Performance Data of RR Varieties Approved for 2023 Season - Sorted by Variety

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
Benchmark var. mean		48.23	48.94		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

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

Created 11/4/2022

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by RevTon

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

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

Created 11/4/2022

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by RevAcre

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

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

Created 11/4/2022

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by Aphanomyces

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	4.3	Rzm	
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent V.Good Caution Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

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

Created 11/4/2022

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by Rhizoctonia

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

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

Created 11/4/2022

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by Fusarium

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent V.Good Caution Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

Created 11/4/2022

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

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by Cercospora

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

Created 11/4/2022

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

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Performance Data of RR Varieties Approved for 2023 Season - Sorted by Emergence

Variety	Yrs Com	Rev/Ton ++ 22	Rev/Ton ++ 2 Yr	Rev/Ton ++ 2Y%	Rev/Acre ++ 22	Rev/Acre ++ 2 Yr	Rev/Acre ++ 2Y%	Rec/Ton 22	Rec/Ton 2 Yr	Rec/Acre 22	Rec/Acre 2 Yr	Yield 22	Yield 2 Yr	Sugar 22	Sugar 2 Yr	Molasses 22	Molasses 2 Yr	Emerg 22	Emerg 2 Yr	Bolters + 22	Bolters + 2 Yr	CR * 22	CR * 2 Yr	Aph Root * 22	Aph Root * 2 Yr	Rhizoc.* 22	Rhizoc.* 2 Yr	Fusarium * 22	Fusarium * 2 Yr	Rzm*
# locations		9	20		9	20		9	20	9	20	9	20	9	20	9	20	9	20	9	20	3	5	3	4	3	5	2	3	
BTS 8156	NC	49.07	48.86	100	1410	1480	109	327	329	9411	9998	28.67	30.46	17.6	17.6	1.20	1.17	82	84	0	0	2.4	2.5	4.2	3.9	4.2	4.0	2.3	2.5	Hi
Maribo MA902	2	47.16	47.42	97	1310	1369	100	321	324	8954	9381	27.95	29.01	17.2	17.3	1.11	1.12	82	83	0	0	4.9	4.8	4.6	5.8	3.6	3.7	4.3	4.4	Hi
BTS 8133**	NC	44.28	45.29	93	1392	1496	110	312	317	9787	10476	31.44	33.10	16.8	17.0	1.19	1.19	80	82	0	0	2.2	2.3	3.6	3.5	3.4	3.7	3.0	3.3	Hi
Hilleshög HIL2366	1	46.59	47.78	98	1351	1416	104	319	325	9263	9648	29.04	29.69	17.1	17.4	1.12	1.12	77	81	0	0	5.0	5.0	4.3	5.1	3.9	4.0	4.8	4.7	Hi
Hilleshög HIL2389	NC	48.85	49.33	101	1407	1445	106	327	330	9431	9717	28.83	29.48	17.5	17.6	1.13	1.12	76	81	0	0	4.7	4.8	3.8	3.8	3.9	4.0	4.3	4.5	Hi
BTS 8034	1	45.34	45.96	94	1362	1475	108	315	319	9469	10255	30.04	32.16	17.0	17.2	1.27	1.22	77	80	0	0	2.3	2.4	3.9	3.6	4.5	4.2	2.2	2.4	Hi
Hilleshög HIL2320	1	47.65	47.29	97	1403	1407	103	323	324	9528	9654	29.57	29.90	17.3	17.3	1.12	1.15	77	80	0	0	5.0	4.9	4.0	4.3	3.9	3.8	4.7	4.6	Hi
Hilleshög HIL9708	5	47.55	47.61	97	1342	1372	101	323	325	9127	9387	28.41	29.01	17.2	17.3	1.11	1.11	80	80	0	0	4.9	4.8	4.4	5.4	3.8	3.8	3.8	4.3	Rzm
BTS 8018	1	49.38	50.16	102	1447	1534	113	329	333	9656	10236	29.48	30.82	17.5	17.8	1.11	1.09	76	80	0	0	2.0	2.2	4.0	4.3	3.9	3.9	3.0	3.1	Hi
Hilleshög HIL2386	NC	47.52	48.38	99	1424	1461	107	322	327	9682	9905	30.07	30.31	17.3	17.5	1.13	1.15	76	80	1	1	4.5	4.4	4.3	5.1	3.5	3.9	3.7	4.0	Hi
BTS 8100	NC	48.43	49.86	102	1363	1453	107	325	332	9207	9731	28.43	29.41	17.4	17.8	1.17	1.16	76	79	0	0	3.9	3.9	3.8	3.8	3.7	3.4	2.3	2.6	Hi
Crystal 572	6	51.53	51.21	105	1424	1477	108	336	337	9292	9746	27.70	29.01	17.9	18.0	1.14	1.14	78	79	1	2	4.5	4.6	4.6	4.5	4.3	4.1	2.9	3.1	Hi
BTS 8629	5	44.85	45.67	93	1385	1488	109	314	318	9687	10382	30.88	32.64	16.9	17.1	1.18	1.16	78	79	0	0	4.5	4.7	4.5	4.4	3.7	4.0	4.0	4.1	Hi
SX 1815	NC	49.35	50.24	103	1403	1474	108	328	334	9366	9819	28.58	29.52	17.5	17.8	1.11	1.10	76	79	0	0	5.1	4.9	4.3	4.2	4.1	4.3	5.3	5.1	Hi
Crystal 026	NC	47.52	47.74	98	1430	1516	111	322	325	9691	10331	30.01	31.78	17.3	17.5	1.18	1.19	77	79	0	0	4.7	4.6	3.8	3.7	3.3	3.3	2.8	2.8	Hi
Maribo MA932	NC	47.95	48.03	98	1406	1446	106	324	326	9532	9848	29.57	30.29	17.3	17.5	1.14	1.15	76	79	0	0	4.8	4.8	4.3	4.4	3.8	3.9	4.2	4.1	Hi
Hilleshög HIL2367	NC	47.72	47.76	98	1356	1399	103	323	325	9226	9564	28.68	29.50	17.3	17.4	1.15	1.17	75	78	0	0	4.8	4.8	4.2	4.6	3.9	4.0	4.2	4.2	Hi
Crystal 130	NC	50.48	50.72	104	1436	1528	112	332	335	9469	10140	28.55	30.37	17.7	17.9	1.11	1.10	74	78	0	0	2.1	2.2	3.6	3.9	4.1	3.8	3.2	3.2	Hi
Crystal 793	4	49.98	50.64	103	1476	1551	114	331	335	9773	10289	29.59	30.81	17.6	17.8	1.08	1.08	76	78	0	0	4.1	4.1	3.8	3.8	4.7	4.5	3.0	2.9	Hi
Crystal 684	4	44.38	45.14	92	1411	1472	108	312	316	9945	10358	31.98	32.84	16.8	17.0	1.23	1.22	75	78	0	0	4.6	4.6	3.8	3.7	4.2	4.0	2.3	2.5	Hi
Crystal 912	1	44.59	46.32	95	1433	1549	114	313	320	10047	10734	32.17	33.56	16.8	17.2	1.19	1.16	76	78	0	0	4.8	5.0	3.4	3.7	3.3	3.5	3.7	3.9	Hi
Crystal 137	NC	48.22	48.51	99	1390	1509	111	325	328	9381	10228	28.79	31.23	17.5	17.6	1.22	1.19	74	78	0	0	2.6	2.6	4.3	3.7	4.2	3.9	2.4	2.3	Hi
BTS 8092	1	46.04	47.63	97	1406	1509	111	318	325	9722	10318	30.73	31.86	17.0	17.3	1.14	1.10	74	77	0	0	4.3	4.4	3.9	4.0	3.6	3.7	3.9	4.0	Hi
BTS 8961	2	45.73	46.94	96	1369	1463	107	316	322	9478	10065	29.98	31.25	17.0	17.3	1.20	1.19	77	77	0	0	4.5	4.5	4.5	4.6	3.7	3.7	2.9	3.1	Hi
BTS 8073	1	48.88	49.09	100	1461	1497	110	327	330	9787	10090	29.99	30.71	17.5	17.6	1.15	1.14	73	76	0	0	4.6	4.6	4.0	4.2	4.2	3.9	3.1	3.3	Hi
Crystal 913	2	49.53	50.44	103	1458	1519	111	329	334	9702	10098	29.52	30.30	17.6	17.8	1.13	1.11	75	76	0	0	3.7	3.9	3.8	4.1	4.2	4.1	3.1	3.4	Hi
Hilleshög HIL9920	4	48.16	49.17	100	1383	1440	106	325	330	9342	9692	28.83	29.43	17.3	17.6	1.12	1.13	77	76	0	0	4.9	4.8	4.3	4.5	4.6	4.6	5.7	5.6	Hi
Crystal 022	1	52.56	52.15	107	1449	1496	110	339	340	9376	9799	27.69	28.94	18.0	18.1	1.08	1.08	73	76	1	1	4.6	4.8	4.0	4.4	4.1	3.8	3.2	3.4	Hi
Hilleshög HM9528RR	7	46.64	46.19	94	1368	1380	101	319	320	9374	9558	29.39	29.89	17.1	17.1	1.10	1.12	77	76	0	0	4.8	4.6	4.1	4.8	4.0	4.2	4.8	4.9	Hi
SV 265	5	46.24	46.95	96	1321	1369	100	318	323	9114	9420	28.71	29.26	17.0	17.2	1.11	1.09	75	76	1	1	4.5	4.4	4.3	4.6	4.0	4.1	6.1	5.9	Hi
Crystal 138	NC	50.57	50.56	103	1471	1516	111	332	335	9690	10069	29.18	30.18	17.7	17.8	1.08	1.10	74	76	0	0	4.9	4.8	3.9	4.0	3.8	3.7	3.2	3.5	Hi
SX 1818	NC	47.24	48.28	99	1361	1458	107	321	327	9281	9904	28.98	30.39	17.2	17.5	1.15	1.13	71	75	0	0	4.7	4.8	4.8	5.2	4.2	4.3	4.5	4.9	Hi
Maribo MA717	4	46.39	45.64	93	1397	1406	103	319	318	9605	9809	30.19	30.89	17.1	17.1	1.14	1.15	76	75	0	0	5.1	4.9	4.4	5.6	3.9	4.1	4.9	5.0	Hi
Hilleshög HIL2317	2	48.84	49.36	101	1371	1411	104	327	331	9185	9468	28.14	28.68	17.4	17.6	1.06	1.09	75	75	0	0	5.1	4.8	3.9	4.5	4.7	4.7	5.7	5.9	Hi
BTS 8927	2	52.46	52.47	107	1452	1512	111	339	341	9399	9856	27.81	28.99	18.0	18.1	1.03	1.04	79	75	0	0	4.4	4.4	4.0	4.3	4.1	3.9	3.1	3.6	Hi
Crystal 021	NC	46.11	47.35	97	1390	1505	110	318	324	9577	10310	30.14	31.87	17.1	17.3	1.18	1.16	71	74	0	0	2.1	2.2	3.7	4.0	3.6	3.5	3.4	3.8	Hi
SV 285	2	47.58	48.93	100	1276	1400	103	323	329	8672	9442	26.95	28.73	17.3	17.6	1.18	1.15	65	74	0	0	4.7	4.7	4.3	4.4	4.5	4.4	5.5	5.9	Hi
Crystal 134	NC	52.96	53.36	109	1430	1502	110	340	344	9228	9715	27.18	28.31	18.1	18.2	1.04	1.03	70	73	0	0	4.5	4.5	3.7	4.0	3.6	3.5	3.4	3.7	Hi
SX 1898	2	46.94	48.58	99	1297	1388	102	320	328	8873	9403	27.77	28.76	17.2	17.6	1.17	1.15	65	71	0	0	4.7	4.7	4.2	4.6	4.1	4.2	5.4	5.5	Hi
SV 203	1	47.41	49.14	100	1296	1387	102	322	330	8835	9344	27.53	28.42	17.3	17.6	1.18	1.14	63	71	0	0	4.7	4.7	4.2	4.3	4.2	4.3	5.6	5.8	Hi
Hilleshög HIL2368	NC	49.55	50.19	103	1154	1247	91	329	333	7696	8310	23.60	25.05	17.6	17.8	1.13	1.14	54	68	0	0	4.6	4.6	4.6	4.9	3.5	3.2	4.3	4.4	Hi
Benchmark var. mean		48.23	####		1324	1363		325	329	8945	9210	27.65	28.10	17.4	17.7	1.20	1.20	74	76											

Excellent | V.Good | Caution | Weak

+++2021 Sites include Casselton, Glyndon, Georgetown, Hendrum, Hillsboro, Grand Forks, Scandia, Climax, Forest River, Hallock and Bathgate

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

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

Created 11/4/2022

++2022 Revenue estimate based on a $46.80 beet payment (5-yr ave) at 17.5% crop with a 1.5% loss to molasses and 2021 Revenue estimate based on a $45.65 beet payment. Revenue does not consider hauling or production costs.

+ Number of bolters observed across locations.

* Aph ratings from Perley MN, Shakopee MN and Glyndon MN (res.<4.2, susc>4.8). CR from Randolph MN, Foxhome MN and Saginaw MI (res.<4.4, susc>5.0). Fusarium 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). Hi may perform better under severe Rhizomania.

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

Key to color highlighting

Disease/Trait	Tolerance/Category	Color	Category levels
Rhizomania	V. Good	L Green	Rzm
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 25%
Sugar	V. Good	L Green	Highest 25%
Yield	V. Good	L Green	Highest 25%
Molasses	V. Good	L Green	Lowest 25%
Rec/Acre	V. Good	L Green	Highest 25%
Rec/Ton	V. Good	L Green	Highest 25%
Rev/Ton	V. Good	L Green	Highest 25%
Rev/Acre	V. Good	L Green	Highest 25%