

# RESULTS OF AMERICAN CRYSTAL'S 2016 OFFICIAL CODED VARIETY TRIALS

Wm. S. Niehaus, Official Trial Manager  
American Crystal Sugar Company  
Moorhead, Minnesota

American Crystal's coded variety trials are designed to provide an unbiased evaluation of the genetic potential of sugarbeet variety entries under several different environments. The two-year average of these evaluations then are used to establish a list of approved varieties which ensures the use of high quality, productive varieties to maximize returns for growers and the cooperative as a whole.

This report presents data from the 2016 American Crystal and Minn-Dak official trials and describes the procedures and cultural practices involved in the trials.

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## Procedures and Cultural Practices

Sugarbeet official variety testing was conducted both in the Crystal and Minn-Dak areas of the Red River Valley by American Crystal Sugar Company personnel at the Technical Services Center.

All Crystal and Minn-Dak entries were coded by KayJay Ag Services. The seed then was sent to American Crystal Technical Services Center at Moorhead for official testing.

Thirteen official yield trial sites were planted in the Crystal area with eleven harvested. Four Minn-Dak official yield trial sites were planted and harvested. Plant-to-stand trials (4.5 inch spacing) were used to evaluate the commercial, experimental and conventional varieties. Seed companies had the option of treating seed with Tachigaren, insecticide and a Rhizoctonia seed treatment fungicide. The treatments used on the seed planted in the official variety yield trials can be found in table 6. Plots were planted crosswise (90°) to the cooperators' normal farming operations, where possible. Row spacing was 22 inches. Planting was performed with a 12-row SRES GPS controlled vacuum planter. Plot rows for all official trials were maintained at 45 feet with about 37 feet harvested. An alpha lattice plot design was used for all trials. Emergence counts were taken on two 12 foot sections of row from each plot to be harvested. Multiple seedlings were counted as a single plant if they emerged less than one inch apart. The stands in all of the plant-to-stand coded trials were refined by removing doubles (multiple seedlings less than 1.5 inches apart) by hand but were not further reduced.

Nine ACSC sites were used for variety approval calculations (Casselton, Averill, Ada, Hillsboro, Fisher, Crookston, Grand Forks, St. Thomas, Stephen). Two sites were abandoned due to non-uniform emergence (Kindred) and water damage (Alvarado). Two sites experienced moderate to severe Aphanomyces (Perley & Cavalier) and this Aphanomyces yield trial data is in table 3. Late season Cercospora was noted at numerous ACSC sites. Three MDFC sites experienced heavy Cercospora infection due to fungicide application timing issues and potential resistance. One MDFC site (Mooretown) was not used for variety approval calculations due to weaker stands and more Rhizoctonia infection. .

Rhizoctonia was less prevalent in 2016 following seed treatment on all varieties and an application of Quadris, band treatment at the 6-10 leaf stage. Based upon demonstration plot observations, root aphids likely had minimal impact in 2016. Root aphids were observed at 2 of 13 ACSC yield sites and several Rhizoctonia nurseries. ACSC does not run root aphid evaluation nurseries, but seed companies may know tolerance levels of their varieties.

Roundup Powermax with Event and full rates of fungicides were applied using a pickup sprayer driven down the alleys. Hand weeding was used where necessary. The micro rate program was used on conventional trials. All yield trials were treated with Quadris in a band during the 6-10 leaf stage (14 oz/A since 2004) for Rhizoctonia control. Incognito/Agri Tin, Proline, and Headline were used for Cercospora control in 2016. Ground spraying was conducted by ACSC technical staff.

RR varieties with commercial seed were planted in four-row, six replication trials. The RR experimental entries were planted in smaller two-row, four replication trials. Two applications of Roundup were made in the 4-6 (32 oz) and 8-12 (22 oz) leaf stages.

Conventional yield trials were reinstated in 2016 for the ACSC cooperative at six sites. Eleven conventional varieties were approved for sale in 2017; these varieties were tested in 2016 and approval is based upon one year of data. Three conventional varieties were previously approved and have data from previous years in the 2012 Sugarbeet Research and Extension Report.

All plot rows were measured for total length after approximately 2.5 feet at each end were removed at the end of August, with skips greater than 60 inches (including short rows) being measured for adjustment purposes. Harvest was performed with two modified four-row harvesters (4310 and 4310A John Deere). All harvested beets of each plot were used for yield determination while one sample (approx 25 lbs) for sugar and impurity analysis was obtained from each plot. Quality analysis was performed at the ACSC Technical Services quality lab in Moorhead.

Soil type and disease pressure was observed for each of the trial sites (table 5). This information relates to the current year's results, not the multiple year summary results.

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

#### Acknowledgements

Thanks to the beet seed companies for their participation in the official variety testing program and to all grower-cooperators, agricultural, and beet seed staffs for their assistance. Special thanks are extended to Dr. Mohamed Khan for CR nursery infection, Dr. Albert Sims for hosting a Rhizoctonia nursery, Randy Nelson, Robert Dregseth and Jason Brantner for RRV disease ratings, USDA staff in Michigan for CR and Rhizoctonia nursery ratings. The Betaseed staff for Aphanomyces and Cercospora ratings in the Shakopee area, Germains Seed Technology for seed treatments and Kay Jay Ag Services for sampling and coding all variety entries.

Table 1. Varieties Meeting ACSC Approval Criteria for the 2017 Sugarbeet Crop ++

Roundup Ready ®	Full Market	Aph Spec	Rhc Spec	High Rzm	Conventional	Full Market	High Rzm
BTS 80RR52	Yes	Aph	Rhc +	Hi Rzm	Beta EXP 687	New	Hi Rzm
BTS 82RR28	Yes	Aph		Hi Rzm	Beta EXP 698	New	Hi Rzm
BTS 82RR33	Yes			Hi Rzm			
BTS 8337	Yes	Aph		Hi Rzm	Crystal R761	Yes	Hi Rzm
BTS 8363	Yes			Hi Rzm	Crystal 620	New	Hi Rzm
BTS 83CN	Yes	Aph	Rhc	Hi Rzm	Crystal 622	New	Hi Rzm
BTS 8500	New	Aph		Hi Rzm	Hilleshög 3035Rz	Yes	Rzm
BTS 8512	New	Aph		Hi Rzm	Hilleshög 9891Rz	New	Rzm
BTS 8524	New	Aph		Hi Rzm			
BTS 8572	New	Aph		Hi Rzm	Maribo MA615Rz	New	Rzm
Crystal 093RR	Yes	Aph		Hi Rzm	Seedex Deuce (SX0873TT)	Yes	Hi Rzm
Crystal 101RR	Yes	Aph		Hi Rzm	Seedex 8869 Cnv	New	Hi Rzm
Crystal 246RR	Yes	Aph +		Hi Rzm			
Crystal 247RR	Yes			Hi Rzm	SESVanderhave 48611	New	Hi Rzm
Crystal 355RR	Yes	Aph	Rhc	Hi Rzm			
Crystal 467RR	Yes	Aph		Hi Rzm			
Crystal 572RR	New			Hi Rzm			
Crystal 573RR	New	Aph		Hi Rzm			
Crystal 574RR	New	Aph		Hi Rzm			
Crystal 575RR	New	Aph		Hi Rzm			
Crystal 576RR	No	Aph		Hi Rzm			
Crystal 578RR	New			Hi Rzm			
Crystal 981RR	Yes	Aph		Hi Rzm			
Crystal 986RR	Yes	Aph		Rzm			
Hilleshög 4094RR	Yes		Rhc	Rzm			
Hilleshög 4302RR	Yes	Aph	Rhc	Rzm			
Hilleshög 4448RR	Yes			Rzm			
Hilleshög 9517RR	Yes	Aph		Hi Rzm			
Hilleshög 9528RR	Yes	Aph		Hi Rzm			
Hilleshög 9707	No	Aph		Hi Rzm			
Hilleshög 9708	New			Hi Rzm			
Hilleshög 9711	New	Aph		Hi Rzm			
Maribo 102	Yes +	Aph +		Rzm			
Maribo 109	Yes	Aph	Rhc	Hi Rzm			
Maribo 305	Yes			Rzm			
Maribo 502	No	Aph		Hi Rzm			
Maribo 504	New			Hi Rzm			
Seedex Canyon RR(844TT)	Yes	Aph		Hi Rzm			
Seedex Cruze RR(846)	Yes	Aph		Rzm			
Seedex Terrain RR(848)	Yes			Hi Rzm			
Seedex Winchester RR	Yes	Aph		Rzm			
Seedex RR0856(Marathon)	New			Hi Rzm			
Seedex RR0858(Avalanche)	New	Aph		Hi Rzm			
SESVdh RR241	Yes	Aph		Rzm			
SESVdh RR244TT	Yes			Hi Rzm			
SESVdh RR333	Yes	Aph		Hi Rzm			
SESVdh RR336	Yes	Aph		Rzm			
SESVdh RR351	New	Aph		Hi Rzm			
SESVdh RR353	New	Aph		Hi Rzm			

++Roundup Ready sugarbeets are subject to the ACSC RRSB Bolter Destruction Policy

+ Previously approved varieties not meeting current approval standards may be sold in 2017.  
Roundup Ready ® is a registered trademark of Monsanto Company.

Created 11-4-2016

Aph Spec = variety meets Aphanomyces specialty requirements

Rhc Spec = variety meets Rhizoctonia specialty requirements

Hi Rzm = may perform better under severe Rzm.

New = newly approved

Table 2. Performance Data of RR Varieties During 2014-2015-2016 Growing Seasons Approved for 2017 Growing Season (All Locations Combined) \*\*\*

Variety @ # locations	Yrs Com	Rev/Ton ++			Rev/Acre ++			Rec/Ton			Rec/Acre			Sugar			Yield			Molasses			Energ			Boiler, Ac.			Afh Root+			Rhizoc+			Fusarium+ Rzn+		
		16	19	27	9	19	27	16	2 Yr	2Y%	3Y#	3Y%	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr	16	2 Yr					
<b>Previous Approved</b>																																					
BTS 80RR52	5	51.45	52.83	102	53.72	102	1960	1631	105	1730	104	317	317	12074	11016	16.96	17.04	38.1	34.7	1.12	1.18	71	71	0	0	4.28	4.20	4.1	3.7	4.4	4.2	2.8	2.8	Hi			
BTS 82RR28	3	49.11	50.93	99	52.04	99	1888	1794	103	1712	103	309	311	314	11748	11065	16.65	16.81	38.4	35.2	1.18	1.24	67	67	0	0	4.81	4.85	4.2	4.2	4.4	4.2	2.0	2.3	Hi		
BTS 82RR33	3	49.60	51.80	100	52.45	100	1877	1825	104	1749	105	311	325	330	11284	10564	17.37	17.60	37.7	35.2	1.11	1.17	71	71	0	0	5.05	4.82	5.4	5.5	4.0	4.1	2.8	2.7	Hi		
BTS 8337	2	54.08	56.77	110	57.49	109	1877	1817	104	1700	102	310	310	310	12163	11262	16.53	16.57	39.2	36.3	1.03	1.08	74	74	0	0	4.33	4.08	4.9	4.8	4.3	4.2	3.1	3.0	Hi		
BTS 8363	2	49.25	50.46	98	51.43	98	1937	1835	105	1736	104	310	310	310	11745	10946	16.35	16.53	38.4	35.5	1.08	1.12	74	74	0	0	4.81	4.65	4.8	4.9	4.3	4.2	3.1	3.1	Hi		
BTS 83C3	2	49.95	51.73	100	52.48	100	1843	1766	101	1671	101	312	314	319	11867	10925	17.07	17.26	37.1	33.9	1.12	1.15	73	73	0	0	4.65	4.65	4.3	4.1	4.2	4.0	2.7	2.7	Hi		
Crystal 095RR	5	52.16	54.45	105	55.69	106	1842	1842	99	1642	99	306	310	310	11759	10867	16.54	16.78	38.4	34.4	1.23	1.28	69	69	0	0	4.59	4.62	3.4	3.4	4.8	4.7	2.4	2.5	Hi		
Crystal 101RR	5	48.13	50.54	98	51.68	98	1849	1734	99	1678	101	306	310	310	11745	10946	16.35	16.53	38.4	35.5	1.08	1.12	74	74	0	0	4.81	4.65	4.8	4.9	4.3	4.2	3.1	3.1	Hi		
Crystal 246RR	3	47.83	49.99	97	51.33	97	1845	1774	102	1692	102	305	308	310	11745	10946	16.46	16.51	35.9	32.8	1.09	1.14	74	74	0	0	4.65	4.42	4.8	4.9	4.3	4.2	2.7	2.7	Hi		
Crystal 247RR	3	50.72	52.60	102	53.09	101	1914	1913	100	1813	99	315	317	324	12486	11528	17.77	17.96	39.7	36.4	1.05	1.09	68	70	0	0	4.65	4.42	4.8	4.9	4.3	4.3	2.8	2.7	Hi		
Crystal 35RR	1	53.17	54.02	104	54.77	104	1947	1786	102	1673	101	322	321	321	11796	10822	17.24	17.26	36.6	33.0	1.12	1.19	76	76	0	0	4.60	4.52	4.5	3.9	4.0	4.3	2.7	2.7	Hi		
Crystal 467RR	NC	46.62	49.38	96	50.61	96	1845	1805	103	1724	104	301	306	310	11920	11213	16.20	16.47	39.7	36.6	1.16	1.17	71	69	0	0	4.69	4.51	4.0	3.8	4.3	4.1	1.8	2.1	Hi		
Crystal 981RR	3	47.65	49.97	97	51.36	98	1787	1891	97	1637	98	305	308	310	11409	10441	16.47	16.72	37.4	33.9	1.24	1.31	68	69	0	0	5.06	5.06	3.5	3.4	4.6	4.5	2.5	2.5	Hi		
Crystal 9804RR	5	52.06	53.75	104	54.84	104	1895	1771	101	1701	102	319	320	318	11588	10856	16.46	16.51	35.9	32.8	1.09	1.14	76	72	0	0	4.75	4.86	4.4	4.1	4.4	4.2	4.9	4.4	Rzn		
Hillesög 4302RR	7	47.84	49.93	95	50.24	95	1717	1611	92	1522	92	305	305	305	10960	10033	16.46	16.51	35.9	32.8	1.05	1.10	71	70	0	0	4.30	4.30	4.4	4.5	3.9	3.7	4.7	4.2	Rzn		
Hillesög 4448RR	3	49.01	52.69	102	54.11	103	1873	1846	106	1792	108	322	321	321	10842	9715	17.20	17.25	33.7	30.2	1.11	1.19	68	68	0	0	4.26	4.14	3.8	3.5	4.2	3.9	2.7	2.8	Hi		
Hillesög 9527RR	2	52.97	54.10	105	55.20	105	1786	1634	94	1552	92	317	317	317	12149	11143	17.00	17.11	37.9	34.7	1.05	1.07	68	69	0	0	4.73	4.94	3.8	3.4	4.2	4.2	4.5	4.3	Rzn		
Hillesög 9528RR	2	52.16	53.98	104	55.21	105	1882	1872	107	1774	107	319	321	321	12002	11358	16.79	17.06	38.0	35.4	1.00	1.02	74	74	0	0	5.30	5.54	3.9	3.3	4.5	4.3	5.0	4.8	Rzn		
Maribor 102	2	51.10	53.98	104	55.15	105	1943	1908	109	1817	109	316	321	321	11943	10901	16.16	16.97	332	333	1.07	1.07	68	9	5	5	4.14	4.37	4.3	3.9	4.7	4.0	4.0	4.0	Hi		
Maribor 109	1	56.34	57.74	112	58.62	111	1889	1729	99	1616	97	321	322	323	11151	10985	16.39	17.75	36.4	34.0	1.02	1.03	64	67	0	0	4.72	4.74	4.4	4.6	4.4	4.1	5.9	5.5	Rzn		
Maribor MA305	NC	48.54	49.99	97	51.50	98	1649	1773	103	1703	99	308	308	308	11223	10496	16.29	16.45	36.4	34.0	1.02	1.03	64	67	0	0	5.21	5.25	3.9	3.4	4.5	4.2	5.3	5.3	Rzn		
SX Canyon RR(844TT)	1	51.62	52.42	101	53.43	101	1926	1803	103	1727	104	317	316	317	11817	10858	16.87	16.86	37.2	34.3	1.00	1.05	70	70	0	0	4.76	4.39	4.3	3.9	4.4	4.3	5.3	4.6	Hi		
SX Cruze RR(846)	1	46.05	48.79	94	50.17	95	1712	1677	96	1632	98	300	304	300	11122	10471	16.07	16.35	37.1	34.4	1.09	1.13	72	68	0	0	4.65	4.61	3.4	3.8	4.7	4.4	2.8	NE	Rzn		
SX Ferntain RR(848)	1	51.88	52.81	102	53.00	101	1818	1751	101	1675	101	318	318	318	11132	10912	16.93	16.94	34.9	33.1	1.01	1.07	67	66	0	0	4.67	4.73	4.0	3.7	4.5	4.5	4.7	4.7	Hi		
SX Winchester RR	2	52.60	54.31	105	54.73	104	1831	1760	98	1641	99	321	322	322	11143	10121	16.99	17.12	34.7	31.4	1.07	1.12	68	68	0	0	3.97	3.82	3.9	3.5	4.6	5.1	4.1	4.0	Rzn		
SV/RR244TT	1	51.69	52.71	102	51.94	99	1877	1782	102	1706	103	318	317	318	11040	11143	16.94	17.03	37.5	34.9	1.02	1.07	69	70	0	0	4.85	4.69	4.1	4.1	4.4	4.3	4.8	NE	Hi		
SV/RR333	1	51.91	53.34	103	53.89	102	1950	1863	107	1737	104	318	319	319	11084	10116	16.14	16.38	36.9	33.2	1.09	1.11	70	70	0	0	4.62	4.28	3.7	3.2	4.7	4.5	2.6	3.0	Rzn		
<b>Newly Approved</b>																																					
BTS 8500	NC	48.95	50.80	98	--	--	1966	1952	106	--	--	309	311	311	12395	11354	16.54	16.67	40.1	36.5	1.09	1.13	74	74	0	0	5.45	4.50	4.2	3.9	4.4	4.3	1.9	2.2	Hi		
BTS 8512	NC	51.09	52.80	102	--	--	1917	1815	104	--	--	316	317	317	11840	10919	16.87	17.00	37.5	34.4	1.08	1.13	74	74	0	0	4.04	4.08	4.2	4.4	4.4	4.4	2.7	2.7	Hi		
BTS 8524	NC	48.08	49.47	96	--	--	1954	1848	106	--	--	306	306	306	12416	11437	16.43	16.49	40.6	37.2	1.15	1.17	78	76	0	0	4.74	4.57	3.9	3.6	4.2	4.2	3.4	3.1	Hi		
BTS 8572	NC	53.35	55.24	107	--	--	1913	1816	104	--	--	323	325	325	11584	10716	17.21	17.36	36.8	32.9	1.03	1.07	77	77	0	0	4.41	4.50	4.5	4.2	4.5	4.2	2.2	2.4	Hi		
Crystal 577RR	NC	53.74	55.51	107	--	--	1982	1853	106	--	--	325	326	326	11967	10918	16.66	16.83	37.0	34.0	1.18	1.21	75	74	0	0	4.54	4.55									

Table 3. Performance Data of RR Aphanomyces Specialty Varieties - Under Aphanomyces Conditions (Relative to Susceptible Checks) Approved for

Description	# of locations	2017 Growing Season ++													
		Years Comm		Rev/Ton		Rev/Acre		Rec/Ton		Sugar		Yield		CR Rating +	
		2016	2 Yr	%Sus	2016	2 Yr	%Sus	2016	2 Yr	2016	2 Yr	2016	2 Yr	16	15
<b>Previously Approved</b>															
BTS 80RR52	5	47.73	43.40	99	1406	1209	146	3050	287.6	8994	7980	16.32	15.70	29.5	27.6
BTS 8337	2	49.32	48.06	110	1372	1257	151	310.0	302.8	8626	7837	16.59	16.37	27.9	25.7
BTS 833N	2	44.75	41.91	96	1294	1177	142	295.4	295.4	8564	7917	15.84	15.38	29.0	27.9
Crystal 101RR	5	42.78	38.59	88	1332	1079	130	289.2	272.4	9012	7549	15.07	15.75	31.2	27.4
Crystal 246RR	3	44.03	39.81	91	1235	1025	123	293.1	276.3	8228	7041	15.75	15.09	28.1	25.2
Crystal 355RR	1	49.37	45.13	103	1278	1136	137	310.2	293.3	8071	7371	16.58	15.99	26.1	25.0
Crystal 467RR	NC	42.00	38.00	87	1244	1059	127	286.1	269.7	8510	7459	15.48	14.82	29.9	27.4
Crystal 981RR	3	42.06	38.20	87	1200	1020	123	286.9	271.2	8186	7140	15.56	15.00	28.6	26.0
Hillesnög 9517RR	2	48.66	44.83	102	1301	1131	136	307.9	292.1	8216	7329	16.53	16.00	26.7	25.0
Hillesnög 9528RR	2	48.08	44.65	102	1379	1143	138	306.1	291.5	8772	7380	16.38	15.80	28.6	25.0
Manib 102	2	48.74	45.73	104	1535	1280	154	308.2	294.9	9755	8195	16.43	15.94	31.8	27.5
Manib 109	1	51.46	46.10	105	1180	1038	125	316.9	296.4	7271	6600	16.91	16.07	23.0	22.0
SX Winchester RR	2	47.53	43.28	99	1311	1084	130	304.3	287.2	8395	7093	16.23	15.59	27.6	24.3
SV RR241	1	46.63	42.98	98	1255	1146	138	301.4	286.3	8072	7556	16.05	15.52	26.6	26.0
SV RR336	2	43.31	40.19	92	1269	1082	130	290.8	277.4	8515	7381	15.63	15.15	29.2	26.2
<b>Newly Approved</b>															
BTS 82RR28	3	42.40	38.99	89	1013	973	117	287.9	273.6	6794	6743	15.64	15.10	23.4	24.4
BTS 8500	NC	44.32	41.43	94	1328	1179	142	293.9	281.2	8817	7945	15.79	15.35	30.1	28.1
BTS 8512	NC	45.42	41.65	95	1291	1148	138	297.6	281.9	8488	7731	15.97	15.42	28.6	27.2
BTS 8524	NC	44.53	39.86	91	1417	1242	149	294.6	275.9	9385	8506	15.85	15.12	31.9	30.5
BTS 8572	NC	49.62	45.84	104	1285	1147	138	311.6	295.9	8094	7367	16.59	16.03	26.1	24.8
Crystal 093RR	5	49.26	45.68	104	1380	1204	145	309.9	294.8	8685	7683	16.61	16.06	28.1	25.7
Crystal 573RR	NC	48.78	44.57	102	1303	1134	137	308.8	291.7	8294	7373	16.51	15.85	27.0	25.0
Crystal 574RR	NC	44.17	40.01	91	1361	1198	144	293.4	276.4	9003	8171	15.76	15.13	30.7	29.1
Crystal 575RR	NC	45.52	41.79	95	1403	1206	145	297.9	282.4	9173	8093	16.02	15.45	30.7	28.3
Crystal 576RR	NC	45.30	42.04	96	1360	1209	146	297.2	283.3	8952	8097	15.98	15.52	30.2	28.4
Crystal 986RR	5	49.30	45.87	105	1428	1239	149	310.0	295.4	8981	7920	16.53	15.99	29.0	26.6
Hillesnög 4302RR	3	47.43	44.56	102	1096	1061	128	304.0	291.2	6975	6888	16.25	15.78	22.9	23.5
Hillesnög HIL9707	NC	44.36	42.03	96	1256	1072	129	294.0	283.2	8345	7185	15.78	15.43	4.13	4.13
Hillesnög HILL9711	NC	45.18	41.65	95	1242	1063	128	296.8	281.9	8237	7178	15.89	15.34	4.60	4.60
Manib MA502	NC	44.36	38.56	88	1350	1101	133	294.0	271.6	8945	7593	15.88	14.96	30.4	27.3
SX Canyon RR(84/4TT)	1	44.98	42.24	96	1201	1107	133	296.2	283.9	7862	7363	15.86	15.44	26.3	25.7
SX Cruze RR(84/6)	1	42.40	39.65	90	1321	1146	138	288.0	275.5	8957	7921	15.51	15.09	31.0	28.5
Seedex RR0858(Avalanche)	NC	48.30	44.81	102	1330	1161	140	307.2	292.9	8473	7500	16.37	15.84	27.6	25.3
SV RR33	1	46.56	42.71	97	1241	1119	135	301.2	285.4	8010	7408	16.08	15.49	26.5	25.7
SV RR351	NC	46.82	43.03	98	1386	1124	135	302.2	286.5	8971	7436	16.16	15.61	29.7	25.7
SV RR353	NC	47.14	44.69	102	1326	1201	145	303.4	292.1	8560	7822	16.18	15.81	28.3	26.7
Aph Susc Checks		48.17	43.88		1025	831		306.8	289.4	6529	5408	16.49	15.83	21.3	18.4
Mean of Aph Specialty Varieties		46.18	42.57		1303	1136		300.0	284.9	8477	7549	16.09	15.54	28.3	26.3

%Susc = % of susceptible varieties.

Shakopee (res.<4.4,

SUS>5.5). CR from

++ 2016 Revenue estimates based on a \$52.44 beet payment at 17.5% sugar and 1.5% loss to molasses. Revenue does not consider hauling or production costs.

+++ 2016 Data from Perley and Cavalier. 2015 Data from Kindred and Cavalier.

Created 11-04-2016.

**Table 4. Performance Data of Conventional Varieties Approved for 2017 Growing Season (Five Conventional Sites)**

Variety @ Com	Yrs	Rev/Ton ++	Rev/Acre ++	Rec/Ton	Rec/Acre	Sugar	Yield	Molasses	Energ	Bolter / Ac	CR +	Aph Root+	Rhizoc.+	Fusarium+	Rzm+
# Locations	5	5	5	5	5	5	5	5	5	5	3	1	4	2	
<b>Previous Approved</b>															
Crystal R761	7	49.24	1806	310	11360	16.77	36.7	69	0	4.99	3.6	4.6	3.2	Hi	
Hilleshög 3035Rz	10	54.81	1777	328	10630	17.51	32.5	1.14	78	4.53	4.4	3.9	3.6	Rzm	
Seedex Deuce (SX0873TT)	NC	53.39	1973	323	11921	17.15	36.9	1.00	76	4.68	5.7	4.7	4.7	Hi	
<b>Newly Approved</b>															
BETA EXP 687	NC	53.52	1929	323	11665	17.40	36.0	1.22	73	0	4.14	4.9	4.2	3.4	
BETA EXP 698	NC	51.53	1957	317	12066	16.98	38.1	1.13	70	0	4.27	3.7	4.4	2.7	
Crystal 620	NC	52.14	1943	319	11860	17.06	37.1	1.11	72	0	4.19	4.3	4.5	2.7	
Crystal 622	NC	54.49	1798	327	10805	17.52	33.1	1.19	67	0	3.96	4.4	4.1	3.6	
Hilleshög 9891Rz	NC	52.84	1689	321	10294	17.27	32.1	1.21	78	0	4.42	4.5	4.2	3.8	
Mario MA615Rz	NC	51.87	1970	318	12063	17.04	37.9	1.13	73	0	5.04	4.8	4.5	5.1	
Seedex 8869 Cnv	NC	52.57	2007	320	12228	17.04	38.1	1.02	80	0	4.76	4.7	2.9	Hi	
SV 48611	NC	53.90	1916	325	11525	17.36	35.5	1.13	67	0	4.85	4.5	4.7	5.2	Hi
Benchmark var. mean	50.82	1869	315	11573	16.86	36.8	1.12	71							

++ 2016 Revenue estimate based on a \$52.44 beet payment (5-yr ave) at 17.5% sugar and 1.5% loss to molasses.

+ Aph ratings from Shakopee (res<4.4, susc>5.5). CR from Randolph MN, Foxhome MN & Michigan (res<4.5, susc>5.2). Fusarium from RRV (res>3.0, susc>5.0).

+ Rhizoc. from Mhd, NWROC & Mich (res<3.8, susc>5). Hi may perform better under severe Rzm.

Bolters /Ac are based upon a plant stand of 45,000.

+++ Sites include Casselton, Ada, Crookston, Grand Forks, St. Thomas in 2016.

Created: 11-04-16

Table 5. Official Trial Disease Nurseries 2014 - 2016 (Varieties tested in 2016)

Cercospora, Aphanomyces, Rhizoctonia &amp; Fusarium

Code	Description +	CR					Aph					Rhizoctonia					Fusarium					High Rzm	
		16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean		
<b>ACSC Commercial</b>																							
609	BTS 80RR52	4.28	4.11	4.22	4.20	4.20	4.11	3.24	4.01	3.67	3.78	4.41	3.95	4.36	4.18	4.24	2.81	2.83	2.84	2.82	2.82	Hi Rzm	
519	BTS 82RR28	4.81	4.89	4.62	4.85	4.78	4.20	4.15	4.84	4.17	4.39	4.36	4.01	4.11	4.19	4.16	2.02	2.55	2.44	2.28	2.33	Hi Rzm	
582	BTS 82RR33	5.05	4.58	4.70	4.82	4.78	5.42	5.63	5.59	5.52	5.55	4.04	4.18	4.20	4.11	4.14	2.77	2.70	2.86	2.73	2.78	Hi Rzm	
568	BTS 8337	4.62	4.49	4.52	4.56	4.54	3.26	2.55	3.68	2.90	3.16	4.08	3.87	4.06	3.97	4.00	4.01	3.72	3.78	3.86	3.83	3.83	Hi Rzm
522	BTS 8363	4.33	3.83	3.85	4.08	4.00	4.93	4.77	5.03	4.85	4.91	4.34	4.12	4.24	4.23	4.23	3.11	2.85	3.39	2.98	3.11	Hi Rzm	
610	BTS 83CN	4.65	4.65	4.60	4.65	4.63	4.34	3.79	4.16	4.07	4.10	4.16	3.86	4.01	4.01	4.01	2.75	2.68	3.13	2.72	2.85	Hi Rzm	
508	Crystal 093RR	4.95	4.76	4.88	4.86	4.87	4.32	3.86	4.69	4.09	4.29	4.37	3.96	4.46	4.16	4.26	3.35	3.26	3.59	3.29	3.39	Hi Rzm	
602	Crystal 101RR	4.59	4.65	4.26	4.62	4.50	3.42	3.31	3.45	3.37	3.39	4.78	4.64	4.84	4.71	4.75	2.40	2.64	2.73	2.52	2.59	Hi Rzm	
596	Crystal 246RR	4.81	4.49	4.52	4.65	4.61	4.85	4.99	4.51	4.92	4.78	4.32	4.19	4.01	4.25	4.17	3.10	3.00	2.99	3.05	3.03	Hi Rzm	
554	Crystal 247RR	4.65	4.19	4.20	4.42	4.35	4.77	4.94	5.05	4.86	4.92	4.32	4.33	4.41	4.32	4.35	2.80	2.51	2.84	2.66	2.72	Hi Rzm	
585	Crystal 355RR	4.60	4.43	4.58	4.52	4.54	4.48	3.26	4.15	3.86	3.96	3.96	NE	4.07	NE	NE	2.65	NE	3.14	NE	NE	Hi Rzm	
548	Crystal 981RR	5.06	5.05	4.89	5.06	5.00	3.54	3.25	3.79	3.39	3.53	4.59	4.40	4.85	4.49	4.61	2.52	2.43	2.70	2.47	2.55	Hi Rzm	
517	Crystal 986RR	4.75	4.97	4.61	4.86	4.78	4.41	3.87	4.63	4.14	4.30	4.38	4.06	4.12	4.22	4.19	4.86	3.89	4.16	4.37	4.30	Rzm	
565	Hilleshög 4094RR	4.30	4.30	4.46	4.30	4.35	4.42	4.60	4.47	4.51	4.50	3.93	3.44	3.52	3.69	3.63	4.67	3.82	4.83	4.24	4.44	Rzm	
577	Hilleshög 4302RR	4.13	4.13	4.52	4.13	4.26	4.63	4.02	4.20	4.33	4.28	3.65	3.70	3.58	3.68	3.64	5.09	4.05	5.05	4.57	4.73	Rzm	
511	Hilleshög 4448RR	5.21	5.29	5.28	5.25	5.26	3.90	2.80	4.78	3.35	3.83	4.51	3.92	4.73	4.21	4.38	5.26	NE	4.71	NE	NE	Rzm	
539	Hilleshög 9517RR	4.26	4.03	4.39	4.14	4.22	3.83	3.09	3.89	3.46	3.60	4.19	3.66	4.04	3.92	3.96	2.74	2.79	3.40	2.77	2.98	Hi Rzm	
612	Hilleshög 9528RR	4.73	5.16	4.97	4.94	4.95	3.77	2.97	5.44	3.37	4.06	4.21	4.10	3.83	4.16	4.05	4.52	4.00	4.80	4.26	4.44	Hi Rzm	
529	Maribo 102	5.30	5.77	5.54	5.54	5.54	3.90	2.78	4.99	3.34	3.89	4.50	4.07	4.30	4.29	4.29	5.03	4.55	5.37	4.79	4.98	Rzm	
541	Maribo 109	4.14	4.56	4.68	4.35	4.46	4.27	3.54	5.00	3.90	4.27	3.69	3.67	3.33	3.68	3.56	4.50	3.58	--	4.04	--	Hi Rzm	
603	Maribo MA305	4.72	4.76	4.83	4.74	4.77	4.42	4.76	4.99	4.59	4.72	4.40	3.83	4.62	4.11	4.28	5.89	5.02	5.45	5.34	5.34	Rzm	
507	SV RR241	4.53	3.83	4.35	4.18	4.24	4.63	2.87	5.42	3.75	4.31	4.37	3.97	4.43	4.17	4.25	5.50	5.12	4.26	5.31	4.96	Rzm	
613	SV RR244TT	4.46	4.17	5.51	4.31	4.71	4.97	4.23	5.67	4.60	4.96	4.45	4.18	3.84	4.31	4.16	4.14	3.86	4.56	4.00	4.19	Hi Rzm	
564	SV RR333	4.85	4.54	4.81	4.69	4.73	4.71	3.46	5.33	4.09	4.50	4.44	4.11	4.39	4.27	4.31	4.84	NE	4.10	NE	NE	Hi Rzm	
531	SV RR336	4.62	3.94	4.53	4.28	4.36	3.69	2.78	5.50	3.24	3.99	4.65	4.38	4.29	4.52	4.44	2.62	3.32	4.29	2.97	3.41	Rzm	
551	SX Canyon RR(844TT)	4.76	4.02	5.46	4.39	4.75	4.28	3.59	5.84	3.94	4.57	4.40	4.22	4.15	4.31	4.26	5.26	3.85	--	4.56	--	Hi Rzm	
516	SX Cruze RR(846)	4.65	4.57	4.83	4.61	4.69	3.41	4.14	5.77	3.77	4.44	4.69	4.18	4.67	4.43	4.51	2.80	NE	--	NE	--	Rzm	
557	SX Terrain RR(848)	4.67	4.80	4.71	4.73	4.73	4.93	3.69	5.58	4.31	4.73	4.45	4.24	4.43	4.35	4.38	4.73	4.35	3.95	4.54	4.34	Hi Rzm	
615	SX Winchester RR	3.97	3.67	4.89	3.82	4.18	3.85	3.07	5.06	3.46	3.99	4.63	4.28	4.35	4.46	4.42	4.11	3.95	4.97	4.03	4.34	Rzm	
<b>ACSC Experimental</b>																							
540	BTS 8500	4.54	4.45	--	4.50	--	4.22	3.54	--	3.88	--	4.43	4.19	--	4.31	--	1.90	2.41	--	2.16	--	Hi Rzm	
514	BTS 8512	4.04	4.12	--	4.08	--	4.17	3.91	--	4.04	--	4.44	4.28	--	4.36	--	2.71	2.70	--	2.71	--	Hi Rzm	
518	BTS 8524	4.74	4.40	--	4.57	--	3.89	3.33	--	3.61	--	4.20	4.14	--	4.17	--	3.38	2.88	--	3.13	--	Hi Rzm	
542	BTS 8572	4.41	4.60	--	4.50	--	4.46	4.05	--	4.25	--	4.54	3.85	--	4.20	--	2.23	2.54	--	2.39	--	Hi Rzm	
607	BTS 8603	4.96	--	--	--	--	4.69	--	--	--	--	4.64	--	--	--	--	1.93	--	--	--	--	Hi Rzm	
549	BTS 8606	5.12	--	--	--	--	4.60	--	--	--	--	4.48	--	--	--	--	2.69	--	--	--	--	Hi Rzm	
562	BTS 8610	4.77	--	--	--	--	3.51	--	--	--	--	3.88	--	--	--	--	2.87	--	--	--	--	Hi Rzm	
528	BTS 8614	4.66	--	--	--	--	4.59	--	--	--	--	4.31	--	--	--	--	1.65	--	--	--	--	Hi Rzm	
555	BTS 8629	4.59	--	--	--	--	4.14	--	--	--	--	3.73	--	--	--	--	4.04	--	--	--	--	Hi Rzm	
571	BTS 8634	4.52	--	--	--	--	4.07	--	--	--	--	3.95	--	--	--	--	2.15	--	--	--	--	Hi Rzm	
526	BTS 8642	4.74	--	--	--	--	3.57	--	--	--	--	4.25	--	--	--	--	2.89	--	--	--	--	Hi Rzm	
545	BTS 8682	4.32	--	--	--	--	4.20	--	--	--	--	3.85	--	--	--	--	2.15	--	--	--	--	Hi Rzm	
595	Crystal 467RR	4.69	4.34	4.40	4.51	4.47	4.04	3.55	4.33	3.80	3.97	4.26	3.97	4.03	4.12	4.09	1.84	2.46	2.61	2.15	2.30	Hi Rzm	
584	Crystal 572RR	4.57	4.65	--	4.61	--	4.74	4.33	--	4.54	--	4.21	3.89	--	4.05	--	1.82	2.36	--	2.09	--	Hi Rzm	
552	Crystal 573RR	4.35	4.15	--	4.25	--	4.06	3.69	--	3.88	--	4.55	4.25	--	4.40	--	3.49	3.02	--	3.25	--	Hi Rzm	
521	Crystal 574RR	4.51	4.30	--	4.41	--	3.69	2.93	--	3.31	--	4.47	4.16	--	4.32	--	1.82	2.00	--	1.91	--	Hi Rzm	
588	Crystal 575RR	4.53	4.53	--	4.53	--	4.83	3.88	--	4.36	--	4.33	4.18	--	4.26	--	2.97	2.90	--	2.94	--	Hi Rzm	
533	Crystal 576RR	4.54	4.55	--	4.55	--	3.97	3.24	--	3.60	--	4.01	3.68	--	3.85	--	2.02	2.46	--	2.24	--	Hi Rzm	
579	Crystal 578RR	4.87	4.93	--	4.90	--	4.44	4.52	--	4.48	--	4.32	4.03	--	4.18	--	1.99	2.42	--	2.21	--	Hi Rzm	
527	Crystal 664RR	4.57	--	--	--	--	3.74	--	--	--	--	4.41	--	--	--	--	1.76	--	--	--	--	Rzm	
590	Crystal 665RR	4.67	--	--	--	--	5.12	--	--	--	--	4.47	--	--	--	--	2.65	--	--	--	--	Rzm	
567	Crystal 666RR	4.70	--	--	--	--	4.45	--	--	--	--	4.71	--	--	--	--	1.72	--	--	--	--	Rzm	
573	Crystal 667RR	4.86	--	--	--	--	4.85	--	--	--	--	3.90	--	--	--	--	2.49	--	--	--	--	Rzm	
580	Hilleshög HIL9707	4.53	4.60	--	4.56	--	3.99	3.52	--	3.75	--	4.40	4.21	--	4.31	--	4.88	3.68	--	4.28	--	Hi Rzm	
559																							

**Table 5. Official Trial Disease Nurseries 2014 - 2016 (Varieties tested in 2016)**  
**Cercospora, Aphanomyces, Rhizoctonia & Fusarium**

Code	Description +	CR					Aph					Rhizoctonia					Fusarium					High Rzm
		16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	16 Mean	15 Mean	14 Mean	2 Yr Mean	3 Yr Mean	
<b>MDFC Commercial</b>																						
530	BTS 70RR99	4.36	4.34	4.20	4.35	4.30	4.41	3.25	3.57	3.83	3.74	4.15	3.86	3.90	4.01	3.97	3.24	2.79	3.46	3.01	3.16	Hi Rzm
608	BTS 7373	4.84	4.66	4.58	4.75	4.69	3.37	2.72	2.72	3.04	2.94	4.19	3.81	4.50	4.00	4.17	3.65	3.43	3.87	3.54	3.65	Hi Rzm
535	BTS 73MN	4.64	4.61	4.37	4.63	4.54	3.67	3.99	3.93	3.83	3.86	4.18	3.81	4.06	4.00	4.02	4.95	2.84	3.16	3.90	3.65	Hi Rzm
598	Crystal D352	4.73	4.81	4.67	4.77	4.74	3.78	3.38	3.80	3.58	3.65	3.72	3.54	3.91	3.63	3.73	2.07	2.42	2.49	2.25	2.33	Hi Rzm
574	Crystal RR012	4.54	4.61	4.59	4.58	4.58	4.73	3.87	3.83	4.30	4.14	3.88	3.99	4.09	3.93	3.99	2.93	2.96	3.38	2.94	3.09	Hi Rzm
546	Crystal RR228	4.32	4.24	4.19	4.28	4.25	3.29	2.84	2.35	3.07	2.83	4.54	3.98	4.48	4.26	4.34	4.16	3.44	4.40	3.80	4.00	Hi Rzm
575	Crystal RR260	4.77	3.98	4.34	4.37	4.36	4.55	4.07	4.67	4.31	4.43	4.38	4.04	4.51	4.21	4.31	2.62	2.73	2.75	2.68	2.70	Hi Rzm
550	Crystal RR830	4.90	5.06	4.69	4.98	4.88	4.57	3.82	3.92	4.19	4.10	3.80	3.71	3.72	3.75	3.74	3.72	2.98	4.10	3.35	3.60	Hi Rzm
534	Hilleshög 4062RR	4.35	4.39	4.58	4.37	4.44	4.49	4.49	3.83	4.49	4.27	4.09	3.44	3.40	3.76	3.64	5.08	4.04	4.97	4.56	4.70	Rzm
577	Hilleshög 4302RR	4.13	4.13	4.52	4.13	4.26	4.63	4.02	4.20	4.33	4.28	3.65	3.70	3.58	3.68	3.64	5.09	4.05	5.05	4.57	4.73	Rzm
612	Hilleshög 9528RR	4.73	5.16	4.97	4.94	4.95	3.77	2.97	5.44	3.37	4.06	4.21	4.10	3.83	4.16	4.05	4.52	4.00	4.80	4.26	4.44	Hi Rzm
601	SV RR747	4.14	4.07	4.73	4.11	4.31	4.22	4.08	4.67	4.15	4.32	4.16	4.18	4.10	4.17	4.15	4.71	4.82	-	4.77	-	Rzm
<b>MDFC Experimental</b>																						
544	BTS 7540	4.13	3.85	-	3.99	-	3.97	3.10	-	3.54	-	4.23	3.96	-	4.10	-	2.84	2.64	-	2.74	-	Hi Rzm
563	BTS 7550	4.48	4.57	-	4.52	-	4.39	3.64	-	4.01	-	4.23	4.01	-	4.12	-	2.47	2.82	-	2.54	-	Hi Rzm
605	BTS 7600	4.81	--	--	--	--	3.85	--	--	--	--	4.29	--	--	--	--	3.12	--	--	--	--	Hi Rzm
614	BTS 7607	4.72	--	--	--	--	5.29	--	--	--	--	4.28	--	--	--	--	2.95	--	--	--	--	Hi Rzm
547	BTS 7618	4.91	--	--	--	--	4.89	--	--	--	--	3.77	--	--	--	--	3.12	--	--	--	--	Hi Rzm
569	BTS 7629	4.31	--	--	--	--	4.10	--	--	--	--	3.99	--	--	--	--	2.28	--	--	--	--	Hi Rzm
592	Crystal D508	4.63	4.63	-	4.63	-	4.80	4.00	-	4.40	-	4.48	4.11	-	4.29	-	2.47	2.70	-	2.58	-	Hi Rzm
501	Crystal D609	4.44	--	--	--	--	3.91	--	--	--	--	4.11	--	--	--	--	2.35	--	--	--	--	Hi Rzm
583	Crystal D659	4.12	--	--	--	--	4.21	--	--	--	--	4.10	--	--	--	--	2.64	--	--	--	--	Hi Rzm
553	Crystal D678	4.46	--	--	--	--	3.81	--	--	--	--	4.35	--	--	--	--	2.89	--	--	--	--	Hi Rzm
532	Hilleshög 9602RR	4.67	4.66	4.67	4.66	4.67	4.43	4.67	4.55	4.55	4.55	4.21	3.91	4.12	4.06	4.08	4.76	4.29	-	4.53	-	Hi Rzm
509	Hilleshög HIL9880	4.70	--	--	--	--	3.57	--	--	--	--	4.51	--	--	--	--	2.36	--	--	--	--	Hi Rzm
578	Hilleshög HIL9881	4.10	--	--	--	--	3.69	--	--	--	--	4.31	--	--	--	--	5.25	--	--	--	--	Hi Rzm
611	Hilleshög HIL9882	4.74	--	--	--	--	4.48	--	--	--	--	4.42	--	--	--	--	4.43	--	--	--	--	Hi Rzm
538	Hilleshög HIL9883	4.55	--	--	--	--	4.15	--	--	--	--	4.17	--	--	--	--	5.13	--	--	--	--	Hi Rzm
600	Hilleshög HIL9884	4.63	--	--	--	--	4.21	--	--	--	--	4.28	--	--	--	--	4.73	--	--	--	--	Hi Rzm
504	Maribo MA605	4.49	--	--	--	--	3.87	--	--	--	--	4.47	--	--	--	--	1.91	--	--	--	--	Hi Rzm
576	Maribo MA606	4.57	--	--	--	--	4.33	--	--	--	--	4.16	--	--	--	--	5.61	--	--	--	--	Hi Rzm
512	Maribo MA607	5.02	--	--	--	--	4.75	--	--	--	--	4.37	--	--	--	--	4.80	--	--	--	--	Hi Rzm
503	Seedex RR1964	4.35	--	--	--	--	4.64	--	--	--	--	4.67	--	--	--	--	4.95	--	--	--	--	Rzm
591	Seedex RR1965	5.11	--	--	--	--	4.12	--	--	--	--	4.39	--	--	--	--	5.13	--	--	--	--	Rzm
581	SV RR655	4.11	3.83	-	3.97	-	3.85	3.41	-	3.63	-	4.55	3.86	-	4.21	-	5.55	5.31	-	5.43	-	Hi Rzm
543	SV RR656	4.64	4.32	-	4.48	-	4.03	4.65	-	4.34	-	4.50	4.02	-	4.26	-	5.12	3.53	-	4.33	-	Rzm
570	SV RR746	4.64	4.84	4.87	4.74	4.79	4.32	3.90	4.62	4.11	4.28	4.44	4.12	4.20	4.28	4.25	4.99	NE	-	NE	-	Rzm
606	SV RR761	5.05	--	--	--	--	4.40	--	--	--	--	4.40	--	--	--	--	5.13	--	--	--	--	Rzm
506	SV RR762	4.02	--	--	--	--	3.85	--	--	--	--	4.69	--	--	--	--	5.63	--	--	--	--	Rzm
594	SV RR763	4.66	--	--	--	--	4.18	--	--	--	--	4.57	--	--	--	--	5.19	--	--	--	--	Rzm
<b>ACSC Conventional</b>																						
908	BETA EXP 676	4.42	--	--	--	--	4.95	--	--	--	--	4.32	--	--	--	--	4.04	--	--	--	--	Hi Rzm
909	BETA EXP 687	4.14	--	--	--	--	4.88	--	--	--	--	4.16	--	--	--	--	3.41	--	--	--	--	Hi Rzm
910	BETA EXP 698	4.27	--	--	--	--	3.69	--	--	--	--	4.35	--	--	--	--	2.74	--	--	--	--	Hi Rzm
911	Crystal 620	4.19	--	--	--	--	4.28	--	--	--	--	4.54	--	--	--	--	2.73	--	--	--	--	Hi Rzm
907	Crystal 622	3.96	--	--	--	--	4.36	--	--	--	--	4.14	--	--	--	--	3.57	--	--	--	--	Hi Rzm
902	Crystal 624	4.35	--	--	--	--	5.48	--	--	--	--	4.27	--	--	--	--	3.42	--	--	--	--	Hi Rzm
903	Crystal R761	4.99	--	--	--	--	3.57	--	--	--	--	4.57	--	--	--	--	3.25	--	--	--	--	Hi Rzm
913	Hilleshög 3035Rz	4.53	--	--	--	--	4.40	--	--	--	--	3.93	--	--	--	--	3.65	--	--	--	--	Rzm
906	Hilleshög 9890Rz	4.99	--	--	--	--	4.76	--	--	--	--	4.59	--	--	--	--	4.22	--	--	--	--	Rzm
901	Hilleshög 9891Rz	4.42	--	--	--	--	4.45	--	--	--	--	4.22	--	--	--	--	3.76	--	--	--	--	Rzm
912	Maribo MA614Rz	4.61	--	--	--	--	4.38	--	--	--	--	4.25	--	--	--	--	2.75	--	--	--	--	Rzm
905	Maribo MA615Rz	5.04	--	--	--	--	4.80	--	--	--	--	4.54	--	--	--	--	5.11	--	--	--	--	Rzm
916	Seedex 8869 Cnv	4.76	--	--	--	--	4.70	--	--	--	--	4.67	--	--	--	--	2.92	--	--	--	--	Hi Rzm
914	Seedex Deuce (SX0873TT)	4.68	--	--	--	--	5.70	--	--	--	--	4.66	--	--	--	--	4.68	--	--	--	--	Hi Rzm
915	SV 48611	4.85	--	--	--	--	4.47	--	--	--	--	4.66	--	--	--	--	5.24	--	--	--	--	Hi Rzm
904	SV 48612	5.09	--	--	--	--	4.22	--	--	--	--	4.75	--	--	--	--	4.38	--	--	--	--	Hi Rzm

CR ratings on a scale of 1-9. Good < 4.5, Poor > 5.2

Created 11-4-2016.

Updated 12/2/2016

Aph root ratings on a scale of 1-9. Good < 4.4, Poor > 5.5. Specialty level is 4.4.

+ Rhizoctonia and Fusarium ratings are optional in first year of testing.

Rhiz = may perform better under severe Rzm.

NE indicates variety was not entered into disease nursery.

Table 6. Planting & Harvest Dates, Previous Crop and Disease Levels for 2016 ACSC & MDFC Official Trial Sites \*

Location	District / Trial Type	Cooperator	Planting Date	Harvest Date	Preceding Crop	Soil Type	Diseases Present @				Comments
							Aph	Rhc	Rzm	Fus	
Kindred ND	Mhd/Hlb	Scott Nipstad	5/2	Abandon	Wheat	Medium	L	N	N	N	N
Casselton	Mhd/Hlb	Todd Weber	4/22	10/20	Wheat	Medium/Light	L-M	L	N	N	L
Averill MN	Mhd/Hlb	Erlie Oberg	4/28	10/19	Soybeans	Light	L	L-M	M	N	N
Perley MN	EGF/Crk	Tim Hoff	5/10	10/10	Wheat	Medium	M-V	L	L-M	N	N
Ada MN	Mhd/Hlb	Corey Jacobson	4/23	10/14	Wheat	Medium	L	L	L-M	N	N
Hillsboro ND	EGF/Crk	SK Farms	5/1	10/13	Wheat	Medium/Light	L	N	N	N	L
Fisher MN	EGF/Crk	Scott Knutson	4/23	10/9	Wheat	Medium/Light	L-M	N	L	N	N
Crookston MN	EGF/Crk	Dennis Deboer	5/9	10/20	Wheat	Medium	L	N	L	N	N
Grand Forks ND	EGF/Crk	Robert Drees	4/29	9/20	Wheat	Medium/Light	N	L	N	N	N
Alvarado MN	EGF/Crk	Sands Farms	4/30	Abandon	Wheat	Medium/Heavy	NA	NA	NA	NA	Water damage.
St Thomas	Dtn	Tom Kennelly	5/4	9/26	Wheat	Medium/Light	L-M	M	L	N	N
Stephen	Dtn	Peter Hvidsten	5/4	10/2	Wheat	Medium	L	N	L	N	N
Cavalier	Dtn	Robert Vivatson	5/5	10/1	Wheat	Medium	M-V	L	N	N	N
Mhd Rho-S	Rhc Nurs	Jon Hickel	5/12	7/28	Soybeans	Medium/Heavy	L	V	N	L	N
Mhd Rho-E	Rhc Nurs	Jon Hickel	5/12	7/28	Soybeans	Medium/Heavy	L	V	N	L	N
Mhd Rho-W	Rhc Nurs	Jon Hickel	5/12	8/9	Soybeans	Medium/Heavy	L	V	N	L-M	N
NWROC Rhc	Rhc Nurs	Albert Sims	5/16	8/30	Soybeans	Medium	L	V	N	N	N
BSDF Rhc	Rhc Nurs	Mitch McGrath	5/8	8/10	NA	NA	NA	NA	NA	NA	N
Mhd SE Fus	Fusarium	Erlie Oberg	5/12	7/18	Soybeans	Medium	NA	L	N	V	NA
Mhd Fus	Fusarium	Kevin Nelson	5/12	7/20	Soybeans	Medium	NA	N	N	V	NA
Shakopee MN	Aph Nurs	Patrick O'Boyle	5/7	8/30	NA	NA	NA	NA	NA	NA	NA
Longmont CO	RA Nurs	Eric Runkle	4/22	10/10	NA	NA	NA	NA	NA	NA	NA
Foxhome CR	Cercospora	Kevin Etzler	5/13	8/29	Wheat	Medium	NA	L	NA	L	NA
BSDF CR	CR Nurs	Mitch McGrath	5/6	9/6	NA	NA	NA	NA	NA	NA	NA
Randolph MN CR	Cercospora	Patrick O'Boyle	5/3	8/9	NA	Medium/Light	NA	NA	NA	NA	NA
Barnesville	Minn-Dak	Meier Farms	5/1	10/23	Wheat	Medium	L	M	L-M	M	N
Foxhome MN	Minn-Dak	Bradow Farms	4/16	9/13	Corn	Medium	M	L-M	N	N	N
Mooretown ND	Minn-Dak	Skovholt Farms	4/16	9/12	Wheat	Medium	L	M-V	M	N	N
Norcross	Minn-Dak	Vipond Grain Farms	4/16	10/22	Corn	Medium/Light	L-M	M-V	N	N	Late season CR.

\* Fertilizer applied in accordance to cooperative recommendations.

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

Created 10/31/2016

Table 7. Seed Treatments Used on Approved Varieties in Official Variety Trials in 2016

Description	Years in Trial	Years ** Comm.	Seed Lot	Fungicide (Rhizoctonia)	Insecticide (Spring Tails & Maggots)	Tachigaren Rate (Aphanomyces)	Priming Emergence	Fungicide (Damping Off)
<b>ACSC Commercial</b>								
BTS 80RR52	7	5	5X14850	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 82RR28	5	3	5x21940	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 82RR33	5	3	5x22250	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8337	4	2	5x17540	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8363	4	2	5x22290	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 83CN	4	2	5x19150	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 093RR	7	5	PTK6-115	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 101RR	6	5	PTK6-159	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 246RR	5	3	PTK6-142	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 247RR	5	3	PTK6-106	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 355RR	4	1	PTK6-124	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 981RR	8	3	PTK6-150	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 986RR	8	5	PTK6-133	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshög 4094RR	9	7	12378996	Kabina 14g	Cruiser Maxx	NA	NA	Apron XL Maxim
Hilleshög 4302RR	6	3	12366395	Vibrance	Cruiser Maxx	45	XBEET	Apron XL Maxim
Hilleshög 4448RR	5	3	12362963	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
Hilleshög 9517RR	4	2	12379346	Vibrance	Cruiser Maxx	NA	NA	Apron XL Maxim
Hilleshög 9528RR	4	2	12362428	Vibrance	Cruiser Maxx	NA	XBEET	Apron XL Maxim
Maribo 102	6	2	12378978	Kabina 14g	Cruiser Maxx.	20	NA	Apron XL Maxim
Maribo 109	3	1	12378968	Vibrance	Cruiser Maxx.	20	NA	Apron XL Maxim
Maribo 305	4	1	12377947	Vibrance	NA	20	NA	Apron XL Maxim
SX Canyon RR(844TT)	3	1	67007	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SX Cruze RR(846)	3	1	67011	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SX Terrain RR(848)	3	1	NA	Metlock/Rizolex/Kabina 7g	Nipslt	20	NA	Sebring Thiram
SX Winchester RR(832)	4	2	67012	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SV RR241	3	1	63137	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SV RR244TT	3	1	63138	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SV RR333	4	1	63136	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
SV RR336	4	2	63152	Metlock/Rizolex/Kabina 7g	Nipslt	20	XBEET	Sebring Thiram
<b>ACSC Experimental</b>								
BTS 8500	2	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8512	2	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8524	2	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8572	2	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8603	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8606	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8610	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8614	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8629	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8634	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8642	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8682	1	NC	Exp	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 467RR	3	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 572RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 573RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 574RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 575RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 576RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 578RR	2	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 684RR	1	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 685RR	1	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 686RR	1	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 687RR	1	NC	Exp	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshög 9602RR	3	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9707	2	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9708	2	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9711	2	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9892	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9893	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9894	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9895	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9896	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9897	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA502	2	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA504	2	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA611	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA612	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA613	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Seedex RR1861	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
Seedex RR1862	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
Seedex RR1863	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
Seedex RR1864	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
Seedex RR0856	2	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
Seedex RR0858	2	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR265	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR266	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR267	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR268	1	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR351	2	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram
SV RR353	2	NC	Exp	Kabina 14g	Nipslt	20	NA	Sebring Thiram

Table 7. Seed Treatments Used on Approved Varieties in Official Variety Trials in 2016

Description	Years in Trial	Years ** Comm.	Seed Lot	Fungicide (Rhizoctonia)	Insecticide (Spring Tails & Maggots)	Tachigaren Rate (Aphanomyces)	Priming Emergence	Fungicide (Damping Off)
<b>ACSC Conventional</b>								
BETA EXP 676	1	NC	Conv	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 687	1	NC	Conv	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 698	1	NC	Conv	Kabina 14g	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 620	1	NC	Conv	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 622	1	NC	Conv	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 624	1	NC	Conv	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal R761	10	7	Conv	Kabina 14g	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshog 3035Rz	12	10	Conv	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog 9890Rz	1	NC	Conv	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog 9891Rz	1	NC	Conv	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA614Rz	1	NC	Conv	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA615Rz	1	NC	Conv	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Seedex 8869 Cnv	1	NC	Conv	Kabina 14g	Nipslt	45	NA	Sebring Thiram
Seedex Deuce (SX0873TT)	9	NC	Conv	Kabina 14g	Nipslt	45	NA	Sebring Thiram
SV 48611	1	NC	Conv	Kabina 14g	Nipslt	45	NA	Sebring Thiram
SV 48612	1	NC	Conv	Kabina 14g	Nipslt	45	NA	Sebring Thiram
<b>MDFC Commercial</b>								
BTS 70RR99	7	5	5x15830	Kabina 14g	Poncho Beta	NA	Ultipro	Allegiance Thiram
BTS 7373	4	2	5x20100	Kabina 14g	Poncho Beta	NA	Ultipro	Allegiance Thiram
BTS 73MN	4	2	5x14950	Kabina 14g	Poncho Beta	NA	Ultipro	Allegiance Thiram
Crystal D352	4	2	5x19250	Kabina 14g	NA	NA	NA	Allegiance Thiram
Crystal RR012	7	5	5x15380	Kabina 14g	NA	NA	NA	Allegiance Thiram
Crystal RR228	5	3	5x18540	Kabina 14g	NA	NA	NA	Allegiance Thiram
Crystal RR260	5	3	5x19820	Kabina 14g	NA	NA	NA	Allegiance Thiram
Crystal RR830	9	7	5x20010	Kabina 14g	NA	NA	NA	Allegiance Thiram
Hilleshog 4062RR	9	7	12383150	Vibrance	Cruiser Maxx	20	XBEET	Apron XL Maxim
Hilleshog 4302RR	6	1	12366397	Vibrance	NA	20	NA	Apron XL Maxim
Hilleshog 9528RR	4	1	12362428	Vibrance	NA	20	NA	Apron XL Maxim
SV RR747	3	1	63143	Kabina 14g	NA	NA	XBEET	Apron XL LS Thiram
<b>MDFC Experimental</b>								
BTS 7540	2	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
BTS 7550	2	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
BTS 7600	1	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
BTS 7607	1	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
BTS 7618	1	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
BTS 7629	1	NC	Exp	Kabina 14g	Poncho Beta	45	Ultipro	Allegiance Thiram
Crystal D508	2	NC	Exp	Kabina 14g	NA	45	NA	Allegiance Thiram
Crystal D609	1	NC	Exp	Kabina 14g	NA	45	NA	Allegiance Thiram
Crystal D659	1	NC	Exp	Kabina 14g	NA	45	NA	Allegiance Thiram
Crystal D678	1	NC	Exp	Kabina 14g	NA	45	NA	Allegiance Thiram
Hilleshog HIL9880	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog HIL9881	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog HIL9882	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog HIL9883	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog HIL9884	1	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshog 9602RR	3	NC	Exp	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA605	1	NC	Exp	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
Maribo MA606	1	NC	Exp	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
Maribo MA607	1	NC	Exp	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
SV RR746	3	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
SV RR655	2	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
SV RR656	2	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
SV RR761	1	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
SV RR762	1	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
SV RR763	1	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
Seedex RR1964	1	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram
Seedex RR1965	1	NC	Exp	Kabina 14g	NA	45	NA	Sebring Thiram

Seed received by ACSC without Tachigaren was treated with Tachigaren for the Aphanomyces nurseries.

NA indicates no treatment applied in this category.

Table 8. 2016 Performance of All RR Varieties - ACSC Official Trial

		9 sites																		
Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %T/A	Yield Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	Tare %			
<b>Commercial Trial</b>																				
BTS 80RR52	126	316.8	101	12074	104	1.12	51.45	103	1960	105	16.96	38.14	227	1493	386	0	71.5	8.7		
BTS 82RR28	113	309.4	99	11879	102	1.18	49.11	98	1888	101	16.65	38.37	269	1542	408	0	67.3	6.7		
BTS 82RR33	102	310.9	99	11748	101	1.07	49.60	99	1877	101	16.61	37.73	284	1437	340	0	72.5	8.5		
BTS 8337	119	325.2	104	11284	97	1.11	54.08	108	1877	101	17.37	34.68	263	1448	377	0	68.1	8.5		
BTS 8363	120	309.8	99	12163	105	1.03	49.25	98	1937	104	16.53	39.21	231	1392	344	0	74.0	9.3		
BTS 83CN	114	312.1	100	11501	99	1.04	49.95	100	1843	99	16.64	36.81	234	1431	343	0	71.8	7.3		
Crystal 093RR	109	319.1	102	11867	102	1.12	52.16	104	1942	104	17.07	37.13	198	1465	405	0	72.5	7.5		
Crystal 101RR	101	306.3	98	11759	101	1.23	48.13	96	1849	99	16.54	38.38	309	1609	412	0	69.0	6.8		
Crystal 246RR	107	305.3	98	11745	101	1.08	47.83	95	1845	99	16.35	38.38	277	1403	364	0	76.0	9.2		
Crystal 247RR	106	314.5	101	12486	107	1.05	50.72	101	2014	108	16.77	39.67	265	1453	329	0	68.3	7.6		
Crystal 355RR	121	322.3	103	11796	102	1.12	53.17	106	1947	104	17.24	36.56	222	1482	390	0	77.9	9.6		
Crystal 981RR	127	304.7	97	11409	98	1.24	47.65	95	1787	96	16.47	37.41	342	1581	415	0	68.2	7.0		
Crystal 986RR	122	318.8	102	11588	100	0.99	52.06	104	1895	102	16.93	36.28	250	1283	340	0	75.3	8.7		
Hilleshog 4094RR	117	305.3	98	10960	94	1.19	47.84	95	1717	92	16.46	35.88	308	1495	414	0	69.7	8.0		
Hilleshog 4302RR	116	317.4	102	11070	95	1.03	51.63	103	1801	97	16.90	34.87	268	1427	320	0	64.7	7.7		
Hilleshog 4448RR	105	309.1	99	11777	101	1.05	49.01	98	1873	100	16.50	37.99	231	1319	377	0	65.1	5.7		
Hilleshog 9517RR	125	321.7	103	10842	93	1.11	52.97	106	1786	96	17.20	33.67	295	1505	352	0	68.1	9.1		
Hilleshog 9528RR	110	319.1	102	12119	104	1.05	52.16	104	1982	106	17.00	37.94	261	1344	358	0	68.3	6.7		
Maribo 102	103	315.7	101	12002	103	1.00	51.10	102	1943	104	16.79	37.97	235	1262	356	0	74.5	6.3		
Maribo 109	111	332.4	106	11151	96	1.01	56.34	112	1889	101	17.63	35.52	217	1343	346	9	68.4	7.3		
Maribo MA305	112	307.5	98	11223	97	1.02	48.54	97	1773	95	16.39	36.44	245	1294	353	0	63.6	5.9		
SV RR241	129	319.3	102	11774	101	0.99	52.23	104	1929	104	16.96	36.80	201	1358	333	0	73.6	7.9		
SV RR244TT	104	317.6	102	11514	99	1.05	51.69	103	1877	101	16.92	36.21	220	1381	362	0	65.5	8.9		
SV RR333	118	318.3	102	11940	103	1.02	51.91	104	1950	105	16.94	37.46	217	1393	340	0	69.1	7.9		
SV RR336	108	301.0	96	11084	95	1.09	46.49	93	1710	92	16.14	36.85	270	1393	379	0	70.0	8.4		
SX Canyon RR(844TT)	128	317.4	102	11817	102	1.00	51.62	103	1926	103	16.87	37.16	227	1369	330	0	70.2	8.0		
SX Cruze RR(846)	115	299.6	96	11122	96	1.09	46.05	92	1712	92	16.07	37.08	259	1407	379	0	71.6	7.9		
SX Terrain RR(848)	123	318.2	102	11132	96	1.01	51.88	103	1818	98	16.92	34.92	232	1369	337	0	66.5	8.4		
SX Winchester RR	124	320.5	103	11143	96	0.97	52.60	105	1831	98	16.99	34.74	211	1390	302	0	67.7	8.0		
BTS 81RR17(Check)	130	310.2	99	11574	100	1.21	49.38	98	1845	99	16.72	37.25	226	1579	434	0	76.2	9.4		
<b>Experimental Trial (Comm status)</b>																				
BTS 8500	218	308.7	99	12395	107	1.09	48.95	98	1966	105	16.54	40.14	234	1462	377	0	75.0	4.8		
BTS 8512	227	315.8	101	11840	102	1.08	51.09	102	1917	103	16.87	37.48	249	1422	372	0	74.9	5.3		
BTS 8524	235	305.7	98	12416	107	1.15	48.08	96	1954	105	16.43	40.59	238	1550	394	0	78.4	6.5		
BTS 8572	203	323.3	103	11584	100	1.03	53.35	106	1913	103	17.21	35.80	200	1351	367	0	77.3	5.9		
BTS 8603	228	326.3	104	11448	99	1.14	54.24	108	1905	102	17.47	35.02	208	1477	414	0	77.2	7.3		
BTS 8606	246	317.3	101	12297	106	1.06	51.56	103	2000	107	16.94	38.71	243	1435	350	0	71.6	5.5		
BTS 8610	208	312.7	100	11318	97	1.04	50.14	100	1818	98	16.68	36.14	302	1354	337	0	71.3	5.2		
BTS 8614	241	311.2	100	12102	104	1.13	49.72	99	1936	104	16.68	38.83	259	1479	383	0	77.0	5.2		
BTS 8629	201	307.5	98	12320	106	1.05	48.59	97	1955	105	16.43	39.91	269	1268	383	9	78.4	4.9		
BTS 8634	242	312.8	100	11355	98	1.17	50.18	100	1826	98	16.81	36.20	261	1469	423	0	73.4	5.0		
BTS 8642	237	322.8	103	11095	95	1.01	53.18	106	1831	98	17.17	34.31	191	1349	351	0	79.6	5.8		
BTS 8682	219	319.2	102	11194	96	1.13	52.08	104	1830	98	17.07	35.05	228	1444	407	0	73.6	6.2		
Crystal 574RR	238	301.0	96	11920	103	1.16	46.62	93	1845	99	16.20	39.67	366	1508	368	0	71.2	5.3		
Crystal 572RR	222	324.7	104	11967	103	1.03	53.74	107	1982	106	17.27	36.85	200	1335	374	0	76.3	6.2		
Crystal 573RR	223	321.4	103	11985	103	1.06	52.77	105	1970	106	17.15	37.24	224	1424	363	0	72.7	5.9		
Crystal 574RR	207	307.8	98	13055	112	1.11	48.68	97	2070	111	16.50	42.28	229	1456	380	0	77.8	5.4		
Crystal 575RR	248	310.1	99	11970	103	1.21	49.36	98	1909	102	16.71	38.54	256	1532	436	0	70.4	6.4		
Crystal 576RR	243	309.7	99	11488	99	1.18	49.27	98	1830	98	16.66	37.05	258	1463	431	0	75.2	5.1		
Crystal 578RR	249	316.6	101	12413	107	1.03	51.31	102	2017	108	16.87	39.13	231	1416	337	0	75.7	6.1		
Crystal 684RR	205	308.1	99	13311	115	1.14	48.78	97	2111	113	16.54	43.13	264	1516	384	0	78.1	5.4		
Crystal 685RR	206	313.0	100	11898	102	1.04	50.23	100	1910	102	16.70	38.03	249	1368	360	0	69.6	5.4		
Crystal 686RR	250	323.5	103	11550	99	1.16	53.39	106	1910	102	17.34	35.64	232	1494	421	0	72.4	7.0		
Crystal 687RR	233	307.3	98	11754	101	1.06	48.53	97	1859	100	16.43	38.17	253	1525	398	0	72.5	4.8		
Hilleshog HIL9707	210	305.2	98	11064	95	1.12	47.91	96	1739	93	16.37	36.25	283	1453	379	0	60.6	4.5		
Hilleshog HIL9708	213	312.4	100	11576	100	1.04	50.07	100	1857	100	16.67	37.03	252	1347	360	0	77.7	5.1		
Hilleshog HIL9711	245	308.7	99	11753	101	1.04	48.93	98	1866	100	16.49	38.02	259	1334	363	0	71.2	4.5		
Hilleshog HIL9892	247	311.1	99	11579	100	1.03	49.66	99	1851	99	16.59	37.18	257	1377	337	0	69.6	5.3		
Hilleshog HIL9893	229	307.4	98	11971	103	1.08	48.57	97	1894	102	16.46	38.94	303	1334	378	0	74.2	4.4		
Hilleshog HIL9894	215	305.5	98	10754	93	1.06	48.00	96	1690	91	16.35	35.19	244	1423	359	0	72.6	4.5		
Hilleshog HIL9895	240	313.7	100	11630	100	1.20	50.45	101	1873	101	16.87	37.04	337	1548	400	9	71.5	4.9		
Hilleshog HIL9896	214	304.7	97	12164	105	1.06	47.74	95	1909	103	16.30	39								

Tabel 9. 2016 Performance of All Varieties - ACSC Official Trials

Casselton ND

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	320.3	102	13444	104	1.33	52.52	104	2203	106	17.34	41.88	204	1578	538	0	65.2
BTS 82RR28	113	317.0	101	12722	98	1.46	51.50	101	2060	99	17.30	40.43	249	1638	600	0	54.0
BTS 82RR33	102	309.7	98	11843	92	1.30	49.20	97	1871	90	16.79	38.38	327	1495	487	0	57.9
BTS 8337	119	326.8	104	11863	92	1.41	54.57	108	1977	95	17.76	36.56	230	1587	588	0	60.4
BTS 8363	120	316.4	101	13542	105	1.26	51.33	101	2202	106	17.08	42.63	247	1458	506	0	60.7
BTS 83CN	114	317.2	101	13089	101	1.24	51.57	102	2138	103	17.12	40.84	212	1502	484	0	62.5
CrystaL093RR	109	323.3	103	12292	95	1.40	53.48	105	2037	98	17.56	37.98	190	1532	607	0	68.3
CrystaL101RR	101	304.9	97	12737	98	1.58	47.71	94	1996	96	16.83	41.68	293	1731	652	0	61.7
CrystaL246RR	107	307.8	98	12531	97	1.31	48.63	96	1980	95	16.70	40.66	279	1449	525	0	72.6
CrystaL247RR	106	317.0	101	13419	104	1.28	51.50	101	2185	105	17.13	42.15	259	1533	489	0	61.9
CrystaL355RR	121	324.6	103	13293	103	1.43	53.90	106	2218	106	17.66	40.65	211	1604	606	0	70.9
CrystaL981RR	127	305.3	97	12263	95	1.60	47.83	94	1926	92	16.84	40.01	330	1715	659	0	61.0
CrystaL986RR	122	328.1	104	13284	103	1.17	54.97	108	2229	107	17.59	40.40	222	1203	506	0	66.5
Hilleshög 4094RR	117	291.2	93	11284	87	1.35	43.42	86	1686	81	15.91	38.62	319	1424	549	0	65.5
Hilleshög 4302RR	116	322.2	102	12590	97	1.22	53.13	105	2072	99	17.33	39.19	238	1516	453	0	64.6
Hilleshög 4448RR	105	283.9	90	10653	82	1.22	41.14	81	1543	74	15.41	37.66	308	1176	516	0	53.7
Hilleshög 9517RR	125	318.9	101	12323	95	1.39	52.08	103	2012	96	17.32	38.80	320	1564	541	0	58.2
Hilleshög 9528RR	110	324.4	103	12155	94	1.21	53.81	106	2013	97	17.43	37.61	237	1311	505	0	62.8
Maribo 102	103	304.2	97	11492	89	1.22	47.48	94	1804	87	16.42	37.55	263	1192	528	0	62.9
Maribo 109	111	326.4	104	12161	94	1.18	54.43	107	2037	98	17.50	37.18	233	1328	476	32	62.3
Maribo MA305	112	306.5	97	11781	91	1.24	48.22	95	1862	89	16.56	38.21	267	1292	520	0	56.0
SV RR241	129	324.5	103	12339	95	1.15	53.85	106	2050	98	17.38	37.88	203	1371	450	0	66.2
SV RR244TT	104	323.2	103	11793	91	1.32	53.44	105	1955	94	17.48	36.38	226	1460	554	0	52.1
SV RR333	118	316.4	101	12440	96	1.29	51.32	101	2027	97	17.11	39.05	238	1522	509	0	60.3
SV RR336	108	301.3	96	11712	91	1.35	46.59	92	1808	87	16.41	38.94	246	1439	571	0	60.0
SX Canyon RR(844TT)	128	297.7	95	11168	86	1.36	45.46	90	1707	82	16.24	37.79	284	1557	533	0	59.1
SX Cruze RR(846)	115	303.4	96	12411	96	1.47	47.23	93	1927	92	16.63	41.15	252	1526	638	0	63.9
SX Terrain RR(848)	123	318.3	101	11454	89	1.18	51.92	102	1866	89	17.10	35.99	247	1394	457	0	55.3
SX Winchester RR(832)	124	326.3	104	12841	99	1.12	54.42	107	2145	103	17.45	39.05	204	1403	421	0	58.5
BTS 81RR17(Check)	130	310.9	99	12993	100	1.55	49.60	98	2071	99	17.10	41.93	241	1655	670	0	67.5
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	307.2	98	13792	107	1.38	48.57	96	2169	104	16.73	45.09	215	1615	565	0	70.6
BTS 8512	227	319.7	102	13655	106	1.34	52.28	103	2236	107	17.34	42.61	217	1565	537	0	65.2
BTS 8524	235	300.9	96	15057	116	1.60	46.66	92	2345	112	16.62	49.77	277	1729	680	0	75.0
BTS 8572	203	321.1	102	14168	109	1.30	52.68	104	2325	111	17.38	43.99	182	1421	568	0	70.2
BTS 8603	228	323.4	103	14912	115	1.46	53.35	105	2455	118	17.62	46.17	202	1545	646	0	71.2
BTS 8606	246	328.3	104	14566	113	1.25	54.83	108	2429	116	17.70	44.40	214	1541	477	0	67.2
BTS 8610	208	313.1	100	13454	104	1.26	50.31	99	2169	104	16.94	42.77	247	1448	498	0	56.6
BTS 8614	241	304.0	97	15241	118	1.49	47.61	94	2383	114	16.68	50.14	296	1610	614	0	72.3
BTS 8629	201	311.8	99	14127	109	1.27	49.91	98	2264	109	16.90	45.22	242	1382	533	0	64.4
BTS 8634	242	307.0	98	13097	101	1.69	48.48	96	2054	98	16.97	42.95	335	1675	745	0	68.3
BTS 8642	237	325.0	103	13070	101	1.30	53.84	106	2166	104	17.57	40.16	187	1520	535	0	78.3
BTS 8682	219	314.2	100	13805	107	1.40	50.63	100	2222	107	17.12	43.92	237	1533	594	0	71.5
CrystaL467RR	238	307.6	98	13515	104	1.36	48.67	96	2143	103	16.75	43.81	350	1540	518	0	58.0
CrystaL572RR	222	326.8	104	14157	109	1.29	54.38	107	2339	112	17.63	43.55	185	1491	540	0	72.9
CrystaL573RR	223	317.9	101	12420	110	1.44	51.73	102	2327	112	17.35	44.57	232	1553	617	0	65.3
CrystaL574RR	207	304.5	97	16526	128	1.44	47.74	94	2590	124	16.65	54.22	237	1622	600	0	70.2
CrystaL575RR	248	300.3	95	12985	100	1.70	46.49	92	2001	96	16.65	43.42	234	1799	754	0	70.1
CrystaL576RR	243	312.1	99	13482	104	1.61	50.01	99	2142	103	17.15	43.56	256	1638	725	0	70.8
CrystaL578RR	249	318.5	101	13527	105	1.32	51.91	102	2200	105	17.23	42.42	223	1546	525	0	66.3
CrystaL684RR	205	306.3	97	15744	122	1.48	48.28	95	2468	118	16.77	51.61	260	1685	602	0	70.5
CrystaL685RR	206	318.6	101	12645	98	1.24	51.93	102	2060	99	17.19	39.68	251	1441	481	383	60.2
CrystaL668RR	250	332.0	106	13911	107	1.38	55.92	110	2339	112	17.99	41.92	193	1581	579	0	62.1
CrystaL667RR	233	304.3	97	11519	89	1.30	47.68	94	1792	86	16.51	38.11	241	1293	577	0	63.6
Hilleshög 9602RR	239	303.9	97	14570	113	1.30	47.58	94	2283	109	16.51	47.93	290	1530	496	0	74.2
Hilleshög HIL9707	210	302.4	96	12729	98	1.38	47.12	93	1973	95	16.51	42.33	297	1513	555	0	46.8
Hilleshög HIL9708	213	301.4	96	12820	99	1.43	46.81	92	1980	95	16.46	42.67	299	1420	616	0	63.7
Hilleshög HIL9711	245	304.6	97	12842	99	1.35	47.78	94	2005	96	16.57	42.38	299	1389	567	0	65.6
Hilleshög HIL9892	247	316.8	101	15028	116	1.18	51.39	101	2428	116	17.04	47.58	244	1395	456	0	57.0
Hilleshög HIL9893	229	303.3	96	12363	96	1.40	47.37	93	1924	92	16.54	40.86	302	1380	612	0	56.4
Hilleshög HIL9894	215	305.2	97	11580	89	1.37	47.93	94	1814	87	16.63	38.04	254	1490	575	0	62.4
Hilleshög HIL9895	240	318.8	101	14259	110	1.54	51.97	102	2318	111	17.45	44.79	297	1679	635	0	67.6
Hilleshög HIL9896	214	293.0	93	12907	100	1.34	44.32	87	1964	94	15.99	43.78	338	1517	512	0	64.8
Hilleshög HIL9897	220	305.7	97	13924	108	1.34	48.10	95	2182	105	16.62	45.65	268	1438	555	0	73.6
Maribo MA502	230	306.2	97	13886	107	1.55	48.23	95	2167	104	16.81	45.72	337	1639	643	0	65.8
Maribo MA504	204	300.4	96	13594	105	1.40	46.55	92	2098	101	16.42	45.42	297				

Table 10. 2016 Performance of All Varieties - ACSC Official Trials

Averill MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	309.0	101	12175	105	1.48	49.00	103	1932	106	16.94	39.39	351	1684	573	0	64.8
BTS 82RR28	113	289.1	95	12049	104	1.70	42.76	90	1785	98	16.15	41.54	514	1778	651	0	58.3
BTS 82RR33	102	305.9	100	12205	105	1.45	48.01	101	1908	105	16.74	39.95	520	1572	514	0	66.7
BTS 8337	119	312.9	103	11001	95	1.47	50.20	105	1759	97	17.10	35.27	466	1568	550	0	51.6
BTS 8363	120	308.1	101	12117	104	1.45	48.73	102	1915	105	16.88	39.36	429	1531	561	0	62.7
BTS 83CN	114	296.1	97	10967	94	1.52	44.95	94	1663	92	16.31	36.96	422	1634	587	0	59.6
CrystaL093RR	109	321.4	105	12441	107	1.47	52.89	111	2049	113	17.53	38.60	328	1595	589	0	64.3
CrystaL101RR	101	297.6	98	11860	102	1.66	45.43	95	1811	100	16.55	39.96	549	1778	613	0	63.6
CrystaL246RR	107	300.3	99	11670	101	1.55	46.26	97	1796	99	16.59	39.03	491	1595	596	0	67.7
CrystaL247RR	106	310.4	102	12511	108	1.41	49.42	104	1984	109	16.93	40.60	438	1657	491	0	62.4
CrystaL355RR	121	309.3	102	11301	97	1.55	49.09	103	1793	99	17.02	36.49	460	1625	598	0	70.7
CrystaL981RR	127	302.7	99	11598	100	1.60	47.03	99	1805	99	16.72	38.23	525	1735	582	0	63.7
CrystaL986RR	122	314.8	103	10966	94	1.38	50.81	107	1771	98	17.13	34.89	432	1400	536	0	71.6
Hilleshög 4094RR	117	287.2	94	10588	91	1.78	42.17	88	1552	85	16.14	37.02	568	1786	696	0	53.1
Hilleshög 4302RR	116	306.9	101	11122	96	1.39	48.35	101	1751	96	16.76	36.35	487	1593	475	0	50.9
Hilleshög 4448RR	105	309.5	102	12604	109	1.38	49.15	103	2000	110	16.82	40.73	364	1480	536	0	66.9
Hilleshög 9517RR	125	316.0	104	11546	99	1.49	51.18	107	1868	103	17.29	36.48	510	1610	538	0	59.9
Hilleshög 9528RR	110	309.3	102	12564	108	1.45	49.07	103	1987	109	16.93	40.77	427	1514	564	0	64.0
Maribo 102	103	310.0	102	12276	106	1.32	49.32	103	1948	107	16.81	39.68	384	1382	512	0	66.1
Maribo 109	111	328.9	108	11476	99	1.36	55.24	116	1925	106	17.81	34.94	361	1482	525	0	55.7
Maribo MA305	112	295.9	97	11238	97	1.39	44.90	94	1696	93	16.15	38.11	420	1454	531	0	57.5
SV RR241	129	312.1	102	11476	99	1.39	49.98	105	1840	101	17.02	36.75	349	1542	542	0	58.9
SV RR244TT	104	314.4	103	11402	98	1.42	50.67	106	1835	101	17.12	36.32	395	1525	550	0	50.7
SV RR333	118	303.6	100	12121	104	1.46	47.31	99	1887	104	16.63	39.89	415	1549	563	0	62.1
SV RR336	108	292.2	96	11192	96	1.51	43.72	92	1677	92	16.09	38.31	454	1583	581	0	59.7
SX Canyon RR(844TT)	128	316.6	104	12038	104	1.30	51.37	108	1954	108	17.15	37.96	350	1521	473	0	61.7
SX Cruze RR(846)	115	294.8	97	11180	96	1.46	44.56	93	1694	93	16.20	37.90	444	1602	544	0	54.7
SX Terrain RR(848)	123	314.8	103	11170	96	1.38	50.81	107	1802	99	17.10	35.48	361	1540	522	0	56.8
SX Winchester RR(832)	124	304.7	100	10806	93	1.40	47.66	100	1693	93	16.65	35.41	412	1637	496	0	60.0
BTS 81RR17(Check)	130	305.4	100	11276	97	1.60	47.87	100	1770	97	16.87	36.86	374	1685	657	0	68.8
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	306.8	101	12476	107	1.48	48.27	101	1960	108	16.83	40.84	373	1520	611	0	63.1
BTS 8512	227	302.9	99	11702	101	1.54	47.13	99	1818	100	16.72	38.48	452	1633	596	0	66.5
BTS 8524	235	305.9	100	12593	108	1.47	48.02	101	1986	109	16.78	40.92	403	1625	557	0	70.6
BTS 8572	203	316.0	104	11090	96	1.45	50.98	107	1796	99	17.29	34.93	307	1533	608	0	67.6
BTS 8603	228	324.4	106	10898	94	1.63	53.43	112	1798	99	17.84	33.76	335	1671	699	0	71.3
BTS 8606	246	318.6	105	13574	117	1.47	51.74	109	2207	122	17.43	42.29	359	1577	577	0	65.3
BTS 8610	208	298.6	98	10595	91	1.58	45.86	96	1626	90	16.50	35.67	570	1578	605	0	60.2
BTS 8614	241	305.7	100	11778	101	1.59	47.94	101	1835	101	16.87	38.79	510	1626	614	0	69.9
BTS 8629	201	312.0	102	12111	104	1.42	49.80	104	1939	107	17.02	39.18	427	1368	591	0	69.3
BTS 8634	242	304.8	100	11536	99	1.60	47.69	100	1819	100	16.85	37.38	421	1657	642	0	58.1
BTS 8642	237	315.6	104	11354	98	1.39	50.84	107	1839	101	17.19	36.11	315	1530	567	0	73.6
BTS 8682	219	308.7	101	10884	94	1.56	48.84	102	1729	95	17.00	35.10	444	1524	651	0	59.2
CrystaL467RR	238	291.2	96	11280	97	1.65	43.69	92	1676	92	16.19	39.64	714	1666	593	0	55.7
CrystaL572RR	222	319.2	105	11467	99	1.48	51.91	109	1862	103	17.45	36.12	350	1506	618	0	71.9
CrystaL573RR	223	317.9	104	11945	103	1.46	51.54	108	1949	107	17.39	37.00	365	1611	560	0	68.0
CrystaL574RR	207	301.9	99	13628	117	1.48	46.84	98	2136	118	16.61	44.44	371	1620	578	0	70.2
CrystaL575RR	248	297.5	98	12127	104	1.69	45.54	96	1861	102	16.56	40.86	470	1723	694	0	55.3
CrystaL576RR	243	308.7	101	10973	95	1.60	48.86	103	1731	95	17.02	35.99	447	1636	647	0	59.8
CrystaL578RR	249	312.7	103	12904	111	1.44	49.99	105	2069	114	17.11	40.83	408	1597	534	0	69.4
CrystaL684RR	205	301.0	99	13632	117	1.54	46.56	98	2129	117	16.61	44.66	448	1628	605	0	78.1
CrystaL685RR	206	295.8	97	10781	93	1.65	45.04	94	1647	91	16.41	36.65	524	1534	693	383	56.2
CrystaL686RR	250	322.0	106	11431	98	1.52	52.76	111	1880	104	17.66	35.00	347	1612	617	0	62.1
CrystaL687RR	233	296.5	97	11329	98	1.58	45.23	95	1736	96	16.39	37.97	473	1374	686	0	64.9
Hilleshög 9602RR	239	297.7	98	12100	104	1.50	45.59	96	1853	102	16.39	40.66	464	1652	556	95	69.8
Hilleshög HIL9707	210	291.6	96	10455	90	1.65	43.82	92	1559	86	16.21	36.80	476	1741	661	0	55.4
Hilleshög HIL9708	213	299.7	98	11305	97	1.39	46.17	97	1746	96	16.38	38.16	492	1482	515	0	67.9
Hilleshög HIL9711	245	298.0	98	12072	104	1.47	45.68	96	1857	102	16.39	40.19	529	1466	551	0	65.2
Hilleshög HIL9892	247	308.0	101	11405	98	1.43	48.64	102	1809	100	16.83	37.10	457	1580	520	0	58.6
Hilleshög HIL9893	229	300.6	97	12156	105	1.40	46.44	97	1873	103	16.46	40.88	464	1420	551	0	73.6
Hilleshög HIL9894	215	305.9	100	11497	99	1.39	48.02	101	1808	100	16.70	37.71	403	1575	521	0	60.6
Hilleshög HIL9895	240	296.1	97	11367	98	1.68	45.14	95	1743	96	16.47	38.17	594	1690	645	0	63.8
Hilleshög HIL9896	214	296.4	97	11575	100	1.46	45.21	95	1775	98	16.30	38.64	490	1605	520	0	64.3
Hilleshög HIL9897	220	283.0	93	10655	92	1.56	41.29	87	1552	85	15.73	37.79	494	1631	610	0	68.7
Maribo MA502	230	289.1	95	11125	96	1.69	43.07	90	1636	90	16.12	39.80	570	1666	680	0	60.3
Maribo MA504	204	296.8	97	11682	101	1.55	45.33	95	1792	99	16.40	38.92</					

Table 11. 2016 Performance of All Varieties - ACSC Official Trials

Perley MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	312.5	101	8553	104	1.06	50.10	103	1369	105	16.69	27.36	160	1622	336	0	83.3
BTS 82RR28	113	294.6	96	7786	94	1.23	44.49	91	1167	90	15.97	26.52	210	1739	406	0	90.2
BTS 82RR33	102	297.8	97	7754	94	1.10	45.49	94	1185	91	15.98	26.15	282	1577	338	0	90.5
BTS 8337	119	315.9	103	7747	94	1.08	51.14	105	1256	96	16.87	24.47	217	1532	351	0	89.1
BTS 8363	120	300.6	98	7504	91	1.03	46.36	95	1166	89	16.05	24.77	173	1519	328	0	86.2
BTS 83CN	114	302.5	98	8022	97	1.07	46.95	97	1244	95	16.19	26.58	184	1578	348	0	89.2
CrystaL093RR	109	316.2	103	8241	100	1.10	51.26	105	1333	102	16.92	26.12	181	1576	373	0	87.3
CrystaL101RR	101	299.0	97	8374	101	1.28	45.88	94	1287	99	16.23	27.94	237	1800	419	0	86.9
CrystaL246RR	107	302.6	98	8164	99	1.12	46.99	97	1270	97	16.25	26.88	258	1562	357	0	83.6
CrystaL247RR	106	307.3	100	8241	100	1.03	48.45	100	1297	100	16.39	26.89	231	1531	316	0	79.9
CrystaL355RR	121	318.4	103	7748	94	1.11	51.95	107	1257	96	17.05	24.48	183	1676	354	0	90.7
CrystaL981RR	127	293.4	95	7867	95	1.22	44.11	91	1184	91	15.89	26.74	272	1675	393	0	88.1
CrystaL986RR	122	314.9	102	8504	103	1.01	50.84	105	1379	106	16.75	26.94	225	1337	345	0	90.9
Hilleshög 4094RR	117	299.1	97	8030	97	1.19	45.89	94	1225	94	16.15	26.97	271	1582	399	32	85.9
Hilleshög 4302RR	116	315.8	103	7872	95	0.99	51.11	105	1272	98	16.78	24.93	207	1509	294	0	85.5
Hilleshög 4448RR	105	306.0	99	8941	108	1.06	48.06	99	1408	108	16.36	29.16	212	1382	374	0	84.8
Hilleshög 9517RR	125	317.3	103	7620	92	1.10	51.58	106	1240	95	16.96	23.97	263	1601	332	0	82.4
Hilleshög 9528RR	110	310.7	101	8694	105	1.07	49.51	102	1383	106	16.60	28.05	248	1473	340	0	75.8
Maribo 102	103	308.2	100	8793	107	1.01	48.74	100	1395	107	16.42	28.38	223	1353	334	0	85.8
Maribo 109	111	326.9	106	7443	90	0.96	54.60	112	1243	95	17.30	22.79	210	1445	287	0	87.2
Maribo MA305	112	304.3	99	8737	106	0.93	47.51	98	1358	104	16.15	28.81	221	1335	285	0	89.2
SV RR241	129	310.8	101	8147	99	0.93	49.56	102	1304	100	16.46	26.14	176	1403	286	0	92.2
SV RR244TT	104	300.5	98	7426	90	1.11	46.32	95	1140	87	16.14	24.82	225	1527	374	0	79.6
SV RR333	118	312.6	102	8166	99	0.97	50.11	103	1308	100	16.60	26.25	179	1467	305	0	85.9
SV RR336	108	296.2	96	7647	93	1.12	44.99	92	1160	89	15.93	25.95	223	1540	377	0	90.8
SX Canyon RR(844TT)	128	305.7	99	7982	97	1.05	47.96	99	1252	96	16.34	26.02	217	1481	341	0	86.7
SX Cruze RR(846)	115	293.8	95	8378	102	1.07	44.23	91	1264	97	15.76	28.55	192	1484	373	0	86.4
SX Terrain RR(848)	123	308.1	100	7361	89	1.00	48.73	100	1164	89	16.40	23.95	199	1493	296	0	86.3
SX Winchester RR(832)	124	317.5	103	8248	100	0.97	51.67	106	1341	103	16.84	25.94	177	1421	309	0	84.3
BTS 81RR17(Check)	130	304.3	99	8207	99	1.22	47.51	98	1285	99	16.43	26.86	230	1710	411	0	89.2
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	305.7	99	9329	113	1.06	47.98	99	1461	112	16.35	30.54	157	1539	355	0	88.4
BTS 8512	227	308.7	100	8465	103	1.10	48.90	101	1344	103	16.53	27.29	224	1553	352	0	87.9
BTS 8524	235	305.3	99	8862	107	1.08	47.86	98	1394	107	16.36	28.87	210	1693	318	0	90.6
BTS 8572	203	329.5	107	8656	105	0.99	55.37	114	1458	112	17.46	26.17	138	1511	318	0	91.4
BTS 8603	228	316.0	103	7849	95	1.16	51.17	105	1279	98	16.96	24.61	190	1574	406	0	88.7
BTS 8606	246	320.0	104	8760	106	0.94	52.43	108	1445	111	16.94	27.14	168	1463	283	0	91.6
BTS 8610	208	302.3	98	8033	97	1.01	46.91	96	1255	96	16.14	26.34	233	1491	304	0	88.4
BTS 8614	241	305.8	99	8487	103	1.04	48.01	99	1338	103	16.35	27.57	174	1630	319	0	86.3
BTS 8629	201	296.9	96	8683	105	1.08	45.20	93	1318	101	15.92	29.31	221	1415	375	0	93.9
BTS 8634	242	309.6	101	8685	105	1.11	49.17	101	1376	106	16.58	28.11	204	1552	371	0	89.1
BTS 8642	237	314.4	102	8232	100	0.98	50.69	104	1343	103	16.71	25.82	143	1500	311	0	91.1
BTS 8682	219	312.4	101	6903	84	1.12	50.06	103	1108	85	16.74	21.99	209	1654	355	0	86.3
CrystaL467RR	238	299.7	97	8559	104	1.13	46.08	95	1329	102	16.13	28.25	281	1632	339	0	83.5
CrystaL572RR	222	326.1	106	8238	100	0.97	54.32	112	1378	106	17.28	25.11	133	1472	320	0	92.8
CrystaL573RR	223	326.1	106	8540	103	1.02	54.33	112	1430	110	17.33	26.00	150	1535	330	0	87.6
CrystaL574RR	207	303.2	98	8916	108	1.00	47.20	97	1402	108	16.18	29.04	170	1514	315	0	88.1
CrystaL575RR	248	308.1	100	9435	114	1.13	48.72	100	1500	115	16.53	30.39	163	1679	372	0	83.9
CrystaL576RR	243	310.8	101	9299	113	1.09	49.56	102	1491	114	16.63	29.65	221	1616	332	0	89.1
CrystaL578RR	249	316.2	103	9339	113	0.99	51.24	105	1516	116	16.80	29.45	200	1529	295	0	90.5
CrystaL684RR	205	297.2	97	9993	121	1.12	45.29	93	1522	117	15.98	33.60	208	1603	363	0	91.1
CrystaL685RR	206	305.5	99	8968	109	1.00	47.91	98	1412	108	16.28	29.16	206	1461	308	873	87.7
CrystaL686RR	250	317.1	103	8881	108	1.18	51.53	106	1450	111	17.04	27.79	177	1646	412	0	87.9
CrystaL687RR	233	293.9	95	9187	111	1.08	44.08	91	1404	108	15.76	30.79	220	1401	377	0	90.1
Hilleshög 9602RR	239	304.5	99	8001	97	1.03	47.59	98	1261	97	16.26	26.02	227	1567	300	0	88.4
Hilleshög HIL9707	210	303.3	99	8124	98	1.02	47.21	97	1269	97	16.20	26.66	232	1497	310	0	78.3
Hilleshög HIL9708	213	321.9	105	8362	101	0.93	53.02	109	1383	106	17.04	25.75	184	1398	288	0	87.3
Hilleshög HIL9711	245	315.3	102	8378	102	0.95	50.95	105	1356	104	16.71	26.49	182	1423	293	0	83.9
Hilleshög HIL9892	247	317.9	103	7743	94	1.00	51.77	106	1266	97	16.89	24.25	216	1514	297	0	88.5
Hilleshög HIL9893	229	307.1	100	8282	100	1.02	48.42	100	1302	100	16.38	27.03	240	1450	318	0	83.8
Hilleshög HIL9894	215	312.5	101	7464	90	0.98	50.09	103	1204	92	16.61	23.63	181	1457	310	0	79.6
Hilleshög HIL9895	240	312.7	102	8230	100	1.11	50.16	103	1320	101	16.74	26.27	238	1708	322	0	88.7
Hilleshög HIL9896	214	313.8	102	8483	103	0.94	50.50	104	1372	105	16.63	26.87	192	1448	279	0	88.9
Hilleshög HIL9897	220	303.6	99	8795	107	1.03	47.32	97	1374	105	16.22	28.83	272	1526	293	0	83.8
Maribo MA502	230	301.9	98	7894	97	1.14	46.78	96	1252	96	16.25	26.06	262	1621	352	0	86.9
Maribo MA504	204	306.6	100	8296	101	1.04	48.25	98	1312	101	16.38	26.88	227	1433	338	0	85.4
Maribo MA611																	

Table 12. 2016 Performance of All Varieties - ACSC Official Trials

Ada MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	329.3	103	14274	105	1.00	55.35	105	2401	107	17.48	43.10	162	1410	345	0	62.5
BTS 82RR28	113	311.8	97	13977	103	1.11	49.87	95	2240	100	16.71	44.56	213	1510	380	0	52.6
BTS 82RR33	102	323.8	101	14605	107	0.94	53.62	102	2423	108	17.13	44.97	199	1386	291	0	62.9
BTS 8337	119	331.9	104	13834	102	1.04	56.16	107	2337	104	17.62	41.91	177	1467	352	0	52.2
BTS 8363	120	316.9	99	14857	109	0.92	51.47	98	2412	108	16.76	47.06	156	1315	312	0	65.6
BTS 83CN	114	319.2	100	13972	103	0.98	52.21	99	2281	102	16.94	43.73	172	1356	334	0	66.3
CrystaL093RR	109	326.5	102	13947	102	1.06	54.47	104	2320	104	17.38	42.91	151	1468	374	0	61.5
CrystaL101RR	101	317.3	99	13841	102	1.10	51.59	98	2238	100	16.96	43.81	212	1554	362	0	54.5
CrystaL246RR	107	316.5	99	14105	103	0.98	51.35	98	2302	103	16.81	44.34	179	1356	332	0	67.7
CrystaL247RR	106	321.5	100	15029	110	0.96	52.90	101	2477	111	17.04	46.63	210	1394	295	0	64.1
CrystaL355RR	121	332.1	104	14194	104	1.03	56.23	107	2398	107	17.63	42.73	157	1413	363	0	66.5
CrystaL981RR	127	304.8	95	13129	96	1.15	47.68	91	2056	92	16.40	42.80	283	1591	367	0	52.5
CrystaL986RR	122	323.5	101	13612	100	0.92	53.54	102	2244	100	17.10	41.95	253	1243	288	0	64.1
Hilleshög 4094RR	117	311.8	97	13175	97	1.12	49.86	95	2102	94	16.72	42.07	190	1436	421	0	57.9
Hilleshög 4302RR	116	319.1	100	12804	94	0.96	52.17	99	2111	94	16.94	39.75	209	1401	297	0	53.7
Hilleshög 4448RR	105	308.1	96	13308	98	1.02	48.71	93	2109	94	16.43	43.13	172	1325	377	0	51.5
Hilleshög 9517RR	125	334.1	104	12548	92	0.96	56.87	108	2137	96	17.67	37.64	181	1459	292	0	60.1
Hilleshög 9528RR	110	324.1	101	14204	104	1.03	53.73	102	2346	105	17.23	43.98	276	1306	346	0	60.4
Maribo 102	103	316.5	99	13612	100	0.91	51.33	98	2202	98	16.72	43.34	176	1210	323	0	64.4
Maribo 109	111	336.3	105	12774	94	0.99	57.55	110	2178	97	17.80	38.29	188	1333	349	0	57.3
Maribo MA305	112	311.3	97	13105	96	0.94	49.73	95	2098	94	16.50	42.18	171	1274	326	0	51.8
SV RR241	129	325.7	102	14499	106	0.86	54.22	103	2410	108	17.13	44.75	135	1266	281	0	71.9
SV RR244TT	104	324.2	101	13965	102	0.94	53.76	102	2308	103	17.15	43.17	143	1362	317	0	54.8
SV RR333	118	335.5	105	14583	107	0.91	57.30	109	2487	111	17.69	43.48	140	1340	301	0	61.8
SV RR336	108	298.2	93	13287	97	1.00	45.62	87	2024	90	15.91	44.79	232	1398	318	0	60.7
SX Canyon RR(844TT)	128	327.6	102	14157	104	0.89	54.82	104	2366	106	17.27	43.32	146	1279	300	0	67.0
SX Cruze RR(846)	115	306.5	96	13588	100	0.98	48.22	92	2134	95	16.31	44.35	184	1364	335	0	64.0
SX Terrain RR(848)	123	327.6	102	13780	101	0.90	54.83	104	2306	103	17.28	42.34	169	1325	284	0	60.2
SX Winchester RR(832)	124	328.8	103	13261	97	0.84	55.19	105	2231	100	17.28	40.40	159	1287	249	0	60.3
BTS 81RR17(Check)	130	314.7	98	13599	100	1.16	50.78	97	2198	98	16.89	43.18	188	1555	412	0	67.4
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	316.8	99	14023	103	0.97	51.45	98	2278	102	16.81	44.29	150	1414	325	0	56.2
BTS 8512	227	323.5	101	13752	101	1.02	53.52	102	2287	102	17.19	42.09	176	1402	353	0	55.2
BTS 8524	235	310.5	97	14904	109	1.00	49.54	94	2376	106	16.52	48.18	167	1496	313	0	65.3
BTS 8572	203	325.2	102	13754	101	0.93	54.01	103	2292	102	17.20	42.00	118	1291	337	0	74.7
BTS 8603	228	338.9	106	13799	101	0.95	58.26	111	2382	106	17.90	40.46	151	1389	311	0	55.0
BTS 8606	246	326.0	102	13813	101	0.93	54.31	104	2305	103	17.25	42.19	163	1331	313	0	63.9
BTS 8610	208	319.5	100	13425	98	0.93	52.30	100	2201	98	16.92	41.97	268	1309	280	0	63.0
BTS 8614	241	317.2	99	13249	97	0.93	51.59	98	2159	97	16.80	41.70	147	1368	310	0	56.4
BTS 8629	201	316.5	99	13658	100	0.95	51.37	98	2224	99	16.78	43.06	237	1213	332	0	72.4
BTS 8634	242	317.3	99	12691	93	1.13	51.64	98	2078	93	16.99	39.82	197	1457	412	0	57.3
BTS 8642	237	327.7	102	13012	95	0.91	54.82	104	2170	97	17.30	39.91	124	1354	298	0	64.0
BTS 8682	219	329.8	103	12312	90	0.99	55.47	106	2073	93	17.49	37.39	153	1362	349	0	57.0
CrystaL467RR	238	301.9	94	14251	105	1.10	46.89	89	2214	99	16.18	47.31	330	1510	323	0	64.8
CrystaL572RR	222	334.4	104	12768	94	0.92	56.87	108	2184	98	17.64	37.77	118	1305	330	0	60.7
CrystaL573RR	223	327.2	102	13700	101	1.01	54.67	104	2280	102	17.38	42.15	289	1376	314	0	57.9
CrystaL574RR	207	315.9	99	16098	118	0.97	51.16	98	2622	117	16.75	50.62	163	1398	316	0	69.4
CrystaL575RR	248	317.5	99	13437	99	1.07	51.69	99	2200	98	16.94	42.04	152	1461	377	0	55.0
CrystaL576RR	243	315.6	99	13667	100	1.07	51.11	97	2228	100	16.83	43.13	211	1404	370	0	69.7
CrystaL578RR	249	327.0	102	15096	111	0.89	54.59	104	2537	113	17.23	45.70	172	1370	267	0	66.7
CrystaL684RR	205	317.4	99	15695	115	1.00	51.67	98	2571	115	16.86	49.05	206	1454	315	0	63.1
CrystaL685RR	206	325.0	102	13865	102	0.85	53.95	103	2296	103	17.11	42.90	152	1287	265	0	54.1
CrystaL668RR	250	343.9	107	13571	100	1.02	59.77	114	2371	106	18.21	39.18	143	1448	353	0	56.2
CrystaL687RR	233	310.3	97	13265	97	1.02	49.46	94	2118	95	16.53	42.83	213	1207	387	0	55.6
Hilleshög 9602RR	239	305.5	95	13582	100	0.96	48.02	92	2129	95	16.24	44.64	219	1366	300	0	65.3
Hilleshög HIL9707	210	308.4	96	12267	90	1.03	48.86	93	1933	86	16.45	40.01	224	1426	335	0	44.1
Hilleshög HIL9708	213	319.3	100	13759	101	0.97	52.24	100	2247	100	16.93	43.26	190	1303	336	0	69.1
Hilleshög HIL9711	245	312.2	98	13063	96	0.96	50.03	95	2110	94	16.56	41.57	192	1262	335	0	67.6
Hilleshög HIL9892	247	316.1	99	13660	100	0.92	51.24	98	2235	100	16.72	42.58	186	1314	294	0	52.4
Hilleshög HIL9893	229	309.7	97	13691	100	1.00	49.28	94	2194	98	16.48	43.81	197	1260	363	0	56.1
Hilleshög HIL9894	215	306.1	96	13644	100	0.98	48.17	92	2153	96	16.28	44.46	215	1356	311	0	64.2
Hilleshög HIL9895	240	322.6	101	12937	95	1.03	53.26	101	2137	96	17.17	40.11	247	1498	310	0	56.2
Hilleshög HIL9896	214	312.8	98	14236	104	0.95	50.22	96	2283	102	16.60	45.55	185	1358	309	0	68.5
Hilleshög HIL9897	220	308.2	96	13683	100	1.01	48.81	93	2170	97	16.42	44.41	207	1366	345	0	68.2
Maribo MA502	230	303.3	95	13631	100	1.12	47.33	90	2128	95	16.27	45.01	301	1552	337	0	50.4
Maribo MA504	204	304.0	95	14137	104	1.09	47.53	91	2129	99	16.27	46.42					

Table 13. 2016 Performance of All Varieties - ACSC Official Trials

Hillsboro ND

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	324.2	102	11144	98	1.11	53.76	103	1849	100	17.33	34.33	316	1457	373	0	86.7
BTS 82RR28	113	314.5	99	11395	101	1.15	50.71	97	1839	99	16.86	36.38	313	1476	398	0	80.0
BTS 82RR33	102	321.5	101	11613	103	0.99	52.92	101	1914	104	17.07	36.09	241	1363	316	0	84.2
BTS 8337	119	329.1	103	10269	91	1.16	55.29	106	1722	93	17.62	31.23	462	1356	356	0	79.2
BTS 8363	120	310.3	97	11965	106	1.05	49.39	95	1903	103	16.57	38.49	246	1351	360	0	92.5
BTS 83CN	114	317.4	99	10836	96	1.09	51.63	99	1763	95	16.95	34.21	334	1365	363	0	78.2
CrystaL093RR	109	323.7	101	11061	98	1.15	53.61	103	1830	99	17.35	34.12	184	1478	427	0	82.3
CrystaL101RR	101	313.0	98	11425	101	1.31	50.24	96	1833	99	16.96	36.53	366	1628	436	0	80.2
CrystaL246RR	107	320.6	100	12092	107	0.98	52.61	101	1983	107	17.01	37.76	201	1295	335	0	86.3
CrystaL247RR	106	314.6	99	12443	110	1.06	50.76	97	2009	109	16.80	39.44	360	1408	313	0	78.3
CrystaL355RR	121	332.4	104	11285	100	1.06	56.32	108	1909	103	17.69	33.93	177	1464	369	0	88.0
CrystaL981RR	127	309.1	97	11089	98	1.32	49.02	94	1759	95	16.78	35.83	382	1617	442	0	82.6
CrystaL986RR	122	331.6	104	11455	101	0.89	56.06	107	1939	105	17.45	34.63	162	1257	319	0	86.4
Hilleshög 4094RR	117	314.5	99	11050	98	1.26	50.72	97	1777	96	16.98	35.15	465	1477	405	0	81.8
Hilleshög 4302RR	116	321.0	101	11330	100	0.97	52.74	101	1860	101	17.01	35.43	326	1389	276	0	78.4
Hilleshög 4448RR	105	315.3	99	12110	107	1.06	50.98	98	1958	106	16.82	38.45	264	1221	395	0	82.3
Hilleshög 9517RR	125	321.0	101	10419	92	1.12	52.74	101	1708	92	17.18	32.46	335	1490	348	0	81.0
Hilleshög 9528RR	110	328.2	103	12477	110	1.00	55.00	105	2093	113	17.41	37.99	339	1265	317	0	84.1
Maribo 102	103	326.2	102	12442	110	1.03	54.38	104	2076	112	17.34	38.17	334	1226	351	0	89.6
Maribo 109	111	337.0	106	11189	99	1.00	57.77	111	1917	104	17.84	33.25	278	1325	328	0	85.2
Maribo MA305	112	310.5	97	11499	102	1.04	49.48	95	1837	99	16.58	36.83	299	1265	358	0	80.9
SV RR241	129	323.0	101	11460	101	1.02	53.37	102	1896	103	17.17	35.45	210	1322	345	0	86.3
SV RR244TT	104	314.3	98	10859	96	1.07	50.64	97	1751	95	16.79	34.47	219	1342	376	0	80.5
SV RR333	118	327.0	102	11578	102	0.98	54.62	105	1934	105	17.33	35.40	271	1301	314	0	84.4
SV RR336	108	310.3	97	11450	101	1.10	49.40	95	1820	98	16.62	36.94	352	1332	376	0	81.5
SX Canyon RR(844TT)	128	325.9	102	11455	101	1.00	54.29	104	1906	103	17.28	35.25	336	1283	301	0	79.5
SX Cruze RR(846)	115	301.5	94	11326	100	1.08	46.64	89	1753	95	16.14	37.67	321	1317	370	0	83.6
SX Terrain RR(848)	123	321.1	101	10706	95	1.06	52.78	101	1761	95	17.11	33.35	291	1367	354	0	80.5
SX Winchester RR(832)	124	331.7	104	10934	97	0.93	56.10	108	1847	100	17.52	32.96	167	1323	298	0	81.8
BTS 81RR17(Check)	130	318.6	100	11374	100	1.15	51.99	100	1854	100	17.07	35.79	185	1534	418	0	89.6
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	315.5	99	12364	109	1.15	51.05	98	1991	108	16.88	39.52	519	1402	357	0	86.9
BTS 8512	227	324.3	102	11873	105	1.10	53.73	103	1964	106	17.32	36.68	468	1350	353	0	89.4
BTS 8524	235	309.4	97	11521	102	1.16	49.19	94	1829	99	16.59	37.43	255	1518	406	0	89.5
BTS 8572	203	332.6	104	11793	104	1.10	56.23	108	1994	108	17.72	35.61	450	1285	373	0	87.3
BTS 8603	228	334.4	105	11479	101	1.10	56.81	109	1946	105	17.84	34.32	211	1477	389	0	92.4
BTS 8606	246	318.7	100	11489	102	1.07	52.05	100	1868	101	17.01	36.30	387	1376	339	0	75.0
BTS 8610	208	319.4	100	10373	92	1.10	52.25	100	1704	92	17.07	32.44	592	1287	332	0	86.2
BTS 8614	241	317.7	100	12384	109	1.05	51.72	99	2025	110	17.01	38.77	247	1451	369	0	90.2
BTS 8629	201	311.8	98	12270	108	1.08	49.93	96	1970	107	16.68	39.20	410	1267	373	0	86.9
BTS 8634	242	321.4	101	10520	93	1.06	52.86	101	1734	94	17.16	32.59	224	1438	359	0	87.8
BTS 8642	237	331.9	104	11331	100	0.97	56.02	107	1915	104	17.62	33.94	284	1249	350	0	87.5
BTS 8682	219	329.7	103	10560	93	1.01	55.36	106	1777	96	17.55	31.99	187	1418	370	0	82.5
CrystaL467RR	238	307.0	96	11987	106	1.14	48.46	93	1899	103	16.50	38.79	453	1473	360	0	82.9
CrystaL572RR	222	337.2	106	11648	103	1.00	57.66	110	2000	108	17.93	34.50	375	1239	348	0	84.9
CrystaL573RR	223	329.0	103	12387	109	1.01	55.16	106	2088	113	17.49	37.77	197	1316	358	0	87.9
CrystaL574RR	207	310.4	97	13062	115	1.08	49.52	95	2030	113	16.62	41.93	293	1401	368	0	87.9
CrystaL575RR	248	315.3	99	11360	100	1.18	50.99	98	1838	99	16.99	35.88	354	1502	408	0	83.9
CrystaL576RR	243	317.2	99	11062	98	1.05	51.57	99	1807	98	16.92	34.89	228	1460	336	0	90.2
CrystaL578RR	249	326.4	102	12877	114	0.94	54.34	104	2157	117	17.27	39.28	181	1349	308	0	83.3
CrystaL684RR	205	317.0	99	13633	120	1.09	51.52	99	2232	121	17.01	42.68	371	1404	367	0	94.7
CrystaL685RR	206	318.1	100	12261	108	0.95	51.84	99	2010	109	16.90	38.28	226	1358	318	576	87.0
CrystaL686RR	250	328.2	103	11544	102	1.19	54.90	105	1927	104	17.58	35.57	408	1409	421	0	89.2
CrystaL687RR	233	304.3	95	10833	96	1.11	47.67	91	1686	91	16.33	35.75	387	1219	413	0	82.6
Hilleshög 9602RR	239	306.2	96	12184	108	1.04	48.25	92	1923	104	16.35	39.93	212	1435	344	0	90.9
Hilleshög HIL9707	210	316.2	99	11912	105	1.07	51.29	98	1926	104	16.90	37.68	361	1460	347	0	77.7
Hilleshög HIL9708	213	325.8	102	10669	94	0.92	54.17	104	1775	96	17.22	32.79	197	1274	306	0	85.4
Hilleshög HIL9711	245	319.6	100	11676	103	1.08	52.30	100	1903	103	17.03	36.77	352	1376	358	0	78.9
Hilleshög HIL9892	247	317.7	100	11547	102	1.07	51.72	99	1878	102	16.97	36.49	251	1443	366	0	81.5
Hilleshög HIL9893	229	314.1	98	11759	104	1.10	50.65	97	1902	103	16.85	37.25	568	1263	368	0	84.6
Hilleshög HIL9894	215	311.8	98	10782	95	1.06	49.95	96	1724	93	16.68	34.46	207	1415	366	0	88.5
Hilleshög HIL9895	240	322.3	101	12181	108	1.15	53.11	102	2007	109	17.29	37.76	440	1513	366	0	81.5
Hilleshög HIL9896	214	312.2	98	11988	106	1.04	50.07	96	1923	104	16.66	38.37	249	1380	351	0	86.1
Hilleshög HIL9897	220	306.1	96	12443	110	0.97	48.22	92	1963	106	16.28	40.62	227	1343	320	0	85.9
Maribo MA502	230	312.4	98	11786	104	1.16	50.11	96	1894	102	16.83	37.50	420	1507	375	0	84.3
Maribo MA504	204	315.3	99	12370	109	0.98	51.00	98	2016	109							

Table 14. 2016 Performance of All Varieties - ACSC Official Trials

Fisher MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	334.6	102	12033	105	0.77	57.01	104	2060	107	17.50	35.63	120	1281	212	0	76.9
BTS 82RR28	113	336.2	103	12290	107	0.79	57.51	105	2106	109	17.60	36.67	136	1296	219	0	74.9
BTS 82RR33	102	323.8	99	11525	100	0.74	53.64	98	1914	99	16.93	35.44	159	1225	192	0	76.7
BTS 8337	119	342.2	104	10982	96	0.78	59.38	108	1909	99	17.88	32.11	126	1236	232	0	69.8
BTS 8363	120	327.2	100	12222	106	0.69	54.68	100	2043	106	17.05	37.20	122	1189	171	0	80.1
BTS 83CN	114	324.1	99	12260	107	0.77	53.74	98	2037	106	16.99	37.70	141	1268	209	0	74.3
Crystal093RR	109	314.6	96	11501	100	0.83	50.74	92	1873	97	16.56	36.25	130	1272	260	0	75.6
Crystal101RR	101	326.7	100	11976	104	0.83	54.55	99	1999	104	17.16	36.70	157	1363	224	0	79.7
Crystal246RR	107	317.6	97	12115	106	0.73	51.67	94	1970	102	16.61	38.14	154	1159	202	0	82.4
Crystal247RR	106	335.3	102	12344	108	0.67	57.24	104	2100	109	17.43	37.05	121	1150	174	0	73.2
Crystal355RR	121	336.4	103	11203	98	0.74	57.57	105	1922	100	17.57	33.12	139	1194	207	0	84.4
Crystal981RR	127	327.7	100	11470	100	0.82	54.84	100	1920	100	17.20	34.95	159	1308	225	0	67.3
Crystal986RR	122	328.3	100	12187	106	0.67	55.05	100	2045	106	17.08	37.27	149	1043	188	0	82.8
Hilleshög 4094RR	117	324.3	99	11435	100	0.80	53.78	98	1890	98	17.01	35.51	164	1185	241	0	77.4
Hilleshög 4302RR	116	329.1	100	10954	95	0.67	55.28	101	1843	96	17.11	33.33	140	1166	156	0	66.7
Hilleshög 4448RR	105	318.7	97	12030	105	0.78	52.05	95	1965	102	16.72	37.64	123	1146	253	0	66.1
Hilleshög 9517RR	125	340.5	104	10490	91	0.75	58.85	107	1808	94	17.78	30.89	167	1264	187	0	73.4
Hilleshög 9528RR	110	333.6	102	12501	109	0.68	56.71	103	2129	111	17.36	37.23	114	1150	179	0	71.3
Maribo 102	103	323.4	99	12217	106	0.71	53.51	97	2024	105	16.88	37.79	116	1120	210	0	76.3
Maribo 109	111	352.4	107	10791	94	0.72	62.58	114	1911	99	18.34	30.76	112	1195	199	0	68.5
Maribo MA305	112	319.9	98	11423	99	0.66	52.42	95	1869	97	16.66	35.72	134	1042	182	0	64.2
SV RR241	129	327.3	100	12527	109	0.71	54.73	100	2091	109	17.07	36.38	122	1128	209	0	80.0
SV RR244TT	104	335.0	102	12196	106	0.70	57.14	104	2079	108	17.44	36.56	115	1127	202	0	68.6
SV RR333	118	332.5	101	11793	103	0.72	56.36	103	2005	104	17.36	35.15	107	1242	192	0	78.3
SV RR336	108	316.4	96	10713	93	0.72	51.32	93	1740	90	16.54	33.65	121	1157	205	0	75.2
SX Canyon RR(844TT)	128	335.4	102	12653	110	0.68	57.27	104	2160	112	17.45	37.79	106	1116	193	0	71.2
SX Cruze RR(846)	115	302.6	92	10140	88	0.77	46.99	86	1583	82	15.90	33.34	188	1179	213	0	71.8
SX Terrain RR(848)	123	328.7	100	11455	100	0.75	55.16	100	1924	100	17.18	34.90	151	1190	213	0	65.0
SX Winchester RR	124	334.3	102	11098	97	0.69	56.93	104	1883	98	17.40	33.31	117	1186	178	0	72.0
BTS 81RR17(Check)	130	321.4	98	10959	95	0.85	52.88	96	1800	93	16.92	34.08	147	1371	240	0	80.2
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	328.0	100	12100	105	0.74	54.93	100	2026	105	17.13	36.86	120	1267	187	0	81.0
BTS 8512	227	327.2	100	10983	96	0.72	54.72	100	1840	96	17.08	33.48	136	1231	182	0	79.6
BTS 8524	235	325.4	99	12048	105	0.79	54.17	99	2016	105	17.06	36.80	145	1271	223	0	79.2
BTS 8572	203	334.8	102	11894	104	0.70	56.99	104	2028	105	17.43	35.41	125	1188	176	0	79.4
BTS 8603	228	341.7	104	10664	93	0.71	59.03	107	1839	96	17.79	31.25	115	1232	175	0	85.1
BTS 8606	246	323.3	99	11340	99	0.76	53.56	98	1885	98	16.91	34.90	184	1238	198	0	73.2
BTS 8610	208	320.7	98	10786	94	0.69	52.78	96	1783	93	16.72	33.47	146	1172	170	0	73.4
BTS 8614	241	320.8	98	11680	102	0.76	52.79	96	1927	100	16.80	36.34	162	1253	201	0	77.5
BTS 8629	201	320.5	98	12302	107	0.73	52.71	96	2025	105	16.75	38.26	138	1112	218	0	81.5
BTS 8634	242	331.3	101	11496	100	0.76	55.96	102	1946	101	17.32	34.54	145	1258	200	0	80.5
BTS 8642	237	337.7	103	10684	93	0.69	57.84	105	1846	96	17.57	31.29	115	1168	176	0	80.8
BTS 8682	219	328.0	100	10503	91	0.78	54.96	100	1763	92	17.18	31.90	145	1302	208	0	82.5
Crystal467RR	238	318.0	97	11787	103	0.74	51.95	95	1929	100	16.63	36.97	150	1284	180	0	76.7
Crystal572RR	222	328.1	100	12218	106	0.75	54.99	100	2054	107	17.15	37.12	129	1175	220	0	79.1
Crystal573RR	223	331.2	101	11915	104	0.71	55.90	102	2011	104	17.27	35.95	124	1190	191	0	75.6
Crystal574RR	207	321.1	98	12058	105	0.75	52.88	96	1889	103	16.80	37.49	129	1268	195	0	83.2
Crystal575RR	248	326.0	99	11162	97	0.79	54.35	99	1866	97	17.08	34.09	155	1285	215	0	82.1
Crystal576RR	243	324.7	99	11762	102	0.81	53.96	98	1959	102	17.04	36.12	150	1306	223	0	79.0
Crystal578RR	249	326.4	100	11780	103	0.69	54.47	99	1972	102	17.01	35.92	137	1202	163	0	75.1
Crystal684RR	205	320.9	98	12537	109	0.80	52.83	96	2061	107	16.83	39.01	156	1344	206	0	84.5
Crystal685RR	206	324.6	99	11578	101	0.73	53.93	98	1934	100	16.96	35.47	143	1197	193	675	67.0
Crystal686RR	250	332.6	101	11792	103	0.80	56.30	102	2006	104	17.41	35.26	156	1256	227	0	77.3
Crystal687RR	233	316.3	96	11860	103	0.68	51.45	94	1928	100	16.49	37.45	133	1087	191	0	72.5
Hilleshög 9602RR	239	311.0	95	11993	104	0.71	49.86	91	1926	100	16.25	38.49	146	1243	165	0	87.6
Hilleshög HIL9707	210	314.0	96	10964	96	0.69	50.78	92	1778	92	16.40	34.77	163	1100	184	0	55.8
Hilleshög HIL9708	213	325.3	99	12074	105	0.71	54.13	99	2006	104	16.96	37.09	149	1141	190	0	79.7
Hilleshög HIL9711	245	312.2	95	12320	107	0.70	50.24	91	1991	103	16.31	39.17	159	1130	181	0	75.6
Hilleshög HIL9892	247	316.4	96	11399	99	0.67	51.49	94	1852	96	16.49	36.05	172	1119	162	0	70.7
Hilleshög HIL9893	229	310.7	95	11974	104	0.75	49.77	91	1927	100	16.28	38.35	178	1188	199	0	73.9
Hilleshög HIL9894	215	314.2	96	9946	87	0.72	50.82	93	1600	83	16.42	31.75	146	1220	180	0	77.0
Hilleshög HIL9895	240	321.0	98	11075	96	0.80	52.86	96	1832	95	16.85	34.36	221	1247	216	0	76.3
Hilleshög HIL9896	214	315.1	96	12617	110	0.70	51.11	93	2056	107	16.47	39.86	143	1175	174	0	76.9
Hilleshög HIL9897	220	304.4	93	11904	104	0.71	47.89	87	1885	98	15.92	38.84	168	1188	174	0	85.2
Maribo MA502	230	315.4	96	11659	102	0.75	51.18	93	1915	99	16.51	36.47	176	1291	178	0	70.7
Maribo MA613	217	307.1	94	10962	95	0.76	48.70	89	1743	91	16.11	35.55	184	1232	197	0	61.9
Seedex RR1861	2																

Table 15. 2016 Performance of All RR Varieties - ACSC Official Trial

## Crookston MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	319.8	101	11622	106	0.92	52.37	103	1900	107	16.91	36.39	166	1378	288	0	76.5
BTS 82RR28	113	307.2	97	11442	104	1.03	48.42	95	1804	102	16.38	37.30	229	1480	320	0	76.9
BTS 82RR33	102	317.2	100	11390	104	0.90	51.56	101	1855	105	16.76	35.90	215	1356	257	0	90.3
BTS 8337	119	329.6	104	10852	99	0.90	55.46	109	1827	103	17.38	32.97	184	1377	265	0	84.0
BTS 8363	120	316.6	100	11457	104	0.87	51.38	101	1853	104	16.71	36.34	183	1371	245	0	83.3
BTS 83CN	114	315.2	100	10452	95	0.84	50.92	100	1683	95	16.59	33.25	161	1377	221	0	79.6
Crystal093RR	109	328.1	104	11406	104	0.92	54.97	108	1908	108	17.32	34.79	155	1378	291	0	79.8
Crystal101RR	101	304.4	96	11585	105	1.06	47.54	93	1814	102	16.28	38.09	243	1574	317	0	75.5
Crystal246RR	107	302.3	96	10975	100	0.98	46.90	92	1704	96	16.09	36.24	290	1401	278	0	78.0
Crystal247RR	106	316.7	100	11850	108	0.89	51.40	101	1934	109	16.73	37.15	194	1357	259	0	69.8
Crystal355RR	121	321.1	102	11497	105	0.97	52.79	103	1888	106	17.02	35.93	181	1447	302	0	89.8
Crystal981RR	127	305.3	97	11154	102	1.07	47.85	94	1751	99	16.34	36.48	279	1558	313	0	81.5
Crystal986RR	122	321.7	102	10839	99	0.82	52.99	104	1788	101	16.90	33.60	188	1258	231	0	73.1
Hilleshög 4094RR	117	307.4	97	9979	91	1.01	48.49	95	1574	89	16.39	32.42	129	1448	318	0	80.9
Hilleshög 4302RR	116	327.2	104	9990	91	0.84	54.70	107	1668	94	17.20	30.63	181	1380	218	0	74.6
Hilleshög 4448RR	105	317.5	101	11919	109	0.91	51.65	101	1941	109	16.78	37.56	188	1340	284	0	63.7
Hilleshög 9517RR	125	326.5	103	10167	93	0.95	54.46	107	1693	95	17.27	31.19	226	1460	267	0	81.3
Hilleshög 9528RR	110	323.9	103	11505	105	0.87	53.67	105	1910	108	17.08	35.37	181	1285	267	0	69.3
Maribo 102	103	327.0	104	11791	107	0.82	54.64	107	1978	111	17.17	35.95	167	1209	250	0	87.2
Maribo 109	111	335.6	106	10532	96	0.87	57.34	112	1787	101	17.66	31.45	172	1299	269	0	80.7
Maribo MA305	112	318.2	101	10308	94	0.86	51.87	102	1683	95	16.77	32.30	191	1291	254	0	57.1
SV RR241	129	322.0	102	11230	102	0.87	53.07	104	1860	105	16.97	34.85	186	1294	263	0	80.4
SV RR244TT	104	320.8	102	11302	103	0.86	52.70	103	1847	104	16.91	35.38	163	1327	258	0	81.7
SV RR333	118	322.5	102	11222	102	0.86	53.22	104	1849	104	16.98	34.91	161	1332	251	0	68.6
SV RR336	108	306.9	97	10439	95	0.92	48.33	95	1635	92	16.28	34.01	184	1345	294	0	76.2
SX Canyon RR(844TT)	128	320.0	101	11168	102	0.86	52.45	103	1821	103	16.85	35.02	182	1284	255	0	78.0
SX Cruze RR(846)	115	309.5	98	10477	95	0.92	49.15	96	1659	94	16.39	33.95	186	1345	285	0	81.5
SX Terrain RR(848)	123	315.2	100	10126	92	0.91	50.94	100	1628	92	16.67	32.21	188	1384	270	0	76.1
SX Winchester RR	124	321.3	102	10254	93	0.88	52.84	103	1685	95	16.94	32.06	190	1350	252	0	75.4
BTS 81RR17(Check)	130	311.2	99	10730	98	1.10	49.68	97	1715	97	16.66	34.47	213	1543	364	0	83.6
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	311.9	99	12084	110	0.93	49.94	98	1935	109	16.53	38.86	177	1389	290	0	85.6
BTS 8512	227	312.2	99	11295	103	0.87	50.05	98	1805	102	16.50	36.33	175	1305	275	0	90.6
BTS 8524	235	307.4	97	10654	97	0.97	48.62	95	1686	95	16.34	34.64	204	1454	297	0	84.8
BTS 8572	203	322.6	102	10020	91	0.88	53.16	104	1650	93	17.03	31.13	152	1297	290	0	80.1
BTS 8603	228	324.3	103	11087	101	0.96	53.66	105	1835	103	17.18	34.23	177	1429	298	0	85.2
BTS 8606	246	313.6	99	11541	105	0.93	50.46	99	1849	104	16.62	37.12	201	1444	269	0	83.2
BTS 8610	208	316.3	100	11110	101	0.84	51.26	100	1798	101	16.67	35.25	192	1297	242	0	84.8
BTS 8614	241	313.6	99	11378	104	0.90	50.46	99	1830	103	16.60	36.31	197	1436	252	0	84.0
BTS 8629	201	310.0	98	12258	112	0.88	49.38	97	1950	110	16.39	39.72	205	1227	282	95	85.9
BTS 8634	242	311.9	99	10934	100	1.04	49.98	98	1752	99	16.65	35.16	216	1430	359	0	78.5
BTS 8642	237	324.3	103	10610	97	0.86	53.66	105	1752	99	17.09	32.77	159	1307	264	0	88.3
BTS 8682	219	324.2	103	10516	96	0.95	53.64	105	1733	98	17.16	32.55	168	1455	290	0	82.4
Crystal467RR	238	303.8	96	11093	101	1.04	47.54	93	1735	98	16.23	36.54	292	1518	308	0	81.3
Crystal572RR	222	327.4	104	11791	107	0.88	54.59	107	1956	110	17.28	36.30	162	1275	299	0	83.2
Crystal573RR	223	321.5	102	10879	99	0.95	52.83	103	1781	100	17.04	34.08	155	1428	309	0	81.3
Crystal574RR	207	307.3	97	12703	116	0.90	48.58	95	2005	113	16.28	41.44	184	1343	282	0	89.8
Crystal575RR	248	317.0	100	11488	105	0.98	51.46	101	1863	105	16.83	36.40	160	1451	322	0	85.9
Crystal576RR	243	316.3	100	10888	99	0.98	51.26	100	1762	99	16.80	34.51	191	1382	334	0	86.3
Crystal578RR	249	312.3	99	11752	107	0.87	50.09	98	1888	106	16.51	37.48	214	1326	247	0	87.1
Crystal684RR	205	307.6	97	11671	106	0.94	48.66	95	1843	104	16.32	38.06	191	1434	283	0	81.6
Crystal685RR	206	315.8	100	12263	112	0.90	51.14	100	1984	112	16.70	38.93	202	1355	273	383	87.9
Crystal686RR	250	323.5	102	11289	103	1.02	53.43	105	1865	105	17.20	34.94	196	1450	347	0	83.6
Crystal687RR	233	315.7	100	12254	112	0.84	51.09	100	1978	111	16.64	38.93	153	1208	276	0	87.1
Hilleshög 9602RR	239	312.9	99	11007	100	0.89	50.27	98	1764	99	16.55	35.29	182	1392	263	0	85.6
Hilleshög HIL9707	210	315.4	100	11033	100	0.90	50.98	100	1789	101	16.68	34.87	178	1367	270	0	70.3
Hilleshög HIL9708	213	314.8	100	11021	100	0.86	50.81	99	1773	100	16.62	35.29	193	1338	247	0	86.3
Hilleshög HIL9711	245	317.4	101	11410	104	0.84	51.58	101	1855	105	16.73	36.00	186	1305	243	0	68.8
Hilleshög HIL9892	247	317.2	100	11030	94	0.82	51.55	101	1668	94	16.69	32.63	186	1315	214	0	88.7
Hilleshög HIL9893	229	315.3	100	11422	104	0.87	50.96	100	1845	104	16.66	36.34	193	1320	257	0	80.9
Hilleshög HIL9894	215	307.4	97	10694	97	0.90	48.60	95	1690	95	16.28	34.76	176	1420	260	0	77.0
Hilleshög HIL9895	240	317.4	101	11181	102	1.07	51.58	101	1814	102	16.93	35.37	246	1564	333	95	84.4
Hilleshög HIL9896	214	312.2	99	12178	111	0.87	50.06	98	1954	110	16.50	39.05	184	1436	227	0	92.2
Hilleshög HIL9897	220	308.9	98	12023	109	0.89	49.07	96	1898	107	16.36	39.29	188	1478	236	0	85.2
Maribo MA502	230	303.2	96	10833	99	1.09	47.36	93	1692	95	16.23	35.66	311	1501	335	0	75.8
Maribo MA504	204	314.6	100	11523	105	0.88	50.77	99	1850	104	16.63	36.90	180	1323	277	0</	

Table 16. 2016 Performance of All Varieties - ACSC Official Trials

Grand Forks ND

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	311.7	99	12043	101	1.11	49.83	99	1924	101	16.69	38.66	166	1608	370	0	75.4
BTS 82RR28	113	311.1	99	12144	102	1.05	49.65	98	1937	101	16.61	39.04	199	1625	308	0	79.6
BTS 82RR33	102	300.4	96	11637	98	1.06	46.30	92	1795	94	16.07	38.70	238	1611	306	0	77.3
BTS 8337	119	328.7	105	11746	99	0.97	55.16	109	1970	103	17.41	35.76	156	1563	274	0	79.4
BTS 8363	120	308.2	98	12242	103	0.89	48.75	96	1937	101	16.30	39.71	158	1459	246	0	79.8
BTS 83CN	114	324.6	103	11915	100	0.89	53.87	107	1978	104	17.10	36.69	141	1505	240	0	81.8
CrystaL093RR	109	315.3	100	11879	100	1.01	50.96	101	1920	101	16.78	37.68	161	1559	306	0	77.3
CrystaL101RR	101	308.6	98	11978	101	1.09	48.85	97	1896	99	16.51	38.83	206	1772	300	0	71.9
CrystaL246RR	107	311.7	99	12099	102	0.92	49.85	99	1933	101	16.50	38.85	181	1461	262	0	81.6
CrystaL247RR	106	314.6	100	12605	106	0.95	50.75	100	2032	106	16.68	40.11	184	1583	246	0	72.0
CrystaL355RR	121	324.3	103	11733	99	1.03	53.78	106	1945	102	17.25	36.20	170	1605	305	0	84.2
CrystaL981RR	127	312.6	100	12129	102	1.04	50.11	99	1944	102	16.67	38.81	210	1610	297	0	78.5
CrystaL986RR	122	326.3	104	11994	101	0.92	54.43	108	2000	105	17.23	36.76	161	1521	252	0	88.4
Hilleshög 4094RR	117	312.3	99	11506	97	1.07	50.02	99	1842	97	16.68	36.88	182	1642	325	0	78.9
Hilleshög 4302RR	116	322.3	103	11373	96	0.99	53.16	105	1876	98	17.11	35.27	188	1495	300	0	76.0
Hilleshög 4448RR	105	316.6	101	12912	109	0.91	51.36	102	2098	110	16.75	40.75	157	1446	267	0	75.6
Hilleshög 9517RR	125	326.5	104	10904	92	1.04	54.49	108	1816	95	17.37	33.47	205	1620	296	0	69.7
Hilleshög 9528RR	110	315.1	100	12271	103	0.96	50.89	101	1981	104	16.71	38.96	167	1462	297	0	76.3
Maribo 102	103	317.1	101	12532	106	0.92	51.55	102	2037	107	16.78	39.51	138	1429	282	0	81.1
Maribo 109	111	333.6	106	11506	97	0.95	56.70	112	1957	103	17.62	34.43	151	1429	305	32	75.2
Maribo MA305	112	301.6	96	11819	100	0.89	46.68	92	1831	96	15.98	39.14	155	1401	259	0	75.6
SV RR241	129	317.1	101	12059	102	0.97	51.54	102	1960	103	16.82	36.03	146	1528	292	0	83.6
SV RR244TT	104	319.1	102	12077	102	0.92	52.16	103	1976	104	16.87	37.81	139	1490	268	0	78.8
SV RR333	118	318.4	101	12491	105	0.91	51.93	103	2040	107	16.83	39.20	133	1503	255	0	73.9
SV RR336	108	305.6	97	11382	96	1.00	47.93	95	1785	94	16.27	37.25	189	1540	294	0	81.4
SX Canyon RR(844TT)	128	319.3	102	12177	103	0.90	52.21	103	1992	104	16.87	38.13	144	1535	240	0	76.2
SX Cruze RR(846)	115	308.2	98	11341	96	0.95	48.73	96	1794	94	16.35	36.79	155	1566	269	0	82.6
SX Terrain RR(848)	123	321.3	102	11609	98	0.92	52.84	105	1909	100	16.98	36.15	146	1479	263	0	76.4
SX Winchester RR(832)	124	323.7	103	11383	96	0.87	53.59	106	1885	99	17.06	35.18	136	1501	230	0	74.9
BTS 81RR17(Check)	130	313.5	100	12074	102	1.09	50.40	100	1939	102	16.76	38.57	162	1655	347	0	86.2
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	312.7	100	12585	106	0.95	50.14	99	2013	105	16.55	40.76	115	1539	290	0	85.0
BTS 8512	227	321.3	102	12402	105	0.93	52.79	104	2045	107	16.99	38.50	135	1466	283	0	79.6
BTS 8524	235	300.4	96	12647	107	1.07	46.39	92	1951	102	16.10	42.10	176	1756	298	0	86.2
BTS 8572	203	326.5	104	10708	90	0.96	54.38	108	1779	93	17.26	33.03	121	1404	323	0	85.3
BTS 8603	228	327.1	104	10523	89	1.11	54.58	108	1749	92	17.49	32.07	165	1586	379	0	84.6
BTS 8606	246	315.2	100	12088	102	0.99	50.92	101	1954	102	16.73	38.67	167	1556	299	0	70.0
BTS 8610	208	313.1	100	11362	96	0.95	50.30	99	1827	96	16.62	35.93	182	1425	280	0	79.8
BTS 8614	241	319.0	102	12107	102	1.05	52.08	103	1974	103	16.99	37.97	150	1599	324	0	84.5
BTS 8629	201	309.8	99	11998	101	1.06	49.26	97	1915	100	16.53	38.65	202	1353	377	0	89.2
BTS 8634	242	321.1	102	11343	96	1.02	52.72	104	1868	98	17.06	35.33	152	1504	334	0	87.7
BTS 8642	237	327.4	104	10380	87	0.90	54.66	108	1726	90	17.29	31.60	132	1354	294	0	86.9
BTS 8682	219	321.3	102	11273	95	1.07	52.79	104	1856	97	17.11	35.28	162	1459	379	0	82.1
CrystaL467RR	238	307.5	98	11718	99	1.00	48.54	96	1842	96	16.36	38.40	205	1557	284	0	79.1
CrystaL572RR	222	326.1	104	11645	98	0.89	54.27	107	1945	102	17.20	35.46	105	1342	298	0	90.5
CrystaL573RR	223	327.5	104	12106	102	0.94	54.69	108	2027	106	17.30	36.91	130	1475	281	0	82.4
CrystaL574RR	207	311.0	99	12466	105	1.04	49.64	98	1889	104	16.61	39.86	175	1543	327	0	84.5
CrystaL575RR	248	316.8	101	12495	105	1.05	51.40	102	2038	107	16.89	39.14	166	1585	329	0	79.8
CrystaL576RR	243	303.4	97	11014	93	1.09	47.30	94	1721	90	16.26	36.25	166	1511	379	0	90.0
CrystaL578RR	249	325.1	104	12526	106	0.97	53.94	107	2097	110	17.21	38.14	157	1470	294	0	86.7
CrystaL684RR	205	307.7	98	13477	114	1.05	48.61	96	2128	111	16.43	43.77	171	1593	325	0	83.5
CrystaL685RR	206	320.5	102	11666	98	0.91	52.55	104	1925	101	16.92	36.34	143	1403	286	581	82.1
CrystaL686RR	250	321.0	102	10569	89	1.11	52.68	104	1728	91	17.17	32.97	172	1639	365	0	82.1
CrystaL687RR	233	312.8	100	12595	106	0.95	50.17	99	2029	106	16.60	39.87	159	1356	311	0	76.7
Hilleshög 9602RR	239	304.2	97	11913	100	1.07	47.55	94	1858	97	16.29	39.09	193	1518	348	0	88.3
Hilleshög HIL9707	210	313.1	100	11404	96	1.01	50.30	99	1829	96	16.64	36.77	163	1533	310	0	66.9
Hilleshög HIL9708	213	319.0	102	10951	92	0.97	52.08	103	1785	93	16.92	34.25	162	1416	313	0	83.4
Hilleshög HIL9711	245	312.4	99	11562	97	1.00	50.06	99	1859	97	16.60	37.05	149	1431	333	0	76.5
Hilleshög HIL9892	247	321.9	103	11667	98	0.95	53.00	105	1928	101	17.06	35.97	151	1454	294	0	84.3
Hilleshög HIL9893	229	309.1	98	12131	102	1.01	49.06	97	1913	100	16.47	39.36	187	1455	321	0	78.9
Hilleshög HIL9894	215	307.3	98	10685	90	1.01	48.50	96	1678	88	16.38	34.72	186	1508	308	0	77.4
Hilleshög HIL9895	240	326.0	104	11794	99	1.06	54.22	107	1963	103	17.35	36.14	192	1604	326	0	80.7
Hilleshög HIL9896	214	305.4	97	12018	101	1.01	47.92	95	1879	98	16.28	39.49	173	1470	328	0	87.2
Hilleshög HIL9897	220	308.1	98	12678	107	1.06	48.74	96	2002	105	16.46	41.17	184	1500	347	0	88.4
Maribo MA502	230	309.0	98	11290	95	1.08	49.02	97	1792	94	16.53	36.58	191	1623	345	0	80.0
Maribo MA504	204	306.3	98	12085	102	0.99	48.20	95	1905	100	16.						

Table 17. 2016 Performance of All Varieties - ACSC Official Trials

St Thomas ND

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	290.4	100	9942	108	1.29	43.18	100	1472	108	15.81	34.40	337	1683	430	0	77.8
BTS 82RR28	113	289.6	100	8846	96	1.32	42.93	99	1319	97	15.81	30.56	350	1579	472	0	80.1
BTS 82RR33	102	288.1	99	8911	97	1.28	42.45	98	1314	96	15.68	31.00	385	1538	439	0	81.6
BTS 8337	119	303.8	105	9056	98	1.27	47.37	110	1416	104	16.47	29.74	312	1541	460	0	
BTS 8363	120	284.0	98	9023	98	1.20	41.17	95	1308	96	15.41	31.60	326	1563	393	0	81.5
BTS 83CN	114	292.1	101	8942	97	1.19	43.69	101	1341	98	15.80	30.45	277	1546	410	0	80.6
CrystaL093RR	109	302.7	104	10135	110	1.23	47.01	109	1563	114	16.35	33.56	265	1546	443	0	84.9
CrystaL101RR	101	283.5	98	8997	98	1.38	41.00	95	1289	94	15.55	32.23	459	1636	464	0	80.8
CrystaL246RR	107	271.2	93	8279	90	1.33	37.14	86	1128	83	14.89	30.56	421	1583	457	0	83.1
CrystaL247RR	106	287.8	99	9713	105	1.29	42.35	98	1422	104	15.67	34.03	347	1611	442	0	75.9
CrystaL355RR	121	300.7	103	9527	103	1.24	46.39	107	1465	107	16.28	31.62	298	1617	422	0	84.0
CrystaL981RR	127	270.4	93	8293	90	1.45	36.89	85	1130	83	14.98	30.75	504	1689	491	0	74.0
CrystaL986RR	122	287.0	99	8450	92	1.28	42.10	97	1237	91	15.63	29.36	427	1455	452	0	82.3
Hilleshög 4094RR	117	295.9	102	8941	97	1.27	44.88	104	1350	99	16.05	30.08	344	1680	412	0	83.4
Hilleshög 4302RR	116	298.9	103	8690	94	1.29	45.84	106	1330	97	16.23	29.07	366	1571	444	0	70.5
Hilleshög 4448RR	105	293.3	101	8306	90	1.21	44.06	102	1256	92	15.87	28.40	294	1455	441	0	74.1
Hilleshög 9517RR	125	297.8	102	8598	93	1.26	45.48	105	1317	96	16.15	28.83	395	1637	394	0	75.8
Hilleshög 9528RR	110	297.6	102	9681	105	1.23	45.42	105	1474	108	16.11	32.58	341	1515	430	0	78.2
Maribo 102	103	295.4	102	9017	98	1.20	44.72	103	1361	100	15.96	30.83	328	1364	445	0	80.1
Maribo 109	111	317.6	109	9232	100	1.06	51.68	120	1500	110	16.93	28.89	229	1447	353	0	79.2
Maribo MA305	112	284.2	98	8099	88	1.25	41.21	95	1178	86	15.46	28.64	351	1400	468	0	77.8
SV RR241	129	300.4	103	9110	99	1.12	46.29	107	1401	103	16.14	30.23	265	1525	363	0	82.0
SV RR244TT	104	293.1	101	8783	95	1.21	44.02	102	1320	97	15.87	30.11	335	1489	417	0	71.7
SV RR333	118	291.1	100	9123	99	1.19	43.38	100	1365	100	15.74	31.54	319	1466	410	0	76.1
SV RR336	108	280.4	96	8519	92	1.25	40.05	93	1212	89	15.27	30.27	374	1459	442	0	81.4
SX Canyon RR(844TT)	128	297.0	102	9161	99	1.18	45.24	105	1399	102	16.03	31.00	293	1446	425	0	74.9
SX Cruze RR(846)	115	282.1	97	8523	92	1.23	40.55	94	1223	90	15.33	30.21	338	1524	425	0	83.0
SX Terrain RR(848)	123	299.2	103	8692	94	1.14	45.94	106	1329	97	16.11	28.85	320	1414	388	0	73.2
SX Winchester RR(832)	124	298.3	103	9089	99	1.10	45.63	106	1395	102	16.03	30.52	275	1542	344	0	77.4
BTS 81RR17(Check)	130	289.5	100	9271	100	1.37	42.90	99	1372	100	15.85	31.94	314	1766	478	0	85.0
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	286.5	99	9046	98	1.24	42.05	97	1318	97	15.58	31.70	296	1639	412	0	82.6
BTS 8512	227	303.9	105	9156	99	1.26	47.15	109	1406	103	16.45	30.13	321	1571	442	0	84.1
BTS 8524	235	289.7	100	9553	104	1.28	42.98	99	1395	102	15.76	33.44	322	1662	432	0	86.6
BTS 8572	203	312.6	108	9270	100	1.09	49.73	115	1456	107	16.78	29.94	231	1464	350	0	84.2
BTS 8603	228	304.7	105	8396	91	1.32	47.39	110	1306	96	16.59	27.57	269	1637	485	0	84.3
BTS 8606	246	299.2	103	9124	99	1.20	45.78	106	1392	102	16.21	30.72	335	1617	389	0	77.1
BTS 8610	208	296.8	102	8574	93	1.13	45.09	104	1291	95	16.00	29.14	340	1437	363	0	79.7
BTS 8614	241	291.9	100	8386	91	1.30	43.64	101	1236	91	15.91	29.27	373	1610	452	0	85.9
BTS 8629	201	269.0	93	8965	97	1.09	36.87	85	1243	91	14.57	33.02	260	1285	409	0	85.6
BTS 8634	242	294.7	101	8754	95	1.25	44.46	103	1314	96	16.01	29.80	348	1544	436	0	82.4
BTS 8642	237	303.9	105	7929	86	1.09	47.17	109	1236	91	16.36	26.00	249	1432	379	0	86.0
BTS 8682	219	302.1	104	9575	104	1.31	46.64	108	1457	107	16.41	31.92	343	1549	483	0	87.6
CrystaL467RR	238	280.8	97	9169	99	1.32	40.36	93	1303	95	15.34	32.75	442	1722	409	0	86.2
CrystaL572RR	222	307.4	106	9781	106	1.17	48.18	111	1533	112	16.57	31.66	241	1494	419	0	81.7
CrystaL573RR	223	301.1	104	8932	97	1.13	46.32	107	1360	100	16.25	29.98	317	1537	352	0	80.4
CrystaL574RR	207	289.4	100	9060	98	1.25	42.87	99	1328	97	15.75	31.84	331	1558	437	0	87.6
CrystaL575RR	248	300.8	104	9893	107	1.28	46.24	107	1512	111	16.34	33.02	292	1586	457	0	81.6
CrystaL576RR	243	292.6	101	8614	93	1.26	43.83	101	1290	94	15.92	29.63	328	1570	447	0	78.7
CrystaL578RR	249	297.8	102	8954	97	1.17	45.34	105	1345	98	16.10	30.39	339	1595	359	0	89.6
CrystaL684RR	205	294.8	101	10097	109	1.31	44.50	103	1526	112	16.06	34.10	312	1714	439	0	84.4
CrystaL685RR	206	294.2	101	9142	99	1.25	44.30	102	1379	101	15.96	30.77	327	1538	448	0	81.0
CrystaL686RR	250	291.3	100	7865	85	1.43	43.44	100	1188	87	15.97	26.54	328	1696	534	0	85.3
CrystaL687RR	233	298.9	103	9238	100	1.16	45.69	106	1403	103	16.14	30.96	316	1359	434	0	90.8
Hilleshög 9602RR	239	280.6	97	8779	95	1.26	40.30	93	1251	92	15.29	31.54	365	1638	409	0	79.7
Hilleshög HIL9707	210	284.7	98	8020	87	1.26	41.50	96	1161	85	15.51	28.24	373	1636	424	0	81.1
Hilleshög HIL9708	213	297.2	102	9096	99	1.20	45.17	104	1385	101	16.09	30.35	365	1493	409	0	87.6
Hilleshög HIL9711	245	299.2	103	8711	94	1.17	45.76	106	1316	96	16.16	29.51	296	1464	422	0	81.4
Hilleshög HIL9892	247	292.4	101	8487	92	1.14	43.75	101	1256	92	15.79	29.52	375	1505	354	0	82.1
Hilleshög HIL9893	229	288.2	99	8848	96	1.26	42.56	98	1291	95	15.68	30.95	432	1427	443	0	86.7
Hilleshög HIL9894	215	298.2	103	7618	83	1.24	45.50	105	1153	84	16.17	25.92	303	1538	447	0	81.4
Hilleshög HIL9895	240	287.8	99	8064	87	1.35	42.40	98	1177	93	15.78	29.92	476	1692	461	0	82.4
Hilleshög HIL9896	214	289.2	100	8909	97	1.25	42.82	99	1325	97	15.71	30.61	417	1554	416	0	74.9
Hilleshög HIL9897	220	279.6	96	9141	99	1.35	39.98	92	1304	95	15.31	32.64	440	1604	460	0	85.7
Maribo MA502	230	288.4	99	8658	94	1.38	42.59	99	1277	93	15.78	31.21	456	1714	500	0	77.7
Maribo MA613	217	286.8	99	7995	87	1.32	42.13	97	1170	86	15.63	27.69	432	1588	441	0	81.9
Seedex RR1862	221	291.0	100	87													

Table 18. 2016 Performance of All Varieties - ACSC Official Trials

Stephen MN

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	310.6	101	12086	105	1.00	49.50	102	1923	106	16.53	38.97	220	1351	336	0	57.6
BTS 82RR28	113	310.5	101	11913	104	1.04	49.48	102	1896	104	16.56	38.37	233	1480	323	0	49.8
BTS 82RR33	102	306.1	99	12128	106	0.96	48.10	99	1907	105	16.27	39.58	279	1374	279	0	55.5
BTS 8337	119	320.8	104	11618	101	1.01	52.68	108	1905	105	17.04	36.29	259	1350	327	0	55.0
BTS 8363	120	299.2	97	12064	105	0.94	45.92	94	1846	102	15.90	40.44	229	1293	299	0	60.6
BTS 83CN	114	300.2	97	11202	97	0.92	46.23	95	1726	95	15.93	37.33	260	1307	273	0	62.2
CrystaL093RR	109	316.3	103	12025	105	1.01	51.29	105	1950	107	16.83	38.03	218	1368	340	0	57.9
CrystaL101RR	101	301.8	98	11486	100	1.08	46.74	96	1777	98	16.17	38.08	277	1455	348	0	53.1
CrystaL246RR	107	300.9	98	11792	103	0.95	46.45	95	1820	100	15.99	39.20	261	1316	289	0	63.3
CrystaL247RR	106	310.3	101	12564	109	0.92	49.42	102	2000	110	16.44	40.50	243	1392	257	0	57.3
CrystaL355RR	121	319.6	104	12135	106	0.98	52.32	107	1988	110	16.96	37.92	221	1348	319	0	61.9
CrystaL981RR	127	301.9	98	11623	101	1.12	46.77	96	1797	99	16.21	38.56	393	1410	351	0	51.5
CrystaL986RR	122	308.7	100	11676	102	0.92	48.91	100	1850	102	16.35	37.83	277	1175	295	0	62.6
Hilleshög 4094RR	117	305.1	99	10867	95	1.07	47.78	98	1702	94	16.33	35.58	308	1388	348	0	49.3
Hilleshög 4302RR	116	311.6	101	10506	91	0.90	49.82	102	1679	93	16.48	33.74	261	1319	252	0	46.9
Hilleshög 4448RR	105	321.3	104	12142	106	0.96	52.85	109	2000	110	17.02	37.74	228	1278	318	0	52.7
Hilleshög 9517RR	125	314.2	102	10607	92	1.02	50.63	104	1709	94	16.74	33.79	318	1423	296	0	53.2
Hilleshög 9528RR	110	316.9	103	11792	103	0.97	51.46	106	1916	106	16.81	37.19	254	1285	318	0	49.2
Maribo 102	103	324.9	105	12805	111	0.88	53.96	111	2123	117	17.12	39.47	197	1224	286	0	63.6
Maribo 109	111	326.0	106	10607	92	0.93	54.32	112	1768	97	17.23	32.53	227	1247	306	0	51.0
Maribo MA305	112	314.5	102	11657	101	0.90	50.73	104	1880	104	16.63	37.05	221	1228	290	0	52.9
SV RR241	129	320.0	104	11454	100	0.85	52.43	108	1878	103	16.86	35.81	191	1250	256	0	53.3
SV RR244TT	104	312.7	102	11093	97	0.98	50.14	103	1775	98	16.61	35.55	238	1319	327	0	50.6
SV RR333	118	315.9	103	11997	104	0.88	51.14	105	1944	107	16.68	37.98	205	1275	271	0	56.8
SV RR336	108	297.8	97	11132	97	0.99	45.47	93	1698	94	15.87	37.39	266	1311	318	0	54.1
SX Canyon RR(844TT)	128	320.2	104	12156	106	0.84	52.50	108	1989	110	16.85	38.05	183	1293	243	0	62.9
SX Cruze RR(846)	115	291.8	95	10996	96	0.99	43.62	90	1645	91	15.59	37.64	269	1268	335	0	59.7
SX Terrain RR(848)	123	317.4	103	11207	98	0.90	51.62	106	1823	100	16.76	35.25	227	1248	283	0	55.4
SX Winchester RR(832)	124	313.4	102	10817	94	0.87	50.39	104	1736	96	16.55	34.60	237	1265	252	0	49.4
BTS 81RR17(Check)	130	307.9	100	11880	103	1.04	48.66	100	1879	104	16.44	38.60	229	1459	331	0	56.9
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	302.4	98	13160	115	1.02	47.00	97	2048	113	16.14	43.54	216	1448	328	0	63.7
BTS 8512	227	307.8	100	12509	109	0.96	48.62	100	1970	109	16.35	40.77	206	1346	302	0	64.0
BTS 8524	235	301.1	98	13096	114	1.08	46.63	96	2023	111	16.13	43.76	247	1464	349	0	65.7
BTS 8572	203	320.9	104	11895	104	0.87	52.51	108	1950	107	16.92	37.03	172	1274	270	0	67.1
BTS 8603	228	320.1	104	12212	106	1.02	52.31	107	2000	110	17.03	37.83	227	1424	333	0	58.9
BTS 8606	246	318.0	103	13036	113	0.93	51.67	106	2118	117	16.85	41.15	236	1343	274	0	66.2
BTS 8610	208	311.1	101	12220	106	0.86	49.60	102	1943	107	16.44	39.17	237	1244	241	0	53.3
BTS 8614	241	302.9	98	12876	112	1.02	47.16	97	2001	110	16.17	42.56	297	1375	321	0	70.2
BTS 8629	201	313.2	102	12889	112	0.91	50.24	103	2057	113	16.58	41.34	250	1246	281	0	71.9
BTS 8634	242	313.8	102	11410	99	0.98	50.40	104	1822	100	16.69	36.85	261	1301	315	0	62.0
BTS 8642	237	314.7	102	11686	102	0.87	50.70	104	1883	104	16.63	37.42	176	1242	274	0	72.2
BTS 8682	219	313.7	102	11594	101	1.03	50.38	103	1868	103	16.72	36.71	251	1383	338	0	59.9
CrystaL467RR	238	291.7	95	12599	110	1.04	43.83	90	1894	104	15.61	43.23	337	1328	331	0	52.1
CrystaL572RR	222	314.8	102	11956	104	0.92	50.70	104	1900	105	16.65	38.77	190	1220	321	0	56.4
CrystaL573RR	223	318.7	103	12263	107	0.94	51.87	107	2006	111	16.88	38.48	178	1383	290	0	51.8
CrystaL574RR	207	311.0	101	12891	112	0.97	49.59	102	2045	113	16.54	41.41	205	1401	297	0	55.7
CrystaL575RR	248	307.1	100	12842	112	1.07	48.41	99	2010	111	16.43	41.97	249	1395	361	0	37.8
CrystaL576RR	243	308.0	100	12075	105	0.99	48.66	100	1907	105	16.41	39.31	283	1240	336	0	50.1
CrystaL578RR	249	300.8	98	12099	105	1.07	46.54	96	1850	102	16.09	40.80	313	1306	370	0	53.1
CrystaL684RR	205	308.9	100	13790	120	0.94	48.97	101	2181	120	16.41	44.61	219	1414	268	0	65.5
CrystaL685RR	206	302.9	98	12778	111	0.91	47.17	97	2001	110	16.06	41.87	253	1264	273	0	49.8
CrystaL686RR	250	313.4	102	12020	105	1.07	50.29	103	1930	106	16.72	37.97	233	1464	343	0	53.5
CrystaL687RR	233	311.5	101	12403	108	0.96	49.72	102	1969	109	16.54	39.87	238	1186	345	0	61.3
Hilleshög 9602RR	239	302.1	98	12687	110	0.91	46.93	96	1869	109	16.02	42.24	266	1282	267	0	64.0
Hilleshög HIL9707	210	305.6	99	10948	95	0.98	47.97	99	1715	95	16.27	35.78	286	1301	311	0	43.8
Hilleshög HIL9708	213	313.0	102	12302	107	0.88	50.18	103	1976	109	16.54	39.33	224	1283	255	0	76.2
Hilleshög HIL9711	245	304.6	99	12053	105	0.91	47.65	98	1879	104	16.15	39.56	263	1224	282	0	64.5
Hilleshög HIL9892	247	302.4	98	10958	95	1.04	47.01	97	1682	93	16.16	36.38	333	1297	349	0	50.1
Hilleshög HIL9893	229	312.1	101	12601	110	0.92	49.91	103	2017	111	16.54	40.52	248	1282	280	0	75.9
Hilleshög HIL9894	215	301.4	98	12035	105	0.90	46.73	96	1863	103	15.98	39.88	228	1288	268	0	61.6
Hilleshög HIL9895	240	308.5	100	12015	105	1.11	48.85	100	1899	105	16.53	38.95	363	1451	339	0	50.1
Hilleshög HIL9896	214	300.5	98	11459	100	1.08	47.81	98	1796	99	15.96	40.98	251	1214	306	0	62.0
Hilleshög HIL9897	220	295.2	96	13252	115	0.93	44.86	102	2024	112	15.69	44.84	280	1358	262	0	64.2
Maribo MA502	230	297.1	96	12583	110	1.09	45.43	93	1925	106	15.93	42.34	325	1528	317	0	58.3
Maribo MA504	204	311.2	101	13723	119	0.90	49.64										

Table 19. 2016 Performance of All Varieties - ACSC Official Trials

Cavalier ND

Description @	Code	Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$ ++	Rev/T %Bnch	Rev/A \$ ++	Rev/A %Bnch	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Acre	Emerg. %
<b>Commercial Trial</b>																	
BTS 80RR52	126	296.6	103	9415	110	1.09	45.12	106	1441	114	15.91	31.53	254	1512	347	0	76.2
BTS 82RR28	113	282.1	98	5919	69	1.24	40.58	95	883	70	15.35	20.34	363	1695	375	0	70.5
BTS 82RR33	102	278.7	97	6461	76	1.21	39.49	93	931	74	15.14	22.83	375	1668	354	0	74.3
BTS 8337	119	304.7	106	9468	111	1.09	47.66	112	1484	118	16.33	31.05	330	1390	353	0	73.4
BTS 8363	120	285.0	99	8490	100	1.08	41.48	98	1239	98	15.33	29.73	309	1484	333	0	73.5
BTS 83CN	114	288.6	100	9160	107	1.07	42.59	100	1354	107	15.49	31.66	287	1495	325	0	76.6
CrystaL093RR	109	302.6	105	9160	107	1.13	47.00	111	1428	113	16.26	30.10	263	1554	367	0	70.0
CrystaL101RR	101	278.6	97	9585	112	1.21	39.47	93	1364	108	15.15	34.29	387	1578	378	0	74.9
CrystaL246RR	107	283.4	98	8241	97	1.06	40.98	96	1196	95	15.24	29.05	339	1442	314	0	79.7
CrystaL247RR	106	291.3	101	8014	94	1.09	43.45	102	1195	95	15.66	27.58	306	1560	315	0	61.9
CrystaL355RR	121	303.4	105	8614	101	1.03	47.24	111	1335	106	16.19	28.39	253	1520	301	0	80.4
CrystaL981RR	127	280.0	97	8432	99	1.23	39.90	94	1206	96	15.23	30.07	392	1621	379	0	65.8
CrystaL986RR	122	303.1	105	9314	109	1.07	47.14	111	1447	115	16.22	30.74	313	1379	349	0	71.8
Hilleshög 4094RR	117	262.9	91	4942	58	1.51	34.56	81	710	56	14.65	17.50	494	1803	512	0	65.9
Hilleshög 4302RR	116	292.8	102	6020	71	1.08	43.91	103	910	72	15.74	20.53	324	1512	319	0	66.1
Hilleshög 4448RR	105	302.0	105	8761	103	1.09	46.80	110	1375	109	16.19	28.66	295	1429	356	0	65.2
Hilleshög 9517RR	125	298.7	104	8746	103	1.17	45.78	108	1351	107	16.11	29.10	393	1563	346	0	65.9
Hilleshög 9528RR	110	302.3	105	8893	105	1.08	46.90	110	1402	111	16.20	29.59	304	1417	352	0	63.8
Maribo 102	103	306.4	106	10623	125	1.05	48.17	113	1657	131	16.36	34.91	310	1370	333	0	76.4
Maribo 109	111	306.7	106	7183	84	1.19	48.28	114	1130	90	16.53	23.44	335	1463	412	0	70.1
Maribo MA305	112	293.7	102	7376	87	1.06	44.21	104	1120	89	15.75	24.97	310	1401	333	0	67.2
SV RR241	129	292.3	101	7990	94	1.03	43.76	103	1207	96	15.65	27.05	260	1468	313	0	64.6
SV RR244TT	104	276.8	96	5907	69	1.20	38.92	92	836	66	15.04	21.21	370	1599	369	0	62.4
SV RR333	118	289.1	100	7923	93	1.07	42.77	101	1180	94	15.52	27.22	318	1488	316	0	62.3
SV RR336	108	285.8	99	9453	111	1.06	41.73	98	1386	110	15.35	32.92	356	1397	317	0	70.4
SX Canyon RR(844TT)	128	287.4	100	7650	90	1.05	42.22	99	1142	91	15.41	26.19	260	1550	306	0	73.1
SX Cruze RR(846)	115	282.6	98	9586	112	1.14	40.74	96	1385	110	15.27	33.78	329	1510	365	0	71.1
SX Terrain RR(848)	123	283.6	98	6557	77	1.13	41.04	97	955	76	15.32	23.01	377	1512	339	0	73.4
SX Winchester RR(832)	124	291.7	101	8477	99	1.06	43.58	103	1274	101	15.65	28.95	309	1508	309	0	64.6
BTS 81RR17(Check)	130	285.1	99	9080	107	1.21	41.49	98	1326	105	15.47	31.80	281	1659	391	0	79.9
<b>Experimental Trial (Comm status)</b>																	
BTS 8500	218	283.1	98	8749	103	1.10	41.04	97	1271	101	15.28	30.77	276	1540	343	0	76.3
BTS 8512	227	286.0	99	8478	99	1.06	41.86	99	1236	98	15.39	29.75	317	1514	304	0	65.0
BTS 8524	235	283.7	98	9728	114	1.12	41.19	97	1411	112	15.32	34.29	298	1587	340	0	67.5
BTS 8572	203	293.8	102	7787	91	1.02	44.08	104	1172	93	15.73	26.46	241	1465	303	0	76.5
BTS 8603	228	295.5	103	8435	99	1.10	44.57	105	1268	101	15.89	28.53	297	1510	346	0	75.0
BTS 8606	246	284.3	99	9156	107	1.08	41.38	97	1333	106	15.31	32.16	347	1441	332	0	66.6
BTS 8610	208	278.7	97	8588	101	1.07	39.76	94	1227	97	15.03	30.84	396	1436	310	0	65.9
BTS 8614	241	279.9	97	8023	94	1.21	40.13	94	1155	92	15.20	28.58	355	1640	374	0	74.5
BTS 8629	201	290.1	101	9372	110	1.07	42.99	101	1397	111	15.59	32.18	300	1317	374	0	79.9
BTS 8634	242	292.7	102	8279	97	1.16	43.76	103	1244	99	15.80	28.08	370	1483	369	0	73.5
BTS 8642	237	294.5	102	8521	100	1.03	44.29	104	1278	101	15.79	29.01	235	1413	336	0	84.1
BTS 8682	219	295.8	103	8069	95	1.16	44.64	105	1218	97	15.96	27.35	291	1527	381	0	68.0
CrystaL467RR	238	273.1	95	8262	97	1.21	38.19	96	1151	91	14.86	30.47	492	1554	354	0	65.6
CrystaL572RR	222	292.5	101	8220	96	1.04	43.69	103	1229	97	15.69	28.17	268	1420	326	0	66.0
CrystaL573RR	223	293.3	102	8238	97	1.07	43.93	103	1233	98	15.76	28.21	302	1497	317	0	57.3
CrystaL574RR	207	283.8	98	9076	106	1.16	41.22	97	1328	105	15.35	31.55	264	1576	383	0	82.5
CrystaL575RR	248	287.9	100	9076	106	1.11	42.39	100	1343	107	15.52	31.30	313	1535	341	0	68.4
CrystaL576RR	243	284.1	99	8711	102	1.14	41.33	97	1268	101	15.36	30.65	336	1516	362	0	70.2
CrystaL578RR	249	292.3	101	9579	112	1.02	43.65	103	1431	114	15.66	32.74	293	1490	286	0	77.9
CrystaL684RR	205	292.0	101	9889	116	1.09	43.55	102	1475	117	15.71	33.94	287	1576	318	0	70.5
CrystaL685RR	206	284.7	99	8105	95	1.06	41.47	98	1189	94	15.32	28.18	301	1477	326	194	72.2
CrystaL686RR	250	294.9	102	8044	94	1.21	44.39	104	1212	96	15.96	27.31	293	1633	391	0	66.0
CrystaL687RR	233	288.2	100	8715	102	1.07	42.49	100	1285	102	15.50	30.22	287	1297	383	0	71.5
Hilleshög 9602RR	239	281.3	98	9059	106	1.05	40.51	95	1303	103	15.14	32.23	341	1406	320	0	79.8
Hilleshög HIL9707	210	284.5	99	8309	97	1.12	41.42	97	1210	96	15.36	29.28	334	1504	350	95	52.6
Hilleshög HIL9708	213	294.2	102	8734	102	1.09	44.19	104	1313	104	15.82	29.71	303	1453	351	0	76.5
Hilleshög HIL9711	245	278.6	97	8066	95	1.12	39.74	94	1138	90	15.07	29.39	338	1477	359	0	67.6
Hilleshög HIL9892	247	297.4	103	8773	103	1.00	45.11	106	1337	106	15.89	29.29	305	1444	281	0	72.0
Hilleshög HIL9893	229	289.0	100	7688	90	1.11	42.69	100	1149	91	15.58	26.19	297	1483	364	0	73.4
Hilleshög HIL9894	215	289.1	100	8001	94	1.04	42.74	101	1179	94	15.52	27.68	325	1478	302	0	69.3
Hilleshög HIL9895	240	290.4	101	9313	109	1.12	43.11	101	1378	109	15.65	32.05	406	1568	316	0	73.4
Hilleshög HIL9896	214	280.9	97	8404	99	1.09	40.41	95	1206	96	15.16	30.08	365	1429	341	0	76.5
Hilleshög HIL9897	220	288.4	100	9115	107	1.04	42.54	100	1346	107	15.50	31.63	322	1406	322	0	83.9
Maribo MA502	230	286.2	99	9480	111	1.21	41.92	99	1386	110	15.53	33.18	420	1587	364	0	79.8
Maribo MA504	204	286.2	99	9873	116	1.11	41.92	99	1449	115	15.44	34.37	327	1470	350	0	79.0
Maribo MA611	244																

**Table 20. 2016 Performance of Varieties - Conventional Official Trial  
5 Cnv sites**

<b>Unadjusted</b> <b>Description @</b>	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Rev/T \$ ++	Rev/T %Mean	Rev/A \$ ++	Rev/A %Mean	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter /Ac	Emerg. %
BETA EXP 676	801	319.2	100	11198	99	1.09	52.20	100	1830	99	17.05	35.12	221	1606	335	0	62.7
BETA EXP 687	808	323.4	101	11665	103	1.22	53.52	103	1929	105	17.40	36.00	181	1619	451	0	72.6
BETA EXP 698	815	317.1	99	12066	107	1.13	51.53	99	1957	106	16.98	38.13	193	1615	374	0	69.8
Crystal 620	816	319.0	100	11860	105	1.11	52.14	100	1943	105	17.06	37.07	164	1585	378	0	71.6
Crystal 622	810	326.5	102	10805	96	1.19	54.49	104	1798	98	17.52	33.12	197	1606	424	0	66.6
Crystal 624	804	318.6	100	11539	102	1.03	51.99	100	1882	102	16.96	36.19	193	1556	317	0	63.6
Crystal R761	812	309.8	97	11360	101	1.28	49.24	94	1806	98	16.77	36.69	246	1762	435	0	69.2
Hilleshög 3035Rz	807	327.6	103	10630	94	1.14	54.81	105	1777	96	17.51	32.48	167	1578	400	135	77.7
Hilleshög 9890Rz	814	310.4	97	11030	98	1.16	49.44	95	1760	96	16.68	35.59	213	1576	406	0	75.6
Hilleshög 9891Rz	809	321.3	101	10294	91	1.21	52.84	101	1689	92	17.27	32.10	188	1593	445	0	78.2
Maribo MA614Rz	806	305.5	96	11274	100	1.25	47.89	92	1759	95	16.52	37.06	292	1643	423	0	71.7
Maribo MA615Rz	805	318.2	100	12063	107	1.13	51.87	99	1970	107	17.04	37.92	237	1559	374	0	72.6
Seedex 8869 Cnv	811	320.4	100	12228	108	1.02	52.57	101	2007	109	17.04	38.14	171	1512	329	0	79.6
Seedex Deuce (SX0873TT)	803	323.0	101	11921	106	1.00	53.39	102	1973	107	17.15	36.89	190	1501	306	18	76.2
SV 48611	813	324.7	102	11525	102	1.13	53.90	103	1916	104	17.36	35.49	154	1559	405	0	66.9
SV 48612	802	312.9	98	11360	101	1.15	50.23	96	1823	99	16.79	36.40	195	1586	399	0	63.5
BTS 81RR17(Check)	817	315.7	99	11488	102	1.25	51.10	98	1855	101	17.03	36.41	193	1702	444	0	77.2
BTS 80RR52(Check)	818	323.0	101	11688	104	1.15	53.39	102	1935	105	17.31	36.02	171	1602	403	0	72.7
Hilleshög 4302RR (Check)	819	326.3	102	10546	94	1.02	54.41	104	1755	95	17.34	32.32	193	1568	306	0	64.2
Crystal 101RR (Check)	820	319.1	100	11228	100	1.20	52.16	100	1835	100	17.15	35.38	217	1720	397	0	71.5
ACFILL #39	821	309.5	97	9529	84	1.36	49.14	94	1514	82	16.84	30.87	273	1658	517	18	56.3
Susc 3N - Aph Tol	822	325.8	102	9540	85	1.18	54.26	104	1581	86	17.47	29.32	225	1579	410	0	53.5
RR Filler #02	823	322.6	101	12088	107	1.05	53.26	102	1995	108	17.18	37.50	186	1575	325	0	72.6
RR Filler #08	824	322.1	101	11713	104	1.15	53.09	102	1931	105	17.26	36.33	160	1567	418	0	74.4
Benchmark Mean		321.0		11238		1.16	52.77		1845		17.21	35.03	194	1648	388		71.4
Trial Mean		319.2		11277		1.15	52.20		1842		17.11	35.36	201	1601	392		70.0
Coeff. of Var. (%)		2.9		7.3		8.1	5.6		8.5		2.5	7.0	22.0	5.2	13.8		12.2
Mean LSD (0.05)		6.5		866		0.08	2.03		155		0.29	2.65	33	71	47		7.2
Mean LSD (0.01)		8.6		1147		0.10	2.69		206		0.39	3.51	43	94	63		9.6
Sig Lvl		**		**		**	**		**		**	**	**	**	**	**	

\* 2016 Data from 5 sites

Created 11-3-2016

Trial # = 16ACScnv

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

**Table 21. 2016 Performance of Varieties - Conventional Official Trial  
Casselton ND - All Characters**

<b>Unadjusted Description @</b>	<b>Code</b>	<b>Rec/T lbs.</b>	<b>Rec/T %Mean</b>	<b>Rec/A lbs.</b>	<b>Rec/A %Mean</b>	<b>Loss Mol %</b>	<b>Rev/T \$ ++</b>	<b>Rev/T %Mean</b>	<b>Rev/A \$ ++</b>	<b>Rev/A %Mean</b>	<b>Sugar %</b>	<b>Yield T/A</b>	<b>Na ppm</b>	<b>K ppm</b>	<b>AmN ppm</b>	<b>Bolter /Ac</b>	<b>Emerg. %</b>
BETA EXP 676	801	321.9	103	13456	108	1.46	53.03	105	2212	110	17.54	41.72	223	1943	536	0	48.6
BETA EXP 687	808	317.8	101	13011	104	1.71	51.75	103	2119	105	17.60	40.94	167	1916	758	0	51.7
BETA EXP 698	815	305.3	97	13749	110	1.68	47.85	95	2152	107	16.95	45.04	237	2001	684	0	45.4
Crystal 620	816	317.5	101	14116	113	1.51	51.65	103	2294	114	17.38	44.50	164	1866	612	0	46.3
Crystal 622	810	320.3	102	12163	97	1.73	52.54	104	1994	99	17.73	37.76	188	1954	745	0	37.7
Crystal 624	804	313.2	100	12463	100	1.43	50.31	100	1994	99	17.10	39.89	196	1939	522	0	46.9
Crystal R761	812	302.4	97	11782	94	1.79	46.94	93	1837	91	16.90	38.98	243	2084	752	0	45.8
Hillesög 3035Rz	807	321.3	103	11890	95	1.60	52.84	105	1947	97	17.67	37.09	174	1920	662	383	62.4
Hillesög 9890Rz	814	296.6	95	11973	96	1.62	45.12	90	1836	91	16.44	40.40	230	1903	667	0	59.6
Hillesög 9891Rz	809	314.7	100	12395	99	1.69	50.79	101	2002	100	17.42	39.32	200	1904	730	0	62.6
Maribo MA614Rz	806	292.9	93	12167	97	1.84	43.96	87	1817	90	16.49	41.29	350	2001	767	0	44.8
Maribo MA615Rz	805	316.5	101	13187	105	1.57	51.36	102	2135	106	17.40	41.73	242	1849	632	0	64.8
Seedex 8869 Cnv	811	312.5	100	12206	98	1.52	50.10	100	1957	97	17.15	39.14	213	1969	586	0	52.8
Seedex Deuce (SX0873TT)	803	318.4	102	11583	93	1.43	51.92	103	1898	94	17.34	36.28	209	1927	521	0	57.8
SV 48611	813	318.2	102	11685	93	1.69	51.89	103	1905	95	17.60	36.65	166	1990	708	0	52.9
SV 48612	802	313.9	100	11513	92	1.50	50.53	100	1859	93	17.21	37.02	183	1821	612	0	46.3
BTS 81RR17(Check)	817	307.8	98	13609	109	1.77	48.63	97	2137	106	17.15	44.03	177	2048	762	0	69.2
BTS 80RR52(Check)	818	312.0	100	13630	109	1.71	49.92	99	2184	109	17.30	43.48	173	1947	738	0	52.4
Hillesög 4302RR (Check)	819	327.1	104	11790	94	1.34	54.66	109	1971	98	17.69	35.95	210	1862	472	0	50.0
Crystal 101RR (Check)	820	316.4	101	12845	103	1.74	51.30	102	2089	104	17.57	40.90	199	2051	733	0	47.0
ACFILL #39	821	303.6	97	10387	83	1.78	47.30	94	1636	81	16.97	34.27	234	2003	764	0	39.0
Susc 3N - Aph Tol	822	314.8	100	10702	86	1.76	50.82	101	1729	86	17.50	33.99	224	1963	755	0	30.9
RR Filler #02	823	320.3	102	14685	117	1.44	52.53	104	2403	120	17.47	46.28	194	1808	567	0	57.1
RR Filler #08	824	313.5	100	13248	106	1.66	50.41	100	2113	105	17.34	42.09	168	1811	741	0	59.1
Benchmark Mean		315.8		12969		1.64	51.13		2095		17.43	41.09	190	1977	676		54.6
Trial Mean		313.3		12510		1.62	50.34		2009		17.29	39.95	207	1937	668		51.3
Coeff. of Var. (%)		3.2		6.5		7.7	6.3		8.2		2.5	6.0	21.2	4.4	11.7		15.4
F Value		2.29		7		4.28	2.29		5		2.30	8.07	3	3	5		5.3
Mean LSD (0.05)		15.1		1153		0.19	4.72		240		0.64	3.36	64	134	118		11.3
Mean LSD (0.01)		20.0		1532		0.25	6.27		319		0.85	4.46	85	179	157		15.0
Sig Lvl		**		**		**	**		**		**	**	**	**	**	**	**

\* 2016 Data from Casselton ND

Created 10/28/2016

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

Trial # = 168202

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 22. 2016 Performance of Varieties - Conventional Official Trial  
Ada MN - All Characters

Unadjusted Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Rev/T \$ ++	Rev/T %Mean	Rev/A \$ ++	Rev/A %Mean	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter /Ac	Emerg. %
BETA EXP 676	801	321.0	98	11334	95	0.98	52.75	96	1855	93	17.04	35.28	239	1469	287	0	48.0
BETA EXP 687	808	336.3	103	13381	112	0.99	57.55	105	2272	114	17.82	39.78	119	1361	365	0	60.0
BETA EXP 698	815	332.1	101	11918	100	0.90	56.23	102	2025	101	17.51	35.74	124	1410	281	0	50.9
Crystal 620	816	331.4	101	11807	99	0.90	56.01	102	2000	100	17.46	35.38	129	1351	292	0	64.9
Crystal 622	810	339.8	104	12146	102	0.99	58.64	107	2097	105	17.97	35.77	147	1371	345	0	50.9
Crystal 624	804	331.9	101	12268	103	0.84	56.16	102	2067	103	17.44	37.02	165	1322	239	0	46.1
Crystal R761	812	309.5	94	11466	96	1.22	49.14	90	1826	91	16.70	36.91	259	1645	415	0	53.4
Hilleshog 3035Rz	807	330.2	101	12023	101	0.99	55.63	101	2042	102	17.49	36.15	152	1313	360	0	72.5
Hilleshog 9890Rz	814	320.1	98	11334	95	1.03	52.48	96	1853	93	17.03	35.74	162	1304	388	0	63.0
Hilleshog 9891Rz	809	327.6	100	10988	92	1.03	54.81	100	1846	92	17.40	33.75	208	1378	350	0	65.7
Maribo MA614Rz	806	312.8	95	12557	105	1.12	50.20	91	2004	100	16.75	40.43	284	1460	370	0	65.7
Maribo MA615Rz	805	330.2	101	13663	114	0.94	55.64	101	2322	116	17.46	41.19	223	1371	285	0	56.1
Seedex 8869 Cnv	811	333.3	102	13624	114	0.90	56.60	103	2290	114	17.56	41.35	144	1332	285	0	74.0
Seedex Deuce (SX0873TT)	803	331.1	101	12833	107	0.86	55.91	102	2176	109	17.41	38.51	159	1313	263	0	69.2
SV 48611	813	337.8	103	12047	101	0.95	58.03	106	2088	104	17.83	35.78	111	1372	327	0	60.5
SV 48612	802	315.6	96	12224	102	1.07	51.08	93	1975	99	16.86	38.62	181	1413	392	0	56.4
BTS 81RR17(Check)	817	330.4	101	12304	103	1.04	55.71	101	2060	103	17.56	37.17	165	1473	356	0	65.6
BTS 80RR52(Check)	818	331.5	101	12367	103	1.00	56.04	102	2109	105	17.57	37.00	147	1368	357	0	66.8
Hilleshog 4302RR (Check)	819	333.2	102	10357	87	0.85	56.57	103	1752	88	17.53	30.95	162	1300	262	0	46.6
Crystal 101RR (Check)	820	330.6	101	10722	90	1.13	55.76	102	1804	90	17.66	32.97	216	1543	385	0	60.5
ACFILL #39	821	320.8	98	9195	77	1.27	52.68	96	1508	75	17.30	29.01	261	1446	497	0	32.1
Susc 3N - Aph Tol	822	317.7	97	9282	78	0.95	51.72	94	1486	74	16.84	29.18	256	1309	298	0	38.0
RR Filler #02	823	332.6	101	13682	115	0.88	56.38	103	2327	116	17.50	40.80	179	1344	261	0	71.4
RR Filler #08	824	329.9	101	13244	111	1.05	55.55	101	2236	112	17.56	40.21	136	1487	374	0	57.0
Benchmark Mean		331.4		11438		1.01	56.02		1931		17.58	34.52	172	1421	340		59.8
Trial Mean		327.8		11949		1.00	54.89		2001		17.39	36.45	180	1394	335		58.1
Coeff. of Var. (%)		3.0		8.8		8.7	5.6		9.5		2.5	8.6	27.3	6.9	13.6		15.9
F Value		2.24		5		6.19	2.24		5		2.07	4.91	4	3	6		5.0
Mean LSD (0.05)		15.2		1504		0.12	4.77		283		0.68	4.43	72	141	68		13.6
Mean LSD (0.01)		20.2		1997		0.17	6.34		376		0.91	5.89	96	187	90		18.1
Sig Lvl		**		**		**	**		**		*	**	**	**	**	**	**

\* 2016 Data from Ada MN

Created 10/28/2016

Trial # = 168205

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

**Table 23. 2016 Performance of Varieties - Conventional Official Trial**  
**Crookston MN - All Characters**

<b>Unadjusted</b> <b>Description @</b>	<b>Code</b>	<b>Rec/T lbs.</b>	<b>Rec/T %Mean</b>	<b>Rec/A lbs.</b>	<b>Rec/A %Mean</b>	<b>Loss Mol %</b>	<b>Rev/T \$ ++</b>	<b>Rev/T %Mean</b>	<b>Rev/A \$ ++</b>	<b>Rev/A %Mean</b>	<b>Sugar %</b>	<b>Yield T/A</b>	<b>Na ppm</b>	<b>K ppm</b>	<b>AmN ppm</b>	<b>Bolter /Ac</b>	<b>Emerg. %</b>
BETA EXP 676	801	333.1	100	10600	95	0.86	56.55	99	1798	95	17.51	31.90	234	1333	228	0	63.2
BETA EXP 687	808	336.4	101	10759	97	1.01	57.57	101	1843	98	17.83	31.99	172	1419	340	0	86.3
BETA EXP 698	815	332.5	99	12585	113	0.87	56.34	99	2134	113	17.49	37.83	163	1396	244	0	87.5
Crystal 620	816	333.2	100	12727	115	0.91	56.56	99	2160	114	17.57	38.24	152	1456	266	0	85.6
Crystal 622	810	338.5	101	9550	86	0.93	58.25	102	1643	87	17.85	28.24	213	1376	277	0	84.1
Crystal 624	804	336.5	101	11558	104	0.80	57.61	101	1977	105	17.63	34.40	169	1301	215	0	75.3
Crystal R761	812	327.2	98	11206	101	0.95	54.69	96	1875	99	17.31	34.21	209	1459	274	0	83.7
Hilleshog 3035Rz	807	341.2	102	10252	92	0.87	59.07	104	1776	94	17.94	30.04	163	1348	259	0	86.9
Hilleshog 9890Rz	814	321.5	96	11492	104	0.99	52.90	93	1889	100	17.07	35.75	244	1382	310	0	87.2
Hilleshog 9891Rz	809	341.9	102	9619	87	0.87	59.31	104	1672	88	17.96	28.07	135	1349	263	0	87.9
Maribo MA614Rz	806	328.8	98	10412	94	0.88	55.19	97	1747	92	17.32	31.69	218	1349	247	0	85.0
Maribo MA615Rz	805	327.5	98	11674	105	0.92	54.80	96	1953	103	17.29	35.61	247	1335	268	0	83.8
Seedex 8869 Cnv	811	337.5	101	12994	117	0.76	57.93	102	2228	118	17.64	38.48	151	1210	216	0	91.4
Seedex Deuce (SX0873TT)	803	339.0	101	11736	106	0.78	58.38	102	2022	107	17.72	34.60	176	1228	210	0	87.8
SV 48611	813	339.0	101	11920	107	0.86	58.38	102	2052	109	17.81	35.20	158	1296	267	0	68.6
SV 48612	802	336.9	101	12090	109	0.84	57.72	101	2073	110	17.69	35.84	154	1351	236	0	69.7
BTS 81RR17(Check)	817	334.2	100	10884	98	1.00	56.89	100	1851	98	17.71	32.61	190	1449	320	0	79.1
BTS 80RR52(Check)	818	336.4	101	11104	100	0.91	57.59	101	1899	100	17.73	33.06	178	1386	270	0	79.7
Hilleshog 4302RR (Check)	819	338.3	101	10283	93	0.82	58.17	102	1771	94	17.73	30.37	168	1384	203	0	77.8
Crystal 101RR (Check)	820	334.1	100	11259	101	0.93	56.87	100	1917	101	17.64	33.64	198	1530	244	0	81.5
ACFILL #39	821	322.6	96	9926	89	1.13	53.25	93	1635	87	17.27	30.88	287	1406	399	0	72.3
Susc 3N - Aph Tol	822	339.1	101	9496	86	0.90	58.44	103	1633	86	17.86	28.08	209	1336	264	0	69.8
RR Filler #02	823	338.7	101	11491	104	0.84	58.30	102	1977	105	17.77	33.90	174	1370	222	0	73.1
RR Filler #08	824	335.8	100	10828	98	0.88	57.39	101	1848	98	17.67	32.31	157	1318	274	0	90.0
Benchmark Mean		335.8		10883		0.92	57.38		1860		17.70	32.42	184	1437	259		79.5
Trial Mean		334.6		11102		0.90	57.01		1890		17.62	33.21	188	1365	263		80.7
Coeff. of Var. (%)		2.1		5.0		7.4	3.9		5.8		1.8	4.9	18.6	4.8	14.3		11.5
F Value		2.08		11		5.14	2.08		8		1.88	12.19	4	4	5		2.7
Mean LSD (0.05)		10.7		842		0.10	3.34		165		0.47	2.47	54	99	58		13.5
Mean LSD (0.01)		14.2		1119		0.14	4.43		219		0.63	3.29	72	131	77		18.0
Sig Lvl		*		**		**	*		**		*	**	**	**	**		**

\* 2016 Data from Crookston MN

Created 10/28/2016

Trial # = 168208

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

**Table 24. 2016 Performance of Varieties - Conventional Official Trial  
Grand Forks ND - All Characters**

<b>Unadjusted</b> <b>Description @</b>	<b>Code</b>	<b>Rec/T lbs.</b>	<b>Rec/T %Mean</b>	<b>Rec/A lbs.</b>	<b>Rec/A %Mean</b>	<b>Loss Mol %</b>	<b>Rev/T \$ ++</b>	<b>Rev/T %Mean</b>	<b>Rev/A \$ ++</b>	<b>Rev/A %Mean</b>	<b>Sugar %</b>	<b>Yield T/A</b>	<b>Na ppm</b>	<b>K ppm</b>	<b>AmN ppm</b>	<b>Bolter /Ac</b>	<b>Emerg. %</b>
BETA EXP 676	801	309.3	99	11550	99	1.06	49.09	98	1838	99	16.49	37.54	182	1693	301	0	80.1
BETA EXP 687	808	320.4	103	11676	100	1.11	52.58	105	1919	103	17.15	36.10	149	1664	362	0	78.5
BETA EXP 698	815	307.4	99	12289	106	1.09	48.51	97	1938	104	16.46	40.00	203	1726	314	0	75.4
Crystal 620	816	312.2	100	11647	100	1.04	50.00	100	1871	101	16.66	37.01	153	1610	326	0	77.3
Crystal 622	810	318.9	102	10681	92	1.17	52.09	105	1732	93	17.10	33.89	200	1692	380	0	81.6
Crystal 624	804	305.3	98	11779	101	1.01	47.83	96	1841	99	16.29	38.66	209	1626	283	0	75.4
Crystal R761	812	303.8	97	12568	108	1.23	47.35	95	1962	106	16.44	41.24	207	1937	371	0	79.7
Hilleshög 3035Rz	807	324.4	104	10910	94	1.04	53.82	108	1809	97	17.27	33.61	148	1581	335	194	87.1
Hilleshög 9890Rz	814	309.5	99	11859	102	1.06	49.16	99	1895	102	16.53	38.09	172	1635	326	0	83.6
Hilleshög 9891Rz	809	315.9	101	10341	89	1.18	51.16	103	1666	90	16.97	32.93	157	1651	415	0	83.2
Maribo MA614Rz	806	297.1	95	11449	98	1.15	45.25	91	1749	94	15.99	38.55	227	1715	353	0	78.9
Maribo MA615Rz	805	312.8	100	12401	107	1.13	50.19	101	1984	107	16.76	39.93	196	1655	366	0	69.9
Seedex 8869 Cnv	811	305.8	98	13060	112	0.93	47.98	96	2055	111	16.24	42.37	140	1590	251	0	84.8
Seedex Deuce (SX0873TT)	803	319.9	103	13162	113	0.91	52.42	105	2160	116	16.90	41.09	133	1608	224	95	79.3
SV 48611	813	313.3	101	12153	104	1.06	50.34	101	1949	105	16.73	38.93	145	1566	356	0	78.5
SV 48612	802	296.4	95	11783	101	1.17	45.04	90	1792	96	16.00	39.64	206	1676	387	0	69.9
BTS 81RR17(Check)	817	302.7	97	11440	98	1.14	47.01	94	1775	96	16.26	37.89	158	1757	353	0	86.3
BTS 80RR52(Check)	818	321.8	103	11955	103	1.01	53.00	106	1965	106	17.13	37.04	142	1613	307	0	84.8
Hilleshög 4302RR (Check)	819	320.1	103	10950	94	0.97	52.48	105	1792	96	16.98	34.25	168	1572	271	0	81.6
Crystal 101RR (Check)	820	305.2	98	11629	100	1.10	47.80	96	1826	98	16.33	38.14	194	1809	286	0	83.2
ACFILL #39	821	300.7	96	10352	89	1.32	46.38	93	1598	86	16.33	34.53	239	1749	464	0	73.4
Susc 3N - Aph Tol	822	329.3	106	10042	86	1.12	55.34	111	1679	90	17.60	30.61	191	1631	369	0	66.0
RR Filler #02	823	313.0	100	11921	102	0.97	50.25	101	1899	102	16.63	38.35	151	1653	259	0	75.8
RR Filler #08	824	315.6	101	11553	99	1.09	51.06	102	1872	101	16.86	36.66	148	1647	352	0	82.4
Benchmark Mean		312.5		11494		1.06	50.07		1840		16.68	36.83	165	1688	304		84.0
Trial Mean		311.7		11631		1.09	49.84		1857		16.67	37.38	176	1669	334		79.0
Coeff. of Var. (%)		2.8		6.2		8.8	5.5		7.2		2.6	6.4	18.0	4.6	16.5		10.6
F Value		2.98		4		3.53	2.98		3		2.89	5.23	3	4	3		1.7
Mean LSD (0.05)		13.8		1102		0.14	4.32		208		0.67	3.57	50	115	85		11.8
Mean LSD (0.01)		18.3		1465		0.19	5.74		276		0.89	4.74	67	153	113		15.7
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2016 Data from Grand Forks ND

Created 10/28/2016

Trial # = 168209

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 25. 2016 Performance of Varieties - Conventional Official Trial  
St Thomas ND - All Characters

Unadjusted Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Rev/T \$ ++	Rev/T %Mean	Rev/A \$ ++	Rev/A %Mean	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter /Ac	Emerg. %
BETA EXP 676	801	313.4	101	9214	100	1.07	50.37	103	1481	102	16.75	29.40	234	1613	320	0	73.3
BETA EXP 687	808	303.1	98	9532	104	1.28	47.15	96	1477	102	16.44	31.57	307	1717	423	0	85.5
BETA EXP 698	815	308.7	100	9869	107	1.11	48.89	100	1564	107	16.54	31.95	242	1555	353	0	90.0
Crystal 620	816	300.4	97	9097	99	1.19	46.29	95	1393	96	16.20	30.48	223	1663	397	0	84.1
Crystal 622	810	317.1	103	9316	101	1.16	51.52	105	1515	104	17.01	29.35	227	1651	376	0	79.1
Crystal 624	804	307.1	99	9569	104	1.06	48.39	99	1514	104	16.42	31.04	229	1571	323	0	73.0
Crystal R761	812	304.8	99	9579	104	1.20	47.67	97	1500	103	16.44	31.40	316	1701	363	0	84.1
Hillesög 3035Rz	807	319.0	103	8065	88	1.19	52.14	107	1314	90	17.14	25.36	204	1710	392	95	80.6
Hillesög 9890Rz	814	304.3	99	8592	93	1.14	47.53	97	1340	92	16.36	28.26	267	1681	341	0	85.6
Hillesög 9891Rz	809	306.4	99	7891	86	1.30	48.18	98	1245	86	16.61	25.66	244	1688	464	0	93.0
Maribo MA614Rz	806	296.6	96	9879	107	1.26	45.12	92	1495	103	16.09	33.46	384	1694	382	0	85.4
Maribo MA615Rz	805	304.3	99	9557	104	1.07	47.53	97	1493	103	16.29	31.39	274	1554	316	0	88.2
Seedex 8869 Cnv	811	311.0	101	9339	102	1.00	49.63	101	1497	103	16.55	29.89	211	1463	310	0	94.1
Seedex Deuce (SX0873TT)	803	307.4	100	10368	113	1.01	48.49	99	1617	111	16.39	34.11	258	1448	307	0	86.1
SV 48611	813	316.2	102	9806	107	1.10	51.25	105	1597	110	16.91	30.86	183	1556	373	0	74.1
SV 48612	802	297.7	96	9143	99	1.16	45.47	93	1386	95	16.05	30.91	252	1657	368	0	74.0
BTS 81RR17(Check)	817	305.6	99	9298	101	1.29	47.93	98	1448	100	16.57	30.65	265	1805	427	0	84.7
BTS 80RR52(Check)	818	315.0	102	9285	101	1.13	50.87	104	1507	104	16.88	29.33	218	1679	351	0	80.0
Hillesög 4302RR (Check)	819	313.1	101	9116	99	1.11	50.27	103	1455	100	16.77	29.31	255	1713	315	0	64.8
Crystal 101RR (Check)	820	308.7	100	9761	106	1.13	48.89	100	1550	107	16.56	31.54	265	1696	325	0	85.1
ACFILL #39	821	301.0	97	7662	83	1.32	46.47	95	1184	81	16.37	25.43	351	1675	450	95	65.8
Susc 3N - Aph Tol	822	326.5	106	8195	89	1.15	54.48	111	1369	94	17.48	25.06	249	1634	369	0	62.6
RR Filler #02	823	306.2	99	8574	93	1.09	48.11	98	1349	93	16.41	27.97	229	1699	314	0	85.0
RR Filler #08	824	318.5	103	9888	108	1.07	51.98	106	1624	112	16.99	30.83	187	1552	347	0	84.1
Benchmark Mean		310.6		9365		1.17	49.49		1490		16.70	30.21	251	1723	354		78.6
Trial Mean		308.8		9191		1.15	48.94		1455		16.59	29.80	253	1641	363		80.9
Coeff. of Var. (%)		3.3		9.2		6.5	6.5		11.4		2.8	8.0	22.1	5.3	10.7		8.6
F Value		1.82		3		4.91	1.82		2		1.89	4.21	3	3	5		5.6
Mean LSD (0.05)		15.2		1190		0.11	4.78		234		0.70	3.38	84	134	59		10.3
Mean LSD (0.01)		20.3		1581		0.15	6.35		311		0.93	4.49	112	178	78		13.7
Sig Lvl		*		**		**	*		*		*	**	**	**	**		**

\* 2016 Data from St Thomas ND

+ Na, K, AmN, Bolter, emergence & tare not adjusted to commercial status. %Mn = percentage of trial mean.

@ Some varieties not approved for sale. Refer to approval list for approval status.

++ Revenue estimates are based on a \$52.44 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Created 10/28/2016

Trial # = 168211

Table 26. Calculation for Approval of Sugarbeet Varieties for ACSC Market for 2017

Description	Approval Status	Rec/Ton				Rev/Acre				R/T + \$/A Bench	Cercospora Rating +				
		2015	2016	2 Yr	% Bench	2015	2016	2 Yr	% Bench		2014	2015	2016	2 Yr Mean	3 Yr Mean
<b>Previously Approved (3 Yr)</b>															<=5.40
BTS 80RR52	Approved	317.7	316.8	317.3	101.4	1701	1960	1831	105.8	207.1	4.22	4.11	4.28	4.20	
BTS 82RR28	Approved	313.0	309.4	311.2	99.4	1699	1888	1794	103.6	203.1	4.62	4.89	4.81	4.78	
BTS 82RR33	Approved	317.0	310.9	314.0	100.3	1773	1877	1825	105.5	205.8	4.70	4.58	5.05	4.78	
BTS 8337	Approved	334.1	325.2	329.7	105.3	1756	1877	1817	105.0	210.3	4.52	4.49	4.62	4.54	
BTS 8363	Approved	309.7	309.8	309.8	99.0	1732	1937	1835	106.0	205.0	3.85	3.83	4.33	4.00	
BTS 83CN	Approved	315.4	312.1	313.8	100.2	1689	1843	1766	102.1	202.3	4.60	4.65	4.65	4.63	
Crystal 093RR	Approved	325.5	319.1	322.3	103.0	1742	1942	1842	106.4	209.4	4.88	4.76	4.95	4.87	
Crystal 101RR	Approved	313.7	306.3	310.0	99.0	1618	1849	1734	100.2	199.2	4.26	4.65	4.59	4.50	
Crystal 246RR	Approved	311.2	305.3	308.3	98.5	1703	1845	1774	102.5	201.0	4.52	4.49	4.81	4.61	
Crystal 247RR	Approved	318.5	314.5	316.5	101.1	1812	2014	1913	110.5	211.7	4.20	4.19	4.65	4.35	
Crystal 355RR	Approved	320.0	322.3	321.2	102.6	1624	1947	1786	103.2	205.8	4.58	4.43	4.60	4.54	
Crystal 467RR	Approved	311.1	301.0	306.1	97.8	1765	1845	1805	104.3	202.1	4.40	4.34	4.69	4.47	
Crystal 981RR	Approved	311.6	304.7	308.2	98.5	1594	1787	1691	97.7	196.1	4.89	5.05	5.06	5.00	
Crystal 986RR	Approved	321.5	318.8	320.2	102.3	1646	1895	1771	102.3	204.6	4.61	4.97	4.75	4.78	
Hilleshög 4094RR	Approved	305.1	305.3	305.2	97.5	1504	1717	1611	93.1	190.6	4.46	4.30	4.30	4.35	
Hilleshög 4302RR	Approved	319.5	317.4	318.5	101.7	1624	1801	1713	99.0	200.7	4.52	4.13	4.13	4.26	
Hilleshög 4448RR	Approved	324.4	309.1	316.8	101.2	1818	1873	1846	106.6	207.8	5.28	5.29	5.21	5.26	
Hilleshög 9517RR	Approved	320.8	321.7	321.3	102.6	1482	1786	1634	94.4	197.1	4.39	4.03	4.26	4.22	
Hilleshög 9528RR	Approved	322.6	319.1	320.9	102.5	1762	1982	1872	108.2	210.7	4.97	5.16	4.73	4.95	
Maribo 102	Not Approved	325.9	315.7	320.8	102.5	1873	1943	1908	110.3	212.7	5.54	5.77	5.30	5.54	
Maribo 109	Approved	334.0	332.4	333.2	106.5	1568	1889	1729	99.9	206.3	4.68	4.56	4.14	4.46	
Maribo Ma305	Approved	308.8	307.5	308.2	98.5	1634	1773	1704	98.4	196.9	4.83	4.76	4.72	4.77	
SV RR241	Approved	317.7	319.3	318.5	101.8	1638	1929	1784	103.1	204.8	4.35	3.83	4.53	4.24	
SV RR244TT	Approved	316.3	317.6	317.0	101.3	1687	1877	1782	103.0	204.2	5.51	4.17	4.46	4.71	
SV RR333	Approved	319.7	318.3	319.0	101.9	1775	1950	1863	107.6	209.5	4.81	4.54	4.85	4.73	
SV RR336	Approved	309.5	301.0	305.3	97.5	1528	1710	1619	93.6	191.1	4.53	3.94	4.62	4.36	
SX Canyon RR(844TT)	Approved	314.6	317.4	316.0	101.0	1680	1926	1803	104.2	205.1	5.46	4.02	4.76	4.75	
SX Cruze RR(846)	Approved	309.1	299.6	304.4	97.2	1642	1712	1677	96.9	194.1	4.83	4.57	4.65	4.69	
SX Terrain RR(848)	Approved	316.3	318.2	317.3	101.4	1685	1818	1752	101.2	202.6	4.71	4.80	4.67	4.73	
SX Winchester RR	Approved	323.3	320.5	321.9	102.8	1580	1831	1706	98.6	201.4	4.89	3.67	3.97	4.18	
<b>Candidates for Approval (2 Yr)</b>															<=5.20
BTS 8500	Approved	312.8	308.7	310.8	99.3	1738	1966	1852	107.0	206.3	--	4.45	4.54	4.50	--
BTS 8512	Approved	318.8	315.8	317.3	101.4	1713	1917	1815	104.9	206.3	--	4.12	4.04	4.08	--
BTS 8524	Approved	306.9	305.7	306.3	97.9	1742	1954	1848	106.8	204.6	--	4.40	4.74	4.57	--
BTS 8572	Approved	327.4	323.3	325.4	103.9	1719	1913	1816	104.9	208.9	--	4.60	4.41	4.50	--
Crystal 572RR	Approved	327.9	324.7	326.3	104.2	1724	1982	1853	107.1	211.3	--	4.65	4.57	4.61	--
Crystal 573RR	Approved	323.8	321.4	322.6	103.1	1756	1970	1863	107.7	210.7	--	4.15	4.35	4.25	--
Crystal 574RR	Approved	311.2	307.8	309.5	98.9	1800	2070	1935	111.8	210.7	--	4.30	4.51	4.41	--
Crystal 575RR	Approved	313.0	310.1	311.6	99.5	1759	1909	1834	106.0	205.5	--	4.53	4.53	4.53	--
Crystal 576RR	Not Approved	314.9	309.7	312.3	99.8	1654	1830	1742	100.7	200.4	--	4.55	4.54	4.55	--
Crystal 578RR	Approved	320.5	316.6	318.6	101.8	1797	2017	1907	110.2	212.0	--	4.93	4.87	4.90	--
Hilleshög 9602RR	Not Approved	305.8	302.9	304.4	97.2	1593	1878	1736	100.3	197.5	4.67	4.66	4.67	4.66	4.67
Hilleshög HIL9707	Not Approved	316.1	305.2	310.7	99.2	1552	1739	1646	95.1	194.3	--	4.60	4.53	4.56	--
Hilleshög HIL9708	Approved	323.3	312.4	317.9	101.5	1694	1857	1776	102.6	204.1	--	5.04	4.74	4.89	--
Hilleshög HIL9711	Approved	315.4	308.7	312.1	99.7	1682	1866	1774	102.5	202.2	--	5.06	4.60	4.83	--
Maribo Ma502	Not Approved	313.2	302.7	308.0	98.4	1682	1825	1754	101.3	199.7	--	5.04	4.79	4.91	--
Maribo Ma504	Approved	318.1	305.5	311.8	99.6	1865	1929	1897	109.6	209.2	--	5.25	5.04	5.14	--
Seedex RR0856(Marathon)	Approved	323.9	315.4	319.7	102.1	1831	2039	1935	111.8	213.9	--	5.37	4.44	4.91	--
Seedex RR0858(Avalanche)	Approved	326.8	320.7	323.8	103.4	1676	1916	1796	103.8	207.2	--	4.15	4.74	4.45	--
SV RR351	Approved	320.9	313.2	317.1	101.3	1621	1971	1796	103.8	205.1	--	4.62	4.50	4.56	--
SV RR353	Approved	317.3	317.1	317.2	101.3	1669	1954	1812	104.7	206.0	--	3.72	4.20	3.96	--
<b>Benchmark Varieties</b>															
Hilleshög 4012RR	Benchmark	313.7				1418									
Crystal 875RR	Benchmark	312.9	308.5			1452	1490								
BTS 80RR52	Benchmark	318.4	317.7	316.8		1530	1701	1960							
BTS 81RR17(Check)	Benchmark	315.0	307.6	310.2		1443	1574	1845							
Hilleshög 4302RR	Benchmark	319.5	317.4			1624	1801								
Crystal 101RR	Benchmark			306.3				1849							
<b>Benchmark mean</b>															
+ All Cercospora ratings 2014-2016 were adjusted to 1982 basis.															Created 11-04-2016.
Variety approval criteria include: 1) 2 years of official trial data, 2) Cercospora rating must not exceed 5.20 (1982 adjusted data), 3a) R/T >= 100% of Bench or 3b) R/T >= 97% and R/T + \$/A >= 202% of Bench. 3 yrs of data may be considered for initial approval.															
Bench for 2016 added Crystal 101RR and dropped Crystal 875RR.															
To maintain approval, the 3-year Cercospora rating must not exceed 5.40 (1982 adjusted data).															

Table 27. Projected Calculation for Approval of Sugarbeet Varieties for ACSC Market

Description	Approval ^ Likely	Rec/Ton		Rev/Acre		R/T + \$/A	CR Rating ^^
		2016	Bench	2016	Bench	Bench	2016
<b>Candidates for Retesting (1 Yr)</b>							
BTS 8603	On Track	326.3	104.4	1905	102.2	206.6	4.96
BTS 8606	On Track	317.3	101.5	2000	107.3	208.8	5.12
BTS 8610	On Track	312.7	100.0	1818	97.5	197.6	4.77
BTS 8614	On Track	311.2	99.5	1936	103.9	203.4	4.66
BTS 8629	On Track	307.5	98.3	1955	104.9	203.2	4.59
BTS 8634	On Track	312.8	100.0	1826	98.0	198.0	4.52
BTS 8642	On Track	322.8	103.2	1831	98.2	201.5	4.74
BTS 8682	On Track	319.2	102.1	1830	98.2	200.3	4.32
Crystal 684RR	On Track	308.1	98.5	2111	113.3	211.8	4.57
Crystal 685RR	On Track	313.0	100.1	1910	102.5	202.6	4.67
Crystal 686RR	On Track	323.5	103.5	1910	102.5	205.9	4.70
Crystal 687RR	Not On Track	307.3	98.3	1859	99.7	198.0	4.86
Hilleshög HIL9892	Not On Track	311.1	99.5	1851	99.3	198.8	3.95
Hilleshög HIL9893	Not On Track	307.4	98.3	1894	101.6	199.9	5.03
Hilleshög HIL9894	Not On Track	305.5	97.7	1690	90.7	188.4	4.44
Hilleshög HIL9895	On Track	313.7	100.3	1873	100.5	200.8	4.49
Hilleshög HIL9896	Not On Track	304.7	97.4	1909	102.4	199.9	4.48
Hilleshög HIL9897	Not On Track	299.8	95.9	1889	101.4	197.2	4.52
Maribo MA611	On Track	313.1	100.1	1765	94.7	194.8	4.47
Maribo MA612	Not On Track	292.5	93.5	1681	90.2	183.7	4.59
Maribo MA613	Not On Track	299.3	95.7	1664	89.3	185.0	4.85
Seedex RR1861	On Track	316.2	101.1	1966	105.5	206.6	4.52
Seedex RR1862	On Track	312.2	99.8	1923	103.2	203.0	4.52
Seedex RR1863	On Track	323.4	103.4	2006	107.6	211.1	4.35
Seedex RR1864	On Track	319.5	102.2	1950	104.6	206.8	3.86
SV RR265	On Track	315.1	100.8	1979	106.2	207.0	5.00
SV RR266	On Track	317.3	101.5	1971	105.8	207.2	4.74
SV RR267	Not On Track	309.1	98.9	1817	97.5	196.3	4.56
SV RR268	On Track	319.0	102.0	1954	104.8	206.9	5.13
<b>Benchmarks</b>							
BTS 80RR52		316.8	101.3	1960	105.2		
BTS 81RR17(Check)		310.2	99.2	1845	99.0		
Hilleshög 4302RR		317.4	101.5	1801	96.6		
Crystal 101RR		306.3	98.0	1849	99.2		
Benchmark Mean		312.7		1864			

^ NOT = not on track for approval. On Track = data is tracking for potential approval.

Created 11-04-2016.

^^ All Cercospora ratings 2016 were adjusted to 1982 basis.

Full market approval criteria include: 1) 2 years of official trial data, 2) Cercospora rating must not exceed 5.20 (1982 adjusted data),

3a) R/T >= 100% of Bench or 3b) R/T >= 97% and R/T + \$/A equal to 202 of Bench.

Bench for 2016 added Crystal 101RR and dropped Crystal 875RR.

Table 28. Calculation for Approval of Sugarbeet Varieties for ACSC Aphanomyces Specialty Market for 2017

Trial Yrs	Description	Approval Status	Root Aph. Rating					Cercospora Rating +				
			2014	2015	2016	2 Yr Mn	3 Yr Mn	<=4.70	2014	2015	2016	2 Yr Mn
<b>Previously Approved (3 Yrs)</b>												
7	BTS 80RR52	Approved	4.01	3.24	4.11	3.68	3.79	4.22	4.11	4.28	4.20	4.20
4	BTS 8337	Approved	3.68	2.55	3.26	2.91	3.16	4.52	4.49	4.62	4.56	4.54
4	BTS 83CN	Approved	4.16	3.79	4.34	4.07	4.10	4.60	4.65	4.65	4.65	4.63
6	Crystal 101RR	Approved	3.45	3.31	3.42	3.37	3.39	4.26	4.65	4.59	4.62	4.50
5	Crystal 246RR	NO	4.51	4.99	4.85	4.92	4.78	4.52	4.49	4.81	4.65	4.61
4	Crystal 355RR	Approved	4.15	3.26	4.46	3.86	3.96	4.58	4.43	4.60	4.52	4.54
3	Crystal 467RR	Approved	4.33	3.55	4.04	3.80	3.97	4.40	4.34	4.69	4.52	4.48
8	Crystal 981RR	Approved	3.79	3.25	3.54	3.40	3.53	4.89	5.05	5.06	5.06	5.00
4	Hilleshög 9517RR	Approved	3.89	3.09	3.83	3.46	3.60	4.39	4.03	4.26	4.15	4.23
4	Hilleshög 9528RR	Approved	5.44	2.97	3.77	3.37	4.06	4.97	5.16	4.73	4.95	4.95
6	Maribo 102	NO	4.99	2.78	3.90	3.34	3.89	5.54	5.77	5.30	5.54	5.54
3	Maribo 109	Approved	5.00	3.54	4.27	3.91	4.27	4.68	4.56	4.14	4.35	4.46
4	SX Winchester RR	Approved	5.06	3.07	3.85	3.46	3.99	4.89	3.67	3.97	3.82	4.18
3	SV RR241	Approved	5.42	2.87	4.63	3.75	4.31	4.35	3.83	4.53	4.18	4.24
4	SV RR336	Approved	5.50	2.78	3.69	3.24	3.99	4.53	3.94	4.62	4.28	4.36
<b>Candidates for Approval</b>												
								<=4.40				<=5.20
5	BTS 82RR28	Approved	4.84	4.15	4.20	4.18	4.40	4.62	4.89	4.81	4.85	4.77
5	BTS 82RR33	NO	5.59	5.63	5.42	5.53	5.55	4.70	4.58	5.05	4.82	4.78
4	BTS 8363	NO	5.03	4.77	4.93	4.85	4.91	3.85	3.83	4.33	4.08	4.00
2	BTS 8500	Approved	3.54	4.22	3.88	—	—	4.45	4.54	4.50	—	—
2	BTS 8512	Approved	3.91	4.17	4.04	—	—	4.12	4.04	4.08	—	—
2	BTS 8524	Approved	3.33	3.89	3.61	—	—	4.40	4.74	4.57	—	—
2	BTS 8572	Approved	4.05	4.46	4.26	—	—	4.60	4.41	4.51	—	—
7	Crystal 093RR	Approved	4.69	3.86	4.32	4.09	4.29	4.88	4.76	4.95	4.86	4.86
5	Crystal 247RR	NO	5.05	4.94	4.77	4.86	4.92	4.20	4.19	4.65	4.42	4.35
2	Crystal 572RR	NO	4.33	4.74	4.54	—	—	4.65	4.57	4.61	—	—
2	Crystal 573RR	Approved	3.69	4.06	3.88	—	—	4.15	4.35	4.25	—	—
2	Crystal 574RR	Approved	2.93	3.69	3.31	—	—	4.30	4.51	4.41	—	—
2	Crystal 575RR	Approved	3.88	4.83	4.36	—	—	4.53	4.53	4.53	—	—
2	Crystal 576RR	Approved	3.24	3.97	3.61	—	—	4.55	4.54	4.55	—	—
2	Crystal 578RR	NO	4.52	4.44	4.48	—	—	4.93	4.87	4.90	—	—
8	Crystal 986RR	Approved	4.63	3.87	4.41	4.14	4.30	4.61	4.97	4.75	4.86	4.78
9	Hilleshög 4094RR	NO	4.47	4.60	4.42	4.51	4.50	4.46	4.30	4.30	4.30	4.35
6	Hilleshög 4302RR	Approved	4.20	4.02	4.63	4.33	4.28	4.52	4.13	4.13	4.13	4.26
5	Hilleshög 4448RR	NO	4.78	2.80	3.90	3.35	3.83	5.28	5.29	5.21	5.25	5.26
3	Hilleshög 9602RR	NO	4.55	4.67	4.43	4.55	4.55	4.67	4.66	4.67	4.67	4.67
2	Hilleshög HIL9707	Approved	3.52	3.99	3.76	—	—	4.60	4.53	4.57	—	—
2	Hilleshög HIL9708	NO	4.69	4.82	4.76	—	—	5.04	4.74	4.89	—	—
2	Hilleshög HIL9711	Approved	3.01	4.31	3.66	—	—	5.06	4.60	4.83	—	—
4	Maribo MA305	NO	4.99	4.76	4.42	4.59	4.72	4.83	4.76	4.72	4.74	4.77
2	Maribo MA502	Approved	2.93	3.06	3.00	—	—	5.04	4.79	4.92	—	—
2	Maribo MA504	NO	4.60	4.54	4.57	—	—	5.25	5.04	5.15	—	—
3	SX Canyon RR(844TT)	Approved	5.84	3.59	4.28	3.94	4.57	5.46	4.02	4.76	4.39	4.75
3	SX Cruze RR(846)	Approved	5.77	4.14	3.41	3.78	4.44	4.83	4.57	4.65	4.61	4.68
2	Seedex RR0856(Marathon)	NO	4.53	4.38	4.46	—	—	5.37	4.44	4.91	—	—
2	Seedex RR0858(Avalanche)	Approved	3.40	4.44	3.92	—	—	4.15	4.74	4.45	—	—
3	SX Terrain RR(848)	NO	5.58	3.69	4.93	4.31	4.73	4.71	4.80	4.67	4.74	4.73
3	SV RR244TT	NO	5.67	4.23	4.97	4.60	4.96	5.51	4.17	4.46	4.32	4.71
4	SV RR333	Approved	5.33	3.46	4.71	4.09	4.50	4.81	4.54	4.85	4.70	4.73
2	SV RR351	Approved	3.53	4.38	3.96	—	—	4.62	4.50	4.56	—	—
2	SV RR353	Approved	2.75	4.46	3.61	—	—	3.72	4.20	3.96	—	—
Approval Criteria new varieties												
								4.40			5.20	
Criteria to Maintain Approval												
								4.70			5.40	

+ All Cercospora ratings 2014-2016 were adjusted to 1982 basis.  
Aphanomyces approval criteria include: 1) Cercospora rating must not exceed 5.20 (1982 adjusted data), 2) Aph root rating <= 4.40 after 2 years.  
3 yrs of data may be considered for initial approval.  
To maintain Aphanomyces approval criteria include: 1) Cercospora 3 year mean must not exceed 5.40, 2) Aph root rating <= 4.70 after 3 years.  
Previously approved varieties not meeting current approval standards may be sold in 2017.

Created 11-3-2016

Table 29. Calculation for Approval of Sugarbeet Varieties for ACSC Rhizoctonia Specialty Market for 2017

Description	Approval Status	Disease Index +					Cercospora Rating				
		2014	2015	2016	2 Yr Mn	3 Yr Mn	2014	2015	2016	2 Yr Mn	3 Yr Mn
<b>Previously Approved (3 Yr)</b>											
BTS 80RR52	Not Approved	4.36	3.95	4.41	4.18	4.24	4.22	4.11	4.28	4.20	4.20
BTS 83CN	Approved	4.01	3.86	4.16	4.01	4.01	4.60	4.65	4.65	4.65	4.63
Crystal 355RR	Approved ^	4.07	NE	3.96	NE	NE	4.58	4.43	4.60	4.52	4.54
Hilleshög 4094RR	Approved	3.52	3.44	3.93	3.69	3.63	4.46	4.30	4.30	4.30	4.35
Hilleshög 4302RR	Approved	3.58	3.70	3.65	3.68	3.64	4.52	4.13	4.13	4.13	4.26
Maribo 109	Approved	3.33	3.67	3.69	3.68	3.56	4.68	4.56	4.14	4.35	4.46
<b>Candidates for Approval (2 Yr)</b>											
BTS 82RR28	Not Approved	4.11	4.01	4.36	4.19	4.16	4.62	4.89	4.81	4.85	4.77
BTS 82RR33	Not Approved	4.20	4.18	4.04	4.11	4.14	4.70	4.58	5.05	4.82	4.78
BTS 8337	Not Approved	4.06	3.87	4.08	3.98	4.00	4.52	4.49	4.62	4.56	4.54
BTS 8363	Not Approved	4.24	4.12	4.34	4.23	4.23	3.85	3.83	4.33	4.08	4.00
BTS 8500	Not Approved	—	4.19	4.43	4.31	--	--	4.45	4.54	4.50	--
BTS 8512	Not Approved	—	4.28	4.44	4.36	--	--	4.12	4.04	4.08	--
BTS 8524	Not Approved	—	4.14	4.20	4.17	--	--	4.40	4.74	4.57	--
BTS 8572	Not Approved	—	3.85	4.54	4.20	--	--	4.60	4.41	4.51	--
Crystal 093RR	Not Approved	4.46	3.96	4.37	4.17	4.26	4.88	4.76	4.95	4.86	4.86
Crystal 101RR	Not Approved	4.84	4.64	4.78	4.71	4.75	4.26	4.65	4.59	4.62	4.50
Crystal 246RR	Not Approved	4.01	4.19	4.32	4.26	4.17	4.52	4.49	4.81	4.65	4.61
Crystal 247RR	Not Approved	4.41	4.33	4.32	4.33	4.35	4.20	4.19	4.65	4.42	4.35
Crystal 467RR	Not Approved	4.03	3.97	4.26	4.12	4.09	4.40	4.34	4.69	4.52	4.48
Crystal 572RR	Not Approved	—	3.89	4.21	4.05	--	--	4.65	4.57	4.61	--
Crystal 573RR	Not Approved	—	4.25	4.55	4.40	--	--	4.15	4.35	4.25	--
Crystal 574RR	Not Approved	—	4.16	4.47	4.32	--	--	4.30	4.51	4.41	--
Crystal 575RR	Not Approved	—	4.18	4.33	4.26	--	--	4.53	4.53	4.53	--
Crystal 576RR	Not Approved	—	3.68	4.01	3.85	--	--	4.55	4.54	4.55	--
Crystal 578RR	Not Approved	—	4.03	4.32	4.18	--	--	4.93	4.87	4.90	--
Crystal 981RR	Not Approved	4.85	4.40	4.59	4.50	4.61	4.89	5.05	5.06	5.06	5.00
Crystal 986RR	Not Approved	4.12	4.06	4.38	4.22	4.19	4.61	4.97	4.75	4.86	4.78
Hilleshög 4448RR	Not Approved	4.73	3.92	4.51	4.22	4.39	5.28	5.29	5.21	5.25	5.26
Hilleshög 9517RR	Not Approved	4.04	3.66	4.19	3.93	3.96	4.39	4.03	4.26	4.15	4.23
Hilleshög 9528RR	Not Approved	3.83	4.10	4.21	4.16	4.05	4.97	5.16	4.73	4.95	4.95
Hilleshög 9602RR	Not Approved	4.12	3.91	4.21	4.06	4.08	4.67	4.66	4.67	4.67	4.67
Hilleshög HIL9707	Not Approved	—	4.21	4.40	4.31	--	--	4.60	4.53	4.57	--
Hilleshög HIL9708	Not Approved	—	4.04	4.28	4.16	--	--	5.04	4.74	4.89	--
Hilleshög HIL9711	Not Approved	—	4.11	4.46	4.29	--	--	5.06	4.60	4.83	--
Maribo 102	Not Approved	4.30	4.07	4.50	4.29	4.29	5.54	5.77	5.30	5.54	5.54
Maribo MA305	Not Approved	4.62	3.83	4.40	4.12	4.28	4.83	4.76	4.72	4.74	4.77
Maribo MA502	Not Approved	—	4.14	4.73	4.44	--	--	5.04	4.79	4.92	--
Maribo MA504	Not Approved	—	3.98	4.58	4.28	--	--	5.25	5.04	5.15	--
SX Canyon RR(844TT)	Not Approved	4.15	4.22	4.40	4.31	4.26	5.46	4.02	4.76	4.39	4.75
SX Cruze RR(846)	Not Approved	4.67	4.18	4.69	4.44	4.51	4.83	4.57	4.65	4.61	4.68
Seedex RR0856(Marathon)	Not Approved	—	4.16	4.47	4.32	--	--	5.37	4.44	4.91	--
Seedex RR0858(Avalanche)	Not Approved	—	4.21	4.52	4.37	--	--	4.15	4.74	4.45	--
SX Terrain RR(848)	Not Approved	4.43	4.24	4.45	4.35	4.37	4.71	4.80	4.67	4.74	4.73
SX Winchester RR	Not Approved	4.35	4.28	4.63	4.46	4.42	4.89	3.67	3.97	3.82	4.18
SV RR241	Not Approved	4.43	3.97	4.37	4.17	4.26	4.35	3.83	4.53	4.18	4.24
SV RR244TT	Not Approved	3.84	4.18	4.45	4.32	4.16	5.51	4.17	4.46	4.32	4.71
SV RR333	Not Approved	4.39	4.11	4.44	4.28	4.31	4.81	4.54	4.85	4.70	4.73
SV RR336	Not Approved	4.29	4.38	4.65	4.52	4.44	4.53	3.94	4.62	4.28	4.36
SV RR351	Not Approved ^	—	NE	4.17	NE	--	--	4.62	4.50	4.56	--

Table 29. Calculation for Approval of Sugarbeet Varieties for ACSC Rhizoctonia Specialty Market for 2017

Description	Approval Status	Disease Index +				Cercospora Rating			
		2014	2015	2016	2 Yr Mn	3 Yr Mn	2014	2015	2016
<b>Susceptible Checks</b>									
RH CK#08 CRY539RR	Susc Chk	4.73	4.65	4.84					
RH CK#24 BETA86RR88	Susc Chk	4.91	4.82	—					
RH CK#25 HILL4043RR	Susc Chk	4.66	4.35	4.76					
RH CK#27 HILL4012RR	Susc Chk	4.52	4.41	—					
RH CK#29 BETA87RR58	Susc Chk	4.53	4.77	4.67					
RH CK#30 SES36711RR	Susc Chk	4.21	4.91	—					
RH CK#31 HILL4000RR	Susc Chk	4.76	5.03	4.80					
RH CK#32 HILL4010RR	Susc Chk	4.99	—	—					
RH CK#34 BETA86RR66	Susc Chk	4.48	4.57	—					
RH CK#35 SES36812RR	Susc Chk	4.63	4.37	4.55					
RH CK#36 BETA85RR02	Susc Chk	4.50	4.71	—					
RH CK#37 SES36918RR	Susc Chk	4.61	4.34	4.67					
RH CK#40 CRY510RR	Susc Chk	—	—	4.65					
RH CK#47 SES36272RR	Susc Chk	—	—	4.50					
RH CK#49 CRY5247RR	Susc Chk	—	—	4.38					
RH CK#28 CRY5658RR	Susc Chk	—	—	4.57					
Susceptible Hybrid Mean		4.63	4.62	4.64	4.63	4.63			
Approval Criteria ++		3.82	3.82	3.82	<b>3.82</b>	<b>3.82</b>			
Disapproval Criteria						<b>4.17</b>			

Rhc and CR ratings were adjusted based upon check performance.

Created 11-3-2016

+ Disease Index is based on a scale of 0 (healthy) to 7 (dead).

++ Candidates must have better tolerance than susc. check mean \* 80%. To maintain approval, tolerance must be better than susc. check mean \* 90%.

Previously approved varieties not meeting current approval standards may be sold in 2017.

^ NE not entered into disease nursery. Variety approval will not be impacted by this miscommunication.

Table 30. Varieties Meeting MDFC Approval Criteria for the 2017 Sugarbeet Crop ++

<b>Roundup Ready ®</b>	Approval		
	Status	Aph Spec	Rhc Spec
ACH RR012	Established	Aph	
ACH RR830	Established	Aph	Rhc
ACH RR228	Established	Aph	
ACH RR260	Specialty	Aph	
ACH RRD352	Specialty	Aph	Rhc
ACH RRD508	Test Market	Aph	
<hr/>			
BTS 70RR99	Established	Aph	
BTS 7373	Established	Aph	
BTS 73MN	Established	Aph	Rhc
BTS 7540	Test Market	Aph	
BTS 7550	Test Market	Aph	
<hr/>			
HM 4302RR	Established	Aph	Rhc
HM 4062RR	Specialty	Aph	Rhc
HM 9528RR	Established	Aph	
<hr/>			
SV RR746	Established	Aph	
SV RR747	Specialty	Aph	

Aph Spec = variety meets Aphanomyces specialty requirements of 4.45 or less Aph root rating.

Rhc Spec = variety meets Rhizoctonia specialty requirements of 3.82 or less of Rhc root rating.

Roundup Ready ® is a registered trademark of Monsanto Company.

**Table 31. 2016 Performance of Varieties - MDFC Official Trials**  
**4 sites**

Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	Tare %
<b>Commercial Trial</b>														
BTS 70RR99	160	269.0	103	9593	104	1.53	14.97	36.00	337	1650	621	0	64.7	7.3
BTS 7373	162	261.7	101	8726	95	1.57	14.65	33.45	399	1646	630	0	63.1	7.0
BTS 73MN	151	260.6	100	9325	101	1.45	14.49	35.83	338	1575	581	0	67.5	6.9
Crystal D352	158	248.9	96	8682	94	1.71	14.17	35.17	380	1716	731	0	72.5	6.7
Crystal RR012	157	270.3	104	9004	98	1.60	15.13	33.64	359	1701	659	0	65.1	8.0
Crystal RR228	153	281.7	108	9474	103	1.55	15.63	33.88	341	1622	640	0	59.1	7.1
Crystal RR260	152	239.2	92	9114	99	1.59	13.54	38.32	542	1691	583	18	75.9	6.9
Crystal RR830	155	241.7	93	8878	96	1.41	13.49	37.05	475	1578	501	0	68.0	6.3
Hilleshög 4062RR	159	253.3	97	8836	96	1.69	14.36	35.04	440	1718	693	0	56.6	6.0
Hilleshög 4302RR	154	267.7	103	9351	102	1.40	14.78	35.01	422	1633	492	9	60.0	6.6
Hilleshög 9528RR	161	267.8	103	9840	107	1.34	14.73	36.71	363	1446	524	0	66.5	5.7
SV RR747	156	257.6	99	9617	104	1.37	14.26	37.32	375	1527	517	9	56.8	5.2
<b>Experimental Trial (Comm status)</b>														
BTS 7540	309	268.1	103	9851	107	1.45	14.86	37.01	368	1623	555	0	68.6	3.7
BTS 7550	320	276.0	106	8658	94	1.36	15.18	31.73	290	1483	549	0	72.9	4.5
BTS 7600	321	271.8	105	8440	92	1.41	15.01	31.29	290	1522	575	0	69.9	4.8
BTS 7607	319	264.6	102	8914	97	1.48	14.71	33.94	421	1599	570	432	61.2	3.7
BTS 7618	322	251.7	97	8458	92	1.52	14.10	33.75	422	1437	646	0	72.2	3.8
BTS 7629	302	266.4	102	8365	91	1.51	14.83	31.54	385	1571	615	0	61.2	5.1
Crystal D508	306	275.5	106	8757	95	1.36	15.14	32.20	301	1466	552	0	61.6	5.3
Crystal D609	327	259.5	100	9117	99	1.58	14.55	35.58	437	1653	621	0	73.0	4.4
Crystal D659	304	273.8	105	9053	98	1.60	15.28	33.46	322	1679	675	0	66.5	5.7
Crystal D678	317	269.8	104	8071	88	1.41	14.92	30.26	290	1546	570	0	66.7	5.4
Hilleshög 9602RR	312	248.3	95	9296	101	1.38	13.81	37.22	413	1589	498	0	77.4	4.4
Hilleshög HIL9880	314	268.6	103	9447	103	1.55	14.98	35.32	441	1727	574	0	68.7	5.1
Hilleshög HIL9881	308	269.5	104	9577	104	1.42	14.92	35.38	396	1533	546	0	56.7	4.9
Hilleshög HIL9882	311	251.5	97	8191	89	1.46	14.03	32.72	379	1585	567	0	55.0	4.1
Hilleshög HIL9883	316	254.2	98	9590	104	1.36	14.06	37.76	376	1590	494	0	81.7	4.4
Hilleshög HIL9884	324	258.2	99	9206	100	1.38	14.29	35.89	402	1509	522	0	75.9	4.4
Maribo MA605	313	265.2	102	9105	99	1.51	14.76	34.48	428	1621	584	0	67.4	5.7
Maribo MA606	301	242.3	93	8405	91	1.52	13.61	34.91	485	1650	561	0	65.2	4.2
Maribo MA607	307	240.8	93	8055	88	1.43	13.47	33.22	442	1462	560	23	68.3	3.9
Seedex RR1964	310	270.0	104	9195	100	1.45	14.96	34.12	305	1635	573	0	59.7	5.1
Seedex RR1965	315	264.6	102	8991	98	1.41	14.64	34.16	355	1546	546	0	62.5	4.3
SV RR655	305	272.6	105	9914	108	1.38	15.02	36.48	297	1561	540	0	63.3	5.0
SV RR656	323	270.3	104	9711	106	1.45	14.97	35.71	315	1608	575	0	65.4	4.8
SV RR746	325	264.6	102	9288	101	1.42	14.66	35.20	311	1540	570	0	62.7	4.5
SV RR761	303	261.8	101	8887	97	1.46	14.55	34.23	338	1527	596	0	70.6	4.0
SV RR762	318	281.9	108	10321	112	1.32	15.45	36.47	272	1541	508	0	65.4	4.8
SV RR763	326	263.7	101	9270	101	1.45	14.64	35.31	367	1527	577	0	69.5	5.0
Crystal RR830(Check)	328	242.2	93	9052	98	1.42	13.52	37.77	476	1561	505	0	64.7	4.2
BTS 70RR99(Check)	329	263.9	101	9057	98	1.57	14.75	34.53	348	1662	646	0	61.5	4.5
Crystal RR260 (Check)	330	243.9	94	9476	103	1.55	13.73	39.07	530	1696	554	0	75.3	5.0
Comm.Trial Mean		260.0		9203		1.52	14.52	35.62	398	1625	598		64.6	6.6
Coeff. of Var. (%)		4.2		7.1		7.1	3.4	5.7	18.4	4.6	10.1		15.5	25.9
Mean LSD (0.05)		9.4		665		0.15	0.48	2.00	65	75	105		7.7	1.1
Mean LSD (0.01)		12.6		893		0.20	0.65	2.69	87	100	142		10.3	1.5
Sig Mrk		**		*		**	**	**	**	**	**	**	**	**

\* 2016 Data from 4 sites

11/05/2016 13:40

Created 11/04/2016

@ Experimental trial data adjusted to commercial status. Statistics are from commercial trial.

Trial # = 16MDexp

Some varieties not approved for sale. Refer to approval list for approval status.

Bolters per acre are based upon 45,000 plants per acre.

**Table 32. 2016 Performance of Varieties - MDFC Official Trials**  
**Barnesville MN**

Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>													
BTS 70RR99	160	299.6	104	10519	105	1.40	16.38	35.21	290	1578	564	0	70.8
BTS 7373	162	293.8	102	9428	94	1.53	16.21	32.14	361	1523	646	0	80.0
BTS 73MN	151	292.9	101	10326	103	1.30	15.94	35.25	287	1495	501	0	75.3
Crystal D352	158	273.6	95	9143	91	1.64	15.33	33.41	345	1633	706	0	77.9
Crystal RR012	157	295.8	102	9657	96	1.51	16.30	32.61	325	1660	609	0	84.1
Crystal RR228	153	315.0	109	10212	102	1.37	17.11	32.48	285	1493	558	0	74.7
Crystal RR260	152	258.9	90	9908	99	1.51	14.46	38.15	519	1598	558	0	87.0
Crystal RR830	155	270.1	94	9488	95	1.28	14.78	35.16	415	1454	447	0	77.6
Hilleshög 4062RR	159	285.4	99	9990	100	1.66	15.93	34.92	412	1641	703	0	76.0
Hilleshög 4302RR	154	297.9	103	10262	102	1.32	16.22	34.42	353	1559	476	0	77.6
Hilleshög 9528RR	161	292.8	101	10605	106	1.34	15.98	36.01	359	1347	547	0	69.8
SV RR747	156	288.5	100	10904	109	1.39	15.83	37.93	364	1486	552	32	74.7
<b>Experimental Trial (Comm status)</b>													
BTS 7540	309	301.2	104	10130	101	1.30	16.35	34.18	288	1615	477	0	74.5
BTS 7550	320	306.9	106	9601	96	1.20	16.53	31.84	206	1384	478	0	88.5
BTS 7600	321	303.4	105	9835	98	1.24	16.42	32.62	226	1438	502	0	87.9
BTS 7607	319	300.6	104	10222	102	1.27	16.29	34.09	306	1543	465	581	77.2
BTS 7618	322	273.9	95	9215	92	1.32	15.02	33.49	336	1262	556	0	92.4
BTS 7629	302	292.7	101	9125	91	1.42	16.06	30.90	326	1477	582	0	80.6
Crystal D508	306	300.1	104	9470	94	1.28	16.28	31.73	266	1453	511	0	79.0
Crystal D609	327	294.0	102	9856	98	1.33	16.05	33.80	337	1516	512	0	93.3
Crystal D659	304	306.7	106	9825	98	1.47	16.79	32.27	262	1619	602	0	84.7
Crystal D678	317	306.2	106	8674	86	1.19	16.51	28.60	225	1439	462	0	87.6
Hilleshög 9602RR	312	275.3	95	10230	102	1.36	15.13	37.13	356	1525	514	0	94.6
Hilleshög HIL9880	314	303.1	105	11326	113	1.50	16.65	37.63	390	1724	557	0	85.6
Hilleshög HIL9881	308	305.1	106	10879	108	1.32	16.59	35.38	367	1488	496	0	77.9
Hilleshög HIL9882	311	275.5	95	9192	92	1.47	15.23	33.64	332	1562	602	0	78.5
Hilleshög HIL9883	316	286.5	99	10626	106	1.35	15.66	37.61	341	1534	503	0	89.0
Hilleshög HIL9884	324	287.1	99	9866	98	1.29	15.66	34.87	367	1399	494	0	88.9
Maribo MA605	313	303.5	105	11028	110	1.31	16.49	36.40	344	1507	488	0	88.6
Maribo MA606	301	273.2	95	9260	92	1.52	15.18	34.08	378	1684	594	0	78.9
Maribo MA607	307	270.7	94	9247	92	1.36	14.90	34.34	402	1336	550	0	84.1
Seedex RR1964	310	303.5	105	9757	97	1.28	16.48	32.55	259	1539	491	0	70.0
Seedex RR1965	315	295.9	102	9466	94	1.30	16.11	32.36	299	1495	509	0	61.2
SV RR655	305	307.3	106	11313	113	1.21	16.58	36.69	234	1501	448	0	70.5
SV RR656	323	307.5	107	10775	107	1.29	16.66	35.03	246	1529	511	0	69.8
SV RR746	325	294.0	102	10139	101	1.36	16.04	35.14	273	1471	556	0	75.1
SV RR761	303	288.5	100	9259	92	1.29	15.72	32.18	297	1395	515	0	78.6
SV RR762	318	318.8	110	11080	110	1.12	17.08	34.81	221	1458	404	0	77.4
SV RR763	326	289.9	100	9971	99	1.29	15.78	34.61	333	1441	497	0	77.4
Crystal RR830(Check)	328	273.9	95	9876	98	1.25	14.95	36.08	383	1448	442	0	78.4
BTS 70RR99(Check)	329	285.8	99	10028	100	1.48	15.78	34.82	351	1629	582	0	68.3
Crystal RR260 (Check)	330	268.9	93	10010	100	1.47	14.89	37.62	490	1553	545	0	78.0
Comm.Trial Mean		288.7		10037		1.44	15.87	34.81	360	1539	572		77.1
Coeff. of Var. (%)		3.7		6.3		7.8	3.0	4.1	19.4	4.8	11.1		13.1
Mean LSD (0.05)		13.4		765		0.15	0.57	1.76	85	88	84		11.7
Mean LSD (0.01)		17.9		1018		0.20	0.76	2.35	113	118	112		15.6
Sig Mrk		**		**		**	**	**	**	**	**		ns

\* 2016 Data from Barnesville MN

11/04/2016 18:42

Created 11/04/2016

Trial # = 166301

@ Experimental trial data adjusted to commercial status. Statistics are from commercial trial.

Some varieties not approved for sale. Refer to approval list for approval status.

Bolters per acre are based upon 45,000 plants per acre.

**Table 33. 2016 Performance of Varieties - MDFC Official Trials**  
**Foxhome MN**

Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>													
BTS 70RR99	160	230.7	104	8076	108	1.84	13.38	35.17	331	1608	878	0	70.5
BTS 7373	162	216.9	98	6940	93	1.63	12.46	31.86	427	1459	715	0	61.1
BTS 73MN	151	218.1	99	7142	95	1.73	12.63	32.38	368	1384	839	0	67.8
Crystal D352	158	212.1	96	6974	93	2.02	12.63	32.89	361	1680	983	0	72.8
Crystal RR012	157	230.0	104	7749	104	1.83	13.31	33.43	371	1530	877	0	72.6
Crystal RR228	153	250.5	113	8147	109	1.74	14.27	32.61	337	1425	844	0	62.3
Crystal RR260	152	207.8	94	7340	98	1.71	12.10	35.42	522	1513	723	63	74.8
Crystal RR830	155	210.6	95	7147	96	1.56	12.10	34.16	457	1437	661	0	70.4
Hilleshög 4062RR	159	211.3	96	7591	101	1.70	12.27	35.90	443	1547	745	0	49.0
Hilleshög 4302RR	154	225.8	102	7514	100	1.48	12.78	33.55	405	1506	598	32	58.7
Hilleshög 9528RR	161	226.8	103	7868	105	1.25	12.59	34.72	330	1259	505	0	63.9
SV RR747	156	209.0	95	7311	98	1.23	11.68	34.95	411	1276	461	0	52.3
<b>Experimental Trial (Comm status)</b>													
BTS 7540	309	235.4	107	8010	107	1.63	13.44	33.97	369	1410	760	0	61.6
BTS 7550	320	247.8	112	7485	100	1.44	13.95	30.28	260	1341	653	0	72.1
BTS 7600	321	234.6	106	6470	86	1.71	13.47	27.78	331	1561	781	0	56.4
BTS 7607	319	227.8	103	7863	105	1.83	13.22	34.47	479	1517	845	383	52.6
BTS 7618	322	223.9	101	7446	99	1.83	13.02	33.50	453	1379	886	0	65.6
BTS 7629	302	234.5	106	6843	91	1.69	13.43	29.13	468	1383	784	0	50.1
Crystal D508	306	247.4	112	7465	100	1.54	13.97	30.54	265	1290	760	0	53.7
Crystal D609	327	227.0	103	8349	112	1.84	13.20	36.25	488	1515	842	0	66.2
Crystal D659	304	235.5	107	7700	103	2.05	13.78	33.06	348	1546	1052	0	47.0
Crystal D678	317	233.4	106	7055	94	1.70	13.44	29.51	327	1512	780	0	49.6
Hilleshög 9602RR	312	206.5	94	6918	92	1.46	11.79	32.95	475	1506	549	0	77.9
Hilleshög HIL9880	314	228.0	103	7297	98	1.61	13.06	31.96	467	1592	641	0	73.8
Hilleshög HIL9881	308	228.2	103	7751	104	1.55	13.02	32.73	395	1428	671	0	50.2
Hilleshög HIL9882	311	209.2	95	6242	83	1.51	11.97	29.18	342	1512	626	0	47.9
Hilleshög HIL9883	316	214.6	97	7339	98	1.39	12.16	33.97	383	1438	552	0	86.3
Hilleshög HIL9884	324	220.1	100	7239	97	1.40	12.44	32.61	462	1343	558	0	68.4
Maribo MA605	313	222.6	101	7286	97	1.73	12.85	32.84	494	1573	738	0	58.0
Maribo MA606	301	201.2	91	6020	80	1.52	11.58	31.15	544	1380	607	0	64.0
Maribo MA607	307	201.7	91	6608	88	1.34	11.51	32.63	434	1211	558	95	57.8
Seedex RR1964	310	229.1	104	7707	103	1.69	13.19	32.81	343	1562	756	0	59.5
Seedex RR1965	315	231.4	105	8099	108	1.53	13.18	34.06	357	1340	695	0	65.0
SV RR655	305	243.7	110	8337	111	1.51	13.77	34.25	265	1347	707	0	57.8
SV RR656	323	225.6	102	7752	104	1.73	13.07	33.60	338	1525	802	0	73.3
SV RR746	325	214.4	97	7025	94	1.63	12.38	32.19	347	1421	754	0	61.7
SV RR761	303	232.5	105	7387	99	1.60	13.28	31.85	334	1377	751	0	65.7
SV RR762	318	234.3	106	8067	108	1.51	13.29	34.45	308	1379	686	0	65.5
SV RR763	326	226.5	103	7137	95	1.63	12.98	32.01	413	1327	763	0	64.8
Crystal RR830(Check)	328	208.8	95	7569	101	1.55	12.01	36.51	462	1348	671	0	54.5
BTS 70RR99(Check)	329	233.3	106	7689	103	1.84	13.49	33.42	330	1547	900	0	46.3
Crystal RR260 (Check)	330	207.0	94	7305	98	1.71	12.08	34.82	518	1663	691	0	77.7
Comm.Trial Mean		220.8		7483		1.64	12.68	33.92	397	1469	736		64.7
Coeff. of Var. (%)		4.3		7.3		5.5	3.3	6.3	10.4	4.4	7.3		15.5
Mean LSD (0.05)		12.0		669		0.12	0.54	2.55	56	87	72		12.7
Mean LSD (0.01)		16.0		891		0.16	0.72	3.40	75	117	96		16.9
Sig Mrk		**		**		**	**	*	**	**	**	**	**

\* 2016 Data from Foxhome MN

11/04/2016 18:44

Created 11/04/2016

Trial # = 166302

@ Experimental trial data adjusted to commercial status. Statistics are from commercial trial.

Some varieties not approved for sale. Refer to approval list for approval status.

Bolters per acre are based upon 45,000 plants per acre.

**Table 34. 2016 Performance of Varieties - MDFC Official Trials**  
**Mooreton ND**

Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>													
BTS 70RR99	160	238.3	104	9833	108	1.76	13.68	41.19	518	1730	712	0	51.3
BTS 7373	162	236.1	104	8933	98	1.83	13.62	37.85	575	1781	730	0	44.1
BTS 73MN	151	235.3	103	9756	107	1.74	13.50	41.51	525	1729	696	0	57.1
Crystal D352	158	219.5	96	9293	102	1.96	12.95	42.07	603	1856	802	0	60.8
Crystal RR012	157	238.6	105	9334	102	1.92	13.88	38.90	598	1823	778	0	43.4
Crystal RR228	153	245.5	108	9524	104	1.88	14.17	39.01	571	1744	782	0	43.3
Crystal RR260	152	195.7	86	8332	91	2.00	11.77	42.78	879	1834	737	0	66.7
Crystal RR830	155	201.2	88	8701	95	1.78	11.83	43.46	794	1738	623	0	56.6
Hilleshög 4062RR	159	216.9	95	7894	87	2.09	12.93	36.20	690	1833	873	0	47.1
Hilleshög 4302RR	154	239.0	105	9098	100	1.70	13.65	38.02	683	1774	598	0	41.7
Hilleshög 9528RR	161	248.7	109	9992	109	1.69	14.08	40.43	526	1571	697	0	60.7
SV RR747	156	222.9	98	8824	97	1.77	12.93	39.43	579	1738	696	0	46.1
<b>Experimental Trial (Comm status)</b>													
BTS 7540	309	233.2	102	10459	115	1.77	13.46	44.55	588	1776	672	0	77.7
BTS 7550	320	241.4	106	9145	100	1.77	13.90	37.86	502	1598	758	0	70.4
BTS 7600	321	241.5	106	9103	100	1.61	13.77	37.50	421	1572	663	0	73.8
BTS 7607	319	223.6	98	8908	98	1.83	13.00	39.44	709	1745	691	194	58.8
BTS 7618	322	224.4	98	8769	96	1.93	13.15	39.00	694	1566	823	0	73.7
BTS 7629	302	234.5	103	9073	99	1.80	13.57	38.70	549	1698	734	0	68.8
Crystal D508	306	245.3	108	8756	96	1.62	13.95	35.54	463	1590	653	0	58.2
Crystal D609	327	218.7	96	8927	98	1.99	12.89	40.70	705	1810	799	0	68.7
Crystal D659	304	244.6	107	9545	105	1.76	14.05	38.85	494	1749	705	0	74.2
Crystal D678	317	233.6	102	8646	95	1.76	13.44	36.71	450	1674	742	0	63.1
Hilleshög 9602RR	312	221.8	97	9339	102	1.70	12.83	42.19	617	1595	657	0	65.5
Hilleshög HIL9880	314	231.9	102	8799	96	1.93	13.53	38.20	692	1810	749	0	49.6
Hilleshög HIL9881	308	235.8	103	9066	99	1.69	13.52	38.67	559	1612	659	0	38.2
Hilleshög HIL9882	311	227.2	100	8792	96	1.76	13.12	38.42	642	1621	694	0	46.8
Hilleshög HIL9883	316	225.1	99	9275	102	1.65	12.94	41.16	576	1619	627	0	75.1
Hilleshög HIL9884	324	229.3	101	9221	101	1.78	13.28	39.82	580	1652	727	0	71.9
Maribo MA605	313	225.4	99	8754	96	1.91	13.18	38.65	700	1699	766	0	68.5
Maribo MA606	301	220.2	97	8755	96	1.78	12.81	39.39	739	1754	647	0	56.3
Maribo MA607	307	210.8	92	6538	72	1.86	12.36	30.76	687	1620	759	0	73.3
Seedex RR1964	310	240.0	105	9467	104	1.82	13.85	39.25	489	1760	748	0	52.2
Seedex RR1965	315	225.1	99	8695	95	1.74	12.99	37.98	603	1714	663	0	59.5
SV RR655	305	224.2	98	8646	95	1.76	12.99	38.63	541	1743	687	0	56.6
SV RR656	323	241.3	106	9938	109	1.75	13.85	41.06	515	1748	684	0	56.6
SV RR746	325	240.8	106	9595	105	1.65	13.75	39.62	429	1657	667	0	43.4
SV RR761	303	230.9	101	9180	101	1.83	13.40	39.57	514	1711	762	0	64.2
SV RR762	318	260.5	114	10162	111	1.64	14.73	39.03	395	1667	657	0	55.6
SV RR763	326	238.1	104	9792	107	1.73	13.68	41.14	514	1670	694	0	65.8
Crystal RR830(Check)	328	198.1	87	8331	91	1.82	11.71	42.48	849	1727	641	0	59.5
BTS 70RR99(Check)	329	230.3	101	8855	97	1.89	13.41	38.25	532	1781	788	0	67.7
Crystal RR260 (Check)	330	206.8	91	9680	106	1.83	12.16	46.70	810	1794	643	0	75.0
Comm.Trial Mean		228.1		9126		1.84	13.25	40.07	628	1763	727		51.6
Coeff. of Var. (%)		5.1		7.1		7.3	3.8	5.4	18.2	4.4	10.0		16.6
Mean LSD (0.05)		13.4		798		0.17	0.59	2.69	139	91	92		10.1
Mean LSD (0.01)		17.8		1063		0.22	0.78	3.58	185	121	122		13.4
Sig Mrk		**		**		**	**	**	**	**	**		**

\* 2016 Data from Mooreton ND

11/04/2016 19:03

Created 11/04/2016

Trial # = 166303

@ Experimental trial data adjusted to commercial status. Statistics are from commercial trial.

Some varieties not approved for sale. Refer to approval list for approval status.

Bolters per acre are based upon 45,000 plants per acre.

**Table 35. 2016 Performance of Varieties - MDFC Official Trials**  
**Norcross MN**

Description @	Code	Rec/T lbs.	Rec/T %Mean	Rec/A lbs.	Rec/A %Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
<b>Commercial Trial</b>													
BTS 70RR99	160	308.2	102	10032	99	1.11	16.54	32.66	195	1691	344	0	64.1
BTS 7373	162	299.7	99	9519	94	1.26	16.24	31.76	239	1803	407	0	66.4
BTS 73MN	151	296.0	98	10133	100	1.05	15.86	34.17	171	1707	304	0	69.8
Crystal D352	158	289.7	96	9373	92	1.25	15.73	32.34	215	1702	435	0	78.1
Crystal RR012	157	314.1	104	9377	92	1.20	16.91	29.82	182	1761	396	0	59.6
Crystal RR228	153	318.1	105	9983	98	1.18	17.08	31.31	170	1801	375	0	57.8
Crystal RR260	152	293.7	97	10851	107	1.13	15.81	36.96	234	1819	308	0	75.0
Crystal RR830	155	286.8	95	10171	100	1.06	15.40	35.46	227	1716	283	0	69.5
Hilleshög 4062RR	159	298.8	99	9818	97	1.31	16.24	32.84	242	1833	438	0	56.0
Hilleshög 4302RR	154	308.7	102	10494	103	1.08	16.52	34.09	238	1710	297	0	60.7
Hilleshög 9528RR	161	302.9	100	10813	106	1.08	16.22	35.66	199	1613	333	0	71.1
SV RR747	156	310.0	103	11440	113	1.08	16.58	37.00	150	1613	350	0	53.7
<b>Experimental Trial (Comm status)</b>													
BTS 7540	309	303.5	100	10868	107	1.08	16.27	35.82	206	1693	315	0	60.2
BTS 7550	320	307.8	102	8390	83	1.03	16.42	27.27	181	1597	309	0	61.4
BTS 7600	321	305.6	101	8363	82	1.09	16.37	27.47	182	1578	363	0	60.2
BTS 7607	319	307.4	102	8717	86	0.98	16.36	28.39	178	1614	274	576	55.9
BTS 7618	322	283.9	94	8320	82	1.07	15.27	29.31	219	1561	338	0	57.5
BTS 7629	302	304.3	101	8557	84	1.12	16.34	28.22	192	1701	354	0	46.1
Crystal D508	306	309.3	102	9353	92	0.99	16.48	30.27	192	1542	291	0	55.1
Crystal D609	327	298.2	99	9305	92	1.15	16.06	31.25	215	1808	334	0	63.4
Crystal D659	304	308.0	102	9079	89	1.16	16.57	29.50	173	1800	365	0	60.1
Crystal D678	317	301.9	100	7858	77	1.05	16.15	26.21	182	1593	327	0	67.2
Hilleshög 9602RR	312	292.3	97	10743	106	1.02	15.65	36.85	180	1738	271	0	70.7
Hilleshög HIL9880	314	312.5	103	10260	101	1.13	16.75	32.76	200	1786	329	0	65.4
Hilleshög HIL9881	308	312.0	103	10635	105	1.10	16.71	34.12	215	1614	350	0	61.1
Hilleshög HIL9882	311	294.7	98	8701	86	1.06	15.80	29.56	197	1666	312	0	46.0
Hilleshög HIL9883	316	290.4	96	11144	110	1.05	15.58	38.37	190	1733	284	0	75.3
Hilleshög HIL9884	324	296.1	98	10662	105	1.02	15.83	36.04	188	1680	286	0	73.8
Maribo MA605	313	309.6	102	9331	92	1.11	16.61	30.16	180	1726	344	0	55.0
Maribo MA606	301	272.2	90	9575	94	1.26	14.86	35.28	285	1799	388	0	62.3
Maribo MA607	307	278.7	92	9618	95	1.10	15.04	34.37	228	1673	335	0	60.4
Seedex RR1964	310	304.8	101	9813	97	1.05	16.31	32.27	134	1696	320	0	56.4
Seedex RR1965	315	301.1	100	9805	96	1.05	16.12	32.57	158	1631	324	0	63.9
SV RR655	305	315.5	104	11343	112	1.07	16.86	36.04	156	1667	335	0	68.2
SV RR656	323	303.2	100	10214	100	1.05	16.23	33.57	164	1674	314	0	62.0
SV RR746	325	308.5	102	10366	102	1.04	16.47	33.54	173	1612	316	0	70.3
SV RR761	303	294.4	97	9746	96	1.11	15.84	33.22	205	1649	355	0	73.2
SV RR762	318	313.5	104	11893	117	1.00	16.68	37.89	148	1672	276	0	63.6
SV RR763	326	302.2	100	10146	100	1.12	16.23	33.63	180	1690	352	0	70.2
Crystal RR830(Check)	328	289.9	96	10381	102	1.05	15.56	35.87	225	1726	278	0	67.6
BTS 70RR99(Check)	329	305.8	101	9698	95	1.09	16.39	31.76	169	1705	334	0	64.4
Crystal RR260 (Check)	330	293.0	97	10975	108	1.15	15.80	37.46	262	1795	323	0	70.2
Comm.Trial Mean	302.2		10167		1.15	16.26	33.67	205	1731	356		65.2	
Coeff. of Var. (%)	3.4		6.9		7.4	2.8	6.0	18.5	4.4	13.4		15.3	
Mean LSD (0.05)	12.2		808		0.10	0.55	2.32	46	96	58		11.6	
Mean LSD (0.01)	16.3		1074		0.14	0.74	3.09	61	128	77		15.4	
Sig Mrk	**		**		**	**	**	**	**	**	**	**	

\* 2016 Data from Norcross MN

11/04/2016 19:15

Created 11/04/2016

Trial # = 166304

@ Experimental trial data adjusted to commercial status. Statistics are from commercial trial.

Some varieties not approved for sale. Refer to approval list for approval status.

Bolters per acre are based upon 45,000 plants per acre.

**Table 36. 2016 Aphanomyces Ratings for Official Trial Entries**  
**Betaseed Nursery – Shakopee, MN & ACSC - RRV**

Chk++	Code	Description	Adjusted ^^						Trial Yrs \$\$
			Perley 10/17	Shak 8/30	2016	2 Yr	3 Yr	2015 ^^	
530	BTS 70RR99		4.62	4.21	4.41	3.83	3.74	3.25	3.57
608	BTS 7373		3.84	2.89	3.37	3.04	2.94	2.72	2.72
535	BTS 73MN		3.61	3.73	3.67	3.83	3.86	3.99	3.93
544	BTS 7540		3.89	4.05	3.97	3.54	—	3.10	—
563	BTS 7550		4.30	4.47	4.39	4.01	—	3.64	—
605	BTS 7600		4.45	3.24	3.85	—	—	—	1
614	BTS 7607		5.17	5.40	5.29	—	—	—	1
547	BTS 7618		4.37	5.41	4.89	—	—	—	1
569	BTS 7629		4.29	3.90	4.10	—	—	—	1
609	BTS 80RR52		4.15	4.06	4.11	3.67	3.78	3.24	4.01
519	BTS 82RR28		4.33	4.07	4.20	4.17	4.39	4.15	4.84
582	BTS 82RR33		5.52	5.31	5.42	5.52	5.55	5.63	5.59
568	BTS 8337		3.85	2.67	3.26	2.90	3.16	2.55	3.68
522	BTS 8363		4.59	5.26	4.93	4.85	4.91	4.77	5.03
610	BTS 83CN		4.35	4.34	4.34	4.07	4.10	3.79	4.16
540	BTS 8500		3.76	4.68	4.22	3.88	—	3.54	—
514	BTS 8512		4.26	4.08	4.17	4.04	—	3.91	—
518	BTS 8524		3.94	3.85	3.89	3.61	—	3.33	—
542	BTS 8572		4.61	4.31	4.46	4.25	—	4.05	—
607	BTS 8603		5.09	4.30	4.69	—	—	—	1
549	BTS 8606		4.51	4.69	4.60	—	—	—	1
562	BTS 8610		3.67	3.35	3.51	—	—	—	1
528	BTS 8614		4.65	4.54	4.59	—	—	—	1
555	BTS 8629		3.85	4.44	4.14	—	—	—	1
571	BTS 8634		4.11	4.03	4.07	—	—	—	1
526	BTS 8642		3.93	3.20	3.57	—	—	—	1
545	BTS 8682		4.31	4.08	4.20	—	—	—	1
508	Crystal 093RR		3.79	4.85	4.32	4.09	4.29	3.86	4.69
602	Crystal 101RR		4.12	2.73	3.42	3.37	3.39	3.31	3.45
596	Crystal 246RR		4.60	5.09	4.85	4.92	4.78	4.99	4.51
554	Crystal 247RR		4.71	4.82	4.77	4.86	4.92	4.94	5.05
585	Crystal 355RR		4.21	4.71	4.46	3.86	3.96	3.26	4.15
595	Crystal 467RR		4.31	3.77	4.04	3.80	3.97	3.55	4.33
584	Crystal 572RR		4.64	4.83	4.74	4.54	—	4.33	—
552	Crystal 573RR		4.58	3.54	4.06	3.88	—	3.69	—
521	Crystal 574RR		3.69	3.69	3.69	3.31	—	2.93	—
588	Crystal 575RR		4.60	5.06	4.83	4.36	—	3.88	—
533	Crystal 576RR		4.35	3.59	3.97	3.60	—	3.24	—
579	Crystal 578RR		4.22	4.66	4.44	4.48	—	4.52	—
527	Crystal 684RR		3.78	3.69	3.74	—	—	—	1
590	Crystal 685RR		5.07	5.17	5.12	—	—	—	1
567	Crystal 686RR		4.73	4.17	4.45	—	—	—	1
573	Crystal 687RR		4.48	5.21	4.85	—	—	—	1
548	Crystal 981RR		4.38	2.70	3.54	3.39	3.53	3.25	3.79
517	Crystal 986RR		4.48	4.35	4.41	4.14	4.30	3.87	4.63
598	Crystal D352		3.88	3.69	3.78	3.58	3.65	3.38	3.80
592	Crystal D508		4.54	5.05	4.80	4.40	—	4.00	—
501	Crystal D609		4.02	3.81	3.91	—	—	—	1
583	Crystal D659		4.33	4.09	4.21	—	—	—	1
553	Crystal D678		4.44	3.18	3.81	—	—	—	1
574	Crystal RR012		4.65	4.80	4.73	4.30	4.14	3.87	3.83
546	Crystal RR228		3.92	2.67	3.29	3.07	2.83	2.84	2.35
575	Crystal RR260		4.58	4.52	4.55	4.31	4.43	4.07	4.67
550	Crystal RR830		4.21	4.93	4.57	4.19	4.10	3.82	3.92
534	Hilleshög 4062RR		4.57	4.42	4.49	4.49	4.27	4.49	3.83
565	Hilleshög 4094RR		4.19	4.66	4.42	4.51	4.50	4.60	4.47
577	Hilleshög 4302RR		4.24	5.01	4.63	4.33	4.28	4.02	4.20
511	Hilleshög 4448RR		3.54	4.26	3.90	3.35	3.83	2.80	4.78
539	Hilleshög 9517RR		3.92	3.74	3.83	3.46	3.60	3.09	3.89

**Table 36. 2016 Aphanomyces Ratings for Official Trial Entries**  
**Betaseed Nursery – Shakopee, MN & ACSC - RRV**

Chk++	Code	Description	Adjusted ^^						Trial Yrs \$\$	
			Perley 10/17	Shak 8/30	2016	2 Yr	3 Yr	2015 ^^		
	612	Hilleshög 9528RR	3.78	3.75	3.77	3.37	4.06	2.97	5.44	4
	532	Hilleshög 9602RR	4.51	4.35	4.43	4.55	4.55	4.67	4.55	3
	580	Hilleshög HIL9707	4.15	3.83	3.99	3.75	—	3.52	—	2
	559	Hilleshög HIL9708	4.68	4.95	4.82	4.75	—	4.69	—	2
	599	Hilleshög HIL9711	4.20	4.42	4.31	3.66	—	3.01	—	2
	509	Hilleshög HIL9880	4.07	3.07	3.57	—	—	—	—	1
	578	Hilleshög HIL9881	3.91	3.48	3.69	—	—	—	—	1
	611	Hilleshög HIL9882	4.59	4.38	4.48	—	—	—	—	1
	538	Hilleshög HIL9883	3.83	4.47	4.15	—	—	—	—	1
	600	Hilleshög HIL9884	3.89	4.54	4.21	—	—	—	—	1
	593	Hilleshög HIL9892	3.86	3.50	3.68	—	—	—	—	1
	525	Hilleshög HIL9893	4.64	5.39	5.02	—	—	—	—	1
	502	Hilleshög HIL9894	4.12	4.14	4.13	—	—	—	—	1
	510	Hilleshög HIL9895	3.99	3.30	3.65	—	—	—	—	1
	560	Hilleshög HIL9896	4.33	4.36	4.34	—	—	—	—	1
	558	Hilleshög HIL9897	4.33	4.96	4.64	—	—	—	—	1
	529	Maribo 102	3.65	4.15	3.90	3.34	3.89	2.78	4.99	6
	541	Maribo 109	4.25	4.28	4.27	3.90	4.27	3.54	5.00	3
	603	Maribo MA305	3.72	5.11	4.42	4.59	4.72	4.76	4.99	4
	561	Maribo MA502	3.42	2.70	3.06	2.99	—	2.93	—	2
	572	Maribo MA504	4.14	4.93	4.54	4.57	—	4.60	—	2
	504	Maribo MA605	3.90	3.85	3.87	—	—	—	—	1
	576	Maribo MA606	4.44	4.22	4.33	—	—	—	—	1
	512	Maribo MA607	4.19	5.30	4.75	—	—	—	—	1
	520	Maribo MA611	4.21	3.67	3.94	—	—	—	—	1
	537	Maribo MA612	4.76	4.29	4.53	—	—	—	—	1
	536	Maribo MA613	4.59	4.84	4.72	—	—	—	—	1
	551	SX Canyon RR(844TT)	4.16	4.41	4.28	3.94	4.57	3.59	5.84	3
	516	SX Cruze RR(846)	3.53	3.28	3.41	3.77	4.44	4.14	5.77	3
	524	Seedex RR1861	4.36	4.44	4.40	—	—	—	—	1
	604	Seedex RR1862	4.66	4.89	4.78	—	—	—	—	1
	587	Seedex RR1863	3.69	3.41	3.55	—	—	—	—	1
	566	Seedex RR1864	3.72	3.96	3.84	—	—	—	—	1
	503	Seedex RR1964	4.56	4.73	4.64	—	—	—	—	1
	591	Seedex RR1965	3.93	4.32	4.12	—	—	—	—	1
	513	Seedex RR0856(Marathon)	4.46	4.31	4.38	4.46	—	4.53	—	2
	597	Seedex RR0858(Avalanche)	4.21	4.67	4.44	3.92	—	3.40	—	2
	557	SX Terrain RR(848)	4.94	4.92	4.93	4.31	4.73	3.69	5.58	3
	615	SX Winchester RR	4.03	3.67	3.85	3.46	3.99	3.07	5.06	4
	507	SV RR241	4.40	4.86	4.63	3.75	4.31	2.87	5.42	3
	613	SV RR244TT	4.84	5.11	4.97	4.60	4.96	4.23	5.67	3
	523	SV RR265	3.88	5.21	4.54	—	—	—	—	1
	586	SV RR266	4.23	5.01	4.62	—	—	—	—	1
	515	SV RR267	4.72	5.17	4.95	—	—	—	—	1
	505	SV RR268	3.89	4.12	4.00	—	—	—	—	1
	564	SV RR333	4.19	5.23	4.71	4.09	4.50	3.46	5.33	4
	531	SV RR336	3.98	3.40	3.69	3.24	3.99	2.78	5.50	4
	589	SV RR351	4.04	4.72	4.38	3.95	—	3.53	—	2
	556	SV RR353	4.38	4.55	4.46	3.60	—	2.75	—	2
	581	SV RR655	3.87	3.84	3.85	3.63	—	3.41	—	2
	543	SV RR656	3.77	4.29	4.03	4.34	—	4.65	—	2
	570	SV RR746	4.24	4.39	4.32	4.11	4.28	3.90	4.62	3
	601	SV RR747	4.19	4.24	4.22	4.15	4.32	4.08	4.67	3
	606	SV RR761	3.96	4.83	4.40	—	—	—	—	1
	506	SV RR762	3.61	4.10	3.85	—	—	—	—	1
	594	SV RR763	4.04	4.33	4.18	—	—	—	—	1
1	1001	Aph Ck-32 CRY5981RR	4.40	3.02	3.71	3.48	3.59	3.25	3.79	8
1	1002	AP CK-33 CRY5768RR	4.87	4.56	4.71	4.79	4.73	4.86	4.62	10
1	1003	AP CK-34 HILL4000RR	5.81	5.16	5.49	5.61	5.55	5.73	5.42	10
1	1004	AP CK-35 BETA87RR58	5.21	5.19	5.20	5.50	5.36	5.79	5.10	10

**Table 36. 2016 Aphanomyces Ratings for Official Trial Entries**  
**Betaseed Nursery – Shakopee, MN & ACSC - RRV**

Chk++	Code	Description	Adjusted ^^						Trial Yrs \$\$
			Perley 10/17	Shak 8/30	2016	2 Yr	3 Yr	2015 ^^	
1	1005	AP CK-41 CRYST765RR	5.86	5.77	5.81	6.27	6.17	6.73	5.96
1	1006	AP CK-43 BTS80RR32	4.34	4.98	4.66	4.96	5.03	5.26	5.16
1	1007	AP CK-44 SX VISION RR	4.88	5.06	4.97	5.15	5.28	5.33	5.54
1	1008	AP CK-45 CRYST986RR	4.27	4.93	4.60	4.37	4.46	4.14	4.63
1	1009	AP CK-47 CRYST101RR	4.12	2.71	3.41	3.28	3.33	3.14	3.45
1	1010	AP CK-49 BTS82RR33	5.68	5.58	5.63	5.86	5.77	6.09	5.59
1	1011	AP CK-51 CRYST246RR	4.34	5.44	4.89	4.94	4.80	4.99	4.51
1	1012	AP CK-52 HILL4094RR	4.60	5.19	4.90	4.75	4.65	4.60	4.47
1	1013	AP CK-53 CRYST093RR	4.31	4.78	4.55	4.21	4.37	3.86	4.69
1	1014	AP CK-54 SES36273RR	4.51	4.41	4.46	4.42	4.81	4.38	5.59
1	1015	AP CK-55 CRYST247RR	4.99	5.38	5.19	5.06	5.06	4.94	5.05
	1016	AP CHK SUS HYB#3	5.59	5.87	5.73	6.38	6.29	7.03	6.10
0	1017	AP CHK MOD RES RR	4.64	4.87	4.76	4.49	4.68	4.22	5.05
0	1018	AP CHK RES RR	3.60	4.27	3.93	3.76	3.83	3.59	3.97
0	1019	AP CHK SUS HYB#3	5.42	5.91	5.66	6.35	6.26	7.03	6.10
0	1020	AP CHK SUS HYB#4	5.62	6.02	5.82	6.69	6.28	7.56	5.46
	1021	AP CHK MOD RES RR#2	4.77	4.72	4.74	4.62	4.88	4.51	5.39
	1022	AP CHK MOD RES RR#3	4.72	5.34	5.03	5.23	5.33	5.42	5.54
	1023	AC CHK RES RR#3	3.33	2.72	3.02	2.70	2.84	2.38	3.11
	1024	AP CHK SUS HYB#3	5.77	5.96	5.87	6.45	6.33	7.03	6.10
	1025	AP CHK SUS HYB#4	6.10	5.68	5.89	6.72	6.30	7.56	5.46
	<b>Conventional</b>								
	908	BETA EXP 676	5.01	4.89	4.95	—	—	—	1
	909	BETA EXP 687	5.00	4.76	4.88	—	—	—	1
	910	BETA EXP 698	3.90	3.48	3.69	—	—	—	1
	911	Crystal 620	4.43	4.12	4.28	—	—	—	1
	907	Crystal 622	4.75	3.97	4.36	—	—	—	1
	902	Crystal 624	5.26	5.70	5.48	—	—	—	1
	903	Crystal R761	4.47	2.68	3.57	—	—	—	10
	913	Hilleshög 3035Rz	4.53	4.27	4.40	—	—	—	12
	906	Hilleshög 9890Rz	4.65	4.87	4.76	—	—	—	1
	901	Hilleshög 9891Rz	4.33	4.57	4.45	—	—	—	1
	912	Maribo MA614Rz	4.69	4.07	4.38	—	—	—	1
	905	Maribo MA615Rz	4.43	5.16	4.80	—	—	—	1
	916	Seedex 8869 Cnv	4.66	4.75	4.70	—	—	—	1
	914	Seedex Deuce (SX0873TT)	4.77	6.63	5.70	—	—	—	9
	915	SV 48611	4.18	4.77	4.47	—	—	—	1
	904	SV 48612	4.80	3.64	4.22	—	—	—	1
	1001	Aph Ck-32 CRYST981RR	4.40	3.02	3.71	3.48	3.59	3.25	3.79
	1002	AP CK-33 CRYST768RR	4.87	4.56	4.71	4.79	4.73	4.86	4.62
	1003	AP CK-34 HILL4000RR	5.81	5.16	5.49	5.61	5.55	5.73	5.42
	1004	AP CK-35 BETA87RR58	5.21	5.19	5.20	5.50	5.36	5.79	5.10
15	Check Mean			4.81	4.81	4.81			
	Trial Mean			4.35	4.39				
	Coeff. of Var. (%)			11.0	11.2				
	F Value			5.9	12.8				
	Mean LSD (0.05)			0.60	0.61				
	Mean LSD (0.01)			0.80	0.80				
	Sig Lvl			**	**				
	Adjustment Factor			1.020094	0.9948				

^^ 2016 Root Rating was taken in early fall (1=healthy, 9+=severe damage).

++ Ratings adjusted to 2003 basis. (2000-2002 Aph nurseries). Ratings adjusted on the basis of checks.

**Table 37. 2016 Cercospora Ratings for Official Trial Entries**  
**Betaseed (Randolph MN), BSDF (Frankenmuth MI) & NDSU (Foxhome MN)**

Chk	Code	Description	Adjusted to 1982 Basis ++								Trial Yrs \$\$
			Randolph Avg	BSDF Avg	Foxhome Avg	2016**	2 Yr	3 Yr	2015	2014	
			6 Dates+	4 Dates+	8 Dates+	3 loc	—	—	—	—	
	530	BTS 70RR99	3.71	4.74	4.63	4.36	4.35	4.30	4.34	4.20	7
	608	BTS 7373	4.88	4.79	4.86	4.84	4.75	4.69	4.66	4.58	4
	535	BTS 73MN	4.65	4.77	4.50	4.64	4.63	4.54	4.61	4.37	4
	544	BTS 7540	3.84	4.24	4.32	4.13	3.99	—	3.85	—	2
	563	BTS 7550	4.20	4.65	4.59	4.48	4.52	—	4.57	—	2
	605	BTS 7600	4.89	4.70	4.84	4.81	—	—	—	—	1
	614	BTS 7607	5.00	4.62	4.53	4.72	—	—	—	—	1
	547	BTS 7618	5.05	4.74	4.93	4.91	—	—	—	—	1
	569	BTS 7629	3.84	4.53	4.55	4.31	—	—	—	—	1
	609	BTS 80RR52	3.64	4.61	4.59	4.28	4.20	4.20	4.11	4.22	7
	519	BTS 82RR28	5.27	4.75	4.41	4.81	4.85	4.78	4.89	4.62	5
	582	BTS 82RR33	5.46	4.76	4.93	5.05	4.82	4.78	4.58	4.70	5
	568	BTS 8337	4.77	4.41	4.68	4.62	4.56	4.54	4.49	4.52	4
	522	BTS 8363	4.34	4.34	4.29	4.33	4.08	4.00	3.83	3.85	4
	610	BTS 83CN	4.78	4.68	4.48	4.65	4.65	4.63	4.65	4.60	4
	540	BTS 8500	4.62	4.65	4.35	4.54	4.50	—	4.45	—	2
	514	BTS 8512	3.61	4.24	4.28	4.04	4.08	—	4.12	—	2
	518	BTS 8524	4.74	4.83	4.66	4.74	4.57	—	4.40	—	2
	542	BTS 8572	4.19	4.52	4.51	4.41	4.50	—	4.60	—	2
	607	BTS 8603	5.00	5.00	4.88	4.96	—	—	—	—	1
	549	BTS 8606	5.44	4.93	4.97	5.12	—	—	—	—	1
	562	BTS 8610	4.79	4.72	4.81	4.77	—	—	—	—	1
	528	BTS 8614	4.83	4.64	4.52	4.66	—	—	—	—	1
	555	BTS 8629	4.77	4.45	4.55	4.59	—	—	—	—	1
	571	BTS 8634	4.21	4.65	4.70	4.52	—	—	—	—	1
	526	BTS 8642	4.68	4.77	4.78	4.74	—	—	—	—	1
	545	BTS 8682	3.74	4.60	4.61	4.32	—	—	—	—	1
	508	Crystal 093RR	5.00	4.86	5.00	4.95	4.86	4.87	4.76	4.88	7
	602	Crystal 101RR	4.39	4.70	4.67	4.59	4.62	4.50	4.65	4.26	6
	596	Crystal 246RR	5.18	4.64	4.61	4.81	4.65	4.61	4.49	4.52	5
	554	Crystal 247RR	4.79	4.52	4.65	4.65	4.42	4.35	4.19	4.20	5
	585	Crystal 355RR	4.20	4.75	4.86	4.60	4.52	4.54	4.43	4.58	4
	595	Crystal 467RR	4.88	4.63	4.55	4.69	4.51	4.47	4.34	4.40	3
	584	Crystal 572RR	4.26	4.66	4.80	4.57	4.61	—	4.65	—	2
	552	Crystal 573RR	3.93	4.67	4.46	4.35	4.25	—	4.15	—	2
	521	Crystal 574RR	4.53	4.65	4.37	4.51	4.41	—	4.30	—	2
	588	Crystal 575RR	3.95	4.81	4.82	4.53	4.53	—	4.53	—	2
	533	Crystal 576RR	4.28	4.66	4.67	4.54	4.55	—	4.55	—	2
	579	Crystal 578RR	5.04	4.73	4.86	4.87	4.90	—	4.93	—	2
	527	Crystal 684RR	4.81	4.56	4.33	4.57	—	—	—	—	1
	590	Crystal 685RR	4.65	4.70	4.67	4.67	—	—	—	—	1
	567	Crystal 686RR	4.50	4.88	4.72	4.70	—	—	—	—	1
	573	Crystal 687RR	5.15	4.66	4.77	4.86	—	—	—	—	1
	548	Crystal 981RR	4.88	5.36	4.94	5.06	5.06	5.00	5.05	4.89	8
	517	Crystal 986RR	4.76	4.73	4.77	4.75	4.86	4.78	4.97	4.61	8
	598	Crystal D352	4.70	4.89	4.60	4.73	4.77	4.74	4.81	4.67	4
	592	Crystal D508	4.59	4.72	4.59	4.63	4.63	—	4.63	—	2
	501	Crystal D609	4.13	4.58	4.60	4.44	—	—	—	—	1
	583	Crystal D659	3.54	4.37	4.44	4.12	—	—	—	—	1
	553	Crystal D678	4.46	4.45	4.47	4.46	—	—	—	—	1
	574	Crystal RR012	4.10	4.76	4.77	4.54	4.58	4.58	4.61	4.59	7
	546	Crystal RR228	4.15	4.44	4.37	4.32	4.28	4.25	4.24	4.19	5
	575	Crystal RR260	5.08	4.63	4.59	4.77	4.37	4.36	3.98	4.34	5
	550	Crystal RR830	5.12	4.63	4.95	4.90	4.98	4.88	5.06	4.69	9
	534	Hilleshög 4062RR	3.93	4.58	4.54	4.35	4.37	4.44	4.39	4.58	9
	565	Hilleshög 4094RR	3.93	4.45	4.51	4.30	4.30	4.35	4.30	4.46	9
	577	Hilleshög 4302RR	3.86	4.35	4.16	4.13	4.13	4.26	4.13	4.52	6
	511	Hilleshög 4448RR	5.72	4.98	4.92	5.21	5.25	5.26	5.29	5.28	5
	539	Hilleshög 9517RR	3.89	4.79	4.08	4.26	4.14	4.22	4.03	4.39	4

**Table 37. 2016 Cercospora Ratings for Official Trial Entries**  
**Betaseed (Randolph MN), BSDF (Frankenmuth MI) & NDSU (Foxhome MN)**

Chk	Code	Description	Adjusted to 1982 Basis ++								Trial Yrs \$\$
			Randolph Avg	BSDF Avg	Foxhome Avg	2016**	2 Yr	3 Yr	2015	2014	
		6 Dates+	4 Dates+	8 Dates+	3 loc						
	612	Hilleshög 9528RR	5.01	4.69	4.49	4.73	4.94	4.95	5.16	4.97	4
	532	Hilleshög 9602RR	4.93	4.63	4.43	4.67	4.66	4.67	4.66	4.67	3
	580	Hilleshög HIL9707	4.63	4.48	4.49	4.53	4.56	—	4.60	—	2
	559	Hilleshög HIL9708	4.97	4.47	4.78	4.74	4.89	—	5.04	—	2
	599	Hilleshög HIL9711	4.72	4.71	4.38	4.60	4.83	—	5.06	—	2
	509	Hilleshög HIL9880	4.42	5.24	4.42	4.70	—	—	—	—	1
	578	Hilleshög HIL9881	3.87	4.45	3.96	4.10	—	—	—	—	1
	611	Hilleshög HIL9882	4.69	4.78	4.76	4.74	—	—	—	—	1
	538	Hilleshög HIL9883	4.54	4.56	4.55	4.55	—	—	—	—	1
	600	Hilleshög HIL9884	4.81	4.54	4.54	4.63	—	—	—	—	1
	593	Hilleshög HIL9892	3.66	4.42	3.78	3.95	—	—	—	—	1
	525	Hilleshög HIL9893	5.27	4.91	4.90	5.03	—	—	—	—	1
	502	Hilleshög HIL9894	4.26	4.67	4.37	4.44	—	—	—	—	1
	510	Hilleshög HIL9895	4.23	4.73	4.52	4.49	—	—	—	—	1
	560	Hilleshög HIL9896	4.51	4.36	4.58	4.48	—	—	—	—	1
	558	Hilleshög HIL9897	4.59	4.55	4.43	4.52	—	—	—	—	1
	529	Maribo 102	5.80	5.25	4.86	5.30	5.54	5.54	5.77	5.54	6
	541	Maribo 109	4.18	4.00	4.24	4.14	4.35	4.46	4.56	4.68	3
	603	Maribo MA305	4.96	4.57	4.63	4.72	4.74	4.77	4.76	4.83	4
	561	Maribo MA502	4.51	5.18	4.68	4.79	4.91	—	5.04	—	2
	572	Maribo MA504	5.34	5.00	4.78	5.04	5.14	—	5.25	—	2
	504	Maribo MA605	4.20	4.72	4.55	4.49	—	—	—	—	1
	576	Maribo MA606	4.69	4.68	4.34	4.57	—	—	—	—	1
	512	Maribo MA607	5.40	4.75	4.90	5.02	—	—	—	—	1
	520	Maribo MA611	4.12	4.74	4.55	4.47	—	—	—	—	1
	537	Maribo MA612	4.67	4.61	4.50	4.59	—	—	—	—	1
	536	Maribo MA613	4.79	4.72	5.03	4.85	—	—	—	—	1
	551	SX Canyon RR(844TT)	4.98	4.59	4.71	4.76	4.39	4.75	4.02	5.46	3
	516	SX Cruze RR(846)	4.68	4.59	4.69	4.65	4.61	4.69	4.57	4.83	3
	524	Seedex RR1861	4.44	4.48	4.65	4.52	—	—	—	—	1
	604	Seedex RR1862	4.18	4.73	4.65	4.52	—	—	—	—	1
	587	Seedex RR1863	3.97	4.54	4.55	4.35	—	—	—	—	1
	566	Seedex RR1864	3.34	4.34	3.88	3.86	—	—	—	—	1
	503	Seedex RR1964	4.15	4.61	4.29	4.35	—	—	—	—	1
	591	Seedex RR1965	5.34	4.97	5.03	5.11	—	—	—	—	1
	513	Seedex RR0856(Marathon)	4.09	4.60	4.64	4.44	4.91	—	5.37	—	2
	597	Seedex RR0858(Avalanche)	5.02	4.73	4.47	4.74	4.45	—	4.15	—	2
	557	SX Terrain RR(848)	4.88	4.68	4.44	4.67	4.73	4.73	4.80	4.71	3
	615	SX Winchester RR	3.57	4.28	4.06	3.97	3.82	4.18	3.67	4.89	4
	507	SV RR241	4.29	4.58	4.73	4.53	4.18	4.24	3.83	4.35	3
	613	SV RR244TT	4.44	4.42	4.53	4.46	4.31	4.71	4.17	5.51	3
	523	SV RR265	5.06	4.98	4.95	5.00	—	—	—	—	1
	586	SV RR266	4.72	4.78	4.72	4.74	—	—	—	—	1
	515	SV RR267	4.72	4.54	4.41	4.56	—	—	—	—	1
	505	SV RR268	5.53	4.80	5.06	5.13	—	—	—	—	1
	564	SV RR333	5.00	4.83	4.72	4.85	4.69	4.73	4.54	4.81	4
	531	SV RR336	4.81	4.61	4.44	4.62	4.28	4.36	3.94	4.53	4
	589	SV RR351	4.39	4.59	4.53	4.50	4.56	—	4.62	—	2
	556	SV RR353	3.90	4.54	4.14	4.20	3.96	—	3.72	—	2
	581	SV RR655	3.75	4.52	4.06	4.11	3.97	—	3.83	—	2
	543	SV RR656	4.53	4.72	4.68	4.64	4.48	—	4.32	—	2
	570	SV RR746	4.69	4.60	4.64	4.64	4.74	4.79	4.84	4.87	3
	601	SV RR747	3.98	4.18	4.28	4.14	4.11	4.31	4.07	4.73	3
	606	SV RR761	5.02	5.07	5.05	5.05	—	—	—	—	1
	506	SV RR762	3.83	4.29	3.92	4.02	—	—	—	—	1
	594	SV RR763	4.58	4.58	4.82	4.66	—	—	—	—	1
1	1101	CR CK-19 CRYSS59RR	5.59	5.06	5.24	5.30	5.31	5.26	5.31	5.17	12
1	1102	CR CK-24 HILL4012RR	5.31	5.37	5.25	5.31	5.28	5.27	5.24	5.27	11
1	1103	CR CK-28 HILL4010RR	5.62	5.36	5.30	5.43	5.31	5.27	5.20	5.19	11

**Table 37. 2016 Cercospora Ratings for Official Trial Entries**  
**Betaseed (Randolph MN), BSDF (Frankenmuth MI) & NDSU (Foxhome MN)**

Chk	Code	Description	Adjusted to 1982 Basis ++								Trial Yrs \$\$
			Randolph Avg	BSDF Avg	Foxhome Avg	2016***	2 Yr	3 Yr	2015	2014	
			6 Dates+	4 Dates+	8 Dates+	3 loc					
1	1104 CR CK-33 HILL4043RR		4.89	4.42	4.88	4.73	4.91	4.88	5.09	4.82	10
1	1105 CR CK-34 HILL4000RR		4.88	4.82	4.60	4.77	4.70	4.75	4.64	4.84	10
1	1106 CR CK-41 CRYSS981RR		4.53	5.15	4.98	4.89	5.00	4.97	5.12	4.89	8
1	1107 CR CK-42 CRYSS985RR		4.01	4.29	4.41	4.23	4.34	4.30	4.45	4.22	8
1	1108 CR CK-43 CRYSS246RR		4.94	4.72	4.65	4.77	4.63	4.60	4.49	4.52	5
1	1109 CR CK-44 BETA80RR32		5.30	4.92	4.89	5.04	4.98	4.88	4.92	4.69	7
1	1110 CR CK-45 HILL4448RR		5.06	5.13	4.82	5.00	5.15	5.19	5.29	5.28	5
1	1111 CR CK-46 HILL4062RR		4.10	4.50	4.50	4.37	4.38	4.44	4.39	4.58	9
1	1112 CR CK-47 HILL4094RR		3.88	4.35	4.60	4.28	4.29	4.35	4.30	4.46	9
	1113 CR CK MOD SUS HYB#3		5.67	5.26	5.17	5.37	5.21	5.22	5.05	5.23	12
	1114 CR CK MOD SUS HYB#3		5.53	5.07	5.28	5.29	5.17	5.19	5.05	5.23	12
	1115 CR CK MOD RES HYB#4		3.88	4.55	4.28	4.24	4.38	4.35	4.52	4.27	9
	1116 CR CK MOD RES HYB#4		3.77	4.55	4.41	4.25	4.38	4.35	4.52	4.27	9
	1117 CR CK MOD SUS HYB#5		5.20	4.59	5.12	4.97	5.09	5.01	5.21	4.84	10
	908 BETA EXP 676		3.81	4.94	4.50	4.42	NA	NA	NA	NA	1
	909 BETA EXP 687		3.50	4.57	4.36	4.14	NA	NA	NA	NA	1
	910 BETA EXP 698		3.74	4.94	4.13	4.27	NA	NA	NA	NA	1
	911 Crystal 620		3.73	4.68	4.18	4.19	NA	NA	NA	NA	1
	907 Crystal 622		3.24	4.57	4.08	3.96	NA	NA	NA	NA	1
	902 Crystal 624		3.71	5.00	4.35	4.35	NA	NA	NA	NA	1
	903 Crystal R761		4.79	5.06	5.10	4.99	NA	NA	NA	NA	10
	913 Hilleshög 3035Rz		3.79	5.27	4.51	4.53	NA	NA	NA	NA	12
	906 Hilleshög 9890Rz		4.93	5.06	4.97	4.99	NA	NA	NA	NA	1
	901 Hilleshög 9891Rz		3.81	4.89	4.55	4.42	NA	NA	NA	NA	1
	912 Maribo MA614Rz		4.46	4.73	4.65	4.61	NA	NA	NA	NA	1
	905 Maribo MA615Rz		5.09	5.17	4.85	5.04	NA	NA	NA	NA	1
	916 Seedex 8869 Cnv		4.40	5.00	4.88	4.76	NA	NA	NA	NA	1
	914 Seedex Deuce (SX0873TT)		4.49	4.84	4.71	4.68	NA	NA	NA	NA	9
	915 SV 48611		4.84	4.78	4.91	4.85	NA	NA	NA	NA	1
	904 SV 48612		5.06	5.06	5.14	5.09	NA	NA	NA	NA	1
	1101 CR CK-19 CRYSS539RR		5.28	4.89	5.29	5.16	5.23	5.21	5.31	5.17	12
	1102 CR CK-24 HILL4012RR		5.39	5.55	5.31	5.42	5.33	5.31	5.24	5.27	11
	1103 CR CK-28 HILL4010RR		5.80	5.33	5.28	5.47	5.33	5.28	5.20	5.19	11
	1104 CR CK-33 HILL4043RR		4.94	4.78	4.78	4.84	4.96	4.92	5.09	4.82	10
12	Check Mean		4.84	4.84	4.84	4.84	4.96	4.94	4.98	4.89	
	Trial Mean		4.50	4.66	5.65	4.94					
	Coeff. of Var. (%)		7.19	4.43	4.18						
	F Value		13.22	4.76	11.21						
	Mean LSD (0.05)		0.43	0.31	0.24						
	Mean LSD (0.01)		0.56	0.41	0.31						
	Sig Mrk		**	**	**						
	Adj Factor		1.01958	1.00460	0.81750						

\* Lower numbers indicate better Cercospora resistance (1=Ex, 9=Poor).

++ Ratings adjusted to 1982 basis (5.5 equivalent in 1978-81 CR nurseries). Ratings adjusted on the basis of checks.

Chk = varieties used to adjust CR readings to 1982 basis. Ratings \* (Adj. factor) = Adj Rating.

\$\$ Trial years indicates how many years the entry has been in the official trials.

+ Average rating based upon multiple rating dates.

Created 10-28-2016

**Table 38. 2016 Rhizoctonia Ratings for OVT Entries  
Rhizoctonia Nursery - BSDF, NWROC & Two ACSC Sites**

Sus	Chk	Chk	@	Code	Description	Adjusted @									
						BSDF	TSC-E	TSC-W	NWROC	2016	2 Yr	3 Yr	2015	2014	Years
			^	530	BTS 70RR99	4.42	4.17	3.98	4.03	4.15	4.01	3.97	3.86	3.90	7
				608	BTS 7373	4.44	4.20	3.83	4.29	4.19	4.00	4.17	3.81	4.50	4
				535	<u>BTS 73MN</u>	4.33	4.17	4.18	4.03	4.18	4.00	4.02	3.81	4.06	4
				544	BTS 7540	4.20	4.24	4.19	4.30	4.23	4.10	--	3.96	--	2
				563	BTS 7550	4.43	4.20	4.11	4.19	4.23	4.12	--	4.01	--	2
				605	<u>BTS 7600</u>	4.30	4.46	4.50	3.91	4.29	--	--	--	--	1
				614	BTS 7607	4.43	4.29	4.55	3.83	4.28	--	--	--	--	1
				547	BTS 7618	3.95	3.87	3.65	3.62	3.77	--	--	--	--	1
				569	<u>BTS 7629</u>	4.35	3.78	4.04	3.81	3.99	--	--	--	--	1
				609	BTS 80RR52	4.65	4.21	4.63	4.14	4.41	4.18	4.24	3.95	4.36	7
				519	BTS 82RR28	4.10	4.39	4.55	4.40	4.36	4.19	4.16	4.01	4.11	5
				582	<u>BTS 82RR33</u>	4.55	3.78	3.60	4.23	4.04	4.11	4.14	4.18	4.20	5
				568	BTS 8337	4.23	4.40	3.80	3.88	4.08	3.97	4.00	3.87	4.06	4
				522	BTS 8363	4.65	4.03	4.34	4.33	4.34	4.23	4.23	4.12	4.24	4
				610	<u>BTS 83CN</u>	4.51	4.12	3.89	4.14	4.16	4.01	4.01	3.86	4.01	4
				540	BTS 8500	4.46	4.77	4.09	4.41	4.43	4.31	--	4.19	--	2
				514	BTS 8512	4.17	4.47	4.70	4.39	4.44	4.36	--	4.28	--	2
				518	<u>BTS 8524</u>	4.55	3.89	4.03	4.35	4.20	4.17	--	4.14	--	2
				542	BTS 8572	4.79	4.56	4.59	4.21	4.54	4.20	--	3.85	--	2
				607	BTS 8603	4.65	4.39	4.75	4.78	4.64	--	--	--	--	1
				549	<u>BTS 8606</u>	4.62	4.29	4.34	4.68	4.48	--	--	--	--	1
				562	BTS 8610	4.32	3.88	3.52	3.82	3.88	--	--	--	--	1
				528	BTS 8614	4.66	4.43	3.85	4.28	4.31	--	--	--	--	1
				555	<u>BTS 8629</u>	4.20	3.55	3.63	3.53	3.73	--	--	--	--	1
				571	BTS 8634	4.45	3.72	3.78	3.84	3.95	--	--	--	--	1
				526	BTS 8642	4.55	4.08	4.19	4.19	4.25	--	--	--	--	1
				545	<u>BTS 8682</u>	4.04	3.95	3.57	3.83	3.85	--	--	--	--	1
				508	Crystal 093RR	4.73	4.72	4.31	3.72	4.37	4.16	4.26	3.96	4.46	7
				602	Crystal 101RR	4.53	4.82	5.10	4.68	4.78	4.71	4.75	4.64	4.84	6
				596	<u>Crystal 246RR</u>	4.73	4.00	4.33	4.21	4.32	4.25	4.17	4.19	4.01	5
				554	Crystal 247RR	4.57	4.52	4.09	4.10	4.32	4.32	4.35	4.33	4.41	5
				585	Crystal 355RR	4.34	3.91	3.55	4.04	3.96	NE	NE	NE	4.07	4
				595	<u>Crystal 467RR</u>	4.46	4.35	4.10	4.14	4.26	4.12	4.09	3.97	4.03	3
				584	Crystal 572RR	4.37	4.23	4.14	4.08	4.21	4.05	--	3.89	--	2
				552	Crystal 573RR	4.43	4.71	4.65	4.39	4.55	4.40	--	4.25	--	2
				521	<u>Crystal 574RR</u>	4.69	4.58	4.26	4.34	4.47	4.32	--	4.16	--	2
				588	Crystal 575RR	4.72	4.38	3.94	4.28	4.33	4.26	--	4.18	--	2
				533	Crystal 576RR	4.16	4.12	3.80	3.97	4.01	3.85	--	3.68	--	2
				579	<u>Crystal 578RR</u>	4.49	4.21	4.33	4.25	4.32	4.18	--	4.03	--	2
				527	Crystal 684RR	4.25	4.17	5.03	4.21	4.41	--	--	--	--	1
				590	Crystal 685RR	4.56	4.33	4.74	4.26	4.47	--	--	--	--	1
				567	<u>Crystal 686RR</u>	4.58	4.56	5.02	4.69	4.71	--	--	--	--	1
				573	Crystal 687RR	4.42	3.84	3.86	3.47	3.90	--	--	--	--	1
				548	Crystal 981RR	4.66	4.37	4.86	4.47	4.59	4.49	4.61	4.40	4.85	8
				517	<u>Crystal 986RR</u>	4.28	4.54	4.50	4.20	4.38	4.22	4.19	4.06	4.12	8
				598	Crystal D352	4.39	3.45	3.50	3.56	3.72	3.63	3.73	3.54	3.91	4
				592	Crystal D508	4.61	4.62	4.85	3.83	4.48	4.29	--	4.11	--	2
				501	<u>Crystal D609</u>	4.33	4.07	3.86	4.17	4.11	--	--	--	--	1
				583	Crystal D659	4.27	4.05	4.11	3.96	4.10	--	--	--	--	1
				553	Crystal D678	4.79	4.37	4.20	4.03	4.35	--	--	--	--	1
				574	<u>Crystal RR012</u>	3.88	3.84	3.82	3.99	3.88	3.93	3.99	3.99	4.09	7
				546	Crystal RR228	4.17	4.64	4.85	4.52	4.54	4.26	4.34	3.98	4.48	5
				575	Crystal RR260	4.72	4.05	4.41	4.33	4.38	4.21	4.31	4.04	4.51	5
				550	<u>Crystal RR830</u>	4.08	3.80	3.25	4.06	3.80	3.75	3.74	3.71	3.72	9
				534	Hilleshög 4062RR	4.29	4.25	3.64	4.18	4.09	3.76	3.64	3.44	3.40	9
				565	Hilleshög 4094RR	4.16	3.67	3.94	3.95	3.93	3.69	3.63	3.44	3.52	9
				577	<u>Hilleshög 4302RR</u>	4.05	3.57	3.40	3.60	3.65	3.68	3.64	3.70	3.58	6
				511	Hilleshög 4448RR	4.61	4.59	4.68	4.15	4.51	4.21	4.38	3.92	4.73	5
				539	Hilleshög 9517RR	4.50	4.37	3.64	4.26	4.19	3.92	3.96	3.66	4.04	4
				612	<u>Hilleshög 9528RR</u>	4.53	4.25	3.88	4.19	4.21	4.16	4.05	4.10	3.83	4
				532	Hilleshög 9602RR	4.61	3.90	4.08	4.24	4.21	4.06	4.08	3.91	4.12	3
				580	Hilleshög HIL9707	4.33	4.49	4.58	4.19	4.40	4.31	--	4.21	--	2
				559	<u>Hilleshög HIL9708</u>	4.28	4.45	4.27	4.13	4.28	4.16	--	4.04	--	2
				599	Hilleshög HIL9711	4.38	4.41	4.42	4.63	4.46	4.28	--	4.11	--	2
				509	Hilleshög HIL9880	4.56	4.16	4.51	4.79	4.51	--	--	--	--	1
				578	<u>Hilleshög HIL9881</u>	4.35	4.08	4.26	4.53	4.31	--	--	--	--	1
				611	Hilleshög HIL9882	4.55	4.39	4.27	4.49	4.42	--	--	--	--	1
				538	Hilleshög HIL9883	4.51	3.99	3.85	4.32	4.17	--	--	--	--	1
				600	<u>Hilleshög HIL9884</u>	4.26	4.48	4.28	4.10	4.28	--	--	--	--	1
				593	Hilleshög HIL9892	4.42	3.93	4.37	4.28	4.25	--	--	--	--	1
				525	Hilleshög HIL9893	4.63	4.26	4.45	4.26	4.40	--	--	--	--	1
				502	<u>Hilleshög HIL9894</u>	4.62	4.71	4.05	4.29	4.42	--	--	--	--	1
				510	Hilleshög HIL9895	4.46	4.31	4.67	4.81	4.56	--	--	--	--	1

**Table 38. 2016 Rhizoctonia Ratings for OVT Entries  
Rhizoctonia Nursery - BSDF, NWROC & Two ACSC Sites**

Sus	Chk	Chk	@	Code	Description	Adjusted @									
						BSDF	TSC-E	TSC-W	NWROC	2016	2 Yr	3 Yr	2015	2014	Years
8/10	7/29	8/9	8/30												
				560	Hilleshög HIL9896	4.39	4.28	3.90	4.24	4.20	--	--	--	--	1
				558	Hilleshög HIL9897	4.56	4.19	3.78	4.04	4.14	--	--	--	--	1
				529	Maribo 102	4.60	4.45	4.50	4.45	4.50	4.29	4.29	4.07	4.30	6
				541	Maribo 109	3.91	3.96	3.33	3.54	3.69	3.68	3.56	3.67	3.33	3
				603	Maribo MA305	4.22	4.21	4.63	4.51	4.40	4.11	4.28	3.83	4.62	4
				561	Maribo MA502	4.80	4.41	4.91	4.82	4.73	4.43	--	4.14	--	2
				572	Maribo MA504	4.66	4.50	4.74	4.39	4.58	4.28	--	3.98	--	2
				504	Maribo MA605	4.49	4.48	4.45	4.44	4.47	--	--	--	--	1
				576	Maribo MA606	4.18	4.23	4.06	4.18	4.16	--	--	--	--	1
				512	Maribo MA607	4.51	4.46	4.39	4.14	4.37	--	--	--	--	1
				520	Maribo MA611	4.76	4.79	4.21	4.74	4.63	--	--	--	--	1
				537	Maribo MA612	3.77	4.53	4.19	4.25	4.19	--	--	--	--	1
				536	Maribo MA613	4.61	4.71	4.72	4.81	4.71	--	--	--	--	1
				551	SX Canyon RR(844TT)	4.25	4.63	4.30	4.41	4.40	4.31	4.26	4.22	4.15	3
				516	SX Cruze RR(846)	4.60	4.68	5.00	4.49	4.69	4.43	4.51	4.18	4.67	3
				524	Seedex RR1861	4.58	4.62	4.80	4.36	4.59	--	--	--	--	1
				604	Seedex RR1862	4.43	4.38	4.66	4.51	4.50	--	--	--	--	1
				587	Seedex RR1863	4.24	4.69	4.44	4.79	4.54	--	--	--	--	1
				566	Seedex RR1864	4.63	4.47	4.57	4.65	4.58	--	--	--	--	1
				503	Seedex RR1964	4.58	4.79	4.53	4.79	4.67	--	--	--	--	1
				591	Seedex RR1965	4.74	4.37	4.26	4.19	4.39	--	--	--	--	1
				513	Seedex RR0856(Marathon)	4.51	4.73	4.16	4.47	4.47	4.31	--	4.16	--	2
				597	Seedex RR0858(Avalanche)	4.53	4.59	4.63	4.31	4.52	4.36	--	4.21	--	2
				557	SX Terrain RR(848)	4.44	4.89	4.22	4.26	4.45	4.35	4.38	4.24	4.43	3
				615	SX Winchester RR	4.78	4.50	4.92	4.33	4.63	4.46	4.42	4.28	4.35	4
				507	SV RR241	4.31	4.23	4.54	4.38	4.37	4.17	4.25	3.97	4.43	3
				613	SV RR244TT	4.23	4.65	4.25	4.67	4.45	4.31	4.16	4.18	3.84	3
				523	SV RR265	4.48	4.53	4.22	4.51	4.44	--	--	--	--	1
				586	SV RR266	4.18	4.07	3.98	4.59	4.20	--	--	--	--	1
				515	SV RR267	4.38	4.74	4.85	4.35	4.58	--	--	--	--	1
				505	SV RR268	4.83	4.61	4.70	4.63	4.70	--	--	--	--	1
				564	SV RR333	4.63	4.73	3.98	4.41	4.44	4.27	4.31	4.11	4.39	4
				531	SV RR336	4.49	4.60	4.97	4.56	4.65	4.52	4.44	4.38	4.29	4
				589	SV RR351	4.22	4.14	3.85	4.46	4.17	NE	NE	NE	--	2
				556	SV RR353	4.31	4.61	4.32	4.26	4.38	4.17	--	3.96	--	2
				581	SV RR655	4.38	4.46	4.69	4.69	4.55	4.21	--	3.86	--	2
				543	SV RR656	4.17	4.40	4.87	4.58	4.50	4.26	--	4.02	--	2
				570	SV RR746	4.55	4.44	4.26	4.52	4.44	4.28	4.25	4.12	4.20	3
				601	SV RR747	4.60	3.85	3.93	4.27	4.16	4.17	4.15	4.18	4.10	3
				606	SV RR761	4.51	4.20	4.27	4.62	4.40	--	--	--	--	1
				506	SV RR762	4.56	4.96	4.59	4.65	4.69	--	--	--	--	1
				594	SV RR763	4.55	4.49	4.87	4.38	4.57	--	--	--	--	1
1	1	1	1	1301	RH CK#08 CRY539RR	4.62	5.03	4.67	5.05	4.84	4.75	4.74	4.65	4.73	8
1	1	1	1	1302	RH CK#20 CRY576RR	4.22	4.68	4.11	4.41	4.35	4.29	4.35	4.22	4.48	8
1	1	1	1	1303	RH CK#21 CRY576RR	4.27	4.15	4.29	4.56	4.32	4.28	4.40	4.25	4.63	8
1	1	1	1	1304	RH CK#25 HILL4043RR	4.72	4.76	4.62	4.93	4.76	4.55	4.59	4.35	4.66	8
1	1	1	1	1305	RH CK#28 CRY568RR	4.45	4.38	4.93	4.53	4.57	4.33	4.24	4.09	4.06	11
1	1	1	1	1306	RH CK#29 BETA87RR58	4.80	4.53	4.63	4.73	4.67	4.72	4.66	4.77	4.53	10
1	1	1	1	1307	RH CK#31 HILL4000RR	4.91	4.66	4.83	4.79	4.80	4.92	4.86	5.03	4.76	10
1	1	1	1	1308	RH CK#35 SES36812RR	4.42	4.82	4.51	4.45	4.55	4.46	4.52	4.37	4.63	9
1	1	1	1	1309	RH CK#36 BETA85RR02	4.35	4.65	4.60	4.22	4.45	4.58	4.55	4.71	4.50	12
1	1	1	1	1310	RH CK#37 SES36918RR	4.68	4.83	4.61	4.56	4.67	4.51	4.54	4.34	4.61	8
1	1	1	1	1311	RH CK#40 CRY510RR	4.66	4.25	5.06	4.63	4.65	4.60	4.68	4.55	4.84	6
1	1	1	1	1312	RH CK#45 BTS82RR33	4.63	4.13	4.15	3.87	4.19	4.19	4.19	4.18	4.20	5
1	1	1	1	1313	RH CK#47 SES36272RR	4.65	4.50	4.35	4.48	4.50	4.44	4.40	4.39	4.31	5
1	1	1	1	1314	RH CK#48 HILL4094RR	3.65	3.68	4.18	4.07	3.90	3.67	3.62	3.44	3.52	9
1	1	1	1	1315	RH CK#49 CRY524RR	4.58	4.56	4.06	4.33	4.38	4.36	4.38	4.33	4.41	5
				1316	RES RHC #1	3.71	4.17	3.53	3.91	3.83	3.65	3.58	3.47	3.43	11
				1317	MOD RHC #6	4.53	4.04	4.20	4.52	4.32	4.21	4.23	4.09	4.27	11
				1318	SUS RHC #3	4.30	5.04	4.77	4.87	4.74	4.71	4.73	4.69	4.75	12
				1319	SUS RHC #9	4.35	4.57	4.69	4.65	4.57	4.45	4.59	4.34	4.85	8
				1320	MOD RHC #5	4.76	4.80	4.51	4.77	4.71	4.49	4.46	4.27	4.39	11
				1321	RES RHC #2	3.77	3.80	4.40	4.07	4.01	3.85	3.78	3.68	3.64	9
				1322	SUS RHC #3	4.48	4.56	4.89	4.88	4.70	4.69	4.71	4.69	4.75	12
				1323	SUS RHC #9	4.75	4.32	4.90	4.62	4.65	4.49	4.61	4.34	4.85	8
				1324	MOD RHC #6	4.48	4.43	4.03	4.43	4.34	4.22	4.24	4.09	4.27	11
				1325	SUS RHC #10	4.53	4.56	4.94	4.98	4.75	4.76	4.94	4.77	5.31	8

**Table 38. 2016 Rhizoctonia Ratings for OVT Entries  
Rhizoctonia Nursery - BSDF, NWROC & Two ACSC Sites**

Sus Chk ^ @	Chk Code	Description	Adjusted @								
			BSDF 8/10	TSC-E 7/29	TSC-W 8/9	NWROC 8/30	2016	2 Yr	3 Yr	2015	2014
<b>Conventional</b>											
	908	BETA EXP 676	4.46	4.24	3.99	4.60	4.32	--	--	--	--
	909	BETA EXP 687	3.84	4.22	4.19	4.38	4.16	--	--	--	--
	910	<u>BETA EXP 698</u>	4.00	4.37	4.43	4.60	4.35	--	--	--	--
	911	Crystal 620	4.44	4.52	4.38	4.80	4.54	--	--	--	--
	907	Crystal 622	3.90	4.16	4.02	4.47	4.14	--	--	--	--
	902	Crystal 624	4.19	4.27	4.12	4.51	4.27	--	--	--	--
	903	Crystal R761	4.13	4.62	4.61	4.92	4.57	--	--	--	10
	913	Hilleshög 3035Rz	3.72	3.88	3.56	4.57	3.93	--	--	--	12
	906	Hilleshög 9890Rz	4.56	4.37	4.61	4.83	4.59	--	--	--	1
	901	Hilleshög 9891Rz	3.91	4.02	4.06	4.88	4.22	--	--	--	--
	912	Maribo MA614Rz	3.77	4.45	4.24	4.53	4.25	--	--	--	--
	905	Maribo MA615Rz	4.32	4.56	4.61	4.67	4.54	--	--	--	--
	916	Seedex 8869 Cnv	4.76	4.37	4.91	4.65	4.67	--	--	--	--
	914	Seedex Deuce (SX0873TT)	4.33	4.67	4.85	4.77	4.66	--	--	--	9
	915	SV 48611	4.50	4.58	4.76	4.80	4.66	--	--	--	--
	904	SV 48612	4.44	4.67	4.87	5.02	4.75	--	--	--	--
	1301	RH CK#08 CRY539RR	4.62	5.03	4.67	5.05	4.84	4.75	4.74	4.65	4.73
	1302	RH CK#20 CRY5765RR	4.22	4.68	4.11	4.41	4.35	4.29	4.35	4.22	4.48
	1303	RH CK#21 CRY5768RR	4.27	4.15	4.29	4.56	4.32	4.28	4.40	4.25	4.63
	1304	RH CK#25 HILL4043RR	4.72	4.76	4.62	4.93	4.76	4.55	4.59	4.35	4.66
10	15	Mean of Check Varieties	4.507	4.507	4.507	4.507	4.507	4.443	4.448	4.379	4.457
		Mean of Susc Checks	4.649	4.633	4.628	4.648	4.639	4.563	4.560	4.487	4.553
		Trial Mean	4.44	4.34	4.31	4.32					
		Coeff. of Var. (%)	7.9	9.4	9.1	7.8					
		F Value	2.2	3.2	2.7	4.3					
		Mean LSD (0.05)	0.44	0.51	0.75	0.43					
		Mean LSD (0.01)	0.58	0.68	0.98	0.57					
		Sig Lvl	**	**	**	**					
		Adjustment Factor	0.7162	0.9664	1.0073	0.9232					
		Approval Limit	3.72	3.71	3.70	3.72	3.82	3.793	3.721	3.813	3.518

++ Adjustment is based upon check varieties.

@ Ratings adjusted for disease severity on basis of 15 RR varieties (2016, 2015 & 2014.).

Lower numbers indicate better tolerance (0=Ex, 7=Poor).

^ Approval criteria is based upon mean of 12 susc varieties \* 80% (approval option 1) or 3.82 (approval option 2).

**Table 39. 2016 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)**

Chk @	Code	Description	Adjusted							
			N Mhd 3 Dates+	S Mhd 4 Dates+	2016	2 Yr	3 Yr	2015	2014	Years
	530	BTS 70RR99	3.37	3.11	3.24	3.01	3.16	2.79	3.46	7
	608	BTS 7373	3.54	3.76	3.65	3.54	3.65	3.43	3.87	4
	535	BTS 73MN	5.08	4.83	4.95	3.90	3.65	2.84	3.16	4
	544	BTS 7540	2.58	3.11	2.84	2.74	—	2.64	—	2
	563	BTS 7550	2.42	2.52	2.47	2.54	—	2.62	—	2
	605	BTS 7600	2.93	3.32	3.12	—	—	—	—	1
	614	BTS 7607	2.79	3.11	2.95	—	—	—	—	1
	547	BTS 7618	3.21	3.03	3.12	—	—	—	—	1
	569	BTS 7629	2.30	2.26	2.28	—	—	—	—	1
	609	BTS 80RR52	2.69	2.93	2.81	2.82	2.82	2.83	2.84	7
	519	BTS 82RR28	1.90	2.13	2.02	2.28	2.33	2.55	2.44	5
	582	BTS 82RR33	2.68	2.85	2.77	2.73	2.78	2.70	2.86	5
	568	BTS 8337	4.04	3.98	4.01	3.86	3.83	3.72	3.78	4
	522	BTS 8363	3.03	3.18	3.11	2.98	3.11	2.85	3.39	4
	610	BTS 83CN	2.50	3.00	2.75	2.72	2.85	2.68	3.13	4
	540	BTS 8500	1.89	1.91	1.90	2.16	—	2.41	—	2
	514	BTS 8512	2.77	2.66	2.71	2.71	—	2.70	—	2
	518	BTS 8524	3.28	3.49	3.38	3.13	—	2.88	—	2
	542	BTS 8572	2.22	2.25	2.23	2.39	—	2.54	—	2
	607	BTS 8603	1.80	2.06	1.93	—	—	—	—	1
	549	BTS 8606	2.74	2.64	2.69	—	—	—	—	1
	562	BTS 8610	2.90	2.84	2.87	—	—	—	—	1
	528	BTS 8614	1.46	1.85	1.65	—	—	—	—	1
	555	BTS 8629	4.13	3.95	4.04	—	—	—	—	1
	571	BTS 8634	2.00	2.30	2.15	—	—	—	—	1
	526	BTS 8642	2.72	3.05	2.89	—	—	—	—	1
	545	BTS 8682	1.95	2.35	2.15	—	—	—	—	1
	508	Crystal 093RR	3.21	3.50	3.35	3.29	3.39	3.22	3.59	7
	602	Crystal 101RR	2.22	2.59	2.40	2.52	2.59	2.64	2.73	6
	596	Crystal 246RR	3.13	3.07	3.10	3.05	3.03	3.00	2.99	5
	554	Crystal 247RR	2.73	2.88	2.80	2.66	2.72	2.51	2.84	5
	585	Crystal 355RR	2.55	2.76	2.65	NE	NE	NE	3.14	4
	595	Crystal 467RR	1.64	2.04	1.84	2.15	2.30	2.46	2.61	3
	584	Crystal 572RR	1.74	1.89	1.82	2.09	—	2.36	—	2
	552	Crystal 573RR	3.78	3.19	3.49	3.25	—	3.02	—	2
	521	Crystal 574RR	1.82	1.81	1.82	1.91	—	2.00	—	2
	588	Crystal 575RR	2.99	2.95	2.97	2.94	—	2.90	—	2
	533	Crystal 576RR	2.08	1.95	2.02	2.24	—	2.46	—	2
	579	Crystal 578RR	1.71	2.27	1.99	2.21	—	2.42	—	2
	527	Crystal 684RR	1.70	1.83	1.76	—	—	—	—	1
	590	Crystal 685RR	2.61	2.70	2.65	—	—	—	—	1
	567	Crystal 686RR	1.58	1.86	1.72	—	—	—	—	1
	573	Crystal 687RR	2.40	2.57	2.49	—	—	—	—	1
	548	Crystal 981RR	2.32	2.72	2.52	2.47	2.55	2.43	2.70	8
	517	Crystal 986RR	4.88	4.83	4.86	4.37	4.30	3.89	4.16	8
	598	Crystal D352	2.16	1.98	2.07	2.25	2.33	2.42	2.49	4
	592	Crystal D508	2.41	2.53	2.47	2.58	—	2.70	—	2
	501	Crystal D609	2.40	2.30	2.35	—	—	—	—	1
	583	Crystal D659	2.51	2.77	2.64	—	—	—	—	1
	553	Crystal D678	2.56	3.21	2.89	—	—	—	—	1
	574	Crystal RR012	2.91	2.94	2.93	2.94	3.09	2.96	3.38	7

**Table 39. 2016 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)**

Chk @	Code	Description	Adjusted							
			N Mhd 3 Dates+	S Mhd 4 Dates+	2016	2 Yr	3 Yr	2015	2014	Years
546	Crystal RR228		3.80	4.51	4.16	3.80	4.00	3.44	4.40	5
575	Crystal RR260		2.41	2.84	2.62	2.68	2.70	2.73	2.75	5
550	Crystal RR830		4.09	3.35	3.72	3.35	3.60	2.98	4.10	9
534	Hilleshög 4062RR		4.99	5.17	5.08	4.56	4.70	4.04	4.97	9
565	Hilleshög 4094RR		4.82	4.51	4.67	4.24	4.44	3.82	4.83	9
577	Hilleshög 4302RR		5.02	5.17	5.09	4.57	4.73	4.05	5.05	6
511	Hilleshög 4448RR		5.22	5.31	5.26	NE	NE	NE	4.71	5
539	Hilleshög 9517RR		2.90	2.58	2.74	2.77	2.98	2.79	3.40	4
612	Hilleshög 9528RR		4.49	4.56	4.52	4.26	4.44	4.00	4.80	4
532	Hilleshög 9602RR		4.80	4.72	4.76	4.53	—	4.29	--	3
580	Hilleshög HIL9707		5.09	4.67	4.88	4.28	—	3.68	--	2
559	Hilleshög HIL9708		4.45	4.13	4.29	3.99	—	3.69	--	2
599	Hilleshög HIL9711		4.70	4.58	4.64	4.24	—	3.85	--	2
509	Hilleshög HIL9880		2.45	2.28	2.36	--	--	--	--	1
578	Hilleshög HIL9881		5.22	5.28	5.25	--	--	--	--	1
611	Hilleshög HIL9882		4.46	4.41	4.43	--	--	--	--	1
538	Hilleshög HIL9883		4.98	5.29	5.13	--	--	--	--	1
600	Hilleshög HIL9884		4.77	4.69	4.73	--	--	--	--	1
593	Hilleshög HIL9892		5.40	5.09	5.24	--	--	--	--	1
525	Hilleshög HIL9893		4.70	4.43	4.56	--	--	--	--	1
502	Hilleshög HIL9894		5.05	4.71	4.88	--	--	--	--	1
510	Hilleshög HIL9895		2.48	2.32	2.40	--	--	--	--	1
560	Hilleshög HIL9896		4.96	4.55	4.75	--	--	--	--	1
558	Hilleshög HIL9897		4.99	4.99	4.99	--	--	--	--	1
529	Maribo 102		5.21	4.86	5.03	4.79	4.98	4.55	5.37	6
541	Maribo 109		4.47	4.53	4.50	4.04	—	3.58	--	3
603	Maribo MA305		5.84	5.94	5.89	5.45	5.34	5.02	5.12	4
561	Maribo MA502		1.88	1.97	1.92	2.13	—	2.33	--	2
572	Maribo MA504		4.80	4.40	4.60	4.35	—	4.11	--	2
504	Maribo MA605		1.71	2.11	1.91	--	--	--	--	1
576	Maribo MA606		5.54	5.69	5.61	--	--	--	--	1
512	Maribo MA607		4.82	4.77	4.80	--	--	--	--	1
520	Maribo MA611		1.96	1.95	1.96	--	--	--	--	1
537	Maribo MA612		5.60	5.46	5.53	--	--	--	--	1
536	Maribo MA613		5.82	5.71	5.77	--	--	--	--	1
551	SX Canyon RR(844TT)		5.21	5.31	5.26	4.56	—	3.85	--	3
516	SX Cruze RR(846)		2.75	2.84	2.80	NE	--	NE	--	3
524	Seedex RR1861		4.69	4.82	4.75	--	--	--	--	1
604	Seedex RR1862		4.13	3.96	4.04	--	--	--	--	1
587	Seedex RR1863		6.01	5.58	5.80	--	--	--	--	1
566	Seedex RR1864		5.74	5.82	5.78	--	--	--	--	1
503	Seedex RR1964		5.02	4.88	4.95	--	--	--	--	1
591	Seedex RR1965		5.27	4.99	5.13	--	--	--	--	1
513	Seedex RR0856(Marathon)		4.84	4.96	4.90	4.88	—	4.87	--	2
597	Seedex RR0858(Avalanche)		5.49	5.28	5.38	5.25	—	5.12	--	2
557	SX Terrain RR(848)		4.74	4.72	4.73	4.54	4.34	4.35	3.95	3
615	SX Winchester RR		4.14	4.09	4.11	4.03	4.34	3.95	4.97	4
507	SV RR241		5.46	5.54	5.50	5.31	4.96	5.12	4.26	3
613	SV RR244TT		4.26	4.02	4.14	4.00	4.19	3.86	4.56	3
523	SV RR265		5.54	4.99	5.26	--	--	--	--	1
586	SV RR266		4.88	5.48	5.18	--	--	--	--	1
515	SV RR267		4.26	4.56	4.41	--	--	--	--	1
505	SV RR268		5.22	5.19	5.20	--	--	--	--	1
564	SV RR333		4.78	4.91	4.84	NE	NE	NE	4.10	4
531	SV RR336		2.38	2.86	2.62	2.97	3.41	3.32	4.29	4
589	SV RR351		4.81	4.70	4.75	NE	--	NE	--	2
556	SV RR353		5.78	5.30	5.54	5.19	—	4.84	--	2
581	SV RR655		5.65	5.45	5.55	5.43	—	5.31	--	2
543	SV RR656		5.02	5.23	5.12	4.33	—	3.53	--	2
570	SV RR746		5.00	4.99	4.99	NE	--	NE	--	3

**Table 39. 2016 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)**

Chk @	Code	Description	Adjusted							
			N Mhd 3 Dates+	S Mhd 4 Dates+	2016	2 Yr	3 Yr	2015	2014	Years
	601	SV RR747	4.60	4.83	4.71	4.77	—	4.82	--	3
	606	SV RR761	4.96	5.30	5.13	--	—	—	--	1
	506	SV RR762	5.62	5.63	5.63	--	—	—	--	1
	594	SV RR763	5.34	5.05	5.19	--	—	—	--	1
1	1201	FS CK #07 CRY658RR	2.62	2.69	2.66	2.67	2.75	2.67	2.92	11
1	1202	FS CK #08 HILL4000RR	6.30	6.00	6.15	6.16	6.20	6.16	6.28	10
1	1203	FS CK #09 HILL4010RR	6.30	6.54	6.42	6.39	6.21	6.35	5.86	11
1	1204	FS CK #12 HILL4012RR	6.30	6.01	6.15	6.06	6.03	5.96	5.98	11
1	1205	FS CK #13 HILL4043RR	6.08	6.01	6.05	6.03	6.02	6.01	6.00	10
1	1206	FS CK #17 CRY765RR	4.08	4.12	4.10	4.18	4.11	4.26	3.98	8
1	1207	FS CK #18 CRY768RR	4.37	4.42	4.40	4.24	4.47	4.09	4.91	8
1	1208	FS CK #26 BETA87RR68	4.50	4.51	4.51	4.52	4.50	4.53	4.44	7
1	1209	FS CK #28 SES36918RR	4.99	5.27	5.13	5.19	5.30	5.25	5.52	8
1	1210	FS CK #29 CRY875RR	4.70	4.67	4.68	4.52	4.52	4.35	4.51	9
	1211	FS CHK RES RR #1	2.29	2.45	2.37	2.57	2.71	2.77	2.98	6
	1212	FS CHK SUS RR #2	6.16	6.09	6.12	6.33	6.16	6.53	5.83	6
	1213	FS CHK MOD RR RES #2	4.02	4.32	4.17	4.15	4.15	4.14	4.15	10
	1214	FS CHK MOD RR SUS #1	5.46	5.01	5.23	5.02	5.09	4.81	5.23	10
	1215	FS CHK RES RR #2	1.86	2.22	2.04	2.10	2.21	2.15	2.44	5
	1216	FS CHK SUS RR#10	5.34	5.30	5.32	5.21	5.32	5.11	5.52	3
	1217	FS CHK SUS RR#10	5.33	5.42	5.38	5.24	5.33	5.11	5.52	3
	<b>Conventional</b>									
	908	BETA EXP 676	3.63	4.44	4.04	--	—	—	--	1
	909	BETA EXP 687	3.05	3.76	3.41	--	—	—	--	1
	910	BETA EXP 698	2.71	2.77	2.74	--	—	—	--	1
	911	Crystal 620	2.90	2.56	2.73	--	—	—	--	1
	907	Crystal 622	3.12	4.01	3.57	--	—	—	--	1
	902	Crystal 624	3.01	3.84	3.42	--	—	—	--	1
	903	Crystal R761	2.94	3.56	3.25	--	—	—	--	10
	913	Hilleshög 3035Rz	3.70	3.59	3.65	--	—	—	--	12
	906	Hilleshög 9890Rz	3.87	4.56	4.22	--	—	—	--	1
	901	Hilleshög 9891Rz	3.60	3.92	3.76	--	—	—	--	1
	912	Maribo MA614Rz	2.85	2.64	2.75	--	—	—	--	1
	905	Maribo MA615Rz	5.10	5.13	5.11	--	—	—	--	1
	916	Seedex 8869 Cnv	2.87	2.98	2.92	--	—	—	--	1
	914	Seedex Deuce (SX0873TT)	4.72	4.63	4.68	--	—	—	--	9
	915	SV 48611	4.95	5.53	5.24	--	—	—	--	1
	904	SV 48612	4.14	4.61	4.38	--	—	—	--	1
	1201	FS CK #07 CRY658RR	2.84	2.92	2.88	2.78	2.83	2.67	2.92	11
	1202	FS CK #08 HILL4000RR	6.32	6.29	6.31	6.23	6.25	6.16	6.28	10
	1203	FS CK #09 HILL4010RR	6.71	6.29	6.50	6.43	6.24	6.35	5.86	11
	1204	FS CK #12 HILL4012RR	5.65	5.73	5.69	5.82	5.88	5.96	5.98	11
10	Mean of 10 Check Varieties			5.02	5.02	5.02	4.99	5.01	4.96	5.04
	Trial Mean			3.87	3.90	3.89				
	Coeff. of Var. (%)			10.88	10.43					
	F Value			50.75	53.63					
	Mean LSD (0.05)			0.54	0.50					
	Mean LSD (0.01)			0.72	0.65					
	Sig Lvl			**	**					
	Adjustment Factor			0.8001	0.8407					

@ Adjustment is based upon 10 RR varieties.

+ Average rating based upon multiple rating dates. Lower numbers indicate better tolerance (1=Ex, 9=Poor).

NE indicates variety was not evaluated in disease nursery.

Table 40. Herbicides and Fungicides Applied to ACSC & MDFC Official Trials

Area	Location	Herbicide/Insecticide			Fungicide		
		Herbicide & Rate	Spray Dates	Method	Fungicide Used	Spray Dates	Method
ACSC	Casselton	RU1+	5/17,6/7	Ground	Quadris*	5/23(2lf),6/7(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/3,8/16,8/31	Ground
		Conventional	5/17,6/2,6/9,6/16	Ground			
ACSC	Averill	RU1*	6/2	Ground	Quadris*	5/23(2lf),6/7(4-6lf)	Ground
		RU2	6/21	Ground	CR.1/CR.2/CR.3/CR.4	7/20,8/3,8/17,9/1	Ground
ACSC	Perley	RU1	6/11	Ground	Quadris	6/16 (6 Leaf)	Ground
		RU2	6/29	Ground	CR.2/CR.3/CR.4	8/3,8/19,9/2	Ground
ACSC	Ada	RU1	6/2	Ground	Quadris*	5/25(2lf),6/8(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/3,8/17,9/1	Ground
		Conventional	5/17,6/2,6/9	Ground			
ACSC	Hillsboro	RU1	6/2	Ground	Quadris	6/9 (6 Leaf)	Ground
		RU2	6/21	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/3,8/19,9/1	Ground
ACSC	Fisher	RU1+	5/24,6/16	Ground	Quadris	6/9 (8 Leaf)	Ground
		RU2	6/28	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/3,8/19,8/30	Ground
ACSC	Crookston	RU1	6/3	Ground	Quadris	6/8 (4-6 Leaf)	Ground
		RU2	6/21	Ground	CR.1/CR.2/CR.3/CR.4	7/26,8/9,8/22,9/2	Ground
		Conventional	6/3,6/23	Ground			
ACSC	Grand Forks +	RU1	6/3	Ground	Quadris*	5/25(2lf),6/13(4-6lf)	Ground
		RU2	6/21	Ground	CR.1/CR.2/CR.3/CR.4	7/26,8/9,8/22,9/2	Ground
		Conventional	6/9,6/21	Ground			
ACSC	St. Thomas + ^	RU1	6/13	Ground	Quadris	6/14 (6 Leaf)	Ground
		RU2	6/28	Ground	CR.1/CR.2/CR.3/CR.4	7/19,8/2,8/17,8/30	Ground
		Conventional	6/11,6/16	Ground			
ACSC	Stephen	RU1	6/7	Ground	Quadris	6/14(4-6 Leaf)	Ground
		RU2	6/28	Ground	CR.1/CR.2/CR.3/CR.4	7/19,8/2,8/17,8/30	Ground
ACSC	Cavalier	RU1+	5/24,6/16	Ground	Quadris	6/16 (6 Leaf)	Ground
		RU2	6/28	Ground	Proline,Supertin,Priaxor	7/27,8/17,9/6	By Air
MNDAK	Barnesville	RU1+	5/17,6/8	Ground	Quadris*	5/23(2lf),6/7(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/2,8/16,8/31	Ground
MNDAK	Foxhome	RU1+	5/17,6/8	Ground	Quadris*	5/16(2lf),6/2(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/2,8/16,8/31	Ground
MNDAK	Mooreton	RU1+	5/17,6/8	Ground	Quadris*	5/16(2lf),6/2(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/2,8/16,8/31	Ground
MNDAK	Norcross	RU1	5/26	Ground	Quadris*	5/16(2lf),6/2(4-6lf)	Ground
		RU2	6/22	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/2,8/16,8/31	Ground

Ground applications made by beet seed personnel from Crystal Technical Services Center.

RU1 = Roundup Powermax (32 oz./A), Event (1 gal./100 gal water).

RU1+= Early application of 22oz to control cover crop.

RU2 = Roundup Powermax (22 oz./A), Event (1 gal./100 gal water).

RU1\*=Stinger added

+ Counter 20G applied at 9.0 lbs./A at Grand Forks, Ada, St Thomas & Cavalier.

+ Thimet applied at St Thomas near peak root maggot fly in early June.

^ Lorsban 4E applied near peak root maggot fly in early June.

CR.1=Agritin/Incognito

CR.2=Proline

CR.3=Agritin

CR.4=Headline