



November 2024

Dear ACSC Sugarbeet Grower:

The 2024 official coded variety performance trials included 13 yield trials and 11 disease nurseries planted at a total of 19 sites by American Crystal Sugar Company (ACSC). Seven additional disease/insect nurseries were planted by third party cooperators. Thanks are extended to the dedicated Technical Services staff involved in the official trial plot care, harvest, and data analysis.

Results

Results from the Official Variety Trial sites were excellent overall. Planting dates ranged from April 21 to May 17 for non-disease yield trial sites; the Aphanomyces yield trial site at Perley was planted June 10. Stands in the trials were excellent at most locations. All thirteen yield trial sites were harvested and data used; twelve for variety approval calculations and one (Perley) for yield under Aphanomyces disease pressure. Most sites had ample to excessive soil moisture early in the growing season but were dry for the latter part of the growing season. Rhizoctonia crown and root rot was minimal in 2024. Revenue calculations in 2024 are based on a hypothetical \$54.53 payment (5-year rolling average) assuming 17.5% sugar and 1.5% SLM not considering hauling or production costs.

Fusarium ratings are from naturally infested sites at Moorhead and Sabin, MN. Rhizoctonia crown and root rot ratings are from inoculated nurseries at Crookston, MN, TSC-S and TSC-N in Moorhead, MN and Saginaw, MI (BSDF). Aphanomyces root rot ratings are from naturally infested nurseries at Perley, Glyndon (Magno), and Shakopee (KWS), MN. Cercospora leafspot ratings are from inoculated nurseries at Foxhome and Randolph (KWS), MN and Saginaw, MI (BSDF) as well as a non-inoculated nurseries at Averill, MN and Forest River, ND. Root aphid ratings are from a field nursery at Longmont, CO (Magno) with ratings pending from greenhouse assays at Moorhead (ACSC) and Shakopee, MN (KWS).

2024 harvest conditions were dry overall, despite excessive soil moisture early in the growing season. The dry soil provided some challenging conditions for keeping pinch wheels deep enough without bogging down the tractor. Sugarbeet roots lifted well.

The 2024 data have been combined with previous years' data and results are enclosed. Results for the yield trials from individual sites are available on the internet.

Conventional trials were not planted in the 2024 OVT trials. Conventional varieties approved for 2020-2024 sales are permitted to continue in 2025 sales.

These results and additional information for individual growing sites are available on the World Wide Web at www.crystalsugar.com. More detailed information will be available later in the Sugarbeet Research and Extension Reports (www.sbreb.org). Additional data including individual yield trial results and agronomic procedures are also on the ACSC website.

Attached are the following pages of information:

1. List of varieties approved for sale to ACSC growers
2. Multi-year performance of RR varieties from all sites
3. Performance of RR varieties under Aphanomyces conditions (data from 2020 and 2024)
4. Performance of conventional varieties from three sites (2017-2019)
5. Disease ratings for all nurseries (varieties tested in 2024)
6. Root Aphid rating/evaluation
7. Trial sites, disease observations and agronomic information from all trial locations
8. Seed treatments applied to seed used in the official coded variety trials

Plot Procedures

Yield trials were planted to stand at 4.5 inches. Starter fertilizer (10-34-0) was applied in-furrow (3 GPA in 6 GPA total volume) in all yield trials. Counter 20G (8.9 lb/A) was applied in a 7-inch band after planting at all yield trial sites. Plots were planted crosswise (90°) to the cooperators' normal farming operations, where possible. Plot row lengths for all official trials were maintained at 47 feet with about 40 feet harvested. Planting was performed with a 12-row SRES vacuum planter. The GPS controlled planter gave good single seed spacing which facilitated emergence counting. All seed provided by companies was primed. Seed companies had the option of treating seed with an Aphanomyces seed treatment, insecticide, and a Rhizoctonia seed treatment fungicide. Emergence counts were taken on 24 feet of each plot. Multiple seedlings were counted as a single plant if they emerged less than one inch apart. The stands in all yield trials were refined by removing doubles (multiple seedlings less than 1.5 inch apart) by hand but were not further reduced.

Roundup PowerMAX 3 with Class Act (surfactant) and full rates of fungicides were broadcast-applied using a pickup sprayer driven down the alleys. Two applications of Roundup (25 oz) were made at the 2-4 and 6-10 leaf stages. Hand weeding was used where necessary. All yield trials were treated with AZteroid in-furrow at planting (5.7 oz) and Quadris in a 7-inch band during the 6-10 leaf stage (10 oz) for Rhizoctonia control. Treatments used for Cercospora control in 2024 included Inspire XT/Manzate Max, Agri Tin/T-Methyl, Proline/Manzate Max, Manzate Max, and Priaxor/Agri Tin. Ground spraying was conducted by ACSC technical staff using 20 GPA and 75-80 psi.

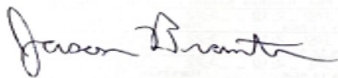
Roundup Ready varieties with commercial seed were planted in four-row plots with six replicates. The RR experimental entries were planted in two-row plots with four replicates.

All plot rows were measured for total length after approximately 3.5 feet at each end were removed at the end of August, with skips greater than 60 inches being measured for adjustment purposes. Harvest was performed with one custom six-row harvester with increased cleaning capacity. All harvested beets of each plot were used for yield determination while one sample (approximately 20 lbs) was obtained from each plot for sugar and impurity analysis. Quality analysis was performed at the ACSC Technical Services Quality Lab in Moorhead, MN.

Varieties were planted in nurseries in Minnesota, North Dakota, Michigan, and Colorado to evaluate varieties for disease and insect susceptibility. ACSC adjusts the Cercospora, Aphanomyces, Rhizoctonia and Fusarium nursery data each year to provide a consistent target for variety approval criteria.

*Before purchasing seed, please check to make sure the varieties you are buying are on the **current approved list**. In accordance with the grower contract, the cooperative has the option to refuse beets of a non-approved variety. If you have questions, please contact the ACSC Technical Services Center or your ACSC Agriculture Department.*

Sincerely,



Jason Brantner
Official Trial Manager



Alec Deschene
Beet Seed Analyst



Jon Hickel
Official Trial Supervisor



Nick Weller
Official Trial Coordinator

Attachments

Table 1.
Varieties Meeting ACSC Approval Criteria for the 2025 Sugarbeet Crop

Roundup Ready®	Full Market	Aph Spec	Rhc Spec	Rhizomania	2019 Conventional	Full Market	Rhizomania
BTS 8018	Yes	Yes		MG	Crystal R761	Yes	MG
BTS 8034	Yes	Yes		MG	Crystal 620	Yes	MG
BTS 8156	Yes	Yes		MG	Crystal 840	Yes	MG
BTS 8226	Yes	Yes	Yes	MG	Crystal 950	Yes	MG
BTS 8270	Yes	Yes	New	MG	Hilleshög HM3035Rz	Yes	SG
BTS 8328	New	New		MG	SX 8869 Cnv	Yes	MG
BTS 8359	No	New		MG	SV 48777	Yes	MG
BTS 8365	New	New	New	MG			
BTS 8927	Yes	Yes	New	MG			
Crystal 022	Yes	Yes	Yes	MG			
Crystal 130	Yes	Yes	New	MG			
Crystal 137	Yes	Yes		MG			
Crystal 138	Yes	Yes	Yes	MG			
Crystal 260	Yes	Yes	Yes	MG			
Crystal 262	Yes	Yes	Yes	MG			
Crystal 269	Yes	Yes		MG			
Crystal 360	New	New		MG			
Crystal 361	New	New	New	MG			
Crystal 364	New	New	New	MG			
Crystal 369	New	New		MG			
Crystal 793	Yes	Yes		MG			
Crystal 912	Yes	Yes	Yes	MG			
Hilleshög HIL2479	New			MG			
Hilleshög HIL2480	No		New	MG			
Hilleshög HIL2386	Yes		Yes	MG			
Hilleshög HIL2389	Yes	Yes		MG			
Hilleshög HIL9920	Yes	Yes++		MG			
Maribo MA717	Yes			MG			
SV 203	Yes	Yes++		MG			
SV 231	New		New	MG			
SX 1815	Yes			MG			
SX 1818	Yes			MG			
SX 1835	No		New	MG			

Aph Spec = variety meets Aphanomyces specialty requirements
Rhc Spec = variety meets Rhizoctonia specialty requirements
MG (Multigenic) = Contains multiple genes for Rhizomania resistance
SG (Single gene) = Contains a single gene for Rhizomania resistance

Created 10/25/2024

++ 2nd Year of not meeting Specialty Approval of previously approved Specialty variety. According to Approval Policy, may be sold as Specialty in 2025
+ 1st Year of not meeting Specialty Approval of previously approved Specialty variety. According to Approval Policy, may be sold as Specialty in 2025
Roundup Ready® is a registered trademark of Bayer Group.
Roundup Ready® sugarbeets are subject to the ACSC RRSB Bolter Destruction Policy

Table 4. Performance Data of Conventional Varieties During 2017, 2018, 2019 Growing Seasons (All Locations Combined) +++

Variety	Yrs Com	Rev/Ton ++					Rev/Acre ++					Rec/Ton		Rec/Acre		Sugar		Yield		Molasses		Emergence *		Cerc. *		Aphan. *		Rhizoc. *		Fusarium *		Rzm *					
		19	2 Yr	2Y%	3Yr	3Y%	19	2 Yr	2Y%	3Yr	3Yr%	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr	19	2 Yr				
Number of locations →		3	8	14			3	8	14			3	8	3	8	3	8	3	8	3	8	3	8	3	6	2	3	3	6	2	4						
Previous Approved																																					
Crystal 620	NC	41.74	47.24	97	49.48	99	1394	1631	118	1656	104	311	326	10403	11312	16.59	17.38	33.7	34.9	1.07	1.06	54	67	3.95	4.13	4.7	4.2	5.1	4.6	2.5	3.0	MG					
Crystal R761	10	38.62	43.53	89	46.06	92	1375	1582	115	1618	101	299	313	10742	11457	16.18	16.86	36.0	36.7	1.21	1.19	61	72	4.98	4.85	4.4	4.3	4.9	4.6	3.0	3.6	MG					
Crystal 840	NC	39.30	45.48	93	30.32	60	1288	1585	115	NA	--	302	320	9916	11173	16.23	17.10	33.1	35.1	1.15	1.10	52	65	4.18	4.25	4.0	3.9	4.7	4.4	2.7	3.1	MG					
Hilleshög HM3035Rz	13	43.77	49.17	101	50.89	101	1294	1379	100	1405	88	318	333	9439	9422	16.91	17.65	29.9	28.5	1.02	1.00	72	71	4.42	4.32	5.1	5.2	4.4	4.2	4.1	4.3	SG					
Seedex 8869 Cnv	NC	40.88	45.47	93	48.33	96	1374	1617	117	1658	104	307	320	10388	11418	16.40	17.00	33.9	35.8	1.02	1.00	64	74	4.52	4.59	4.8	4.8	5.1	4.9	3.5	3.7	MG					
SV 48777	NC	45.18	50.25	103	52.63	105	1452	1634	118	1656	104	323	337	10342	10954	17.08	17.78	31.8	32.5	0.94	0.93	63	73	4.10	4.33	4.9	5.0	5.0	4.7	4.3	4.4	MG					
Newly Approved																																					
Crystal 950	NC	41.21	--	--	--	--	1430	--	--	--	--	309	--	10719	--	16.49	--	34.7	--	1.06	--	62	--	4.72	--	4.8	--	4.8	--	2.9	--	MG					
Benchmark var. mean		44.35	48.87	50.20			1427	1381	1595			320	332	10330	10887	17.07	17.68	32.4	33.0	1.08	1.09	66	75														

+++ 2019 Sites include Grand Forks, Scandia, and Bathgate

+++ 2018 Sites include Casselton, Ada, Grand Forks, Scandia, and St. Thomas

+++ 2017 Sites include Casselton, Hendrum, Grand Forks, Scandia, St. Thomas, and Humboldt

** 2019 Revenue estimate is based on a \$44.38 beet payment (5-yr ave) at 17.5% sugar and 1.5% loss to molasses. 2018 Revenue estimate is based on a \$46.40 beet payment and 2017 Revenue estimate is based on a \$48.49 beet payment.

* Emergence is % of planted seeds producing a 4 leaf beet.

* 2019 Aphanomyces ratings from Shakopee MN (res<4.4, susc>5.0). Cercospora ratings from Randolph MN, Foxhome MN & Saginaw MI (res<4.5, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res<3.0, susc>5.0).

Rhizoctonia from Moorhead MN, Crookston MN, and Saginaw MI (res<3.8, susc>5). MG (Multigenic) contains multiple genes for Rhizomania resistance. SG (Single gene) contains a single gene for Rhizomania resistance.

* 2018 Aphanomyces ratings from Shakopee MN, and Georgetown MN (res<4.4, susc>5.0). Cercospora ratings from Randolph MN, Foxhome MN & Saginaw MI (res<4.5, susc>5.0). Fusarium ratings from Moorhead MN (res<3.0, susc>5.0).

Rhizoctonia from Moorhead MN and Saginaw MI (res<3.8, susc>5).

Created 10/29/2024

Table 5. ACSC Official Trial Disease Nurseries 2022-2024 (Varieties tested in 2024)

Cercospora, Aphanomyces, Rhizoctonia & Fusarium

Code	Description	< 4.5 Cercospora > 5.0					< 4.0 Aphanomyces > 4.8					< 3.82 Rhizoctonia > 5.0					< 3.0 Fusarium > 5.0					Rhizomania
		24 Mean	23 Mean	22 Mean	2 Yr Mean	3 Yr Mean	24 Mean	23 Mean	22 Mean	2 Yr Mean	3 Yr Mean	24 Mean	23 Mean	22 Mean	2 Yr Mean	3 Yr Mean	24 Mean	23 Mean	22 Mean	2 Yr Mean	3 Yr Mean	
Previously Approved																						
532	BTS 8018	3.35	2.42	2.03	2.89	2.60	3.73	3.95	4.00	3.84	3.89	3.68	4.06	3.93	3.87	3.89	2.19	3.20	2.98	2.70	2.79	MG
551	BTS 8034	3.69	2.54	2.28	3.12	2.84	4.48	3.80	3.89	4.14	4.06	4.38	4.09	4.49	4.24	4.32	1.89	2.72	2.16	2.30	2.25	MG
535	BTS 8156	3.87	2.53	2.43	3.20	2.94	4.27	3.97	4.21	4.12	4.15	4.28	3.93	4.24	4.10	4.15	2.15	2.80	2.30	2.48	2.42	MG
554	BTS 8226	3.52	2.33	2.00	2.93	2.62	3.81	3.72	3.79	3.77	3.77	3.46	3.78	3.74	3.62	3.66	2.64	3.85	3.47	3.24	3.32	MG
534	BTS 8270	3.32	2.43	1.97	2.87	2.57	3.76	3.90	3.87	3.83	3.84	3.86	3.67	4.33	3.76	3.95	2.41	3.46	3.06	2.93	2.98	MG
538	BTS 8927	4.45	4.38	4.42	4.42	4.42	4.41	3.26	4.00	3.84	3.89	3.57	3.98	4.13	3.78	3.89	2.10	3.08	3.11	2.59	2.76	MG
518	Crystal 022	4.66	4.97	4.60	4.82	4.75	3.95	3.66	4.03	3.81	3.88	3.63	3.85	4.10	3.74	3.86	2.75	3.43	3.22	3.09	3.13	MG
514	Crystal 130	3.56	2.60	2.10	3.08	2.76	3.72	4.00	3.57	3.86	3.76	3.54	3.69	4.08	3.61	3.77	2.76	3.55	3.22	3.15	3.17	MG
503	Crystal 137	3.81	2.65	2.57	3.23	3.01	3.79	4.21	4.25	4.00	4.08	4.09	4.01	4.18	4.05	4.09	2.50	2.78	2.35	2.64	2.54	MG
539	Crystal 138	4.73	4.77	4.87	4.75	4.79	3.84	4.06	3.87	3.95	3.92	3.68	3.81	3.81	3.75	3.77	2.98	3.76	3.16	3.37	3.30	MG
516	Crystal 260	3.13	2.15	2.05	2.64	2.44	4.08	3.84	3.89	3.96	3.94	3.70	3.46	3.70	3.58	3.62	2.38	3.38	3.06	2.88	2.94	MG
528	Crystal 262	4.36	4.36	4.43	4.36	4.38	3.57	4.61	3.42	4.09	3.86	3.39	3.31	3.38	3.35	3.36	3.22	3.38	3.27	3.52	3.44	MG
524	Crystal 269	4.54	4.38	4.60	4.46	4.51	3.50	3.62	3.48	3.56	3.53	4.30	3.90	4.20	4.10	4.13	2.54	4.11	3.36	3.33	3.34	MG
519	Crystal 793	4.28	4.20	4.10	4.24	4.19	3.72	4.31	3.82	4.01	3.95	3.89	4.35	4.73	4.12	4.32	2.40	3.40	3.03	2.90	2.95	MG
521	Crystal 912	5.06	5.00	4.81	5.03	4.96	3.57	3.41	3.44	3.49	3.48	3.45	3.50	3.28	3.48	3.41	3.46	3.82	3.66	3.64	3.65	MG
526	Hilleshög HIL2386	4.89	4.23	4.54	4.56	4.56	4.55	4.21	4.31	4.38	4.36	4.27	3.91	3.51	4.09	3.90	3.13	3.99	3.73	3.56	3.62	MG
536	Hilleshög HIL2389	4.57	4.51	4.69	4.54	4.59	3.56	5.42	3.78	4.49	4.25	4.08	4.45	3.92	4.27	4.15	5.49	5.50	4.34	5.49	5.11	MG
544	Hilleshög HIL9920	5.07	5.15	4.92	5.11	5.05	4.11	5.49	4.33	4.80	4.64	4.57	4.42	4.58	4.50	4.52	6.28	6.03	5.66	6.15	5.99	MG
517	Maribo MA717	4.85	5.04	5.05	4.95	4.98	4.18	4.61	4.39	4.39	4.39	4.19	4.10	3.92	4.15	4.07	4.36	4.53	4.87	4.44	4.59	MG
548	SV 203	4.66	4.78	4.74	4.72	4.73	3.71	7.15	4.24	5.43	5.03	4.16	4.25	4.19	4.21	4.20	5.74	5.20	5.55	5.47	5.50	MG
507	SX 1815	4.70	4.74	5.07	4.72	4.84	3.96	6.15	4.28	5.05	4.80	4.30	4.35	4.12	4.33	4.26	5.54	5.60	5.32	5.57	5.49	MG
550	SX 1818	4.65	4.53	4.72	4.59	4.64	4.54	7.09	4.82	5.82	5.48	4.38	4.06	4.16	4.22	4.20	4.32	4.59	4.54	4.46	4.48	MG
Newly Approved																						
540	BTS 8328	4.43	4.54	--	4.48	--	3.83	3.50	--	3.67	--	4.19	4.14	--	4.16	--	3.19	4.03	--	3.61	--	MG
512	BTS 8359**	2.91	2.26	--	2.58	--	3.65	3.67	--	3.66	--	4.26	4.08	--	4.17	--	2.20	3.49	--	2.84	--	MG
501	BTS 8365	4.18	4.15	--	4.17	--	3.87	3.62	--	3.75	--	3.60	3.69	--	3.64	--	2.15	3.43	--	2.79	--	MG
504	Crystal 360	3.05	2.17	--	2.61	--	3.52	3.86	--	3.69	--	3.94	4.04	--	3.99	--	2.24	3.51	--	2.88	--	MG
523	Crystal 361	3.33	2.24	--	2.79	--	3.80	3.45	--	3.62	--	3.78	3.54	--	3.66	--	2.02	3.24	--	2.63	--	MG
529	Crystal 364	4.46	4.26	--	4.36	--	3.78	3.79	--	3.79	--	3.77	3.79	--	3.78	--	2.12	3.12	--	2.62	--	MG
520	Crystal 369	4.03	3.78	--	3.91	--	3.45	4.02	--	3.74	--	4.72	3.98	--	4.35	--	2.25	3.24	--	2.75	--	MG
552	Hilleshög HIL2479	4.25	4.09	--	4.17	--	4.76	4.38	--	4.57	--	4.24	3.43	--	3.84	--	4.59	4.43	--	4.51	--	MG
537	Hilleshög HIL2480**	4.08	4.00	--	4.04	--	4.43	4.30	--	4.36	--	3.65	3.70	--	3.68	--	3.06	3.30	--	3.18	--	MG
506	SV 231	4.77	4.83	--	4.80	--	4.43	6.25	--	5.34	--	3.71	3.69	--	3.70	--	4.62	4.21	--	4.41	--	MG
522	SX 1835**	4.66	4.55	--	4.60	--	4.31	5.99	--	5.15	--	4.07	3.55	--	3.81	--	3.52	3.92	--	3.72	--	MG

Created 10/25/2024

** Does not meet full market approval. Meets Aphanomyces and/or Rhizoctonia Specialty approval.

Green font ratings indicate specialty or good resistance.

Red font ratings indicate level of concern for some fields.

-- indicates data not available

MG (Multigenic) = Contains multiple genes for Rhizomania resistance

Table 6. Root Aphid Ratings for RR Varieties During 2022-2024 Growing
Seasons (All Locations Combined)
Approved for Sale to ACSC Growers in 2025

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Table 7. Planting & Harvest Dates, Previous Crop and Disease Levels for 2024 ACSC Official Trial Sites *

Yield Trials Location	District / Trial Type	Cooperator	Planting Date	Harvest Date	Preceding Crop	Soil Type	Diseases Present @						Comments
							Aph	Rhc	Rzm	Fus	Maggot	Rt Aphid	
Casselton ND	Mhd	Todd Weber Farms	5/6	10/8	Wheat	Medium/Light	N	L	N	N	N	N	Excellent overall
Averill MN	Mhd	Tang Farms	5/5	9/11	Wheat	Medium/Light	N	N	N	N	N	N	Range 4 dropped due to water damage
Perley MN	Mhd/Aph	TD Hoff Partnership	6/10	10/7	Corn	Heavy	M-V	N	N	N	N	N	Moderate to heavy Aphanomyces pressure
Ada MN	Hill	Corey Jacobson	5/5	10/4	Wheat	Light	N	N	N	N	N	N	Very good overall
Hillsboro ND	Hill	Hong Farms	4/21	9/12	Wheat	Medium	N	N	N	N	N	L	Some gappy stands, rows around grower's spray tracks not used
Climax MN	Crk	Knutson Farms	4/24	9/13	Wheat	Medium/Light	N	L	N	N	N	N	Some gappy stands
Grand Forks ND	EGF	Drees Farming Association	5/13	9/19	Wheat	Medium/Light	N	N	N	N	N	N	Excellent overall
Scandia MN	Crk	Deboer Farms	5/11	10/1	Wheat	Medium	N	N	N	N	N	N	Excellent overall
Forest River ND	EGF	Blair Farm & Seed	4/22	9/20	Wheat	Medium/Light	N	N	N	N	N	L	Very good overall
Alvarado MN	EGF	Iverson Farms	4/23	9/30	Wheat	Medium/Heavy	N	N	N	N	N	N	Some gappy stands
St Thomas ND	Dtn	Baldwin Farms	5/16	9/23	Wheat	Light	N	N	N	N	L-M	N	Very good overall, minor Verticillium wilt present
Hallock MN	Dtn	Prosser/Kuznia Beets	5/17	9/28	Wheat	Heavy	N	N	N	N	N	N	Excellent uniformity but smaller roots
Bathgate ND	Dtn	Landis McDonald	5/17	9/27	Wheat	Medium	N	N	N	N	N	N	Some gappy stands, excellent canopy uniformity

Disease Trials Location	District / Trial Type	Cooperator	Planting Date	Rating Date	Preceding Crop	Soil Type	Diseases Present @						Comments
							Aph	Rhc	Rzm	Fus	Maggot	Rt Aphid	
Moorhead Fus-N MN	Fus Nurs	Nelson Farms	5/14	Multiple	Wheat	Medium/Heavy	N	N	N	M	N	N	Moderate Fusarium pressure
Sabin Fus-S MN	Fus Nurs	Krabbenhoft & Sons Farm	5/9	Multiple	Wheat	Medium/Light	N	N	N	M	L	N	Moderate Fusarium pressure
Mhd Rhc-N MN	Rhc Nurs	Jon Hicel, ACSC	6/17	Multiple	Soybean	Heavy	N	L	N	L	N	N	Light Rhizoctonia pressure
Mhd Rhc-S MN	Rhc Nurs	Jon Hicel, ACSC	6/17	Multiple	Soybean	Heavy	N	V	N	L	N	N	Heavy Rhizoctonia pressure
NWROC MN	Rhc Nurs	Maureen Aubol, U of MN	5/11	8/8	Soybean	Medium/Heavy	N	M	N	N	N	N	Moderate Rhizoctonia pressure
Saginaw MI	Rhc Nurs	Linda Hanson, USDA & BSDF	5/2	8/9-8/12	--	--	L	V	N	N	N	N	Severe Rhizoctonia pressure
Shakopee MN	Aphanomyces	Patrick O'Boyle, KWS	5/13	8/22	--	--	M-V	L	N	N	N	N	Nice range of moderate Aphanomyces symptoms
Glyndon MN	Aphanomyces	Ryan Brady, Magno Seed	5/29	8/27	--	Light	M	L	N	M	N	N	Moderate Aphanomyces pressure
Perley MN	Aphanomyces	TD Hoff Partnership	6/10	8/28	Corn	Heavy	V	N	N	N	N	N	Heavy Aphanomyces pressure
Blanchard ND	Aphanomyces	Rust Farms	5/13	Abandon	Wheat	Medium	M	V	N	N	N	N	Significant interference from Rhizoctonia presence
Climax MN	Aphanomyces	Knutson Farms	4/24	Abandon	Wheat	Medium/Light	L	N	N	N	N	N	Lack of soil moisture to develop Aphanomyces
Shakopee MN	Root Aphid	Patrick O'Boyle, KWS	--	--	--	--							Greenhouse trial
Moorhead MN TSC	Root Aphid	ACSC	--	--	--	--							Growth chamber trial
Longmont CO	Root Aphid	Ryan Brady, Magno Seed	5/14	9/25	--	--	NA	NA	NA	NA	NA	L-M	Low to moderate root aphid pressure
Foxhome MN	Cercospora	NDSU/Kevin Etzler	5/14	Multiple	Wheat	Medium	N	N	N	N	N	N	Moderate to severe Cercospora pressure, inoculated
Saginaw MI	Cercospora	Linda Hanson, USDA & BSDF	4/25	Multiple	--	--	N	N	N	N	N	N	Very nice Cercospora pressure, inoculated
Randolph MN	Cercospora	Patrick O'Boyle, KWS	5/6	Multiple	--	--	N	N	N	N	N	N	Severe Cercospora pressure, inoculated
Averill MN	Cercospora	Tang Farms	5/5	Abandon	Wheat	Medium/Light	N	N	N	N	N	N	Severe Cercospora pressure, non-inoculated
Forest River ND	Cercospora	Blair Farm & Seed	4/22	Multiple	Wheat	Medium/Light	N	N	N	N	N	N	Moderate Cercospora pressure, non-inoculated

Created 10/03/2024

* Fertilizer applied in accordance with cooperative recommendations.

@ Disease notes for Aphanomyces, Rhizoctonia, Rhizomania, Fusarium, Root Maggot and Root Aphids were based upon visual evaluations (N=none, L=light, M=moderate, V=severe, NA=not observed)

Table 8. Seed Treatments Used on Approved Varieties in Official Variety Trials in 2024

Description	Years in Trial	Years Comm.	Fungicide Seed Treatment			Insecticide (Springtails & Maggots)	Priming (Emergence)
			(Damping-off)	(Rhizoctonia)	(Aphanomyces)		
Previous Approved							
BTS 8018	5	3	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8034	5	3	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8156	4	2	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8226	3	1	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8270	3	1	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8927	6	4	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
Crystal 022	5	3	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 130	4	2	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 137	4	2	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 138	4	1	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 260	3	1	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 262	3	1	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 269	3	1	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 793	8	6	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 912	6	3	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Hilleshög HIL2386	4	2	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
Hilleshög HIL2389	4	2	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
Hilleshög HIL9920	8	6	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
Maribo MA717	8	6	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
SV 203	5	3	Apron XL/Thiram	Zeltera	Int Sol	NipsIt	Xbeet ®
SX 1815	4	2	Apron XL/Thiram	Zeltera	Int Sol	NipsIt	Xbeet ®
SX 1818	4	2	Apron XL/Thiram	Zeltera	Int Sol	NipsIt	Xbeet ®
Newly Approved							
BTS 8328	2	NC	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8359**	2	NC	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
BTS 8365	2	NC	Allegiance/Thiram	Kabina	Tach 35	Poncho Beta	Ultipro
Crystal 360	2	NC	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 361	2	NC	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 364	2	NC	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Crystal 369	2	NC	Allegiance/Thiram	Kabina	Tach 45	Poncho Beta	Xbeet ®
Hilleshög HIL2479	2	NC	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
Hilleshög HIL2480**	2	NC	Apron XL/Thiram/Maxim	Vibrance	Tach 45	Cruiser	Xbeet ®
SV 231	2	NC	Apron XL/Thiram	Zeltera	Int Sol	NipsIt	Xbeet ®
SX 1835**	2	NC	Apron XL/Thiram	Zeltera	Int Sol	NipsIt	Xbeet ®

** Does not meet Full Market Approval. Meets Aphanomyces and/or Rhizoctonia Specialty Approval.