

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Variety

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium*		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under

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Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium*		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Revenue/Acre

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium*		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Cercospora

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc. *		Aphan. *		Rhizoc. *		Fusarium *		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under severe Rhizomania

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Aphanomyces

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium *		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate
 +++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate
 ++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.
 +Emergence is % of planted seeds producing a 4 leaf beet.
 ^ Number of bolters observed across locations.
 **Does not meet Full Market Approval. Meets Aphanomyces Specialty Approval and Rhizoctonia Approval.
 * Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under severe Rhizomania.

Created 11/3/2023

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Rhizoctonia

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc. *		Aphan. *		Rhizoc. *		Fusarium *		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under severe Rhizoman

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Fusarium

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium*		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under severe Rhizomania.</

Performance Data of RR Varieties Approved for 2024 Season - Sorted by Emergence

Variety	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton		Rec/Acre		Yield		Sugar		Molasses		Emergence +		Bolters ^		Cerc.*		Aphan.*		Rhizoc.*		Fusarium*		Rzm*
		23	2 Yr	2Y%	23	2 Yr	2Y%	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	23	2 Yr	
Number of locations +++ →		11	20		11	20		11	20	11	20	11	20	11	20	11	20	11	20	11	20	3	6	1	4	2	5	2	4	
Maribo MA902	3	56.06	51.61	96	1730	1520	95	339	330	10491	9723	31.02	29.49	18.0	17.6	1.01	1.06	79	81	1	1	4.7	4.8	5.8	5.2	3.9	3.7	4.4	4.3	Hi
BTS 8927	3	60.55	56.51	105	1948	1700	107	354	346	11392	10396	32.31	30.06	18.7	18.3	0.97	1.00	82	80	2	1	4.4	4.4	3.3	3.6	4.0	4.1	3.1	3.1	Hi
BTS 8034	2	55.87	50.61	94	1896	1629	102	339	327	11505	10487	34.05	32.05	18.0	17.5	1.10	1.19	81	79	0	0	2.5	2.4	3.8	3.8	4.1	4.3	2.7	2.4	Hi
Crystal 912	2	56.40	50.50	94	2025	1729	109	340	326	12240	11144	36.04	34.11	18.0	17.4	1.02	1.11	82	79	1	1	5.0	4.9	3.4	3.4	3.5	3.4	3.8	3.7	Hi
BTS 8156	1	58.84	53.96	100	1890	1650	104	348	338	11205	10308	32.29	30.48	18.4	18.0	1.04	1.12	76	79	0	0	2.5	2.5	4.0	4.1	3.9	4.1	2.8	2.6	Hi
SV 265	6	57.15	51.70	96	1859	1590	100	343	330	11161	10138	32.63	30.67	18.1	17.6	0.99	1.05	82	79	1	1	4.7	4.6	7.5	5.9	3.9	3.9	5.9	6.0	Hi
SX 1815	1	59.71	54.53	101	1996	1699	107	351	340	11742	10554	33.51	31.04	18.5	18.0	0.98	1.04	81	79	0	0	4.7	4.9	6.2	5.2	4.4	4.2	5.6	5.5	Hi
Crystal 913	3	59.42	54.48	101	2042	1750	110	350	340	12043	10873	34.46	31.99	18.5	18.0	1.00	1.07	82	78	0	0	3.9	3.8	4.0	3.9	4.2	4.2	3.4	3.3	Hi
Hilleshög HIL2366	2	54.24	50.42	94	1751	1551	97	333	326	10784	10024	32.44	30.74	17.7	17.4	1.00	1.06	79	78	0	0	5.0	5.0	4.7	4.5	4.0	4.0	5.1	4.9	Hi
Crystal 793	5	59.26	54.62	102	1981	1729	109	349	340	11693	10733	33.49	31.54	18.5	18.0	1.01	1.05	80	78	0	0	4.2	4.2	4.3	4.1	4.3	4.5	3.4	3.2	Hi
Hilleshög HIL2389	1	59.20	54.03	101	1948	1677	105	349	338	11520	10475	33.08	30.96	18.5	18.0	0.99	1.06	80	78	0	0	4.5	4.6	5.4	4.6	4.5	4.2	5.5	4.9	Hi
Hilleshög HIL2386	1	57.18	52.35	97	1836	1630	102	343	333	11036	10359	32.30	31.19	18.2	17.7	1.04	1.08	80	78	0	1	4.2	4.4	4.2	4.3	3.9	3.7	4.0	3.9	Hi
Crystal 260	NC	58.82	54.90	102	1962	1725	108	348	341	11630	10693	33.50	31.37	18.4	18.1	1.00	1.05	78	78	0	0	2.1	2.1	3.8	3.9	3.5	3.6	3.4	3.2	Hi
Maribo MA717	5	57.26	51.83	96	1871	1634	103	343	331	11241	10423	32.88	31.54	18.1	17.6	0.99	1.07	79	77	0	0	5.0	5.0	4.6	4.5	4.1	4.0	4.5	4.7	Hi
Crystal 137	1	59.31	53.76	100	1922	1656	104	350	337	11339	10360	32.48	30.64	18.5	18.0	1.04	1.13	80	77	1	1	2.6	2.6	4.2	4.2	4.0	4.1	2.8	2.6	Hi
BTS 8018	2	58.94	54.16	101	1960	1704	107	348	339	11617	10637	33.43	31.46	18.4	18.0	1.01	1.06	78	77	0	0	2.4	2.2	3.9	4.0	4.1	4.0	3.2	3.1	Hi
Crystal 130	1	60.48	55.48	103	2009	1722	108	353	343	11772	10620	33.44	30.99	18.6	18.2	0.98	1.04	79	77	1	1	2.6	2.4	4.0	3.8	3.7	3.9	3.5	3.4	Hi
BTS 8205	NC	59.77	54.06	101	1981	1703	107	351	338	11640	10623	33.18	31.36	18.6	18.0	1.06	1.12	77	77	0	1	4.7	4.5	3.7	3.7	3.8	3.8	3.1	3.0	Hi
Hilleshög HIL9920	5	58.62	53.39	99	1878	1631	102	347	336	11132	10237	32.07	30.45	18.4	17.9	1.04	1.08	76	77	0	0	5.1	5.0	5.5	4.9	4.4	4.5	6.0	5.8	Hi
BTS 8242	NC	61.38	57.15	106	1940	1690	106	356	348	11269	10295	31.70	29.64	18.8	18.5	1.02	1.06	77	77	0	0	4.5	4.4	4.2	4.4	4.1	4.0	4.0	3.7	Hi
BTS 8270	NC	60.15	55.52	103	1966	1719	108	352	343	11519	10601	32.75	30.94	18.7	18.2	1.03	1.08	79	76	0	0	2.4	2.2	3.9	3.9	3.7	4.0	3.5	3.3	Hi
Hilleshög HIL2487 (MA942)	NC	58.44	53.94	100	1794	1552	97	347	338	10641	9692	30.70	28.67	18.3	17.9	1.00	1.05	77	76	0	0	4.7	4.7	4.1	4.1	4.3	4.2	4.7	4.9	Hi
Crystal 022	2	61.98	57.27	107	1975	1712	108	358	349	11433	10405	31.99	29.84	18.9	18.5	0.97	1.03	79	76	0	1	5.0	4.8	3.7	3.8	3.8	4.0	3.4	3.3	Hi
Crystal 262	NC	58.10	53.26	99	1932	1697	107	346	335	11510	10680	33.32	31.82	18.3	17.8	0.99	1.05	76	75	0	0	4.4	4.4	4.6	4.0	3.3	3.3	3.8	3.5	Hi
BTS 8226	NC	61.07	57.38	107	1945	1733	109	355	349	11318	10520	31.88	30.14	18.7	18.4	0.93	0.98	74	75	0	0	2.3	2.2	3.7	3.8	3.8	3.8	3.9	3.7	Hi
Hilleshög HIL2441**	NC	58.61	53.76	100	1797	1554	98	347	337	10668	9752	30.78	29.00	18.5	18.0	1.11	1.13	75	74	1	1	3.8	3.9	4.2	4.0	3.9	3.8	4.1	4.1	Hi
SX 1818	1	57.89	52.56	98	1958	1659	104	345	333	11698	10490	34.01	31.50	18.3	17.7	1.01	1.08	78	74	0	0	4.5	4.6	7.1	6.0	4.1	4.1	4.6	4.6	Hi
Crystal 138	NC	59.25	54.91	102	1983	1727	108	349	341	11687	10688	33.42	31.30	18.5	18.1	1.03	1.06	74	74	0	0	4.8	4.8	4.1	4.0	3.8	3.8	3.8	3.5	Hi
SV 285	3	58.25	52.92	98	1909	1593	100	346	334	11357	10015	32.86	29.91	18.3	17.8	1.02	1.10	82	74	0	0	4.8	4.8	7.4	5.9	4.3	4.4	5.8	5.6	Hi
SX 1898	3	58.17	52.56	98	1927	1612	101	346	333	11474	10174	33.21	30.49	18.3	17.8	1.02	1.10	81	73	0	0	4.9	4.8	6.7	5.5	4.1	4.1	5.5	5.4	Hi
Hilleshög HIL2317	3	58.66	53.75	100	1862	1617	102	348	337	11050	10118	31.88	30.01	18.4	17.9	1.01	1.04	69	72	2	1	4.8	5.0	5.2	4.6	4.4	4.6	5.8	5.7	Hi
SV 203	2	59.64	53.53	100	1972	1634	103	351	336	11599	10217	33.11	30.32	18.5	17.9	0.99	1.09	80	72	0	0	4.8	4.8	7.1	5.7	4.3	4.2	5.2	5.4	Hi
Hilleshög HIL2442	NC	59.05	54.69	102	1761	1536	97	349	340	10433	9570	30.02	28.22	18.6	18.2	1.15	1.16	71	70	0	0	4.1	4.2	4.7	4.8	3.9	3.8	4.4	4.6	Hi
Crystal 269	NC	61.98	56.47	105	1932	1699	107	358	346	11185	10417	31.32	30.19	19.0	18.4	1.11	1.14	69	69	0	0	4.4	4.5	3.6	3.6	3.9	4.1	4.1	3.7	Hi
Maribo MA943	NC	59.63	54.17	101	1810	1572	99	351	338	10650	9812	30.39	29.00	18.6	18.0	1.08	1.11	65	67	0	0	4.4	4.4	4.8	4.5	4.2	4.1	4.5	4.4	Hi
Hilleshög HIL2368	1	59.17	54.36	101	1737	1445	91	349	339	10270	8983	29.50	26.55	18.5	18.0	1.01	1.07	69	62	0	0	4.4	4.5	5.0	4.8	3.5	3.5	4.3	4.3	Hi
Benchmark var. mean		59.23	53.73		1860	1592		349	337	10997	9971	31.57	29.61	18.5	18.0	1.07	1.14	75	74											

Excellent V.Good Caution Weak

+++2022 Sites include Casselton, Averill, Ada, Grand Forks, Scandia, Alvarado, St. Thomas, Hallock, Bathgate

Created 11/3/2023

+++2023 Sites include Casselton, Perley, Halstad, Reynolds, Climax, Grand Forks, Scandia, East Grand Forks, Stephen, St. Thomas, Bathgate

++2023 Revenue estimate based on a \$50.09 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2022 Revenue estimate based on a \$46.80 beet payment. Revenue does not consider hauling or production costs.

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

^ Number of bolters observed across locations.

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

* Aphanomyces ratings from Shakopee MN (res.<4.2, susc>4.8). Cercospora ratings from Saginaw MI, Foxhome MN, and East Grand Forks MN (res.<4.4, susc>5.0). Fusarium ratings from Moorhead MN and Sabin MN (res.<3.0, susc>5.0). Rhizoctonia ratings from Crookston MN and Saginaw MI (res.<3.8, susc>5). Hi may perform better under severe Rhizomania.</

Key to color highlighting

Disease/Trait	Tolerance/Category	Color	Category levels
Rhizomania	V. Good	L Green	Single Source of Rzm tolerance
Rhizomania	Excellent	D Green	Multi Source or Double tolerant
Rhizoctonia	Weak	Orange	>5.0
Rhizoctonia	Caution	Yellow	>4.4-5.0
Rhizoctonia	V. Good	L Green	>3.82- 4.4
Rhizoctonia	Excellent	D Green	<= 3.82 (specialty criteria)
Aphanomyces	Weak	Orange	>4.8
Aphanomyces	Caution	Yellow	>4.6-4.8
Aphanomyces	V. Good	L Green	>4.2- 4.6
Aphanomyces	Excellent	D Green	<= 4.2 (specialty criteria)
Fusarium	Weak	Orange	>5.0
Fusarium	Caution	Yellow	>4.0-5.0
Fusarium	V. Good	L Green	>3.0-4.0
Fusarium	Excellent	D Green	<=3.0
Cercospora	Weak	Orange	>5.0
Cercospora	Caution	Yellow	>4.5-5.0
Cercospora	V. Good	L Green	>4.0-4.5
Cercospora	Excellent	D Green	<=4.0
Bolters	Caution	Yellow	> 0 observed
Emergence	V. Good	L Green	Highest 10 entries
Sugar	V. Good	L Green	Highest 10 entries
Yield	V. Good	L Green	Highest 10 entries
Molasses	V. Good	L Green	Lowest 10 entries
Rec/Acre	V. Good	L Green	Highest 10 entries
Rec/Ton	V. Good	L Green	Highest 10 entries
Rev/Ton	V. Good	L Green	Highest 10 entries
Rev/Acre	V. Good	L Green	Highest 10 entries