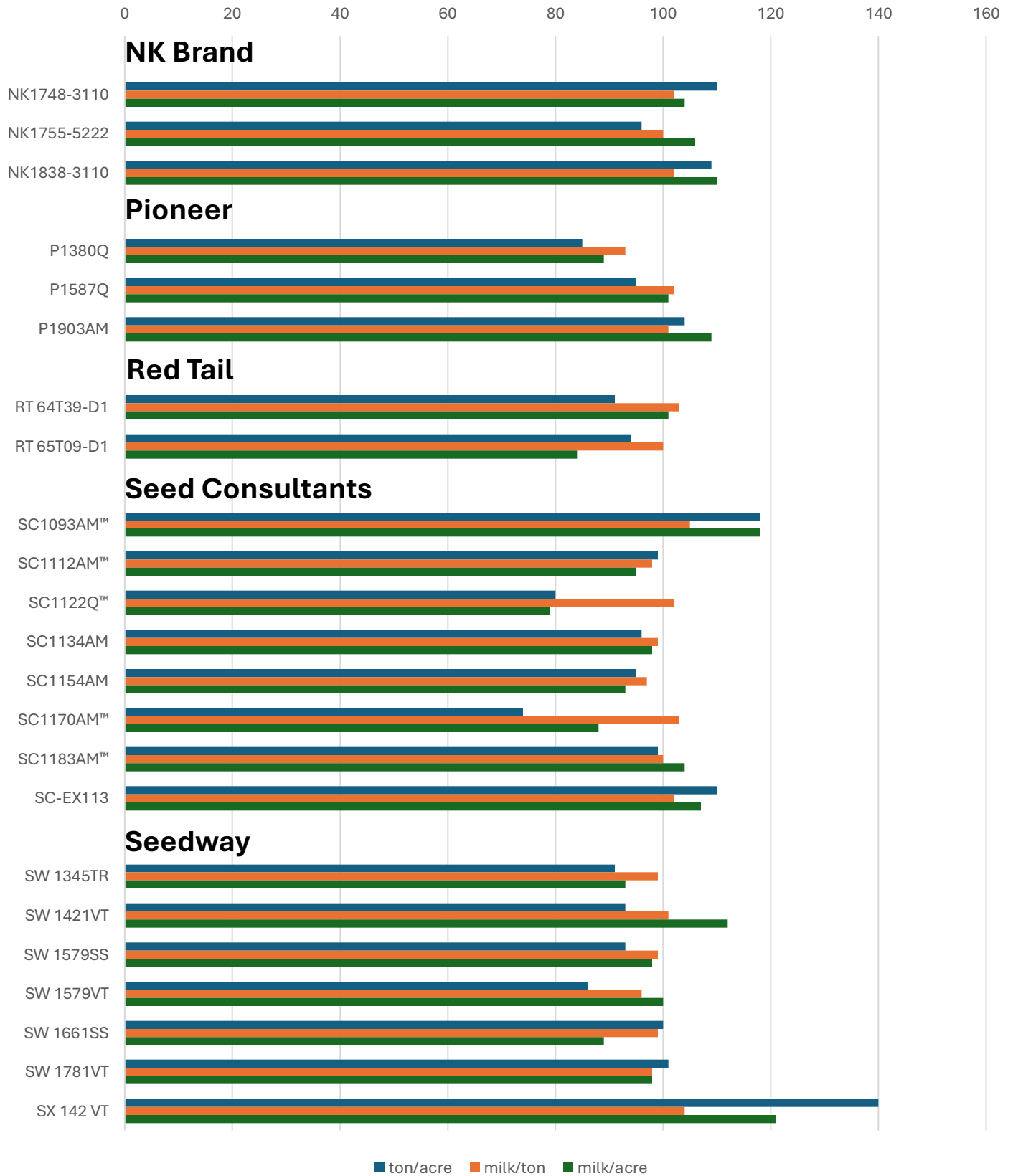


Figure 1.2. Chart displaying the multi-year, multi-site relative averages of tons per acre yield, pounds of milk per ton, and pounds of milk per acre. Chart does not consider the number of observations; see tables below for more details.

Table 3. Multi-year, Multi-site relative ton per acre (yield).

Brand	Hybrid	¹ DTM	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest Mountain 2023	Southwest Mountain 2022	Multi-Site Average	² OBS
Augusta Seed	A4961	111	127*	116*					110		118	3
Augusta Seed	A6362	112	97*	134*					110*		114	3
Augusta Seed	A6262	112		79							79	1
Augusta Seed	A5563	113		120*							120	1
Augusta Seed	A1964	114	101*	104				98*			101	3
Augusta Seed	A1265	115	91*	125*							108	2
Augusta Seed	A1466	116		125*				93*			109	2
Augusta Seed	A2064		105*								105	1
Augusta Seed	A2067		104*					96*			100	2
Augusta Seed	A2464		88*					99			94	2
FS	FS 6306T RIB	113	77*	88	96	114*	96*	108*	93*		96	7
FS	FS 6595X RIB	115	96*	122*	97*	108*	104*	99	97*	77	100	8
FS	FS 65R87SS	115		79		90				96	88	3
FS	FS 6818X RIB	118		112*		91		109*			104	3
FS InVISION	FS 6217X RIB		102		92		92*		92*		94	4
FS InVISION	FS 6432P RIB		97		84		95		102		95	4
FS InVISION	FS 6627T RIB		134*		108*		98*		88*		107	4
Mid-Atlantic Seeds	MA5083DCEZ	108		81		94					88	2
Mid-Atlantic Seeds	MA5144DCEZ	114		131		107*		102		133*	118	4
Mid-Atlantic Seeds	MA8141SSRIB	114		92		114*		100*		100	102	4
Mid-Atlantic Seeds	MA5161DCVIP EZ	116		119*		110*		96		78	101	4
Mid-Atlantic Seeds	MA5168VIP3220	116		83		94		94		94	91	4
Mid-Atlantic Seeds Seeds	MA5103D		97*		95*		100*		110*		101	4
Mid-Atlantic Seeds	MA5144D		101*		79*		107		110*		99	4
Mid-Atlantic Seeds	MA5161DV		84*		112		87*		97*		95	4
Mid-Atlantic Seeds	MA5168DV		104		90*		90*		98*		95	4

Brand	Hybrid	¹ DTM	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest / Mountain 2023	Southwest / Mountain 2022	Multi-Site Average	² OBS
NK Brand	NK1748-3110	117		112*		121*		98			110	3
NK Brand	NK1755-5222	117		86		93				109*	96	4
NK Brand	NK1838-3110	118	*	102		118*		107*			109	3
Pioneer	P1903AM		121*		95*		104*		97		104	4
Pioneer	P1380Q	113	93	102	107*	83		75	104*	30	85	7
Pioneer	P1587Q	115		83		85	108*	104*		95	95	5
Redtail	RT 64T39-D1	114	88*	79	96*	101					91	4
Redtail	RT 65T09-D1	115	97*	65	84*	128*		95			94	5
Seed Consultants	SC1134AM		90*		101*				97*		96	3
Seed Consultants	SC1154AM		99*		86*				101*		95	3
Seed Consultants	SC1093AM™	109		103						133*	118	2
Seed Consultants	SC1112AM™	111		98						99	99	2
Seed Consultants	SC1122Q™	112		70						90	80	2
Seed Consultants	SC-EX113	113		*--				110*			110	1
Seed Consultants	SC1170AM™	117		76						72	74	2
Seed Consultants	SC1183AM™	118	121*	85	104*				101*	82	99	5
Seedway	SW 1421VT		85*		96*	97					93	3
Seedway	SW 1579SS		94*		92						93	2
Seedway	SW 1661SS		94*		106*						100	2
Seedway	SW 1345TR	113		81		101					91	2
Seedway	SX 142 VT	114		140*							140	1
Seedway	SW 1579VT	115	*	93		79					86	2
Seedway	SW 1781VT	117		114*		88					101	2

1 Days to maturity provided by company; differences in maturity rating methods may exist between companies

2 Hybrids tested over more site/year combinations provide a better estimate of hybrid performance than those tested only in a single site/year location.

3 Relative Ton per Acre (yield) calculated by dividing Ton per Acre for each hybrid at each site/year by the average Ton per Acre for that site/year.

Numbers over 100 indicate above-average yield, 100 indicates average yield, numbers under 100 indicate below-average yield.

Green shading indicates higher average; Red shading indicates lower average.

*-- Indicates data loss

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer.

Table 4. Multi-year, Multi-site relative milk per ton (quality).

Brand	Hybrid	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest Mountain 2023	Southwest Mountain 2022	Multi-Site Average	² OBS
Augusta Seed	A1265	100*	107*		*--		*--	100	*--	102	3
Augusta Seed	A5563		102*		*--		*--		*--	102	1
Augusta Seed	A1466		101*		*--		*--		*--	101	1
Augusta Seed	A6362	100*	100		*--		*--	93*	*--	98	3
Augusta Seed	A4961	97*	97		*--		*--	95*	*--	96	3
Augusta Seed	A6262		69		*--		*--		*--	69	1
Augusta Seed	A1964	98*	95		*--		*--	99*	*--	97	3
Augusta Seed	A2064	98*								98	1
Augusta Seed	A2067	96*						98		97	2
Augusta Seed	A2464	100*						100*		100	2
FS InVISION	FS 6306T RIB	105*	110*	100*	97	95*	101	95*	98	100	8
FS InVISION	FS 6818X RIB		103*		99		97		97	99	4
FS InVISION	FS 65R87SS		103*		103		98		98	101	4
FS InVISION	FS 6595X RIB	99*	99	101*	102	101*	99	95*	99	99	8
FS InVISION	FS 6217X RIB	98*		103*		99*		100*		100	4
FS InVISION	FS 6432P RIB	100		101*		100		103		101	4
FS InVISION	FS 6627T RIB	99*		104*		110*		97*		102	4
Mid-Atlantic Seeds	MA8141SSRIB		114*		98		97		108*	104	4
Mid-Atlantic Seeds	MA5144DCEZ		88		105*		101		105*	100	4
Mid-Atlantic Seeds	MA5083DCEZ		95		107*		96		102	100	4
Mid-Atlantic Seeds	MA5168VIP3220		92		109*		103		104	102	4
Mid-Atlantic Seeds	MA5161DCVIPEZ		86		99		104*		101	98	4
Mid-Atlantic Seeds	MA5103D	99*		99*		100		100*		99	4
Mid-Atlantic Seeds	MA5144D	95*		102*		97		99*		98	4
Mid-Atlantic Seeds	MA5161DV	99*		99*		96*		99*		98	4
Mid-Atlantic Seeds	MA5168DV	96		103*		98*		101*		99	4

Brand	Hybrid	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest / Mountain 2023	Southwest / Mountain 2022	Multi-Site Average	² OBS
NK Brand	NK1838-3110		100		101		103		103	102	4
NK Brand	NK1748-3110		96		106*		107*		100	102	4
NK Brand	NK1755-5222		103		96		101		100	100	4
Pioneer	P1903AM	100*		103*		101*		99		101	4
Pioneer	P1380Q	93	92	99*	86	100	91	105*	78	93	8
Pioneer	P1587Q		104*		98		101		104	102	4
Redtail	RT 64T39-D1	98*	119*	99*	96		*--		*--	103	4
Redtail	RT 65T09-D1	96	103*	100*	*--		*--		*--	100	3
Seed Consultants	SC1112AM™		94		*--		*--		102	98	2
Seed Consultants	SC1170AM™		104*		*--		*--		101	103	2
Seed Consultants	SC1183AM™	99*	103	100*				101*	99	100	5
Seed Consultants	SC-EX113		*--		*--		*--		102	102	1
Seed Consultants	SC1122Q™		106*		*--		*--		98	102	2
Seed Consultants	SC1093AM™		110*		*--		*--		100	105	2
Seed Consultants	SC1134AM	98*		99*				100*		99	3
Seed Consultants	SC1154AM	95*		99*				97*		97	3
Seedway	SX 142 VT		104*		103		*--		*--	104	2
Seedway	SW 1345TR		94		104		*--		*--	99	2
Seedway	SW 1781VT		94		102		*--		*--	98	2
Seedway	SW 1579VT		100		92		*--		*--	96	2
Seedway	SW 1421VT	101*		101*						101	2
Seedway	SW 1579SS	98*		100						99	2
Seedway	SW 1661SS	98*		99*						99	2

1 Days to maturity provided by company; differences in maturity rating methods may exist between companies.

2 Hybrids tested over more site/year combinations provide a better estimate of hybrid performance than those tested only in a single site/year location.

Relative Milk per Ton (quality) calculated by dividing Milk per Ton for each hybrid at each site/year by the average Milk per Ton for that site/year.

Numbers over 100 indicate above-average yield, 100 indicates average yield, numbers under 100 indicate below-average yield.

Green shading indicates higher average; Red shading indicates lower average.

*-- Indicates data loss

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer.

Table 5. Multi-year, Multi-site relative milk per acre (yield x quality)

Brand	Hybrid	¹ DTM	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest Mountain 2023	Southwest Mountain 2022	Multi-Site Average	² OBS
Augusta Seed	A6362	112		138*		*--		*--		*--	138	1
Augusta Seed	A5563	113		133*		*--		*--		*--	133	1
Augusta Seed	A1265	115	92*	130*		*--		*--	96	*--	106	3
Augusta Seed	A1964	114	101*	126*		*--		*--	101*	*--	109	3
Augusta Seed	A1466	116		123*		*--		*--		*--	123	1
Augusta Seed	A4961	111	125*	113*		*--		*--	107*	*--	115	3
Augusta Seed	A6262	112		53		*--		*--		*--	53	1
Augusta Seed	A2064		104*								104	1
Augusta Seed	A2067		102*						99		100	2
Augusta Seed	A2464		89*						97*		93	2
FS InVISION	FS 6818X RIB	118		125*		96		106*		106	108	4
FS InVISION	FS 6306T RIB	113	82*	80	101	102	92*	110*	91*	131*	99	8
FS InVISION	FS 65R87SS	115		78		94		95*		94	90	4
FS InVISION	FS 6595X RIB	115	96*	141*	103*	89	106*	98*	96*	76	101	8
FS InVISION	FS 6217X RIB		101*		99*		92*		95*		97	4
FS InVISION	FS 6432P RIB		98		89		96*		109		98	4
FS InVISION	FS 6627T RIB		136*		117*		109*		89*		112	4
Mid-Atlantic Seeds	MA5144DCEZ	114		117*		86		103*		139*	111	4
Mid-Atlantic Seeds	MA5161DCVIPEZ	116		103*		102		101*		78	96	4
Mid-Atlantic Seeds	MA5083DCEZ	108		76		109*		106*		116*	102	4
Mid-Atlantic Seeds	MA5168VIP3220	116		74		98		97*		98	92	4
Mid-Atlantic Seeds	MA8141SSRIB	114		104*		69		97*		107	94	4
Mid-Atlantic Seeds	MA5103D		97*		99*		102*		103*		100	4
Mid-Atlantic Seeds	MA5144D		97*		84*		116*		112*		102	4
Mid-Atlantic Seeds	MA5161DV		84*		116*		84*		91*		94	4
Mid-Atlantic Seeds	MA5168DV		101		97*		88*		89*		94	4

Brand	Hybrid	¹ DTM	Shenandoah Valley 2023	Shenandoah Valley 2022	Northern Piedmont 2023	Northern Piedmont 2022	Southern Piedmont 2023	Southern Piedmont 2022	Southwest / Mountain 2023	Southwest / Mountain 2022	Multi-Site Average	² OBS
NK Brand	NK1838-3110	118		110*	102*	92		111*		134*	110	5
NK Brand	NK1748-3110	117		105*	86*	105*		105*		119*	104	5
NK Brand	NK1755-5222	117		89	111*	124*		97*		109*	106	5
Pioneer	P1903AM		123*		99*		106*		106		109	4
Pioneer	P1587Q	115		76		123*		106*		99	101	4
Pioneer	P1380Q	113	88	103*	111*	98	109*	68	112*	25	89	8
Redtail	RT 64T39-D1	114	87*	117*	100*	99		*--		*--	101	4
Redtail	RT 65T09-D1	115	95*	71	87*	*--		*--		*--	84	3
Seed Consultants	SC1093AM™	109		100		*--		*--		135*	118	2
Seed Consultants	SC-EX113	113				*--		*--		107	107	1
Seed Consultants	SC1112AM™	111		89		*--		*--		101	95	2
Seed Consultants	SC1170AM™	117		101		*--		*--		74	88	2
Seed Consultants	SC1122Q™	112		70		*--		*--		88	79	2
Seed Consultants	SC1183AM™	118	116*	108*	108*	*--		*--	106	81	104	5
Seed Consultants	SC1134AM		90*		105*				100		98	3
Seed Consultants	SC1154AM		95*		88*				96		93	3
Seedway	SW 1781VT	117		103*		93		*--		*--	98	2
Seedway	SX 142 VT	114		144*		98		*--		*--	121	2
Seedway	SW 1579VT	115		88		112*		*--		*--	100	2
Seedway	SW 1345TR	113		67		118*		*--		*--	93	2
Seedway	SW 1421VT		124*		101*						112	2
Seedway	SW 1579SS		84*		111						98	2
Seedway	SW 1661SS		94*		85*						89	2

¹ Days to maturity provided by company; differences in maturity rating methods may exist between companies.

² Hybrids tested over more site/year combinations provide a better estimate of hybrid performance than those tested only in a single site/year location.

³ Relative Milk per Ton (quality) calculated by dividing Milk per Ton for each hybrid at each site/year by the average Milk per Ton for that site/year.

Numbers over 100 indicate above-average yield, 100 indicates average yield, numbers under 100 indicate below-average yield.

Green shading indicates higher average; Red shading indicates lower average.

*-- Indicates data loss

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer

2023 Virginia Tech Corn Silage Trials, Southern Piedmont AREC

Table 6. Corn Silage Test Results at the Southern Piedmont AREC, Blackston, VA in 2023

Brand	Hybrid	Maturity Number	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
FS InVISION	FS 6217X RIB	3	51.6*	19.5*	6.8*	7	33.0*	57.0*	64.5*	0.57*	61.7*	2469*	16941*
FS InVISION	FS 6306T RIB	3	55.8*	20.3*	7.1*	6.8*	33.0*	59.8*	62.6*	0.56*	60.5*	2388*	17012*
FS InVISION	FS 6432P RIB	3	58	20.2*	7.1*	6.4*	31	55.6*	64.6*	0.57*	62.1*	2493	17562*
FS InVISION	FS 6595X RIB	3	52.6*	22	8	6.9*	33.3*	58.3*	65	1	63	2519	19345
FS InVISION	FS 6627T RIB	4	57	20.8*	7.3*	6.9*	32.6*	57.6*	65	0.57*	62.1*	2481*	18189*
Mid-Atlantic Seeds	MA5103D	2	48.6*	21.3*	7.5*	7	31	53	63.6*	1	62.1*	2511	18887
Mid-Atlantic Seeds	MA5144D	3	55.0*	23	8	6.8*	31	56.0*	61.9*	0.56*	60.6*	2416*	19134
Mid-Atlantic Seeds	MA5161D V	4	50.7*	18.4*	6.4*	7	33.6*	59.5*	62.5*	0.56*	60.6*	2395*	15320*
Mid-Atlantic Seeds	MA5168D V	4	52.5*	19.0*	6.7*	6.5*	32.2*	58.1*	63.8*	0.57*	61.3*	2442*	16194*
Pioneer	P1380Q	3	55.1*	23	8	6.5*	31	55.4*	64.9*	0.57*	62.1*	2491	20002
Pioneer	P1903AM	4	54.4*	22	8	6.5*	31.8*	56.0*	66	1	63	2526	19441
Site Average			53.7	20.8	7.3	6.8	32.1	56.9	64.1	0.6	61.7	2466	18002
LSD (0.10)			2.2	1.1	0.4	0.2	0.9	1.6	1.0	0.0	0.6	38	1165
CV%			5.2	7.1	7.1	4.1	3.5	3.7	2.1	1.4	1.3	2	8

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer

Table 7. Two Year Corn Silage Test Results at the Southern Piedmont AREC, Blackstone, VA, 2023 and 2022

Brand	Hybrid	DTM	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
Pioneer	P1380Q	113	42.9	26.6	9.3	7.2	29.0	51.9	65.3	0.5	52.2	1960	17297
FS InVISION	FS 6595X RIB	115	44.5	18.5	6.5	9.0	29.7	54.3	61.8	0.6	65.7	2873	17499
FS InVISION	FS 6306T RIB	113	46.4	18.0	6.3	8.4	29.7	53.8	62.8	0.6	66.1	2817	16487
Site Average			44.6	21.0	7.4	8.2	29.5	53.3	63.3	0.6	61.3	2550	17095
LSD (0.10)			10.1	4.6	1.6	1.6	4.0	6.6	3.4	0.1	8.5	521	3072
CV			21.7	21.2	21.2	19.4	13.0	11.9	5.2	11.1	13.4	20	17

2023 Virginia Tech Corn Silage Trials, Northern Piedmont AREC

Table 8. Corn silage test results at the Northern Piedmont Center, Orange, VA in 2023.

Brand	Hybrid	Maturity Number	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
FS InVISION	FS 6217X RIB	3	47.3*	19.6*	6.7*	8	32.7*	50.8*	74.3	0.6*	65.8*	2725*	18680*
FS InVISION	FS 6306T RIB	3	52.0*	20.5*	7.5*	7.5*	32.4*	48.8	69.1*	0.59*	64.3*	2645*	19001*
FS InVISION	FS 6432P RIB	3	45.9*	18.0*	8.5*	7.2*	28.2	51.7*	70.7*	0.6*	65.1*	2670*	16813*
FS InVISION	FS 6595X RIB	3	44.8*	20.7*	10.4*	7.8*	30.7*	54.1*	72.6*	0.6*	65.4*	2678*	19204*
FS InVISION	FS 6627T RIB	4	44.3*	22.9	8.1*	7.4*	32.1*	54.0*	72.7*	0.61*	66.5*	2743*	21829
Mid-Atlantic Seeds	MA5103D	2	48.2*	20.3*	6.7*	6.6*	31.0*	51.4*	74.2	0.59*	64.8*	2620*	18657*
Mid-Atlantic Seeds	MA5144D	3	43.8*	16.8*	4.7*	7.8*	31.7*	54.8*	72.8*	0.6*	65.9*	2688*	15805*
Mid-Atlantic Seeds	MA5161DV	4	55.1	23.9	14.6	7.3*	32.6*	52.9*	68.3*	0.59*	64.6*	2627*	21901
Mid-Atlantic Seeds	MA5168DV	4	43.6*	19.2*	6.5*	8	29.9*	52.7*	74.2	0.6*	66.0*	2720*	18269*
Pioneer	P1380Q	3	45.8*	22.7*	6.7*	7.6*	30.3*	53.1*	71.3*	0.59*	64.8*	2629*	20873*
Pioneer	P1903AM	4	49.5*	20.3*	8.6*	7.2*	31.7*	52.3*	68.6*	0.59*	64.6*	2620*	18640*
Redtail	RT 64T39-D1	3	49.0*	20.5*	5.9*	7.5*	32.2*	53.4*	71.4*	0.59*	64.7*	2618*	18763*
Redtail	RT 65T09-D1	3	47.8*	17.8*	5.8*	7.2*	32.0*	51.4*	71.0*	0.59*	64.7*	2635*	16316*
Seed Consultants	SC1134AM	3	48.9*	21.6*	8.9*	7.4*	31.4*	53.3*	72.1*	0.59*	64.7*	2615*	19704*
Seed Consultants	SC1154AM	3	49.5*	18.3*	6.9*	7.3*	29.6*	52.7*	71.8*	0.59*	64.5*	2608*	16668*
Seed Consultants	SC1183AM	4	45.7*	22.2*	6.7*	6.8*	32.4*	54.6*	68.9*	0.59*	65.9*	2677*	20916
Seedway	SW 1421VT	3	47.1*	20.5*	5.4*	7.9	29.6*	50.9*	70.7*	0.59*	64.6*	2637*	18914*
Seedway	SW 1579SS	3	42.3*	19.7*	7.0*	8.1	29.2*	49.5	71.5*	0.63	67.5	2868	19721*
Seedway	SW 1661SS	4	46.3*	22.8*	8.3*	7.2*	30.9*	54.7*	72.4*	0.59*	65.0*	2631*	20935
Site Average			47.2	20.4	7.6	7.5	31.1	52.5	71.5	0.6	65.2	2666	19032
LSD (0.10)			1.7	1.1	1.2	0.2	0.7	1.0	1.0	0.0	0.5	36	1001
CV%			6.6	9.4	28.8	5.4	4.2	3.3	2.6	1.7	1.3	2	9

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer

Table 9. Two Year Silage Test Results at the Northern Piedmont Center, Orange, VA, 2023 and 2022

Brand	Hybrid	DTM	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein%	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
FS InVISION	FS 6306T RIB	113	47.4	25.2	9.1	7.0	34.3	56.4	63.7	0.6	63.3	2606	22143
FS InVISION	FS 6595X RIB	115	42.0	23.9	8.8	7.3	34.2	56.1	67.4	0.6	64.9	2677	19927
Mid-Atlantic Seeds	MA5144D	114	43.2	24.3	8.1	7.6	34.0	55.3	66.8	0.6	65.2	2708	19932
Pioneer	P1380Q	113	45.2	19.6	7.1	7.5	33.3	53.5	61.7	0.6	61.0	2452	22446
Redtail	RT 64T39-D1	114	44.2	24.5	8.4	7.0	30.8	53.0	66.9	0.6	63.5	2571	22524
Redtail	RT 65T09-D1	115	44.7	27.3	9.3								
Site Average			44.5	24.1	8.5	7.3	33.3	54.9	65.3	0.6	63.6	2603	21395
LSD (0.10)			4.9	7.6	2.9	0.9	3.9	4.7	6.6	0.0	2.7	154	4828
CV			10.8	31.3	34.2	11.6	11.6	8.4	10.0	3.6	4.2	6	22

2023 Virginia Tech Corn Silage Trials, Shenandoah Valley

Table 10. Corn silage test results at the Shenandoah Valley, VA in 2023.

Brand	Hybrid	Maturity Number	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein%	NDF Digest%	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
Augusta Seed	A1265	3	50.7*	17.5*	6.1*	6.6*	69.4*	0.55*	62.2*	2394*	14623*
Augusta Seed	A1964	3	55.9*	19.5*	6.8*	6.4*	69.2*	0.55*	61.7*	2361*	16117*
Augusta Seed	A2064	3	49.6*	20.2*	7.1*	6.6*	69.9*	0.54*	61.6*	2340*	16474*
Augusta Seed	A2067	4	55.3*	20.1*	7.0*	6.2*	68.7*	0.54*	61.0*	2311*	16284*
Augusta Seed	A2464	3	49.3*	17.0*	6.0*	6.4*	71.1*	0.55*	62.8*	2402*	14395*
Augusta Seed	A4961	1	57.3*	24.5*	8.6*	6.3*	67.9*	0.54*	61.2*	2328*	20027*
Augusta Seed	A6362	3	51.1*	18.6*	6.5*	6.8*	70.0*	0.55*	62.5*	2404*	15554*
FS InVISION	FS 6217X RIB	3	63.7	19.6*	6.9*	5.8*	68.4*	0.55*	61.4*	2342*	16107*
FS InVISION	FS 6306T RIB	3	50.8*	14.9*	5.2*	6.2*	69.2*	0.6	63.7	2518	13083*
FS InVISION	FS 6432P RIB	3	51.5*	18.7*	6.6*	7.0*	68.3*	0.55*	61.8*	2393*	15640*
FS InVISION	FS 6595X RIB	3	55.5*	18.5*	6.5*	6.3*	69.8*	0.55*	62.0*	2368*	15336*
FS InVISION	FS 6627T RIB	4	54.8*	25.9*	9.1*	6.3*	69.7*	0.55*	62.5*	2388*	21131*
Mid-Atlantic Seeds	MA5103D	2	54.4*	18.7*	6.5*	6.2*	71.1*	0.55*	62.4*	2374*	15545*
Mid-Atlantic Seeds	MA5144D	3	54.5*	19.5*	6.8*	6.3*	68.8*	0.54*	60.7*	2279*	15655*
Mid-Atlantic Seeds	MA5161DV	4	47.5*	16.1*	5.6*	6.7*	70.1*	0.55*	62.3*	2388*	13457*
Mid-Atlantic Seeds	MA5168DV	4	46.2*	20.0*	7.0*	7.4	66.9*	0.54*	60.3*	2297*	16091*
Pioneer	P1380Q	3	49.7*	17.9*	6.3*	6.9*	65.1	0.53*	59.3*	2239*	14046*
Pioneer	P1903AM	4	48.0*	23.4*	8.2*	6.6*	69.3*	0.55*	62.2*	2397*	19543*
Redtail	RT 64T39-D1	3	54.8*	17.0*	5.9*	6.1*	70.6*	0.54*	62.0*	2343*	13874*
Redtail	RT 65T09-D1	3	50.1*	18.7*	6.5*	6.2*	69.2*	0.54*	61.2*	2313*	15191*
Seed Consultants	SC1134AM	3	57.7*	17.4*	6.1*	6.1*	72.6*	0.55*	62.5*	2362*	13987*
Seed Consultants	SC1154AM	3	50.7*	19.0*	6.7*	6.9*	68.2*	0.54*	60.6*	2289*	15253*
Seed Consultants	SC1183AM	4	51.8*	29.5	10.3	6.4*	70.1*	0.55*	62.2*	2378*	24555
Seedway	SW 1421VT	3	55.4*	23.4*	8.2*	6.5*	69.3*	0.56*	62.5*	2416*	19914*
Seedway	SW 1579SS	3	57.2*	16.4*	5.7*	6.5*	69.8*	0.55*	61.7*	2344*	13417*
Seedway	SW 1661SS	4	49.7*	18.1*	6.3*	6.2*	69.5*	0.55*	61.9*	2363*	14883*
Site Average			52.8	19.6	6.9	6.5	69.3	0.5	61.8	2359	16161
LSD (0.10)			1.9	1.6	0.5	0.2	0.7	0.0	0.4	26	1290
CV%			7.5	16.7	16.8	5.3	2.1	1.4	1.5	2	17

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer

Table 11. Two-year corn silage test results at the Shenandoah Valley, VA, 2023 and 2022.

Brand	Hybrid	¹ DTM	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
Augusta Seed	A1265	115	54.3	26.3	9.2	6.7	59.0	62.4	0.5	60.9	2408	22056
Augusta Seed	A1964	114	56.7	24.6	8.6	6.4	63.5	61.7	0.5	58.9	2259	22517
Augusta Seed	A4961	107	55.2	26.6	9.3	7.2	63.0	62.3	0.5	59.2	2271	21319
FS InVISION	FS 6306T RIB	113	64.4	25.7	9.0	6.3	61.7	63.6	0.6	62.0	2472	22591
FS InVISION	FS 6595X RIB	115	54.3	19.8	6.9	6.7	63.2	62.1	0.5	59.6	2314	16076
Redtail	RT 64T39-D1	114	50.4	21.1	7.4	6.6	58.4	64.6	0.6	62.7	2519	21501
Redtail	RT 65T09-D1	115	45.8	15.2	6.0	8.0	58.6	66.2	0.6	63.3	2548	15370
Seed Consultants	SC1183AM		56.2	25.0	8.7	6.5	63.0	62.3	0.6	60.1	2348	23049
Site Average			54.7	23.0	8.1	6.8	61.3	63.2	0.6	60.8	2392	20560
LSD (0.10)			5.7	7.6	2.7	0.8	7.3	7.2	0.0	2.8	181	7144
CV			10.4	33.1	32.7	12.3	11.9	11.5	5.0	4.6	8	35

2023 Virginia Tech Corn Silage Trials, Southwest Virginia AREC

Table 12. Corn silage test results at the Southwest Virginia AREC, Glade Spring, VA in 2023

Brand	Hybrid	Maturity Number	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
Augusta Seed	A1265	3	42.6*	33.4*	11.7*	7.7*	28.3*	47.6	56.7*	0.6*	62.2*	2604*	30469*
Augusta Seed	A1964	3	41.7*	35.5*	12.4*	7.6*	29.1*	51.6*	57.4*	0.59*	61.8*	2567*	31856*
Augusta Seed	A2067	4	41.6*	34.5*	12.1*	7.6*	32.5*	53.3*	59.1	0.59*	61.7*	2539*	30509*
Augusta Seed	A2464	3	41.8*	35.6*	12.5*	7.7*	29.1*	48.4	56.5*	0.6*	62.0*	2593*	32329*
Augusta Seed	A4961	1	44.5*	42.2	14.8	7.1*	28.5*	50.6*	56.8*	0.57*	60.3*	2457*	36157
Augusta Seed	A6362	3	45.8	39.8*	13.9*	6.8*	31.3*	52.0*	57.9*	0.57*	60.0*	2422*	33723*
FS InVISION	FS 6217X RIB	3	40.7*	33.0*	11.5*	7.5*	28.7*	50.4*	56.7*	0.6*	62.0*	2595*	29921*
FS InVISION	FS 6306T RIB	3	43.1*	33.5*	11.7*	7.5*	30.2*	50.9*	55.5*	0.58*	60.2*	2460*	28832*
FS InVISION	FS 6432P RIB	3	41.0*	36.9*	12.9*	7.7*	28.4*	48.0	57.0*	0.6	62.9*	2658*	34279*
FS InVISION	FS 6595X RIB	3	42.6*	35.1*	12.3*	7.9	30.0*	53.1*	56.0*	0.58*	60.3*	2470*	30176*
FS InVISION	FS 6627T RIB	4	40.3*	31.8*	11.1*	7.4*	30.1*	52.6*	55.6*	0.59*	60.9*	2521*	28185*
Mid-Atlantic Seeds	MA5103D	2	41.4*	36.1*	12.6*	7.5*	28.0*	49.4*	56.8*	0.59*	61.9*	2584*	32270*
Mid-Atlantic Seeds	MA5144D	3	41.9*	39.6*	13.9*	7.6*	28.3*	49.9*	57.0*	0.59*	61.7*	2564*	35601
Mid-Atlantic Seeds	MA5161DV	4	40.7*	32.0*	11.2*	7.3*	32.2*	53.8*	58.1*	0.59*	62.0*	2577*	29068*
Mid-Atlantic Seeds	MA5168DV	4	39.9*	30.5*	10.7*	7.7*	29.4*	51.4*	57.8*	0.6*	62.6*	2630*	28116*
Pioneer	P1380Q	3	41.9*	35.2*	12.3*	7.2*	29.4*	51.2*	58.0*	0.6*	62.4*	2608*	32028*
Pioneer	P1903AM	4	39.9*	37.3*	13.1*	7.8	27.2	47.8	57.3*	0.6	63.6	2711	35380
Seed Consultants	SC1134AM	3	40.3*	34.8*	12.2*	7.4*	30.5*	51.8*	57.1*	0.6*	62.1*	2598*	31692*
Seed Consultants	SC1154AM	3	42.4*	33.0*	11.5*	7.0*	30.1*	52.5*	57.0*	0.59*	61.2*	2528*	29194*
Seed Consultants	SC1183AM	4	40.4*	36.5*	12.8*	7.3*	29.1*	50.7*	57.2*	0.6*	62.5*	2629*	33397*
Site Average			41.7	35.3	12.4	7.5	29.5	50.9	57.1	0.6	61.7	2566	31659
LSD (0.10)			0.8	1.6	0.6	0.2	0.8	1.0	0.5	0.0	0.5	40	1363
CV%			3.6	8.2	8.3	3.8	4.6	3.7	1.5	1.9	1.6	3	8

* Indicates numbers not significantly different from the highest (or lowest for ADF and NDF) value in that column, i.e. within one LSD of the top performer

Table 13. Two-year corn silage test results at the Southwest Virginia AREC, Glade Springs, VA 2022 and 2023.

Brand	Hybrid	¹ DTM	DM % at Harvest	35% DM Yield ton/acre	DM Yield ton/acre	Crude Protein %	ADF%	NDF%	NDF Digest %	NEL Mcal/lb	TDN%	Milk2006 lb milk/ton	Milk2006 lb milk/acre
FS InVISION	FS 6306T RIB	113	42.8	36.3	12.7	7.5	28.1	48.6	55.8	0.6	61.9	2591	32940
FS InVISION	FS 6595X RIB	115	42.7	34.4	12.0	7.9	30.1	50.6	58.4	0.5	54.8	2164	26039
Pioneer	P1380Q	113	42.0	33.8	11.8	7.5	29.7	50.3	58.0	0.6	55.8	2225	26445
Seed Consultants	SC1183AM	118	40.1	29.0	10.2	7.3	28.8	48.6	57.2	0.6	62.8	2648	26821
Site Average			41.9	33.4	11.7	7.5	29.2	49.5	57.4	0.6	58.8	2407	28061
LSD (0.10)			3.0	4.5	1.6	0.6	3.2	4.9	57.2	0.0	5.7	340	6106
CV			7.0	13.2	13.2	7.3	10.8	9.7	2.4	7.2	9.4	14	21

BT Trait Table

Table 14. The Handy Bt Trait Table for U.S. corn production, updated February 2020 (thanks to Chris DiFonzo, Michigan State University, difonzo@msu.edu)

Trait packages in alphabetical order (acronym that may be used)	Bt protein(s) in the trait package	Marketed for control of:											Resistance confirmed to the combination of Bts in package (check local situation)	Herbicide trait			Non-Bt Refuge % (cornbelt)	
		B C W	C E W	E C B	F A W	S B	S C B	S W B	T A W	W B C	W C R	R		G L R	L L L	E E E		
AcreMax (AM)	Cry1Ab Cry1F	x	x	x	x	x	x	x					CEW FAW WBC	x	x		5% in bag	
AcreMax CRW (AMRW)	Cry34/35Ab1													x			10% in bag	
AcreMax1 (AM1)	Cry1F Cry34/35Ab1	x		x	x	x	x	x					ECB FAW SWB WBC NCR WCR	x	x		10% in bag 20% ECB	
AcreMax Leptra (AML)	Cry1Ab Cry1F Vip3A	x	x	x	x	x	x	x	x	x					x	x	5% in bag	
AcreMax TRIssect (AMT)	Cry1Ab Cry1F mCry3A	x	x	x	x	x	x	x					CEW FAW WBC WCR	x	x		10% in bag	
AcreMax Xtra (AMX)	Cry1Ab Cry1F Cry34/35Ab1	x	x	x	x	x	x	x					CEW FAW WBC NCR WCR	x	x		10% in bag	
AcreMax Xtreme (AMXT)	Cry1Ab Cry1F mCry3A Cry34/35Ab1	x	x	x	x	x	x	x					CEW FAW WBC WCR	x	x		5% in bag	
Agrisure 3010 (BR)	Cry1Ab		x	x			x	x					CEW	x	x		20%	
Agrisure 3000GT & 3011A	Cry1Ab mCry3A		x	x			x	x					CEW WCR	x	x		20%	
Agrisure Viptera 3110 (VR)	Cry1Ab Vip3A	x	x	x	x	x	x	x	x	x					x	x	20%	
Agrisure Viptera 3111 (A4)	Cry1Ab Vip3A mCry3A	x	x	x	x	x	x	x	x	x			WCR	x	x		20%	
Agrisure 3120 E-Z Refuge (BZ)	Cry1Ab Cry1F	x	x	x	x	x	x	x					CEW FAW WBC	x	See bag tag. EZO = no		5% in bag	
Agrisure 3122 E-Z Refuge	Cry1Ab Cry1F mCry3A Cry34/35Ab1	x	x	x	x	x	x	x					CEW FAW WBC WCR	x			5% in bag	
Agrisure Viptera 3220 E-Z (VZ)	Cry1Ab Cry1F Vip3A	x	x	x	x	x	x	x	x	x						x		5% in bag
Agrisure Viptera 3330 E-Z	Cry1Ab Vip3A Cry1A.105/Cry2Ab2	x	x	x	x	x	x	x	x	x						x		5% in bag

Agrisure Duracade 5122 E-Z (D1)	Cry1Ab Cry1F mCry3A eCry3.1Ab	x	x	x	x	x	x	x	x	x	x	x	x	CEW FAW WBC WCR	x			5% in bag
Agrisure Duracade 5222 E-Z (D2)	Cry1Ab Cry1F Vip3A mCry3A eCry3.1Ab	x	x	x	x	x	x	x	x	x	x	x	x	WCR	x			5% in bag
Herculex I (HXI)	Cry1F	x		x	x	x	x	x						ECB FAW SWB WBC	x	x		20%
Herculex RW (HXRW)	Cry34/35Ab1												x	NCR WCR	x	x		20%
Herculex XTRA (HXX)	Cry1F Cry34/35Ab1	x		x	x	x	x	x					x	ECB FAW SWB WBC NCR WCR	x	x		20%
Intrasect (YHR)	Cry1Ab Cry1F	x	x	x	x	x	x	x						CEW FAW WBC	x	x		5%
Intrasect TRIssect (CYHR)	Cry1Ab Cry1F mCry3A	x	x	x	x	x	x	x					x	CEW FAW WBC WCR	x	x		20%
Intrasect Xtra (YXR)	Cry1Ab Cry1F Cry34/35Ab1	x	x	x	x	x	x	x					x	CEW FAW WBC NCR WCR	x	x		20%
Intrasect Xtreme (CYXR)	Cry1Ab Cry1F mCry3A Cry34/35Ab1	x	x	x	x	x	x	x					x	CEW FAW WBC WCR	x	x		5%
Leptra (VYHR)	Cry1Ab Cry1F Vip3A	x	x	x	x	x	x	x	x	x					x	x		5%
Powercore a (PW) PW Refuge Advanced b (PWRA)	Cry1A.105/Cry2Ab 2 Cry1F	x	x	x	x	x	x	x						CEW WBC	x	x		a 5% b 5% in bag
Powercore Enlist (PWE)	Same as Powercore	x	x	x	x	x	x	x						Same as Powercore	x	x	x	5% in bag
QROME (Q)	Cry1Ab Cry1F mCry3A Cry34/35Ab1	x	x	x	x	x	x	x					x	CEW FAW WBC WCR	x	x		5% in bag
SmartStax a (SX,STX or SS) STX Refuge Advanced b (SXRA) STX RIB Complete b (STXRIB)	Cry1A.105/Cry2Ab 2 Cry1F Cry3Bb1 Cry34/35Ab1	x	x	x	x	x	x	x					x	CEW WBC NCR WCR	x	x		a 5% b 5% in bag
SmartStax Enlist (SXE)	Same as SmartStax	x	x	x	x	x	x	x					x	Same as SmartStax	x	x	x	5% in bag
Trecepta a (TRE) Trecepta RIB Complete b (TRERIB)	Cry1A.105/Cry2Ab 2 Vip3A	x	x	x	x	x	x	x	x	x					x			a 5% b 5% in bag
TRIssect (CHR)	Cry1F mCry3A	x		x	x	x	x	x					x	ECB FAW SWB WBC WCR	x	x		20%
VT DoublePRO a (VT2P)	Cry1A.105/Cry2Ab 2		x	x	x	x	x	x						CEW	x			a5% b5% in bag

VT2P RIB Completeb (VT2PRIB)																	
VT TriplePRO c (VT3P) VT3P RIB Complete d (VT3PRIB)	Cry1A.105/Cry2Ab 2 Cry3Bb1	x	x	x	x	x	x			x	CEW NCR WCR	x					c20% D10% in bag
Yieldgard Corn Borer (YGCB)	Cry1Ab	x	x			x	x				CEW	x					20%
Yieldgard Rootworm (YGRW)	Cry3Bb1									x	NCR WCR	x					20%
Yieldgard VT Triple (VT3)	Cry1Ab Cry3Bb1	x	x			x	x			x	CEW NCR WCR	x					20%

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