

first **TRIALS**

INDEPENDENT CORN AND
SOYBEAN YIELD TESTING

South Central Minnesota Edition



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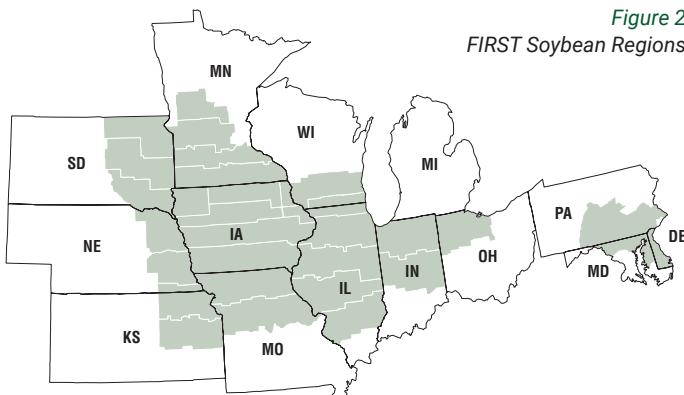
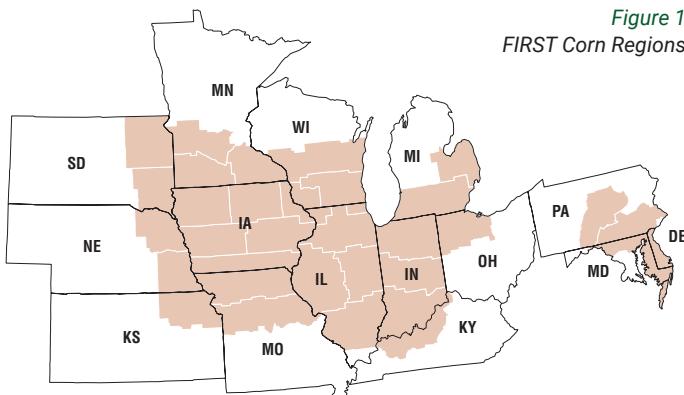
2023 Performance Summary

FIRST Testing Methodology and Procedures

TESTING PROGRAM

Our testing program compares corn and soybean seed product yield and agronomic performance in grower fields across 16 states: Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota and Wisconsin (Figure 1 & Figure 2).

Testing regions have been established to provide similarity by geography and crop maturity. Seed products within a predefined maturity range (e.g., 106 to 116 RM corn or 0.7 to 1.5 maturity soybeans) are pooled into a single, all-SEASON TEST | or split into early- and full-season tests depending on entry volume. Products are planted at five or six corn test locations or four soybean locations within a region.



Test locations are selected to represent the geographic diversity within a region. Ideal sites have uniform, well-drained soils where farmer hosts use standard production practices for the area. Typically, all tests at a location are conducted adjacent to each other to minimize yield variance between tests.

Seed companies and/or seed distributors are invited to submit their most promising seed products within specified test maturity limits to desired test regions. They provide high-quality seed from commercial lots and fees to enter FIRST tests. The only exceptions are check products (CK after product names, i.e. A1234 CK), chosen by FIRST Managers to bridge results between early- and full-season tests, and Grower Comparison products (GC after the product name), often provided by host farmers for their knowledge as test space permits.

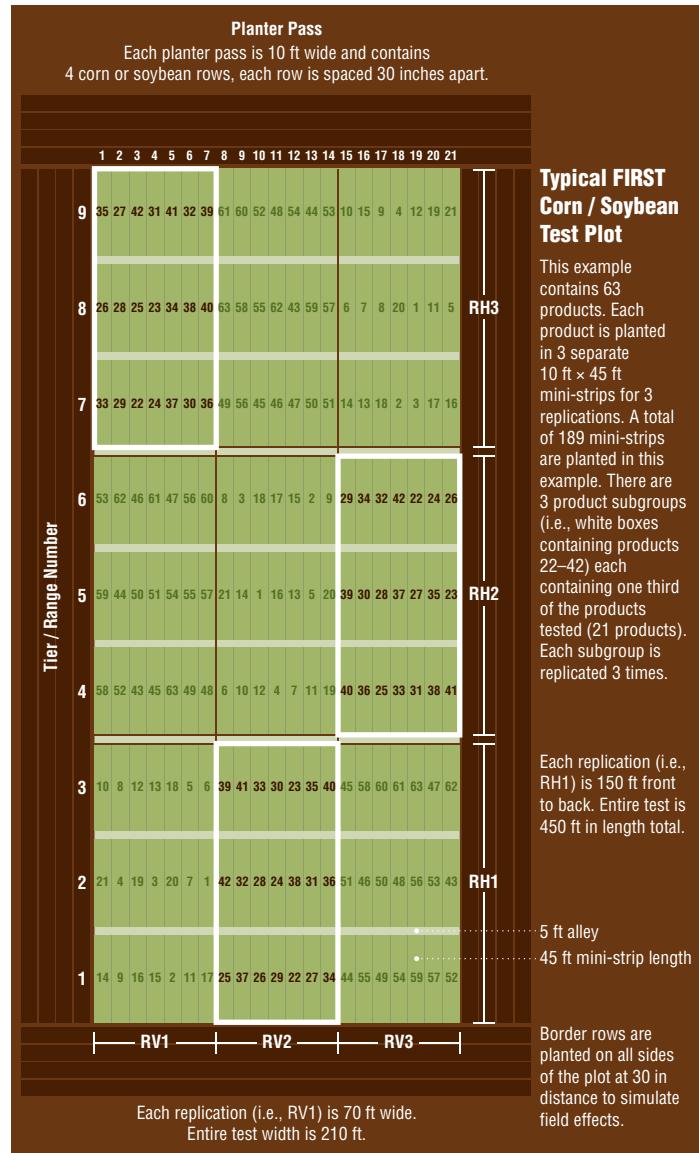
Products are replicated three times minimum per test and grouped in sub-blocks arranged in replication blocks from front to back and side to

side. This provides more precision in yield measurement and flexibility should a disruptive event (i.e., standing water) require elimination of non-uniform test areas.

FIRST Field Managers package, randomize, and plant seeds into host grower fields using slightly modified commercial planting equipment to facilitate mini strip research. Individual plots (a.k.a. mini-strips) contain four corn rows spaced 30-inches apart, 45 feet in length (Figure 3). Soybean is planted in four rows spaced 30-inches apart or seven 15-inch spaced rows. Soil insecticide is typically applied to corn at planting. Seeding rate is based on standard area practices.

FIRST Managers measure yield from the center two corn rows or all soybean rows using customized commercial self-propelled combines. Grain from each plot is electronically weighed and moisture content measured. Soybean grain is sampled from one replicate per test for protein and oil content analysis.

Figure 3 FIRST Test Plot Layout



TECHNOLOGY CODE LEGEND

Product Suffix Key

CK	Check product found in early- and full- season tests
GC	Grower Comparison product from farmer cooperator or field manager
\$	United Soybean Board sponsored entry

Corn Seed Technology Key

CODE	DESCRIPTION
3010	Agrisure® 3010 (GT,CB,LL), formerly GT/CB/LL
3011	Agrisure® 3011 (CB,RW,LL,GT)
3110	Agrisure® Viptera® 3110 (Vip, CB,LL,GT)
3111	Agrisure® Viptera® 3111 (Vip,CB,RW,LL,GT)
A	Agrisure® Artesian®
AA	Agrisure® Above (CB,HX,LL,GT), formerly Agrisure® 3120
AT	Agrisure® Total (CB,HXX,RW,LL,GT), formerly Agrisure® 3122
AM	Optimum® AcreMax® (YGCB,HX,LL,RR2)
AM1	Optimum® AcreMax® 1 (HXT,LL,RR2)
AML	Optimum® AcreMax® Leptra (Vip,YGCB,HX,LL,RR2)
AMT	Optimum® AcreMax® TRIsect
AQ	Optimum® AQUAmax®
CONV	conventional corn
D	Duracade™ (CB,HX,RW,RW2,LL,GT), formerly Agrisure Duracade® 5122
DV	DuracadeViptera™ (Vip,CB,HX,RW,RW2,LL,GT), formerly Agrisure Duracade® 5222
DVZ	DuracadeViptera™ Z3 (Vip,CB,VTP,RW,RW2,LL,GT), formerly Agrisure Duracade® 5332
DG	DroughtGard®
E	Enlist™ (2,4-D, glyphosate, fop tolerance)
GT	Agrisure® GT
GTA	Agrisure® GTA
PC	PowerCore® (HX,VT2P)
PCE	PowerCore® Enlist® (HX,VT2R, 2,4-D)

QR	Qrome®
RR2	Roundup Ready® 2 Corn
STX	SmartStax® (VT3P;HXX)
STXP	SmartStax® PRO (VT3P;HXX)
TRE	Trecepta®
VT2P	VT Double PRO®
VT4P	VT4Pro™ with RNAi Technology
V	Viptera™ (Vip,CB,HX,LL,GT), formerly Agrisure Viptera® 3220
VZ	Viptera™ Z3 (Vip,CB,VTP,LL,GT), formerly Agrisure Viptera® 3330

Soybean Seed Technology Key

CODE	DESCRIPTION
CONV	Conventional
E3	Enlist E3® (2,4-D, choline, glyphosate, LL)
LLGT27	LibertyLink® GT27®
RR	glyphosate tolerant (formerly Roundup Ready)
RR2Y	Roundup Ready 2 Yield®
RRX	Roundup Ready 2 Xtend®
RXF	Roundup Ready 2 XtendFlex®
ST	Sulfonylurea tolerant

Soybean Cyst Nematode (SCN) Resistance Rating

CODE	SOYBEAN CYST NEMATODE DESCRIPTION
NA	information is not available
S	susceptible
MR	moderate resistance
R	resistant

FIRST would like to thank the United Soybean Board for support and funding for the soybean entry and quality reporting program.

Be the **first** to Get Yield Results



TRUSTED



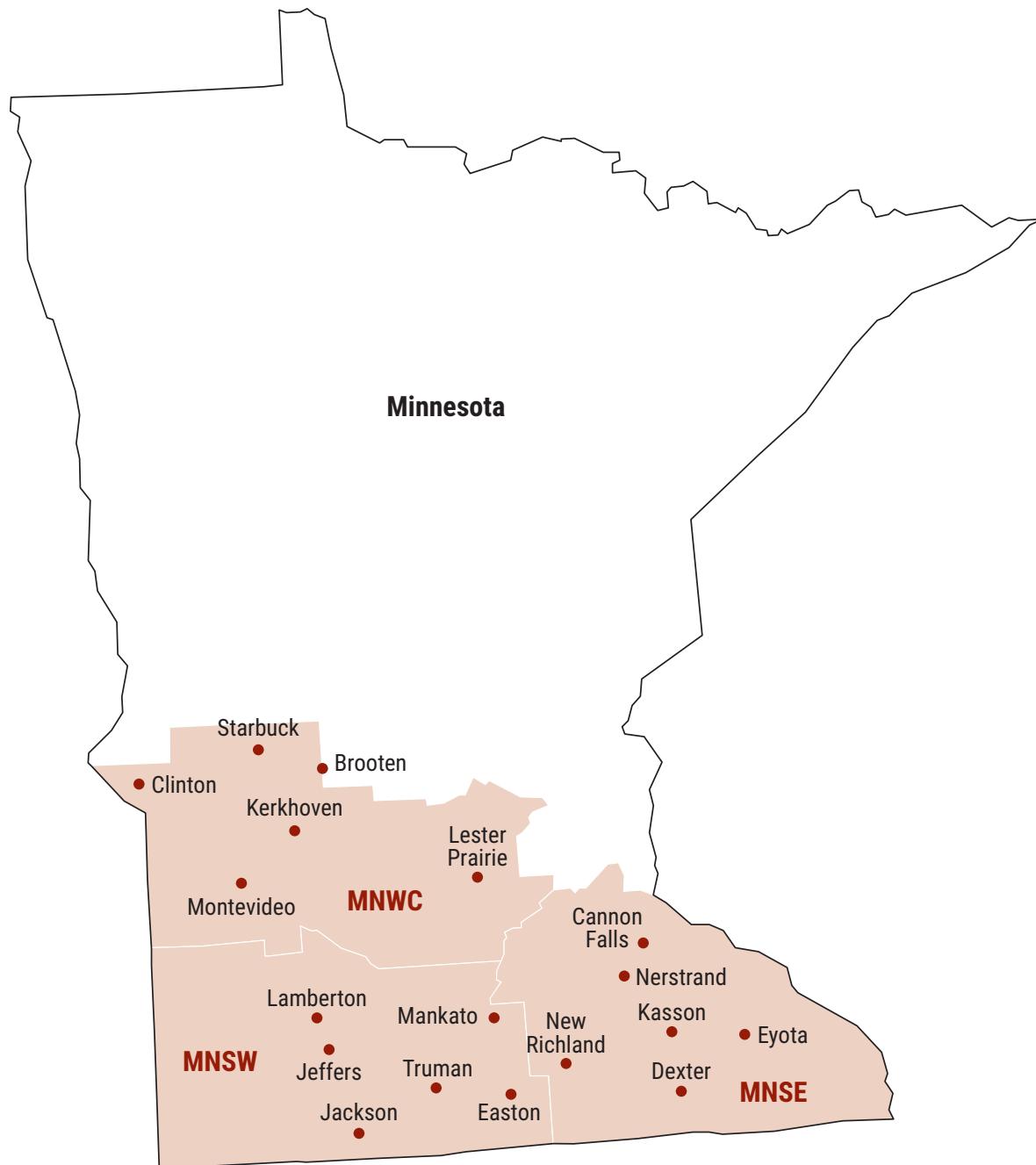
ACCESS



FAST

www.firstseedtests.com

CORN REGIONS: MNWC, MNSW, MNSE



Site Description: MNWC (See corn results table on pages 7–8)

Site	FIRST Farmers	Soil Texture	Tillage	Previous Crop	Total Nitrogen (lbs)	Date Planted	Date Harvested	Average		Yield History	
								Stand x 1,000	Yield	Bu/A	Years
Brooten	Michael Stamer	sandy loam	conventional	sugarbeet	192.5	May 12	Oct 8	34.8	188.5	244.9	2
Clinton	Doug Nelson	loam	strip till	soybeans	150	May 8	Oct 17	35.1	215.2	198.3	18
Kerkhoven	Rod and Brody Lindquist	loamy sand	no-till	corn	170	May 17	Oct 5	34.3	134.7	205.3	8
Lester Prairie	Nathan Ide	loam	conventional	soybeans	180	May 10	Oct 11	34.7	228.4	194.7	11
Montevideo	Dusten Williamson	silty clay loam	conventional	soybeans	175	May 9	Oct 3	35.3	223.7	202.1	4
Starbuck	Matt Moe	loam	conventional	soybeans	145	May 11	Oct 7	35.0	217.9	193.4	8
										MNWC	199.1
											22

CORN REGIONS: MNWC, MNSW, MNSE (continued)

Site Description: MNSW (See corn results table on pages 9–10)

Site	FIRST Farmers	Soil Texture	Tillage	Previous Crop	Total Nitrogen (lbs)	Date Planted	Date Harvested	Average		Yield History	
								Stand × 1,000	Yield	Bu/A	Years
Easton	Dru Martin	silty clay loam	conventional	soybeans	225	May 24	Nov 07	33.1	221.9	211.1	23
Jackson	Steve Ryberg	clay loam	conventional	soybeans	199	May 4	Oct 18	32.9	217.1	206.2	22
Jeffers	Rick Quade	clay loam	strip till	soybeans	186	May 24	Nov 05	32.9	223.3	195.7	17
Lamberton	Ed Iverson	loam	conventional	soybeans	185	May 10	Nov 06	31.7	215.8	196.9	6
Mankato	Greg Scheurer	loam	conventional	soybeans	155	May 4	Nov 1	32.2	209.4	217.8	5
Truman	Dan Helvig	loam	conventional	soybeans	160	May 5	Oct 17	32.7	266.4	199.7	5
								MNSW	200.7	23	

Site Description: MNSE (See corn results table on pages 11–12)

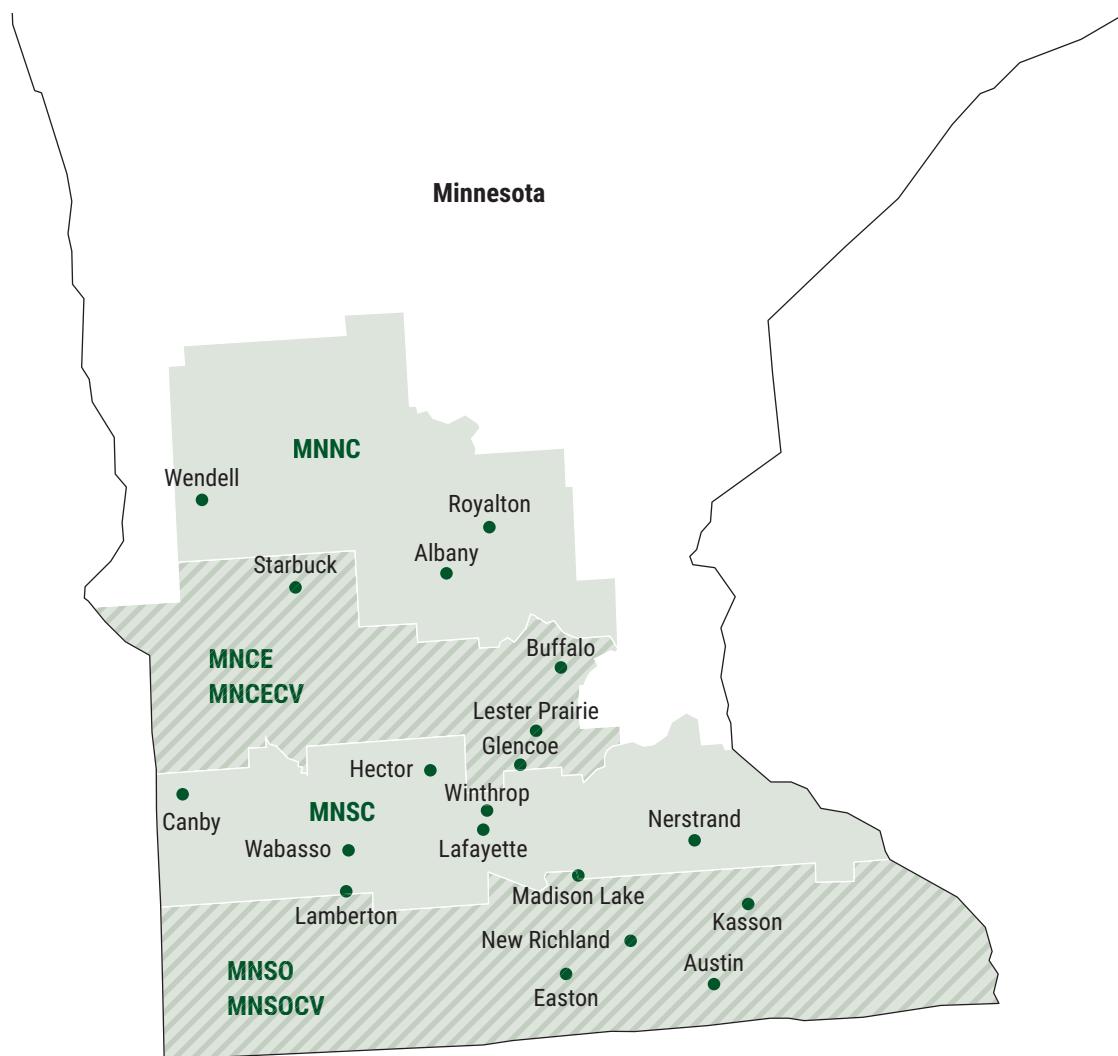
Site	FIRST Farmers	Soil Texture	Tillage	Previous Crop	Total Nitrogen (lbs)	Date Planted	Date Harvested	Average		Yield History	
								Stand × 1,000	Yield	Bu/A	Years
Cannon Falls	Marc Hernke	silt loam	conventional	corn	280	May 19	Nov 02	32.5	272.7	217.1	23
Dexter	Eric Lee	silt loam	strip till	soybeans	180	May 3	Oct 16	32.8	152.5	206.8	15
Eyota	Arthur & Paul Wendt	silt loam	conventional	soybeans	190	May 19	Nov 4	33.1	194.9	211.3	22
Kasson	Brian Herbst	silt loam	conventional	soybeans	192	May 20	Oct 30	33.0	229.8	220.1	23
Nerstrand	Keith, Kurt and Brian Schrader	silt loam	conventional	soybeans	160	May 3	Nov 2	32.5	187.5	229.5	5
New Richland	Leon Schoenrock	silty clay loam	conventional	soybeans	145	May 2	Nov 3	31.0	221.8	206.3	23
								MNSE	209.3	23	

CORN REGIONAL ANNUAL YIELD AVERAGES FOR 2019–2023

FIRST Region	Average Yield by Year (Bu/A)					Since Inception	
	2023	2022	2021	2020	2019	Bu/A	#Years
MNWC	211.2	195.8	214.2	202.5	207.1	199.1	22
MNSW	228.8	217.9	205.7	227.9	203.6	200.7	23
MNSE	209.6	233.7	235.2	239.5	224.9	209.3	23



SOYBEAN REGIONS: MNNC, MNCE, MNCECV, MNSC, MNSO, MNSOCV



Site Description: MNNC (See soybean results table on page 15)

Site	FIRST Farmers	Soil Texture	Tillage	Previous Crop	Total Nitrogen (lbs)	Date Planted	Date Harvested	Average		Yield History	
								Stand x 1,000	Yield	Bu/A	Years
Albany	Mitch Oveman	loam	conventional	corn	—	May 28	Nov 11	125.9	50.9	49.8	8
Royalton	Kenny Kasella	loam	conventional	corn	—	May 21	Nov 11	131.0	58.4	44.7	5
Starbuck	Matt Moe	loam	conventional	corn	—	May 20	Nov 2	125.8	36.3	45.2	9
Wendell	Chad Biss	silty clay loam	conventional	corn	—	May 27	Nov 15	126.0	40.8	45.0	7
								MNNC	45.9	7	

Site Description: MNCE (See soybean results table on page 16)

Site	FIRST Farmers	Soil Texture	Tillage	Previous Crop	Total Nitrogen (lbs)	Date Planted	Date Harvested	Average		Yield History	
								Stand x 1,000	Yield	Bu/A	Years
Buffalo	Bill Daluge	loam	conventional	corn	—	May 22	Nov 14	126.0	60.4	59.8	3
Canby	Austen Citrowski	loam	conventional	corn	—	May 27	Oct 23	NR	NR	54.3	3
Lester Prairie	Nathan Ide	clay loam	conventional	corn	—	May 18	Oct 22	131.8	59.2	52.2	6
Starbuck	Matt Moe	loam	conventional	corn	—	May 20	Nov 1	126.0	37.9	45.2	9
								MNCE	52.6	21	

Soybean Results: MNSC (See site description on page 14)

ALL-SEASON TEST | MATURITY GROUP 1.5–2.2 | Top 30 of 45 tested

Results in **BOLD** are significantly above test average.

Company/ Brand	Product/ Brand	Technology	Maturity	Yield (Bu/A)	Moisture (%)	Lodging (%)	Gross Income (\$/A)	Madison Lake	Nerstrand	Wabasso	Winthrop#
Golden Harvest	GH2292E3 GC	E3	2.2	59.8	12.3	0	\$762	73.7	48.7	56.9	57.1
Stine	20EG02 U	E3	2.0	59.5	12.4	0	\$758	76.4	50.0	52.0	52.1
Golden Harvest	GH2004XF U	RXF	2.0	59.0	12.5	0	\$752	75.2	45.9	56.0	59.4
Pioneer	P19A37E U	E3	1.9	58.4	12.2	0	\$744	70.5	50.5	54.1	60.8
Asgrow	AG18XF1 U	RXF	1.8	57.8	12.5	0	\$737	74.6	40.0	58.9	55.2
Zinesto	Z2002E	E3	2.0	57.5	12.3	0	\$733	69.5	48.4	54.5	57.5
Xitavo	XO 2282E	E3	2.2	56.7	12.0	0	\$723	72.8	45.6	51.7	51.0
Dyna-Gro	S19XF62	RXF	1.9	56.7	13.0	0	\$722	69.1	40.6	60.3	56.1
Genesis	G1760E	E3	1.7	56.3	12.4	0	\$718	66.4	41.8	60.6	53.6
Hefty	H18E3	E3	1.8	56.2	12.0	0	\$716	66.6	49.2	52.8	53.9
Xitavo	XO 1822E	E3	1.8	56.2	12.7	0	\$716	75.4	41.4	51.7	54.2
Asgrow	AG19XF3 U	RXF	1.9	56.2	12.5	0	\$716	68.8	45.6	54.1	58.9
Loyal	L2150E GC	E3	2.1	56.2	12.5	0	\$715	69.9	45.9	52.7	53.4
Loyal	L1460E GC	E3	1.4	55.8	12.4	0	\$711	67.7	45.4	54.2	46.6
Titan Pro	TP 18E22	E3	1.8	55.6	12.5	0	\$709	65.9	48.0	53.0	55.0
Zinesto	Z2202E	E3	2.2	55.6	12.4	0	\$709	74.6	42.0	50.2	53.0
Dairyland	DSR-1919E	E3	1.9	55.5	11.9	0	\$708	61.2	50.1	55.4	57.8
Anderson	A1923XF	RXF	1.9	55.1	12.1	0	\$702	73.5	40.5	51.3	53.8
Dyna-Gro	S16EN42	E3	1.6	54.8	12.4	0	\$698	75.2	39.1	50.0	52.9
Dairyland	DSR-1788E	E3	1.7	54.1	12.5	0	\$689	65.0	43.3	54.0	49.0
Xitavo	XO 1632E	E3	1.6	54.1	12.9	0	\$689	70.3	37.3	54.6	53.7
Zinesto	Z1502E	E3	1.5	54.0	12.6	0	\$688	69.8	32.1	60.1	50.6
Golden Harvest	GH1802E3 U	E3	1.8	53.8	12.2	0	\$685	68.2	41.3	51.8	46.0
Dairyland	DSR-2188E	E3	2.1	53.8	12.4	0	\$686	66.4	41.0	54.0	56.8
Pioneer	P19A66E U	E3	1.9	53.1	12.4	0	\$677	65.8	37.9	55.7	54.5
Stine	19EG92 U	E3	1.9	53.0	12.6	0	\$676	69.4	43.1	46.5	59.1
Genesis	G2180E	E3	2.1	53.0	12.3	0	\$675	69.3	39.7	49.9	55.4
Zinesto	Z1802E	E3	1.8	52.9	11.8	0	\$675	68.3	47.6	42.9	52.3
Xitavo	XO 1404E	E3	1.4	52.9	12.8	0	\$674	62.9	39.5	56.3	54.6
Zinesto	Z2101E	E3	2.1	52.7	12.2	0	\$671	67.5	39.1	51.4	57.3
Averages =				53.9	12.4	0	\$687	68.3	41.0	52.3	54.0
LSD (0.10) =				4.7	0.3	ns		5.3	4.2	5.1	6.0

*Winthrop—results rejected, not included in summary.



PRODUCTS TESTED



For the complete list of products, visit www.firstseedtests.com/archive/national-summary-reports/2023-program-guide/

THANK YOU!

American farmers are the heart of Farmers' Independent Research of Seed Technologies (FIRST). Families and farms around the Midwest and Mid-Atlantic host and manage FIRST plots to provide actionable yield data to their fellow farmers and industry professionals. Thank you to all our host farmers!

FIRST is proud to serve the agricultural community each year by organizing corn, soybean, and corn silage trials in 15 states. Find out about more about methodology, results, and how to get involved with the trials at www.firstseedtests.com.



FIRST made some changes this year: come visit the updated website. On your mobile device, choose "Add to my Home Screen" to use it more like an "app".

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Find the yield results of interest to you on the interactive Reports and Products pages. See the complete trials results for each product tested by FIRST, including summary statistics and maps. Search for a specific seed product on our NEW site search feature.

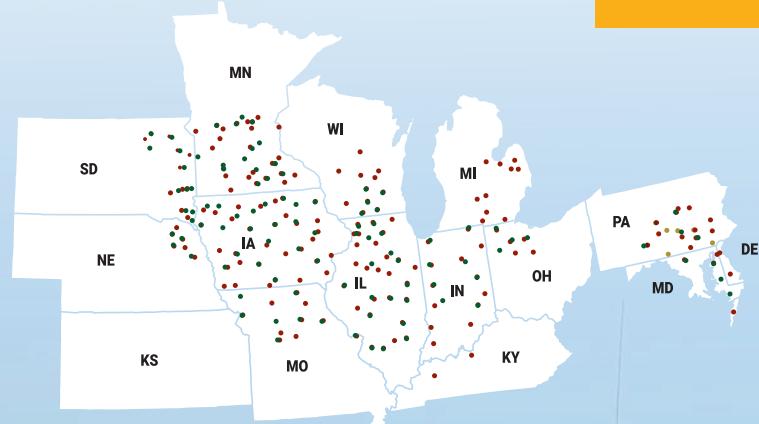
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