SOYBEAN

Iowa Crop Performance Tests

2023

Iowa's Official Variety Trials

IOWA STATE UNIVERSITY

College of Agriculture and Life Sciences

A summary of replicated research by Iowa Crop Improvement Association.

Iowa Crop Improvement Association

Iowa Crop Performance Tests—Soybeans is conducted each year to provide information farmers need to select the best varieties for their production conditions. Yield trial information, testing procedures, and more can be found at **croptesting.iastate.edu.**

Testing Procedures

Seed companies, Iowa Crop Improvement Association, and Iowa State University are eligible to enter varieties in the Iowa Crop Performance Tests—Soybeans. There are three testing districts and five testing sites within each district (Figure 1). Entries were subdivided into experiments based on relative maturity, providing an early-season and full-season test within each district. In 2023, over 130 varieties from 16 companies were tested in more than 165 district-by-variety combinations.

Each entry was replicated four times in four-row plots at a planting rate of 130,000 seeds per acre at each location. Row spacing was 30 inches, plot length was 15 feet, and planted row length was 12.4 feet. The center two rows of each plot were harvested with a soybean plot combine. A moisture determination was made from each plot and yields were corrected to 13 percent moisture. Yield determinations are based on a 15 foot plot, which includes the planted row plus the alley. This is because area in alleys may contribute to the yield of plants at the ends of planted rows.

Information Layout

Tables 3-5 contain two-year averages of agronomic information from a maximum of five locations each year. Current year district averages are shown in Tables 6-11, and entries are reported in either the early-season or full-season tests within each district. These tables contain a mean yield and adjusted gross value based on all locations within the district. In addition, there are yield estimates based on the western fields and the eastern fields within a district. In these estimates, the location in the center of the district is used in both subcomponents. Each of these tables also contains the single-location yield for each entry. More detailed information is available at **croptesting.iastate.edu**.

Least Squares Means

All trait means in all tables were computed using least squares means. In cases where some values are missing, this provides the best estimates of trait values across replications, locations, and years. Least squares means are not equivalent to simple arithmetic means like those computed in a spreadsheet program using raw data or location means. Least squares means should always be used in multiple-comparison tests like the Iowa Crop Performance Tests.

Interpretation of Results

Statistical analysis identifies the portion of yield differences due to variation in soil types, soil fertility, moisture availability, insect infestation, and diseases; plus any variation due to planting and harvesting techniques. The least significant difference (LSD) values for yield represent, in bushels per acre, the amount of yield variation that could be due to variations in the factors just mentioned. In comparing varieties, yield differences greater than the LSD value can be attributed to differences in the yield potential of these varieties; yield differences less than the LSD value are not statistically different and could have been due to other factors.

Maturity ratings for varieties are estimates and may vary across seasons. Yield comparisons should be made among varieties of similar maturity.

Growing conditions vary at each location. Stressful conditions, such as drought, extended periods of high temperature, or excess rainfall may affect some locations more than others. It is important to select varieties having stable performance over a range of environmental conditions because it is not certain how next year's growing season will develop. High yields for two or more consecutive years indicate stable performance. If two-year means are not available, regional averages consisting of several locations should be used to make selection decisions. Performance data from a single location have a very low predictive probability and should not be relied upon for variety selection decisions.

Supplemental yield and agronomic information about specific varieties may be obtained from seed dealers, crop consultants, and from neighbors who have grown these varieties.

Use of Data in Advertisements

Specific advertising statements by a company about the performance of its entries must accurately reflect the published data.

Iowa Crop Performance Tests staff pictured below (left to right): Shawn Bryan, Aaron Sassman, Ryan Budnik & Logan Shonka

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The presentation of data for the varieties tested does not imply endorsement by the authors or the agencies conducting the test.

Iowa Crop Performance Tests offers unbiased, third-party information to Iowa growers on the adaptation and performance of corn hybrids and soybean varieties. The latest results are available at **croptesting.iastate.edu.**

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Acknowledgments

This report would not be possible without the cooperative efforts of many organizations and people. Thanks to the following people for helping make our testing program a success: Aaron Sassman, Shawn Bryant , and Logan Shonka for putting in the time to get the plots planted, keeping them maintained, and ultimately harvested; Patrick Miner of Bayer Crop Science and Bill Backhaus of BASF for providing us with fill plot and border row seed that is critical to our operation; the farmer cooperators, for without their help, our lives would be more difficult—they are listed in Table 1; students Emma Caspers and Jonah Hilton for their many hours of hard work—their efforts contributed greatly to the success of our mission; Nuwan De Silva for web design and technical support; Carol Cornelious, Doan Schmitz, and Graydon Marzen for helping fill the gaps whenever and wherever extra hands are needed; and Jim Rouse for his expertise and ongoing support. A special thanks to all the companies who enter varieties in our tests—they are listed at the end of this report in Table 12. It is their participation and support that continues to make these tests an indispensable resource for Iowa farmers.

For More Information

- For more information about the Iowa Crop Performance Tests, see **croptesting.iastate.edu.**
- For information about Iowa Crop Improvement Association, visit **iowacrop.org**.
- For questions or comments contact:

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Figure 1.

Test locations for the 2023 Iowa Crop Performance Tests—Soybean

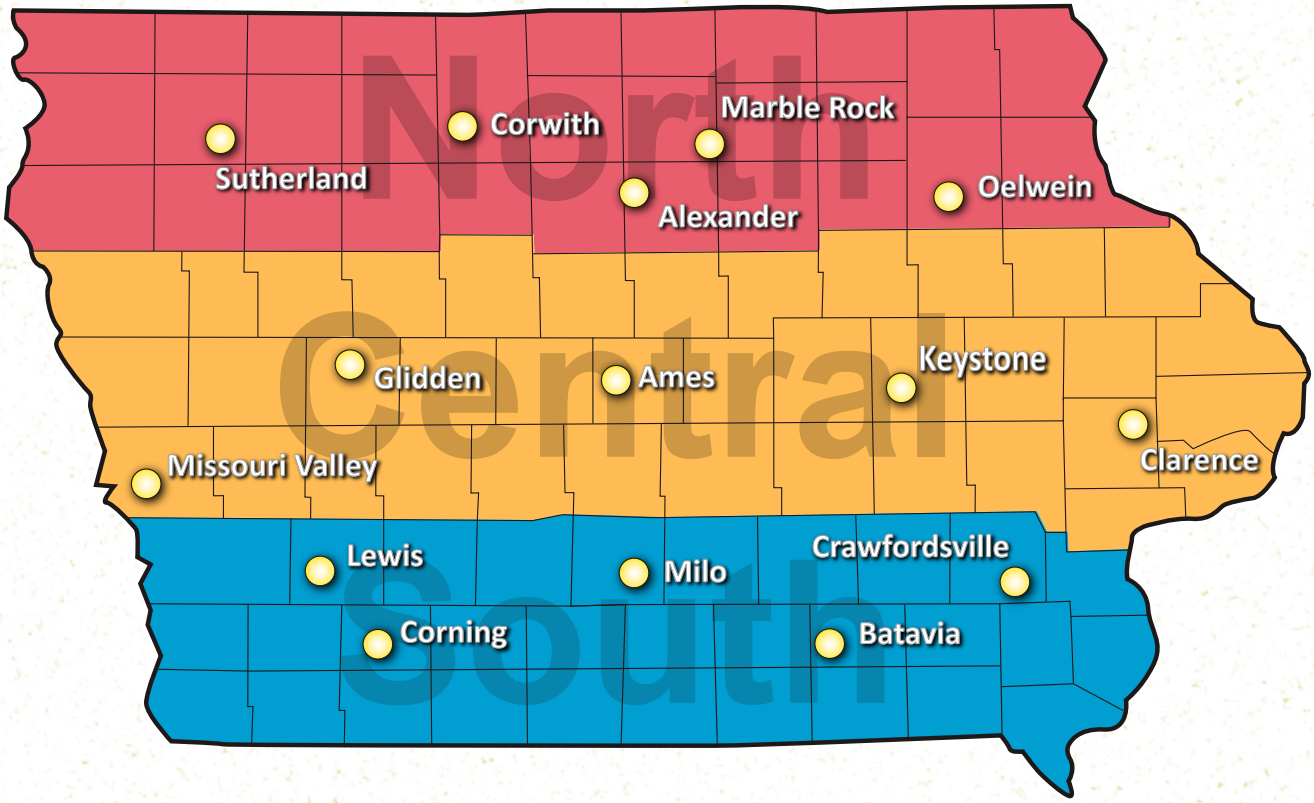

Table 1. General information for the 2023 soybean test.

Location and Cooperator	Soil Type	Planting Date	Harvest Date	Avg Yield Bu/Acre
North				
Sutherland, Terry Tuttle	Primghar/Galva silty clay loam	9-May	11-Oct	66.4
Corwith, Norm & Jonathan Chambers	Canisteo clay loam, Kossuth silty clay loam	8-May	10-Oct	58.0
Alexander, Rod Fesenmeyer	Harps-Okoboji complex	18-May	11-Oct	69.9
Marble Rock, Dave Muth	Shandep clay loam, Lawler loam	10-May	5-Oct	90.7
Oelwein, Heath Geiselman	Readlyn silt loam, Floyd loam	17-May	5-Oct	59.3
Central				
Missouri Valley, Dean McIntosh	McPaul silt loam	18-May	25-Sep	47.5
Glidden, David & Andy Theilen	Nicollet/Clarion loam, Webster clay loam	17-May	28-Sep	55.7
Ames, Kevin Scholbrock	Nicollet loam, Canisteo/Webster clay loam	19-May	17-Oct	66.2
Keystone, Dennis Pohlman	Muscatine/Tama silty clay loam	16-May	10-Oct	53.6
Clarence, Dave Elijah	Muscatine silty clay loam	5-May	2-Oct	76.4
South				
Lewis, Matt Groves	Marshall silty clay loam	10-May	10-Oct	67.6
Corning, Chris Gaesser	Macksburg silty clay loam, Macksburg-Nira complex	11-May	9-Oct	59.9
Milo, Craig & Adam Hill	Givin silt loam	5-May	2-Oct	67.1
Batavia, Pat Hammes	Mahaska/Taintor silty clay loam	28-Apr	3-Oct	74.2
Crawfordsville, Cody Schneider	Mahaska/Taintor silty clay loam	4-May	4-Oct	82.2

Table 2. Seed treatment and other data descriptions.

Seed Treatment

ACL+ILVO	Acceleron Standard + ILeVO
CM	CruiserMaxx
CMAPX+Salt	CruiserMaxx APX + Saltro
CMV	CruiserMaxx Vibrance
CMV+Salt	CruiserMaxx Vibrance + Saltro
E-VIP+Salt	Elevate VIP + Saltro
L-CT	L-Coat Total
LMGN	Lumisena + Evergol Energy + L2030G + Gaucho
PV+ILVO	Poncho-VOTiVO + ILeVO

Herb Tech: Herbicide Technology

Conv	Conventional, no herbicide traits
E3	Enlist E3
E3S	Enlist E3 + STS
RR2XF	Roundup Ready 2 XtendFlex

Yield: Bushels per acre, adjusted to 13% moisture
MG: Maturity group indicated by variety name
AGV: Adjusted Gross Value, based on a price per bushel of $12.50 and does not include shrinkage

In 2023, we evaluated over 122 varieties from 14 companies, in more than 161 district-by-variety combinations.
Entries were distributed in three districts and two experiments per district.
Each experiment was grown at five locations, with four replicates of each entry at each location.

Table 3. North district 2-year means, 2022-2023.

North early-season varieties, MG ≤ 2.2

Company	Variety	MG	Herb Tech	Yield Bu/A	NW Yield Bu/A	NE Yield Bu/A	AGV $
Xitavo	XO 1822E	1.8	E3	85.9	74.1	89.3	1,106
P3 Genetics	2218E	1.8	E3	85.3	74.1	90.8	1,098
Xitavo	XO 1632E	1.6	E3	84.1	71.5	90.0	1,083
Golden Harvest	GH2292E3	2.2	E3	84.1	71.9	88.7	1,083
Viking	2155N	2.1	Conv	83.2	71.9	87.2	1,071
Xitavo	XO 2181E	2.1	E3	83.1	72.7	86.7	1,070
Virtue	V2122	2.1	Conv	82.4	73.5	84.4	1,061
Xitavo	XO 1971E	1.9	E3	79.7	68.0	84.1	1,026
Experiment Mean				**81.2**	**70.2**	**85.7**	
LSD(0.25)				**2.4**	**3.5**	**3.5**	

North full-season varieties, MG > 2.2

Company	Variety	MG	Herb Tech	Yield Bu/A	NW Yield Bu/A	NE Yield Bu/A	AGV $
Renk	G2570ES	2.5	E3	86.2	74.3	92.1	1,110
Nutech/G2 Genetics	27N03E	2.7	E3	86.0	76.3	90.6	1,107
Xitavo	XO 2501E	2.5	E3	84.8	74.1	88.4	1,092
Renk	G2550E	2.5	E3	84.8	74.3	89.4	1,092
Viking	2340KN	2.3	Conv	84.6	73.9	90.4	1,089
Golden Harvest	GH2313XF	2.3	RR2XF	84.1	76.8	86.2	1,083
Viking	2418N	2.4	Conv	83.0	70.4	90.1	1,069
Xitavo	XO 2613E	2.6	E3	82.5	73.3	86.2	1,062
Nutech/G2 Genetics	25N04E	2.5	E3	82.3	71.4	87.4	1,060
Xitavo	XO 2323E	2.3	E3	82.0	71.4	84.4	1,055
Cornelius	CB23XF63	2.3	RR2XF	81.4	70.2	86.4	1,048
Experiment Mean				**85.1**	**74.6**	**89.0**	
LSD(0.25)				**2.4**	**3.5**	**3.5**	

Table 4. Central district 2-year means, 2022-2023.

Central early-season varieties, MG ≤ 2.7

Company	Variety	MG	Herb Tech	Yield Bu/A	CW Yield Bu/A	CE Yield Bu/A	AGV $
Nutech/G2 Genetics	27N03E	2.7	E3	81.6	79.7	90.0	1,051
P3 Genetics	2326E	2.6	E3	79.7	76.1	88.2	1,026
Renk	G2570ES	2.5	E3	78.6	74.7	87.8	1,012
Nutech/G2 Genetics	25N04E	2.5	E3	77.5	75.9	86.5	997
Xitavo	XO 2501E	2.5	E3	76.4	75.3	84.0	983
Viking	2418N	2.4	Conv	75.6	72.6	82.9	974
Xitavo	XO 2613E	2.6	E3	75.5	73.5	82.3	973
Renk	G2550E	2.5	E3	74.8	73.0	82.3	963
Xitavo	XO 2323E	2.3	E3	74.0	73.0	81.8	952
Experiment Mean				**78.2**	**75.9**	**85.8**	
LSD(0.25)				**2.4**	**3.4**	**3.9**	

Central full-season varieties, MG > 2.7

Company	Variety	MG	Herb Tech	Yield Bu/A	CW Yield Bu/A	CE Yield Bu/A	AGV $
Nutech/G2 Genetics	29N02E	2.9	E3	79.2	74.9	88.0	1,020
Xitavo	XO 2832E	2.8	E3	78.9	76.1	87.1	1,016
P3 Genetics	1928E	2.8	E3	78.4	74.3	86.6	1,009
P3 Genetics	2331E	3.1	E3	78.0	74.1	86.8	1,005
Xitavo	XO 2963E	2.9	E3	77.0	74.9	85.2	992
Golden Harvest	GH2922E3	2.9	E3	76.9	75.0	82.9	990
Experiment Mean				**77.7**	**74.9**	**85.7**	
LSD(0.25)				**2.4**	**3.4**	**3.9**	

Table 5. South district 2-year means, 2022-2023.

South early-season varieties, MG ≤ 3.2

Company	Variety	MG	Herb Tech	Yield Bu/A	SW Yield Bu/A	SE Yield Bu/A	AGV $
Nutech/G2 Genetics	29N02E	2.9	E3	71.2	67.2	75.0	916
Xitavo	XO 2963E	2.9	E3	70.1	66.7	73.3	902
Xitavo	XO 2832E	2.8	E3	69.9	66.1	73.8	900
Experiment Mean				**73.7**	**69.6**	**78.1**	
LSD(0.25)				**2.6**	**3.6**	**3.4**	

South full-season varieties, MG > 3.2

Company	Variety	MG	Herb Tech	Yield Bu/A	SW Yield Bu/A	SE Yield Bu/A	AGV $
Dyna-Gro	S33EN42	3.3	E3	79.1	76.8	82.2	1,019
Xitavo	XO 3651E	3.6	E3	75.0	70.2	79.1	966
Experiment Mean				**75.8**	**71.4**	**80.6**	
LSD(0.25)				**2.6**	**3.6**	**3.4**	

Table 6. North district, 2023 district and single-location means. Early-season test, MG ≤ 2.2.

				District Means			Single Location Yield				
Company	Variety	MG	Herb Tech	Yield Bu/A	NW Yield	NE Yield	Sutherland	Corwith	Alexander	Marble Rock	Oelwein
Cornelius	CB22XF52	2.2	RR2XF	73.1	69.4	79.7	68.0	60.5	79.4	97.6	59.6
Cornelius	CB18XF88	1.8	RR2XF	70.6	66.7	76.4	64.2	59.1	74.4	92.7	60.9
Viking	2155N	2.1	Conv	70.6	65.9	73.9	71.3	60.1	66.0	91.6	65.0
Viking	2022N	2.0	Conv	70.4	66.2	74.1	65.8	63.2	68.5	93.6	58.9
Nutech/G2 Genetics	20N05E	2.0	E3	70.2	66.2	74.5	69.8	59.8	68.7	94.4	56.5
Golden Harvest	GH2292E3	2.2	E3	70.0	64.7	74.1	68.6	60.5	66.4	94.8	60.1
Xitavo	XO 1822E	1.8	E3	69.8	64.6	74.7	68.8	60.3	63.7	95.7	58.9
Dyna-Gro	S19XF62	1.9	RR2XF	69.7	67.6	75.1	64.7	59.6	74.6	93.9	57.0
LOYAL BRAND	L2150E	2.1	E3	68.6	63.2	75.2	63.6	51.1	73.4	90.6	62.1
P3 Genetics	2218E	1.8	E3	68.6	63.2	74.2	67.6	53.8	71.8	92.0	58.1
P3 Genetics	2322E	2.2	E3	68.5	64.3	72.2	67.8	57.0	70.3	89.4	58.4
Asgrow	AG20XF4	2.0	RR2XF	68.4	66.7	71.5	63.5	61.7	76.6	86.9	55.5
Xitavo	XO 1632E	1.6	E3	68.4	65.0	76.4	65.6	54.1	72.7	93.2	57.8
LOYAL BRAND	L1950E	1.9	E3	68.4	60.8	75.4	65.4	49.0	69.8	94.1	61.5
Dyna-Gro	S20EN84	2.0	E3	68.2	62.1	75.7	64.0	52.5	70.2	93.8	60.7
Xitavo	XO 2181E	2.1	E3	68.2	64.4	71.4	64.3	61.9	67.0	92.2	55.7
Latham	L 2031	2.0	E3	68.2	67.2	72.6	64.3	56.2	73.1	88.9	58.4
Virtue	V2122	2.1	Conv	67.3	65.6	69.6	73.9	54.1	65.5	89.0	54.5
Renk	G2180E	2.1	E3	66.7	60.2	74.9	55.9	54.9	70.2	90.7	62.1
Golden Harvest	GH1973E3S	1.9	E3S	66.7	62.2	71.1	63.7	56.9	64.6	89.1	59.9
Renk	RS214NXF	2.1	RR2XF	66.6	62.2	70.6	63.7	58.6	62.8	88.2	59.3
P3 Genetics	2216E	1.6	E3	66.5	61.3	74.2	61.1	51.7	68.7	95.9	55.6
Renk	G1980E	1.9	E3	66.2	62.4	70.9	68.7	53.8	64.9	88.4	55.0
Golden Harvest	GH2004XF	2.0	RR2XF	66.1	64.0	70.1	64.8	55.4	66.6	86.2	58.1
Nutech/G2 Genetics	18N03E	1.8	E3	66.1	62.2	72.4	66.1	53.1	67.0	89.0	56.6
Pioneer	P18A73E	1.8	E3	65.9	62.4	72.5	61.0	57.8	70.9	85.6	54.6
Pioneer	P21A53E	2.1	E3	65.4	61.0	66.2	64.0	53.6	68.2	87.3	55.2
Asgrow	AG16XF3	1.4	RR2XF	65.1	61.5	70.4	63.5	53.7	70.1	85.8	54.3
P3 Genetics	2421E	2.1	E3	64.8	59.5	69.5	55.3	58.4	66.2	87.7	57.4
Cornelius	CB16XF21	1.6	RR2XF	64.8	60.4	69.0	66.6	50.2	63.9	87.8	54.9
P3 Genetics	2320E	2.0	E3	64.4	59.5	66.7	62.6	54.7	62.6	87.7	54.5
Latham	L 1947	1.9	E3	64.2	58.2	70.3	64.2	48.6	63.8	91.3	54.6
Nutech/G2 Genetics	16N04E	1.6	E3	64.1	62.2	69.9	60.0	55.0	67.4	83.9	54.4
Xitavo	XO 1971E	1.9	E3	63.7	60.6	67.7	57.2	54.5	65.9	85.2	56.4
Nutech/G2 Genetics	22N03E	2.2	E3	63.4	58.7	68.0	63.3	56.8	58.1	84.2	54.1
Experiment Mean				**67.4**			**64.7**	**56.1**	**68.4**	**90.2**	**57.6**
Minimum Mean				**63.4**			**55.3**	**48.6**	**58.1**	**83.9**	**54.1**
Maximum Mean				**73.1**			**73.9**	**63.2**	**79.4**	**97.6**	**65.0**
LSD(0.25)				**2.5**			**4.4**	**4.1**	**4.7**	**4.5**	**3.8**
Coefficient of Variability				**6.7**			**7.0**	**7.5**	**7.5**	**5.2**	**7.2**

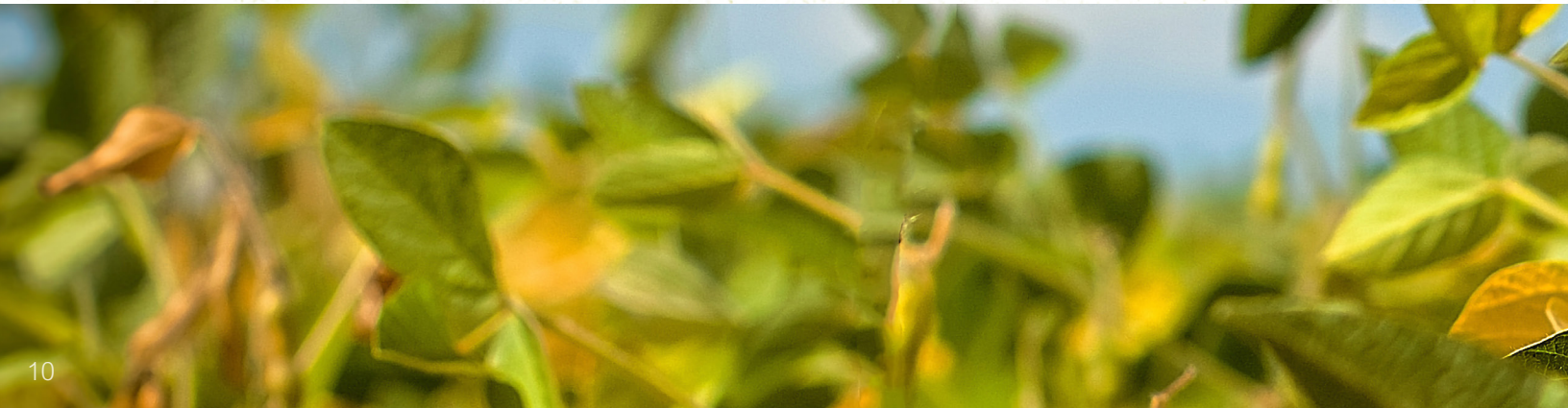

Table 7. North district, 2023 district and single-location means. Full-season test, MG > 2.2.

				District Means			Single Location Yield				
Company	Variety	MG	Herb Tech	Yield Bu/A	NW Yield	NE Yield	Sutherland	Corwith	Alexander	Marble Rock	Oelwein
Latham	L 2551	2.5	E3	75.9	75.4	79.3	75.9	65.8	81.1	96.2	60.2
Dyna-Gro	S25EN74	2.5	E3	75.4	71.6	80.6	67.4	66.9	80.1	95.1	66.0
Asgrow	AG27XF4	2.7	RR2XF	74.9	72.7	77.7	73.6	67.1	78.4	86.1	67.0
P3 Genetics	2325E	2.5	E3	73.6	69.0	75.3	71.0	64.5	71.8	97.4	64.4
Asgrow	AG27XF3	2.7	RR2XF	73.3	68.9	80.0	70.3	64.0	74.0	93.9	65.7
Nutech/G2 Genetics	27N03E	2.7	E3	73.0	70.9	78.5	69.3	61.5	78.6	90.3	64.4
Viking	27B4	2.7	Conv	72.9	66.8	72.3	75.1	63.8	65.2	94.5	64.1
Golden Harvest	GH2674E3	2.6	E3	72.8	70.9	74.5	76.8	64.1	69.5	89.4	62.1
Latham	L 2262	2.2	E3	72.8	69.6	77.6	66.7	63.4	74.5	99.6	59.2
Renk	G2480E	2.4	E3	72.7	68.4	75.6	71.0	65.8	72.0	93.0	63.8
Renk	G2570ES	2.5	E3	72.3	68.8	77.9	68.3	61.5	74.9	94.9	64.7
Nutech/G2 Genetics	27N06E	2.7	E3	72.1	66.7	78.0	70.5	58.0	72.9	93.4	64.7
P3 Genetics	2424E	2.4	E3	72.0	68.3	74.3	73.2	64.8	69.2	91.3	59.5
Nutech/G2 Genetics	24N05E	2.4	E3	71.7	66.6	72.0	71.2	64.8	68.3	96.2	58.9
LOYAL BRAND	L2550E	2.5	E3	71.6	67.9	73.3	71.0	57.4	74.4	91.2	62.7
Golden Harvest	GH2313XF	2.3	RR2XF	71.1	69.0	75.5	70.9	60.4	76.5	88.9	59.8
Viking	2340KN	2.3	Conv	71.0	65.8	77.3	63.3	59.1	77.6	90.6	63.1
Viking	2418N	2.4	Conv	70.6	62.8	79.7	59.8	56.4	75.3	97.9	64.1
Renk	G2550E	2.5	E3	70.3	65.3	74.6	70.4	54.7	72.8	88.2	63.6
Pioneer	P25A16E	2.5	E3	69.9	65.7	73.4	65.5	63.4	69.3	88.8	60.8
Xitavo	XO 2501E	2.5	E3	69.8	66.2	71.6	69.9	60.8	67.8	90.1	58.5
Xitavo	XO 2444E	2.4	E3	69.6	65.0	72.3	69.2	58.5	70.6	90.8	57.5
Xitavo	XO 2613E	2.6	E3	69.4	64.4	71.6	69.5	58.5	71.0	87.2	59.2
Asgrow	AG24XF3	2.3	RR2XF	68.8	64.1	71.9	65.6	59.7	69.0	91.7	57.5
Pioneer	P23A40E	2.3	E3	68.0	64.7	72.1	70.6	56.8	66.5	87.1	59.9
Nutech/G2 Genetics	25N04E	2.5	E3	66.9	65.1	69.9	62.9	55.8	73.5	85.5	56.8
Asgrow	AG26XF3	2.6	RR2XF	66.6	61.7	70.8	63.5	56.0	64.7	88.7	61.4
Latham	L 2379	2.3	E3	66.4	63.2	72.4	63.7	52.6	69.7	85.2	61.2
Dyna-Gro	S25XF64	2.6	RR2XF	65.4	59.3	70.9	66.1	52.6	55.0	89.0	62.9
Xitavo	XO 2323E	2.3	E3	65.4	61.3	68.2	65.4	57.7	63.4	88.9	52.1
Cornelius	CB23XF63	2.3	RR2XF	64.1	60.0	71.3	53.7	53.5	70.7	88.6	52.7
Experiment Mean				**70.7**			**68.4**	**60.3**	**71.6**	**91.3**	**61.2**
Minimum Mean				**75.9**			**76.8**	**67.1**	**81.1**	**99.6**	**67.0**
Maximum Mean				**64.1**			**53.7**	**52.6**	**55.0**	**85.2**	**52.1**
LSD(0.25)				**2.5**			**4.5**	**4.1**	**4.8**	**4.5**	**3.7**
Coefficient of Variability				**6.8**			**7.2**	**7.6**	**7.7**	**5.3**	**7.2**

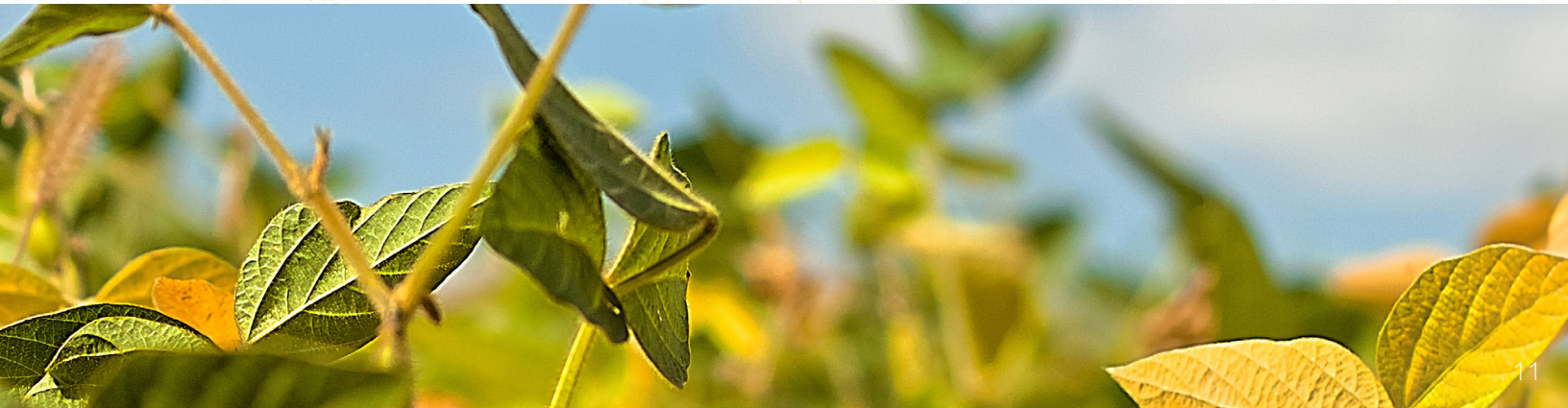

Table 8. Central district, 2023 district and single-location means. Early-season test, MG ≤ 2.7.

				District Means			Single Location Yield				
Company	Variety	MG	Herb Tech	Yield Bu/A	CW Yield	CE Yield	Missouri Valley	Glidden	Ames	Keystone	Clarence
Dyna-Gro	S25EN74	2.5	E3	65.2	60.7	73.3	50.2	60.8	71.5	62.1	79.5
Virtue	V2922	2.9	Conv	64.5	63.2	66.4	56.9	65.8	66.2	60.7	73.2
Nutech/G2 Genetics	27N03E	2.7	E3	64.1	58.8	67.9	55.5	56.7	66.8	61.8	79.4
Renk	G2480E	2.4	E3	63.8	59.4	69.7	48.7	59.3	70.9	59.2	79.8
Latham	L 2551	2.5	E3	63.5	59.5	70.2	51.2	57.7	71.9	60.1	76.4
Viking	27B4	2.7	Conv	63.2	60.0	69.3	49.1	60.1	70.9	53.4	82.0
Nutech/G2 Genetics	24N05E	2.4	E3	63.2	61.3	67.0	53.8	59.0	67.8	58.9	76.4
Renk	G2570ES	2.5	E3	62.7	58.7	68.8	51.5	57.1	66.2	55.6	83.4
Golden Harvest	GH2544XF	2.5	RR2XF	62.4	59.8	66.8	49.4	60.6	67.9	56.7	77.7
P3 Genetics	2325E	2.5	E3	61.9	55.3	66.9	49.9	55.1	63.8	54.9	84.2
Asgrow	AG27XF3	2.7	RR2XF	61.1	58.8	66.4	49.7	54.1	69.4	58.3	73.8
Pioneer	P25A16E	2.5	E3	61.0	58.8	63.9	54.3	56.0	65.7	55.0	74.2
Latham	L 2262	2.2	E3	60.9	57.5	65.8	48.5	58.5	67.0	54.4	75.4
Viking	2418N	2.4	Conv	60.3	56.9	65.8	43.7	60.6	64.9	54.7	77.6
Asgrow	AG26XF3	2.6	RR2XF	60.2	56.3	66.3	50.0	55.9	62.1	54.6	77.4
Asgrow	AG27XF4	2.7	RR2XF	60.1	56.0	64.4	47.2	55.2	69.6	53.1	76.1
P3 Genetics	2326E	2.6	E3	60.0	56.1	66.8	45.2	55.3	70.0	53.0	76.5
Xitavo	XO 2444E	2.4	E3	60.0	55.5	66.9	46.3	54.3	67.6	51.7	80.2
Dyna-Gro	S25XF64	2.6	RR2XF	59.4	56.9	65.5	41.7	59.9	67.6	48.5	78.2
Latham	L 2379	2.3	E3	59.2	57.5	64.7	47.4	56.9	67.0	50.8	72.9
Nutech/G2 Genetics	27N06E	2.7	E3	58.8	56.1	65.6	41.8	55.4	68.9	50.8	76.0
Xitavo	XO 2613E	2.6	E3	58.7	55.4	63.8	47.5	53.2	64.3	53.4	74.8
Golden Harvest	GH2674E3	2.6	E3	58.6	54.8	65.3	47.7	52.4	63.4	51.9	78.0
Xitavo	XO 2501E	2.5	E3	58.6	55.2	63.2	54.8	50.8	58.1	51.8	78.7
Cornelius	CB25XF99	2.5	RR2XF	58.6	55.6	65.3	46.3	52.8	67.6	48.6	77.5
Asgrow	AG24XF3	2.3	RR2XF	58.3	55.3	64.8	44.8	56.2	65.1	51.3	74.9
Pioneer	P23A40E	2.3	E3	58.3	55.7	64.0	45.3	56.2	66.3	52.8	70.3
Blue River	2702	2.7	Conv	58.3	54.2	65.8	43.8	56.2	64.0	54.5	72.7
Renk	G2780E	2.7	E3	58.1	53.6	63.8	43.7	54.5	62.0	52.6	77.7
Nutech/G2 Genetics	25N04E	2.5	E3	57.7	55.2	63.9	46.4	53.3	63.9	52.6	72.2
Cornelius	CB27XF72	2.7	RR2XF	57.6	52.7	64.9	41.0	53.4	65.5	52.7	74.8
Renk	G2550E	2.5	E3	57.5	53.0	62.3	45.9	52.6	61.0	50.0	77.5
Dyna-Gro	S26XF42	2.6	RR2XF	56.9	55.0	63.2	48.0	53.6	64.2	45.7	72.9
Xitavo	XO 2323E	2.3	E3	56.4	54.4	59.8	48.1	54.1	58.8	48.3	72.2
Experiment Mean				**60.3**			**48.1**	**56.3**	**66.1**	**53.9**	**76.6**
Minimum Mean				**56.4**			**41.0**	**50.8**	**58.1**	**45.7**	**70.3**
Maximum Mean				**65.2**			**56.9**	**65.8**	**71.9**	**62.1**	**84.2**
LSD(0.25)				**2.1**			**4.3**	**3.3**	**3.5**	**2.7**	**3.5**
Coefficient of Variability				**6.4**			**9.8**	**6.4**	**5.6**	**5.4**	**5.2**

Table 9. Central district, 2023 district and single-location means. Full-season test, MG > 2.7.

				District Means			Single Location Yield				
Company	Variety	MG	Herb Tech	Yield Bu/A	CW Yield	CE Yield	Missouri Valley	Glidden	Ames	Keystone	Clarence
Renk	G3171ES	3.1	E3	61.7	57.1	71.1	45.1	54.4	68.4	57.5	83.2
Nutech/G2 Genetics	31N07E	3.1	E3	61.7	59.2	66.1	54.0	59.2	64.9	55.6	74.4
Nutech/G2 Genetics	29N02E	2.9	E3	60.9	56.6	67.4	45.6	53.9	72.8	53.4	80.9
Xitavo	XO 3014E	3	E3	60.6	58.8	64.9	52.4	58.3	64.3	54.4	74.6
Asgrow	AG28XF3	2.8	RR2XF	60.4	53.8	67.1	42.2	57.0	68.4	54.8	79.4
Xitavo	XO 2832E	2.8	E3	60.3	56.8	67.2	43.1	58.6	69.2	50.4	79.0
Pioneer	P31T64E	3.1	E3	60.2	56.5	63.9	53.2	54.8	65.2	55.4	72.6
Asgrow	AG30XF4	3	RR2XF	60.2	55.9	63.7	45.4	57.8	67.1	53.6	76.6
Xitavo	XO 3224E	3.2	E3	60.2	56.3	68.6	46.9	53.2	66.5	55.2	79.7
Blue River	30B4	3	Conv	59.8	56.1	63.6	47.0	60.9	62.4	53.8	74.6
P3 Genetics	2429E	2.9	E3	59.7	56.0	66.3	48.7	54.5	64.6	53.6	76.7
Golden Harvest	GH3023XF	3	RR2XF	59.7	58.0	66.2	51.0	51.1	68.4	53.4	76.1
P3 Genetics	1928E	2.8	E3	59.5	56.3	64.6	44.4	54.4	70.5	53.3	75.4
Latham	L 2894	2.8	E3	59.4	55.7	64.6	47.8	54.8	61.7	52.9	78.5
Golden Harvest	GH2814E3S	2.8	E3S	59.4	56.1	63.4	45.8	56.0	64.7	50.8	81.1
Cornelius	CB29XF44	2.9	RR2XF	59.0	53.8	63.0	49.0	54.2	63.2	50.6	78.6
Nutech/G2 Genetics	29N04E	2.9	E3	58.8	55.4	64.6	45.3	53.8	66.5	52.4	75.2
P3 Genetics	2331E	3.1	E3	58.6	53.2	65.0	41.9	54.5	64.2	54.0	78.3
Xitavo	XO 2963E	2.9	E3	58.3	54.9	64.4	45.0	54.4	65.2	55.6	71.9
Dyna-Gro	S31EN14	3.1	E3	58.3	54.8	63.7	45.5	53.0	66.0	50.8	77.3
Golden Harvest	GH2922E3	2.9	E3	57.7	56.4	61.2	50.1	51.5	69.5	49.8	68.5
Latham	L 3123	3.1	E3	57.2	54.6	63.1	45.8	50.6	66.9	51.9	72.1
Pioneer	P28A65E	2.8	E3	53.9	50.4	59.9	37.7	49.4	66.0	48.8	67.6
Experiment Mean				**59.4**			**46.6**	**54.8**	**66.4**	**53.1**	**76.2**
Minimum Mean				**53.9**			**37.7**	**49.4**	**61.7**	**48.8**	**67.6**
Maximum Mean				**61.7**			**54.0**	**60.9**	**72.8**	**57.5**	**83.2**
LSD(0.25)				**2.1**			**4.3**	**3.3**	**3.5**	**2.7**	**3.5**
Coefficient of Variability				**6.4**			**9.8**	**6.4**	**5.6**	**5.4**	**5.2**

Table 10. South district, 2023 district and single-location means. Early-season test, MG ≤ 3.2.

Company	Variety	MG	Herb Tech	District Means Yield Bu/A	District Means SW Yield	District Means SE Yield	Single Location Yield Lewis	Corning	Milo	Batavia	Crawfordsville
Xitavo	XO 3014E	3	E3	73.4	68.1	76.9	72.9	64.4	67.9	75.8	84.9
Dyna-Gro	S31EN14	3.1	E3	71.9	68.9	74.3	71.6	68.5	66.1	70.3	83.7
Nutech/G2 Genetics	31N07E	3.1	E3	71.4	67.2	77.2	70.7	57.3	70.5	76.3	83.0
Renk	G3171ES	3.1	E3	71.1	64.3	78.9	67.5	53.0	70.1	76.8	87.1
Nutech/G2 Genetics	29N04E	2.9	E3	70.3	65.3	73.9	72.6	57.4	64.9	74.6	81.9
Asgrow	AG28XF3	2.8	RR2XF	69.5	63.9	74.8	70.3	54.3	66.0	76.2	81.3
Xitavo	XO 3224E	3.2	E3	69.4	65.1	71.6	69.9	62.5	62.5	72.2	79.4
Pioneer	P31T64E	3.1	E3	68.5	63.0	72.7	66.0	58.9	67.3	71.3	79.5
Xitavo	XO 2832E	2.8	E3	67.7	64.1	72.5	68.8	56.4	70.0	70.5	75.2
Asgrow	AG30XF4	3	RR2XF	67.7	62.0	72.4	60.1	58.7	66.2	74.5	77.7
Nutech/G2 Genetics	29N02E	2.9	E3	66.0	62.4	69.1	68.3	55.2	58.5	66.9	79.7
Xitavo	XO 2963E	2.9	E3	65.4	60.8	67.8	65.6	56.9	58.8	66.6	79.0
Pioneer	P28A65E	2.8	E3	65.3	59.3	71.0	61.1	52.4	64.8	68.0	80.2
Experiment Mean				**69.0**			**68.1**	**58.2**	**65.6**	**72.3**	**81.0**
Minimum Mean				**65.3**			**60.1**	**52.4**	**58.5**	**66.6**	**75.2**
Maximum Mean				**73.4**			**72.9**	**68.5**	**70.5**	**76.8**	**87.1**
LSD(0.25)				**2.2**			**2.8**	**3.5**	**4.0**	**2.7**	**3.5**
Coefficient of Variability				**5.1**			**3.8**	**6.1**	**6.5**	**3.7**	**4.9**

Table 11. South district, 2023 district and single-location means. Full-season test, MG > 3.2.

				District Means			Single Location Yield				
Company	Variety	MG	Herb Tech	Yield Bu/A	SW Yield	SE Yield	Lewis	Corning	Milo	Batavia	Crawfords-ville
Renk	G3880E	3.8	E3	75.1	68.6	80.8	69.4	63.1	73.4	79.2	89.9
Dyna-Gro	S33EN42	3.3	E3	73.8	68.3	76.0	76.0	63.4	67.4	78.8	83.3
Xitavo	XO 3752E	3.7	E3	73.6	69.3	77.6	72.3	61.3	72.6	78.7	82.7
P3 Genetics	2337E	3.7	E3	73.5	67.6	76.0	70.9	64.5	69.6	79.1	84.3
Blue River	3418N	3.4	Conv	73.2	68.9	79.6	68.7	62.1	74.1	79.5	83.4
Cornelius	CB37XF70	3.7	RR2XF	73.0	66.9	77.6	71.0	64.7	67.4	74.2	87.4
Dyna-Gro	S37XF33	3.7	RR2XF	72.9	66.1	77.2	66.8	63.6	70.6	76.6	85.7
Nutech/G2 Genetics	37N03E	3.7	E3	72.8	67.6	77.8	68.0	62.5	72.5	76.4	85.8
Asgrow	AG33XF3	3.3	RR2XF	71.9	65.4	78.9	62.8	65.5	69.4	78.9	84.7
Dyna-Gro	S35XF44	3.5	RR2XF	71.6	64.3	74.7	60.7	68.9	64.3	79.5	84.4
Renk	RS353NXF	3.5	RR2XF	71.6	66.1	77.2	59.3	65.4	69.1	76.0	85.9
Xitavo	XO 3483E	3.4	E3	71.2	66.9	77.4	69.1	59.9	69.7	74.3	84.5
P3 Genetics	2239E	3.9	E3	71.0	65.8	72.9	69.8	61.5	65.9	74.7	81.2
Nutech/G2 Genetics	39N07E	3.9	E3	70.4	65.9	75.7	66.9	58.3	72.1	75.1	79.0
Nutech/G2 Genetics	33N04E	3.3	E3	70.4	64.0	74.5	70.8	55.3	68.0	77.8	80.9
Nutech/G2 Genetics	34N02E	3.4	E3	70.0	64.2	74.8	67.9	57.9	69.3	75.6	81.2
P3 Genetics	2433E	3.3	E3	69.8	64.0	73.1	67.1	59.3	66.4	71.6	83.7
Blue River	39B4	3.9	Conv	69.7	66.3	71.9	72.1	59.6	66.9	68.0	82.0
Pioneer	P37A18E	3.7	E3	69.4	64.7	75.7	63.4	57.6	69.2	75.2	79.6
Xitavo	XO 3651E	3.6	E3	68.7	61.3	72.6	68.4	54.2	64.1	73.3	82.1
Xitavo	XO 3803E	3.8	E3	68.5	64.1	71.4	68.3	59.6	62.7	72.4	80.1
Pioneer	P35T15E	3.5	E3	68.4	63.0	72.1	68.1	55.5	63.6	74.2	81.3
Asgrow	AG37XF3	3.7	RR2XF	67.9	61.5	72.5	59.6	60.4	65.0	71.7	82.4
Nutech/G2 Genetics	36N04E	3.6	E3	67.7	64.1	69.8	66.8	59.6	63.5	69.9	77.5
Asgrow	AG35XF4	3.5	RR2XF	65.5	61.1	71.3	60.9	55.9	61.5	70.4	77.9
Experiment Mean				**70.9**			**67.4**	**60.8**	**67.9**	**75.2**	**82.9**
Minimum Mean				**65.5**			**59.3**	**54.2**	**61.5**	**68.0**	**77.5**
Maximum Mean				**75.1**			**76.0**	**68.9**	**74.1**	**79.5**	**89.9**
LSD(0.25)				**2.2**			**2.8**	**3.5**	**4.0**	**2.7**	**3.5**
Coefficient of Variability				**5.1**			**3.8**	**6.1**	**6.5**	**3.7**	**4.9**

Table 12. Entrant Information.

Asgrow: Bayer Crop Science, St. Louis, MO — www.dekalbasgrowdeltapine.com — (800) 768-6387

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
AG16XF3	RR2XF	ACL+ILVO	X					
AG20XF4	RR2XF	ACL+ILVO	X					
AG24XF3	RR2XF	ACL+ILVO		X	X			
AG26XF3	RR2XF	ACL+ILVO		X	X			
AG27XF3	RR2XF	ACL+ILVO		X	X			
AG27XF4	RR2XF	ACL+ILVO		X	X			
AG28XF3	RR2XF	ACL+ILVO				X	X	
AG30XF4	RR2XF	ACL+ILVO				X	X	
AG33XF3	RR2XF	ACL+ILVO						X
AG35XF4	RR2XF	ACL+ILVO						X
AG37XF3	RR2XF	ACL+ILVO						X

Viking: Albert Lea Seed House, Albert Lea, MN — www.alseed.com — (800) 352-5247

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
2702	Conv	CM			X			
30B4	Conv	CM				X		
3418N	Conv	CM						X
39B4	Conv	CM						X

Cornelius: Cornelius Seed, Bellevue, IA — www.corneliusseed.com — (800) 218-1862

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
CB16XF21	RR2XF	CMV+Salt	X					
CB18XF88	RR2XF	CMV+Salt	X					
CB22XF52	RR2XF	CMV+Salt	X					
CB23XF63	RR2XF	CMV+Salt		X				
CB25XF99	RR2XF	CMV+Salt			X			
CB27XF72	RR2XF	CMV+Salt			X			
CB29XF44	RR2XF	CMV+Salt				X		
CB37XF70	RR2XF	CMV+Salt						X

Dyna-Gro: Crop Production Services, Wall Lake, IA — www.dynagroseed.com — (712) 664-2444

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
S19XF62	RR2XF	E-VIP+Salt	X					
S20EN84	E3	E-VIP+Salt	X					
S25EN74	E3	E-VIP+Salt		X	X			
S25XF64	RR2XF	E-VIP+Salt		X	X			
S26XF42	RR2XF	E-VIP+Salt			X			
S31EN14	E3	E-VIP+Salt				X	X	
S33EN42	E3	E-VIP+Salt						X
S35XF44	RR2XF	E-VIP+Salt						X
S37XF33	RR2XF	E-VIP+Salt						X

Golden Harvest: Syngenta, Minnetonka, MN **www.goldenharvestseeds.com** **(612) 656-8152**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
GH1973E3S	E3S	CMAPX+Salt	X					
GH2004XF	RR2XF	CMAPX+Salt	X					
GH2292E3	E3	CMAPX+Salt	X					
GH2313XF	RR2XF	CMAPX+Salt		X				
GH2544XF	RR2XF	CMAPX+Salt			X			
GH2674E3	E3	CMAPX+Salt		X	X			
GH2814E3S	E3S	CMAPX+Salt				X		
GH2922E3	E3	CMAPX+Salt				X		
GH3023XF	RR2XF	CMAPX+Salt				X		

Latham: Latham Hi-Tech Seeds, Alexander, IA **www.lathamseeds.com** **(641) 692-3258**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
L 1947	E3	CMV+Salt	X					
L 2031	E3	CMV+Salt	X					
L 2262	E3	CMV+Salt		X	X			
L 2379	E3	CMV+Salt		X	X			
L 2551	E3	CMV+Salt		X	X			
L 2894	E3	CMV+Salt				X		
L 3123	E3	CMV+Salt				X		

LOYAL: Legacy Seeds, Scandinavia, WI **www.legacyseeds.com** **(866) 791-6390**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
L1950E	E3	L-CT	X					
L2150E	E3	L-CT	X					
L2550E	E3	L-CT		X				

NuTech/G2 Genetics: NuTech Seed, LLC, Ames, IA **www.nutechseed.com** **(888) 647-3478**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
16N04E	E3	LMGN	X					
18N03E	E3	LMGN	X					
20N05E	E3	LMGN	X					
22N03E	E3	LMGN	X					
24N05E	E3	LMGN		X	X			
25N04E	E3	LMGN		X	X			
27N03E	E3	LMGN		X	X			
27N06E	E3	LMGN		X	X			
29N02E	E3	LMGN				X	X	
29N04E	E3	LMGN				X	X	
31N07E	E3	LMGN				X	X	
33N04E	E3	LMGN						X
34N02E	E3	LMGN						X
36N04E	E3	LMGN						X
37N03E	E3	LMGN						X
39N07E	E3	LMGN						X

P3 Genetics: Cornelius Seed, Bellevue, IA **www.corneliusseed.com** **(800) 218-1862**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
1928E	E3	CMV+Salt				X		
2216E	E3	CMV+Salt	X					
2218E	E3	CMV+Salt	X					
2239E	E3	CMV+Salt						X
2320E	E3	CMV+Salt	X					
2322E	E3	CMV+Salt	X					
2325E	E3	CMV+Salt			X			
2325E	E3	CMV+Salt	X					
2326E	E3	CMV+Salt			X			
2331E	E3	CMV+Salt				X		
2337E	E3	CMV+Salt						X
2421E	E3	CMV+Salt	X					
2424E	E3	CMV+Salt		X				
2429E	E3	CMV+Salt				X		
2433E	E3	CMV+Salt						X

Pioneer: Corteva, Johnston, IA **www.pioneer.com** **(800) 233-7333**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
P18A73E	E3	LMGN	X					
P21A53E	E3	LMGN	X					
P23A40E	E3	LMGN		X	X			
P25A16E	E3	LMGN		X	X			
P28A65E	E3	LMGN				X	X	
P31T64E	E3	LMGN				X	X	
P35T15E	E3	LMGN						X
P37A18E	E3	LMGN						X

Renk: Renk Seed Co., Sun Prairie, WI **www.renkseed.com** **(800) BUY RENK**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
G1980E	E3	CMV	X					
G2180E	E3	CMV+Salt	X					
G2480E	E3	CMV+Salt		X	X			
G2550E	E3	CMV+Salt		X	X			
G2570ES	E3	CMV+Salt		X	X			
G2780E	E3	CMV+Salt			X			
G3171ES	E3	CMV+Salt				X	X	
G3880E	E3	CMV+Salt						X
RS214NXF	RR2XF	CMV+Salt	X					
RS353NXF	RR2XF	CMV+Salt						X

Viking: Albert Lea Seed House, Albert Lea, MN **www.alseed.com** **(800) 352-5247**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
2022N	Conv	CM	X					
2155N	Conv	CM	X					
2340KN	Conv	CM		X				
2418N	Conv	CM		X	X			
27B4	Conv	CM		X	X			

Virtue Seeds: DonMario Semillas, Champaign, IL **www.virtueseeds.com** **(217) 560-6371**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
V2122	Conv	CMV	X					
V2922	Conv	CMV			X			

Xitavo: M.S. Technologies, LLC, West Point, IA **www.xitavosoybeanseed.com** **(800) 362-2510**

Variety	Herb Tech	Seed Treatment	North Early	North Full	Central Early	Central Full	South Early	South Full
XO 1632E	E3	PV+ILVO	X					
XO 1822E	E3	PV+ILVO	X					
XO 1971E	E3	PV+ILVO	X					
XO 2181E	E3	PV+ILVO	X					
XO 2323E	E3	PV+ILVO		X	X			
XO 2444E	E3	PV+ILVO		X	X			
XO 2501E	E3	PV+ILVO		X	X			
XO 2613E	E3	PV+ILVO		X	X			
XO 2832E	E3	PV+ILVO				X	X	
XO 2963E	E3	PV+ILVO				X	X	
XO 3014E	E3	PV+ILVO				X	X	
XO 3224E	E3	PV+ILVO				X	X	
XO 3483E	E3	PV+ILVO						X
XO 3651E	E3	PV+ILVO						X
XO 3752E	E3	PV+ILVO						X
XO 3803E	E3	PV+ILVO						X

Iowa's Official Variety Trials

IOWA CROP IMPROVEMENT ASSOCIATION
ICIA
NEVADA, IOWA

IOWA STATE UNIVERSITY
College of Agriculture and Life Sciences

A summary of replicated research by Iowa Crop Improvement Association.