

## RESULTS OF AMERICAN CRYSTAL SUGAR COMPANY'S 2018 CODED OFFICIAL VARIETY TRIALS

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American Crystal Sugar Company's (ACSC) coded Official Variety Trials (OVT) are designed to provide an unbiased evaluation of the genetic potential of sugar beet variety entries under several different environments. The two-year average of these evaluations are then 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 2018 American Crystal OVTs and describes the procedures and cultural practices involved in the trials.

Table	Information in the Table
1	ACSC approved varieties for 2019
2	Multi-year performance of approved varieties (all locations combined)
3	Performance of ACSC Aphanomyces specialty varieties
4	Performance data of approved conventional varieties (all locations combined)
5	Disease ratings for ACSC tested varieties (multiple diseases)
6	Official trial sites, cooperators, plant and harvest dates, soil types and disease notes
7	Seed treatments applied to seed used in the OVTs
8-20	2018 Roundup Ready variety trials and combined trials
21-26	2018 Conventional variety trials and combined trials
27-30	Approval calculations for ACSC market
31	Aphanomyces disease nursery ratings
32	Cercospora disease nursery ratings
33	Rhizoctonia disease nursery ratings
34	Fusarium disease nursery ratings
35	Herbicides and fungicides applied to official trials

### Procedures and Cultural Practices

Sugarbeet official variety tests were conducted at the ACSC growing region areas of the Red River Valley by ACSC personnel at the Technical Services Center.

All entries were assigned a code number by KayJay Ag Services. The seed then was sent to ACSC Technical Services Center at Moorhead for official testing.

Thirteen official yield trial sites were planted in the ACSC area with twelve 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 7.

Ten sites were used for variety approval calculations. One site was abandoned due to erratic emergence (Humbolt) and two were used for Aphanomyces Specialty (Climax and Georgetown). Rhizoctonia was prevalent in 2018 and showed an increase from 2017 in yield trials. Seed treatments and two applications of Quadris were used to control Rhizoctonia. Based upon susceptible plot observations, root aphids were present in low levels at nine (9) sites. Preliminary root aphid evaluations are in progress, but seed companies may know tolerance levels of their varieties.

Plots were planted crosswise (90°) to the cooperators' normal farming operations, where possible. Plot row lengths for all official trials were maintained at 46 feet with about 39 feet harvested. Planting was performed with a 12-row SRES vacuum planter. The GPS controlled planter gave good single seed spacing which facilitated emergence counting. Seed companies had the option of treating seed with Tachigaren, insecticide and a Rhizoctonia seed treatment fungicide. Emergence counts were taken on 24 feet of each plot. Multiple seedlings were counted as a single plant if they emerged less than one inch apart. The stands in all yield trials were refined by removing doubles (multiple seedlings less than 1.5 inch apart) by hand but were not further reduced.

Roundup Powermax 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 2 leaf (9 oz) and 6-10 leaf stage (14 oz) for Rhizoctonia control. Treatments used for Cercospora control in 2018 included Inspire XT/Penncozeb, Agri Tin/Incognito, Proline/Penncozeb, and Headline/Agri Tin. Ground spraying was conducted by ACSC

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.

All plot rows were measured for total length after approximately 3.5 feet at each end were removed at the end of August, with skips greater than 60 inches being measured for adjustment purposes. Harvest was performed with 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.

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 staff for their assistance. Special thanks are extended to Dr. Mohamed Khan for *Cercospora* nursery infection, Dr. Albert Sims for hosting a *Rhizoctonia* nursery, Randy Nelson for RRV disease ratings, USDA staff in Michigan for *Cercospora* and *Rhizoctonia* nursery ratings. The Betaseed staff for *Aphanomyces* and *Cercospora* ratings in the Shakopee area, and Kay Jay Ag Services for sampling and coding all variety entries.

Table 1.  
Varieties Meeting ACSC Approval Criteria for the 2019 Sugarbeet Crop ++

Roundup Ready ®	Full Market	Aph Spec	Rhc Spec	High Rzm	Conventional	Full Market	High Rzm
BTS 80RR52	Yes	Yes		Hi Rzm	BETA EXP 687	Yes	Hi Rzm
BTS 8337	Yes	Yes		Hi Rzm	BETA EXP 698	Yes	Hi Rzm
BTS 8500	Yes	Yes		Hi Rzm	BETA EXP 747	Yes	Hi Rzm
BTS 8524	Yes	Yes		Hi Rzm	BETA EXP 758	Yes	Hi Rzm
BTS 8606	Yes			Hi Rzm	BETA EXP 872	New	Hi Rzm
BTS 8629	Yes	New		Hi Rzm			
BTS 8735	New	New		Hi Rzm	Crystal R761	Yes	Hi Rzm
BTS 8749	New	New		Hi Rzm	Crystal 620	Yes	Hi Rzm
BTS 8767	New			Hi Rzm	Crystal 840	New	Hi Rzm
BTS 8784	New						
Crystal 093RR	Yes	Yes		Hi Rzm	Hilleshög HM3035Rz	Yes	Rzm
Crystal 247RR	Yes			Hi Rzm	Hilleshög HIL9891Rz	Yes	Rzm
Crystal 355RR	Yes	Yes	Yes	Hi Rzm	Maribo MA615Rz	Yes	Rzm
Crystal 467RR	Yes	Yes		Hi Rzm			
Crystal 572RR	Yes			Hi Rzm	Seedex Deuce (SX0873TT)	Yes	Hi Rzm
Crystal 573RR	Yes	Yes		Hi Rzm	Seedex 8869 Cnv	Yes	Hi Rzm
Crystal 574RR	Yes	Yes		Hi Rzm			
Crystal 578RR	Yes	New		Hi Rzm	SESVanderhave 48611	Yes	Hi Rzm
Crystal 684RR	Yes	Yes		Hi Rzm	SESVanderhave 48777	Yes	Hi Rzm
Crystal 792RR	New	New		Hi Rzm			
Crystal 793RR	New	New		Hi Rzm			
Crystal 796RR	New	New		Hi Rzm			
Hilleshög HM4302RR	Yes		Yes	Rzm			
Hilleshög HM4448RR	Yes			Rzm			
Hilleshög HM9528RR	Yes	Yes		Hi Rzm			
Hilleshög HIL9708	Yes			Hi Rzm			
Hilleshög HIL9920	New			Hi Rzm			
Maribo MA109	Yes	Yes	Yes	Hi Rzm			
Maribo MA305	Yes			Rzm			
Maribo MA502	Yes	Yes		Hi Rzm			
Maribo MA504	Yes			Hi Rzm			
Maribo MA717	New			Hi Rzm			
Seedex Avalanche (858)	Yes	Yes		Hi Rzm			
Seedex Bronco RR (1863)	Yes	Yes		Hi Rzm			
Seedex Canyon RR(844TT)	Yes	Yes		Hi Rzm			
Seedex Cruze RR(846)	Yes	Yes		Rzm			
Seedex Marathon (856)	Yes			Hi Rzm			
Seedex RR1879	New	Yes		Hi Rzm			
SESVdh RR265	Yes			Hi Rzm			
SESVdh RR266	Yes			Hi Rzm			
SESVdh RR268	Yes	Yes		Hi Rzm			
SESVdh RR333	Yes	Yes		Hi Rzm			
SESVdh RR351	Yes	Yes		Hi Rzm			
SESVdh RR371	New			Hi Rzm			

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

Created 11/6/2018

Roundup Ready ® is a registered trademark of Monsanto Company.

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 2016, 2017, 2018 Growing Seasons (All Locations Combined) +++

Variety	Yrs Com	Rev/Ton ++					Rev/Acre ++					Rec/Ton		Rec/Acre		Sugar		Yield		Molasses		Emerg		Bolter / Ac		CR +		Aph Root+		Rhizoc.+		Fusarium+		Rzm+																						
		18	2 Yr	2Y%	3Yr#	3Y%	18	2 Yr	2Y%	3Yr#	3Yr%	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr																							
<b>Previous Approved # locations</b>																						10	20	29			10	20	29			10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	3	6	2	3	3	4	2	4	
BTS 80RR52	7	53.98	53.39	99	52.74	99	1536	1618	97	1732	99	347	340	9939	10364	18.36	18.15	28.9	30.7	1.03	1.13	86	82	0	2	4.38	4.38	4.5	4.4	4.0	4.1	3.8	3.2	Hi																						
BTS 8337	4	56.93	57.18	106	56.15	106	1619	1731	104	1779	102	357	353	10209	10709	18.81	18.68	28.8	30.5	0.98	1.03	81	78	0	2	4.64	4.50	3.7	3.8	4.1	4.2	4.2	4.0	Hi																						
BTS 8500	2	53.18	53.21	99	51.79	98	1719	1791	108	1849	106	344	340	11242	11492	18.18	18.04	33.2	34.1	0.99	1.05	88	82	0	0	4.40	4.34	4.4	4.5	4.4	4.5	2.5	2.3	Hi																						
BTS 8524	2	50.28	50.90	94	49.96	94	1658	1727	104	1803	103	334	332	11083	11295	17.72	17.68	33.5	34.2	1.05	1.10	81	80	0	2	4.50	4.44	4.1	4.3	4.2	4.3	3.9	3.6	Hi																						
BTS 8606	1	54.93	54.79	102	53.71	101	1684	1783	107	1855	106	350	345	10811	11275	18.44	18.29	31.2	32.9	0.95	1.02	83	81	0	0	4.80	4.76	4.4	4.7	4.2	4.6	3.7	3.2	Hi																						
BTS 8629	1	53.05	52.71	98	51.34	97	1752	1818	109	1864	107	343	338	11437	11712	18.13	17.93	33.7	34.9	0.97	1.03	73	77	0	0	4.52	4.40	3.9	4.3	4.0	4.1	4.4	4.3	Hi																						
Crystal 093RR	7	56.72	57.19	106	55.51	105	1666	1766	106	1825	105	356	353	10529	10934	18.81	18.71	29.8	31.1	1.01	1.05	87	82	0	0	4.88	4.68	4.4	4.4	4.6	4.5	4.3	3.9	Hi																						
Crystal 247RR	5	53.68	53.39	99	52.50	99	1669	1751	105	1838	105	345	340	10826	11201	18.21	18.00	31.6	33.1	0.95	0.99	84	80	0	9	4.54	4.55	5.0	5.2	4.6	4.5	3.3	3.2	Hi																						
Crystal 355RR	3	55.03	54.80	102	54.25	102	1524	1618	97	1727	99	350	345	9770	10230	18.56	18.36	28.1	29.8	1.05	1.10	88	82	0	0	4.52	4.44	4.4	4.6	3.7	3.9	3.7	3.2	Hi																						
Crystal 467RR	1	52.39	51.98	96	50.19	95	1653	1729	104	1767	101	341	336	10852	11220	18.04	17.84	32.2	33.7	0.99	1.06	86	83	0	0	4.61	4.53	3.7	3.8	3.9	4.2	2.9	2.4	Hi																						
Crystal 572RR	2	56.30	56.95	107	56.34	106	1718	1805	109	1864	107	355	355	10882	11131	18.70	18.72	30.9	31.5	0.97	0.99	83	82	0	0	4.45	4.36	4.5	4.6	4.5	4.5	3.7	3.2	Hi																						
Crystal 573RR	1	56.24	55.95	104	54.89	103	1711	1748	105	1822	104	354	349	10852	10945	18.68	18.48	30.9	31.5	0.97	1.03	88	82	0	0	4.38	4.26	4.3	4.1	4.3	4.4	4.2	3.7	Hi																						
Crystal 574RR	2	52.84	52.84	98	51.45	97	1733	1804	109	1893	108	343	338	11330	11591	18.14	17.97	33.4	34.4	1.01	1.05	83	81	0	0	4.42	4.38	4.3	4.5	4.4	4.3	2.9	2.6	Hi																						
Crystal 578RR	1	53.99	54.02	100	53.12	100	1645	1772	107	1854	106	347	342	10637	11272	18.31	18.15	31.0	33.1	0.99	1.03	86	83	0	0	4.74	4.83	4.2	4.4	4.3	4.3	3.4	2.9	Hi																						
Crystal 684RR	NC	52.81	52.73	98	51.42	97	1756	1827	110	1922	110	342	338	11480	11769	18.13	17.97	33.9	35.0	1.02	1.07	88	84	0	0	4.41	4.38	3.8	4.1	4.4	4.5	3.0	2.5	Hi																						
Hilleshög HM4302RR	5	53.22	52.98	98	52.53	99	1572	1585	95	1657	95	344	339	10241	10167	18.14	17.95	30.1	30.1	0.95	1.00	82	73	0	0	4.26	4.09	4.7	5.7	3.7	3.7	5.0	5.1	Rzm																						
Hilleshög HM4448RR	5	54.07	54.00	100	52.34	99	1720	1775	107	1807	104	347	342	11133	11295	18.29	18.13	32.5	33.2	0.95	1.01	84	77	0	2	5.26	5.27	4.5	5.4	4.4	4.5	5.2	5.3	Rzm																						
Hilleshög HM9528RR	4	53.42	53.89	100	53.31	100	1632	1709	103	1800	103	345	342	10603	10879	18.17	18.10	31.1	32.0	0.94	1.00	78	76	0	2	4.79	4.89	4.2	4.9	4.0	4.1	5.0	4.6	Hi																						
Hilleshög HIL9708	1	54.10	54.10	100	52.76	99	1684	1662	100	1727	99	347	343	10848	10569	18.30	18.16	31.5	30.9	0.95	1.01	85	80	0	5	4.71	4.66	4.2	5.1	3.7	4.0	4.6	4.6	Hi																						
Maribo MA109	3	56.22	56.54	105	56.47	106	1522	1546	93	1660	95	354	351	9663	9621	18.68	18.56	27.5	27.5	0.97	1.02	76	72	0	0	4.33	4.23	4.4	4.7	3.7	3.7	4.9	4.6	Hi																						
Maribo MA305	3	51.36	51.70	96	50.64	95	1589	1660	100	1698	97	337	335	10549	10784	17.81	17.71	31.7	32.4	0.94	0.98	76	71	0	0	4.92	4.95	4.9	5.3	4.3	4.4	5.5	5.7	Rzm																						
Maribo MA502	2	50.80	51.13	95	49.81	94	1520	1581	95	1662	95	335	333	10126	10333	17.82	17.74	30.5	31.3	1.05	1.11	82	78	0	34	4.95	4.98	3.7	3.6	4.2	4.5	3.3	3.2	Hi																						
Maribo MA504	2	52.98	52.84	98	51.22	96	1748	1789	108	1836	105	343	338	11406	11519	18.14	17.96	33.6	34.2	0.99	1.03	84	81	0	0	4.98	5.24	5.3	5.7	4.2	4.3	4.8	4.7	Hi																						
SV RR265	1	53.20	53.38	99	52.54	99	1663	1750	105	1826	105	344	340	10824	11204	18.11	18.00	31.8	33.1	0.93	0.98	84	79	0	0	4.48	4.83	4.2	4.8	4.3	4.4	5.4	5.4	Hi																						
SV RR266	1	53.71	53.79	100	53.04	100	1644	1729	104	1810	104	346	342	10651	11028	18.22	18.08	31.1	32.5	0.95	0.99	73	70	0	0	4.73	4.67	4.7	5.2	4.3	4.4	5.7	5.7	Hi																						
SV RR268	1	55.08	54.95	102	53.98	102	1679	1741	105	1812	104	350	346	10767	11006	18.47	18.28	31.1	32.1	0.96	0.99	81	78	0	0	4.70	4.88	4.2	4.5	4.2	4.4	5.1	5.1	Hi																						
SV RR333	3	55.32	54.77	102	53.81	101	1642	1733	104	1805	103	351	345	10483	10941	18.50	18.24	30.0	31.8	0.95	1.00	75	74	0	0	4.78	4.81	4.1	4.5	4.2	4.3	5.1	5.2	Hi																						
SV RR351	2	54.24	53.99	100	52.76	99	1661	1722	104	1805	103	347	342	10715	10956	18.30	18.11	31.1	32.1	0.93	0.99	79	76	0	0	4.61	4.51	4.5	4.3	4.2	4.2	5.3	5.1	Hi																						
SX Avalanche RR	2	54.64	54.93	102	54.14	102	1582	1636	99	1729	99	349	346	10157	10315	18.37	18.25	32.3	30.0	0.93	0.98	81	76	0	5	4.50	4.57	4.2	4.1	4.4	4.3	5.4	5.6	Hi																						
SX Bronco RR(1863)	1	54.70	54.96	102	54.43	103	1647	1710	103	1809	104	349	346	10588	10798	18.41	18.27	30.6	31.4	0.96	0.98	77	72	0	0	4.65	4.37	4.0	4.5	4.7	4.5	5.5	5.8	Hi																						
SX Canyon RR	3	53.83	54.55	101	53.57	101	1674	1752	105	1810	104	346	344	10832	11081	18.25	18.20	31.6	32.3	0.95	0.99	81	76	0	0	4.79	4.85	4.3	4.3	4.4	4.4	4.9	5.0	Hi																						
SX Cruze RR	3	46.25	47.13	88	46.77	88	1465	1581	95	1624	93	320	319	10190	10731	17.08	17.07	32.1	33.8	1.10	1.12	60	69	0	2	5.79	5.58	4.4	4.6	4.2	4.3	4.8	4.4	Rzm																						
SX Marathon RR	2	54.20	54.43	101	53.28	100	1717	1765	106	1856	106	347	344	11063	11180	18.30	18.17	32.1	32.7	0.94	0.98	83	77	0	2	5.27	4.90	4.7	4.6	4.2	4.3	5.5	5.2	Hi																						
<b>Newly Approved</b>																																																								
BTS 8735	NC	56.10	54.67	101	--	--	1689	1762	106	--	--	354	345	10770	11176	18.63	18.24	30.8	32.6	0.93	0.99	86</																																		

Table 3. Performance Data of RR Aphanomyces Specialty Varieties - Under Aphanomyces Conditions (Relative to Susceptible Checks) approved for 2019 Growing Season +++

Description	Years Comm	Rev/Ton			Rev/Acre			Rec/Ton		Rec/Acre		Sugar		Yield		CR Rating +		Aph Root +		Fusarium +		Rhizoctonia +		
		2018	2016#	%Sus	2018	2016#	%Sus	2018	2016#	2018	2016#	2018	2016#	2018	2016#	18	2Yr	18	2Yr	18	2Yr	18	2Yr	
# of locations		2	2	4	2	2	4	2	2	2	2	2	2	2	2	2	3	6	2	3	2	4	3	4
<b>Previously Approved</b>																								
BTS 80RR52	7	40.90	47.73	101	1181	1294	131	300.8	305.0	8663	8994	16.27	16.32	28.8	29.5	4.38	4.38	4.5	4.4	3.8	3.2	4.0	4.1	
BTS 8337	4	44.69	49.32	107	1240	1306	132	314.0	310.0	8719	8626	16.83	16.59	27.8	27.9	4.64	4.50	3.7	3.8	4.2	4.0	4.1	4.2	
BTS 8500	2	39.44	44.32	95	1309	1318	133	295.7	293.9	9794	8817	15.97	15.79	33.1	30.1	4.40	4.34	4.4	4.5	2.5	2.3	4.4	4.5	
BTS 8524	2	35.94	44.53	91	1185	1301	131	283.5	294.6	9388	9385	15.40	15.85	33.2	31.9	4.50	4.44	4.1	4.3	3.9	3.6	4.2	4.3	
Crystal 093RR	7	40.91	49.26	103	1244	1312	132	300.8	309.9	9138	8685	16.27	16.61	30.3	28.1	4.88	4.68	4.4	4.4	4.3	3.9	4.6	4.5	
Crystal 355RR	3	40.82	49.37	103	1131	1205	122	300.5	310.2	8333	8071	16.24	16.58	27.9	26.1	4.52	4.44	4.4	4.6	3.7	3.2	3.7	3.9	
Crystal 467RR	1	37.00	42.00	90	1171	1208	122	287.2	286.1	9090	8510	15.56	15.48	31.6	29.9	4.61	4.53	3.7	3.8	2.9	2.4	3.9	4.2	
Crystal 573RR	1	42.09	48.78	103	1273	1288	130	305.0	308.8	9210	8294	16.46	16.51	30.2	27.0	4.38	4.26	4.3	4.1	4.2	3.7	4.3	4.4	
Crystal 574RR	2	38.17	44.17	94	1282	1321	133	291.3	293.4	9778	9003	15.75	15.76	33.6	30.5	4.42	4.38	4.3	4.5	2.9	2.6	4.4	4.3	
Crystal 684RR	NC	37.30	44.83	93	1295	1406	142	287.9	295.6	10015	9986	15.60	15.89	34.9	33.7	4.41	4.38	3.8	4.1	3.0	2.5	4.4	4.5	
Hilleshög HM4302RR	5	40.29	47.43	100	1087	1092	110	298.7	304.0	8026	6975	16.03	16.25	26.8	22.9	4.26	4.09	4.7	5.7	5.0	5.1	3.7	3.7	
Hilleshög HM9528RR	4	38.65	48.08	99	1157	1268	128	293.0	306.1	8781	8772	15.71	16.38	30.0	28.6	4.79	4.89	4.2	4.9	5.0	4.6	4.0	4.1	
Maribo MA109	3	42.36	51.46	107	1048	1114	112	305.9	316.9	7569	7271	16.40	16.91	24.8	23.0	4.33	4.23	4.4	4.7	4.9	4.6	3.7	3.7	
Maribo MA502	2	40.07	44.36	96	1186	1268	128	297.9	294.0	8788	8945	16.09	15.88	29.4	30.4	4.95	4.98	3.7	3.6	3.3	3.2	4.2	4.5	
SV RR268	1	41.55	48.64	103	1236	1271	128	303.1	308.4	9007	8262	16.28	16.40	29.8	26.7	4.70	4.88	4.2	4.5	5.1	5.1	4.2	4.4	
SV RR333	3	41.41	46.56	100	1172	1207	122	302.6	301.2	8553	8010	16.25	16.08	28.2	26.5	4.78	4.81	4.1	4.5	5.1	5.2	4.2	4.3	
SV RR351	2	41.26	46.82	100	1201	1293	131	302.1	302.2	8798	8971	16.25	16.16	29.2	29.7	4.61	4.51	4.5	4.3	5.3	5.1	4.2	4.2	
SX Avalanche RR	2	42.51	48.30	103	1154	1242	125	306.4	307.2	8324	8473	16.41	16.37	27.2	27.6	4.50	4.57	4.2	4.1	5.4	5.6	4.4	4.3	
SX Bronco RR(1863)	1	42.51	50.16	105	1232	1291	130	306.4	313.4	8859	8434	16.36	16.62	28.9	26.9	4.65	4.37	4.0	4.5	5.5	5.8	4.7	4.5	
SX Canyon RR	3	40.07	44.98	97	1199	1200	121	297.9	296.2	8884	7852	16.05	15.86	29.7	26.3	4.79	4.85	4.3	4.3	4.9	5.0	4.4	4.4	
SX Cruze RR	3	33.43	42.40	86	1041	1181	119	274.7	288.0	8545	8957	14.99	15.51	31.1	31.0	5.79	5.58	4.4	4.6	4.8	4.4	4.2	4.3	
<b>Newly Approved</b>																								
BTS 8629	1	38.57	44.43	94	1286	1332	134	292.7	294.2	9772	9079	15.82	15.81	33.4	30.7	4.52	4.40	3.9	4.3	4.4	4.3	4.0	4.1	
BTS 8735	NC	40.15	--	--	1215	--	--	298.2	--	9035	--	16.04	--	30.4	--	4.21	4.22	4.0	4.4	4.0	4.0	4.1	4.3	
BTS 8749	NC	39.62	--	--	1201	--	--	296.4	--	9005	--	16.02	--	30.5	--	4.10	4.08	2.8	3.2	3.8	3.5	3.9	3.9	
Crystal 578RR	1	39.56	47.50	99	1156	1318	133	296.1	304.5	8661	9500	15.96	16.25	29.3	31.2	4.74	4.83	4.2	4.4	3.4	2.9	4.3	4.3	
Crystal 792RR	NC	42.16	--	--	1343	--	--	305.5	--	9758	--	16.39	--	32.0	--	4.26	4.10	3.8	4.3	3.5	3.2	4.2	4.0	
Crystal 793RR	NC	42.26	--	--	1317	--	--	305.8	--	9553	--	16.37	--	31.3	--	4.26	4.10	3.3	3.2	3.6	3.3	4.1	4.2	
Crystal 796RR	NC	38.87	--	--	1288	--	--	293.5	--	9735	--	15.82	--	33.2	--	4.74	4.79	3.6	3.4	3.4	2.8	4.0	4.1	
SX RR1879	NC	40.45	--	--	1213	--	--	299.3	--	8985	--	16.04	--	30.1	--	4.44	4.66	4.4	4.3	5.2	4.9	4.3	4.3	
Aph Susc Checks		39.78	48.17		956	1025		296.9	306.8	7123	6529	16.04	16.49	24.0	21.3									
Mean of Aph Specialty Varieties		40.10	46.76		1208	1331		298.0	301.9	8992	8603	16.06	16.17	30.2	28.5									

%Susc = % of susceptible varieties.

Created 11/6/2018

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

++ 2018 Revenue estimates based on a \$46.40beet payment at 17.5% sugar and 1.5% loss to molasses. Revenue does not consider hauling or production costs.

+++ 2018Data from Climax and Georgetown.

# Lack of Aphanomyces pressure at any of the OVT sites prevented collection of Aphanomyces Yield Data for 2017.

Table 4. Performance Data of Conventional Varieties During 2016, 2017, 2018 Growing Seasons (All Locations Combined)

Variety @	Yrs Com	Rev/Ton ++					Rev/Acre ++					Rec/Ton		Rec/Acre		Sugar		Yield		Molasses		Emerg		Bolter / Ac		CR +		Aph Root+		Rhizoc.+		Fusarium+ Rzm+		
		18	2 Yr	2Y%	3Yr#	3Y%	18	2 Yr	2Y%	3Yr#	3Yr%	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	18	2 Yr	
<b>Previous Approved # location:</b>		5	16	17		5	16	17		5	16	5	16	5	16	5	16	5	16	5	16	5	16	5	16	3	6	2	3	3	6	2	4	
BETA EXP 687	NC	53.73	54.92	118	54.45	116	1698	1666	112	1753	100	346	345	11006	10565	18.40	18.44	32.1	30.9	1.12	1.17	84	78	0	0	3.90	3.95	4.1	4.2	3.8	4.0	3.9	3.7	Hi
BETA EXP 698	NC	51.36	52.29	112	52.03	111	1831	1723	116	1801	102	337	336	12134	11219	17.93	17.93	36.3	33.7	1.06	1.10	80	78	0	0	4.18	4.18	3.7	3.7	4.2	4.3	3.3	3.2	Hi
BETA EXP 747	NC	53.57	53.08	114	--	--	1907	1780	120	--	--	345	339	12377	11467	18.18	18.01	36.2	34.1	0.93	1.04	82	78	0	0	4.25	4.32	4.0	3.8	4.1	4.0	4.7	4.6	Hi
BETA EXP 758	NC	51.26	52.57	113	--	--	1731	1685	113	--	--	337	337	11501	10916	17.91	17.97	34.5	32.7	1.06	1.10	84	81	10	5	4.22	4.37	3.7	3.5	4.0	4.1	4.2	4.1	Hi
Crystal R761	9	48.44	49.78	107	49.60	106	1789	1740	117	1762	100	327	328	12172	11534	17.53	17.63	37.5	35.4	1.17	1.23	83	78	0	0	4.72	4.82	4.1	4.0	4.4	4.4	4.1	3.7	Hi
Crystal 620	NC	52.73	53.35	115	52.94	113	1867	1787	120	1839	104	342	340	12221	11502	18.16	18.11	36.1	34.1	1.05	1.10	79	74	0	0	4.30	4.22	3.8	3.9	4.2	4.3	3.5	3.1	Hi
Hilleshög HM3035Rz	12	54.57	54.45	117	54.57	116	1464	1461	98	1566	89	349	344	9405	9294	18.38	18.28	27.2	27.3	0.97	1.09	70	75	0	9	4.23	4.33	5.2	5.2	4.0	4.0	4.5	4.1	Rzm
Hilleshög 9891Rz	2	53.03	53.99	116	53.61	114	1563	1522	102	1578	90	343	342	10198	9733	18.18	18.22	30.0	28.7	1.03	1.11	84	81	10	5	4.23	4.18	4.7	4.8	3.8	4.1	3.6	3.6	Rzm
Maribo MA615Rz	NC	47.49	49.60	107	50.36	107	1640	1613	109	1732	98	324	327	11277	10734	17.43	17.62	35.1	33.0	1.23	1.25	80	80	0	0	4.58	4.70	4.7	5.0	4.4	4.5	4.9	4.8	Rzm
Seedex 8869 Cnv	NC	50.05	52.06	112	52.23	111	1859	1800	121	1869	106	333	336	12448	11695	17.60	17.81	37.7	35.1	0.97	1.03	84	80	10	5	4.66	4.94	4.8	4.9	4.6	4.5	3.8	3.6	Hi
Seedex Deuce	NC	51.50	52.70	113	52.93	113	1885	1838	124	1883	107	338	338	12417	11832	17.90	17.95	36.9	35.1	1.02	1.06	83	79	10	14	4.74	4.75	5.3	5.7	4.5	4.5	5.0	4.8	Hi
SV 48611	NC	55.21	55.37	119	54.88	117	1868	1769	119	1818	103	351	347	11930	11128	18.52	18.41	34.2	32.2	0.99	1.06	81	75	0	0	4.95	5.12	4.6	4.4	4.5	4.4	5.7	5.7	Hi
SV 48777	NC	55.32	56.36	121	--	--	1815	1758	118	--	--	351	350	11565	10987	18.47	18.48	33.1	31.5	0.92	0.97	83	78	0	0	4.56	4.66	5.1	4.7	4.5	4.5	4.5	4.2	Hi
<b>Newly Approved</b>																																		
BETA EXP 872	NC	52.63	--	--	--	--	1874	--	--	--	--	342	--	12279	--	18.18	--	36.3	--	1.08	--	71	--	0	0	4.82	--	3.9	--	4.4	--	3.7	--	Hi
Crystal 840	NC	51.66	--	--	--	--	1882	--	--	--	--	338	--	12429	--	17.96	--	37.1	--	1.04	--	77	--	0	0	4.33	--	3.8	--	4.0	--	3.6	--	Hi
Benchmark var. mean		53.39	46.52	46.95			1762	1486	1760			344	338	11444	10867	18.30	18.10	33.5	32.4	1.08	1.18	84	80											

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

++ 2018 Revenue estimate based on a \$46.40 beet payment (5-yr ave) at 17.5% sugar and 1.5% loss to molasses.

+ Aph ratings from OVT's and 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, Hendrum, Grand Forks, Scandia, St. Thomas, Humbolt in 2017.

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

**Table 5. Official Trial Disease Nurseries 2016 - 2018(Varieties tested in 2018)**  
**Cercospora, Aphanomyces, Rhizoctonia & Fusarium**

Code	Description +	< 4.5 CR > 5.0					< 4.4 Aph > 5.5					< 3.82 Rhizoctonia > 5.0					< 3.0 Fusarium > 5.0					High Rzm
		18	17	16	2 Yr	3 Yr	18	17	16	2 Yr	3 Yr	18	17	16	2 Yr	3 Yr	18	17	16	2 Yr	3 Yr	
<b>ACSC Commercial</b>																						
570	BTS 80RR52	4.38	4.37	4.28	4.38	4.34	4.49	4.36	4.11	4.43	4.32	3.96	4.14	4.41	4.05	4.17	3.76	2.69	2.81	3.22	3.08	Hi Rzm
501	BTS 8337	4.64	4.36	4.62	4.50	4.54	3.74	3.78	3.26	3.76	3.59	4.07	4.30	4.08	4.18	4.15	4.18	3.83	4.01	4.00	4.01	Hi Rzm
577	BTS 8500	4.40	4.29	4.54	4.34	4.41	4.43	4.52	4.22	4.48	4.39	4.36	4.57	4.43	4.46	4.45	2.46	2.14	1.90	2.30	2.17	Hi Rzm
503	BTS 8524	4.50	4.38	4.74	4.44	4.54	4.08	4.49	3.89	4.28	4.15	4.23	4.41	4.20	4.32	4.28	3.93	3.24	3.38	3.59	3.52	Hi Rzm
576	BTS 8606	4.80	4.73	5.12	4.76	4.88	4.43	4.91	4.60	4.67	4.64	4.24	5.00	4.48	4.62	4.57	3.66	2.81	2.69	3.24	3.05	Hi Rzm
527	BTS 8629	4.52	4.29	4.59	4.40	4.46	3.89	4.68	4.14	4.28	4.24	4.02	4.21	3.73	4.12	3.99	4.40	4.20	4.04	4.30	4.21	Hi Rzm
530	Crystal 093RR	4.88	4.49	4.95	4.68	4.77	4.38	4.43	4.32	4.41	4.38	4.59	4.50	4.37	4.55	4.49	4.28	3.48	3.35	3.88	3.70	Hi Rzm
542	Crystal 247RR	4.54	4.55	4.65	4.55	4.58	5.02	5.35	4.77	5.19	5.05	4.56	4.49	4.32	4.52	4.46	3.34	3.00	2.80	3.17	3.05	Hi Rzm
562	Crystal 355RR	4.52	4.36	4.60	4.44	4.50	4.42	4.84	4.46	4.63	4.58	3.66	4.09	3.96	3.87	3.90	3.73	2.76	2.65	3.24	3.05	Hi Rzm
513	Crystal 467RR	4.61	4.46	4.69	4.53	4.58	3.68	3.96	4.04	3.82	3.90	3.94	4.47	4.26	4.21	4.23	2.92	1.98	1.84	2.45	2.25	Hi Rzm
518	Crystal 572RR	4.45	4.27	4.57	4.36	4.43	4.47	4.69	4.74	4.58	4.63	4.54	4.47	4.21	4.51	4.41	3.70	2.64	1.82	3.17	2.72	Hi Rzm
563	Crystal 573RR	4.38	4.15	4.35	4.26	4.29	4.33	3.84	4.06	4.09	4.08	4.29	4.57	4.55	4.43	4.47	4.20	3.10	3.49	3.65	3.60	Hi Rzm
575	Crystal 574RR	4.42	4.35	4.51	4.38	4.43	4.32	4.72	3.69	4.52	4.24	4.36	4.16	4.47	4.26	4.33	2.87	2.23	1.82	2.55	2.31	Hi Rzm
508	Crystal 578RR	4.74	4.91	4.87	4.83	4.84	4.21	4.56	4.44	4.38	4.40	4.30	4.40	4.32	4.35	4.34	3.36	2.41	1.99	2.88	2.59	Hi Rzm
580	Hilleshög HM4302RR	4.26	3.93	4.13	4.09	4.10	4.65	6.66	4.63	5.66	5.32	3.71	3.60	3.65	3.65	3.65	5.02	5.09	5.09	5.06	5.07	Rzm
510	Hilleshög HM4448RR	5.26	5.28	5.21	5.27	5.25	4.53	6.29	3.90	5.41	4.91	4.38	4.63	4.51	4.50	4.51	5.23	5.35	5.26	5.29	5.28	Rzm
543	Hilleshög HM9528RR	4.79	4.99	4.73	4.89	4.84	4.22	5.63	3.77	4.93	4.54	4.04	4.21	4.21	4.13	4.16	4.95	4.25	4.52	4.60	4.57	Hi Rzm
533	Hilleshög HIL9708	4.71	4.61	4.74	4.66	4.69	4.25	5.94	4.82	5.09	5.00	3.71	4.21	4.28	3.96	4.07	4.61	4.61	4.29	4.61	4.50	Hi Rzm
541	Maribo MA109	4.33	4.14	4.14	4.23	4.20	4.38	5.06	4.27	4.72	4.57	3.69	3.63	3.69	3.66	3.67	4.95	4.23	4.50	4.59	4.56	Hi Rzm
532	Maribo MA305	4.92	4.98	4.72	4.95	4.87	4.91	5.67	4.42	5.29	5.00	4.26	4.60	4.40	4.43	4.42	5.45	5.89	5.89	5.67	5.74	Rzm
515	Maribo MA502	4.95	5.01	4.79	4.98	4.92	3.67	3.53	3.06	3.60	3.42	4.20	4.78	4.73	4.49	4.57	3.33	3.02	1.92	3.17	2.76	Hi Rzm
504	Maribo MA504	4.98	5.50	5.04	5.24	5.17	5.30	6.20	4.54	5.75	5.34	4.25	4.37	4.58	4.31	4.40	4.80	4.52	4.60	4.66	4.64	Hi Rzm
552	SV RR265	4.48	5.19	5.00	4.83	4.89	4.16	5.35	4.54	4.76	4.69	4.32	4.42	4.44	4.37	4.39	5.44	5.32	5.26	5.38	5.34	Hi Rzm
540	SV RR266	4.73	4.61	4.74	4.67	4.69	4.72	5.64	4.62	5.18	4.99	4.34	4.39	4.20	4.36	4.31	5.73	5.64	5.18	5.69	5.52	Hi Rzm
548	SV RR268	4.70	5.06	5.13	4.88	4.97	4.21	4.71	4.00	4.46	4.31	4.21	4.57	4.70	4.39	4.49	5.12	5.01	5.20	5.06	5.11	Hi Rzm
537	SV RR333	4.78	4.84	4.85	4.81	4.82	4.06	4.99	4.71	4.52	4.59	4.23	4.44	4.44	4.34	4.37	5.14	5.35	4.84	5.24	5.11	Hi Rzm
544	SV RR351	4.61	4.41	4.50	4.51	4.51	4.50	4.18	4.38	4.34	4.35	4.16	4.25	4.17	4.20	4.19	5.30	4.96	4.75	5.13	5.00	Hi Rzm
573	SX Avalanche RR	4.50	4.64	4.74	4.57	4.63	4.18	4.00	4.44	4.09	4.21	4.36	4.29	4.52	4.33	4.39	5.37	5.75	5.38	5.56	5.50	Hi Rzm
569	SX Bronco RR(1863)	4.65	4.08	4.35	4.37	4.36	4.05	4.88	3.55	4.46	4.16	4.73	4.23	4.54	4.48	4.50	5.52	6.04	5.80	5.78	5.79	Hi Rzm
551	SX Canyon RR	4.79	4.92	4.76	4.85	4.82	4.34	4.33	4.28	4.33	4.32	4.36	4.51	4.40	4.43	4.42	4.93	5.12	5.26	5.03	5.10	Hi Rzm
549	SX Cruze RR	5.79	5.37	4.65	5.58	5.27	4.38	4.79	3.41	4.58	4.19	4.23	4.39	4.69	4.31	4.44	4.78	3.98	2.80	4.38	3.85	Rzm
528	SX Marathon RR	5.27	4.54	4.44	4.90	4.75	4.72	4.52	4.38	4.62	4.54	4.19	4.40	4.47	4.29	4.35	5.51	4.84	4.90	5.18	5.08	Hi Rzm
<b>ACSC Experimental</b>																						
521	BTS 8735	4.21	4.22	--	4.22	--	4.00	4.74	--	4.37	--	4.12	4.38	--	4.25	--	4.04	3.93	--	3.98	--	Hi Rzm
512	BTS 8749	4.10	4.05	--	4.08	--	2.79	3.53	--	3.16	--	3.88	3.95	--	3.92	--	3.79	3.28	--	3.53	--	Hi Rzm
568	BTS 8767	4.32	4.16	--	4.24	--	4.28	4.80	--	4.54	--	4.10	4.75	--	4.42	--	3.41	2.71	--	3.06	--	Hi Rzm
572	BTS 8784	3.73	3.65	--	3.69	--	4.22	4.59	--	4.40	--	4.60	4.64	--	4.62	--	3.76	2.63	--	3.20	--	Hi Rzm
529	BTS 8815	4.65	--	--	--	--	3.97	--	--	--	--	3.88	--	--	--	--	3.64	--	--	--	--	Hi Rzm
505	BTS 8826	4.21	--	--	--	--	5.13	--	--	--	--	3.65	--	--	--	--	2.94	--	--	--	--	Hi Rzm
536	BTS 8839	4.41	--	--	--	--	3.74	--	--	--	--	4.15	--	--	--	--	3.67	--	--	--	--	Hi Rzm
516	BTS 8844	4.62	--	--	--	--	3.59	--	--	--	--	4.14	--	--	--	--	2.93	--	--	--	--	Hi Rzm
531	BTS 8857	4.36	--	--	--	--	5.02	--	--	--	--	4.14	--	--	--	--	5.28	--	--	--	--	Hi Rzm
554	BTS 8864	4.32	--	--	--	--	4.74	--	--	--	--	4.88	--	--	--	--	4.10	--	--	--	--	Hi Rzm
535	BTS 8882	4.53	--	--	--	--	4.98	--	--	--	--	4.37	--	--	--	--	3.39	--	--	--	--	Hi Rzm
553	BTS 8891	4.57	--	--	--	--	4.09	--	--	--	--	3.83	--	--	--	--	3.37	--	--	--	--	Hi Rzm
545	Crystal 684RR	4.41	4.34	4.57	4.38	4.44	3.83	4.31	3.74	4.07	3.96	4.39	4.57	4.41	4.48	4.46	2.96	2.01	1.76	2.49	2.25	Hi Rzm
522	Crystal 792RR	4.26	3.94	--	4.10	--	3.78	4.73	--	4.26	--	4.22	3.88	--	4.05	--	3.50	2.81	--	3.16	--	Hi Rzm
557	Crystal 793RR	4.26	3.93	--	4.10	--	3.32	3.02	--	3.17	--	4.11	4.26	--	4.18	--	3.59	2.95	--	3.27	--	Hi Rzm
574	Crystal 796RR	4.74	4.85	--	4.79	--	3.61	3.11	--	3.36	--	3.97	4.23	--	4.10	--	3.36	2.34	--	2.85	--	Hi Rzm
519	Crystal 802RR	4.46	--	--	--	--	3.95	--	--	--	--	4.31	--	--	--	--	3.57	--	--	--	--	Hi Rzm
558	Crystal 803RR	4.01	--	--	--	--	3.86	--	--	--	--	4.67	--	--	--	--	4.11	--	--	--	--	Hi Rzm
517	Crystal 804RR	4.42	--	--	--	--	3.58	--	--	--	--	4.02	--	--	--	--	3.05	--	--	--	--	Hi Rzm
550	Crystal 807RR	4.49	--	--	--	--	4.70	--	--	--	--	4.14	--	--	--	--	4.27	--	--	--	--	Hi Rzm
547	Crystal 808RR	4.86	--	--	--	--	3.60	--	--	--	--	3.83	--	--	--	--	3.12	--	--	--	--	Hi Rzm
534	Crystal 809RR	4.63	--	--	--	--	3.63	--	--	--	--	4.39	--	--	--	--	2.75	--	--	--	--	Hi Rzm
560	Hilleshög HIL2230	4.71	--	--	--	--	3.96	--	--	--	--	4.06	--	--	--	--	4.86	--	--	--	--	Hi Rzm
581	Hilleshög HIL2231	4.85																				

**Table 5. Official Trial Disease Nurseries 2016 - 2018(Varieties tested in 2018)**  
**Cercospora, Aphanomyces, Rhizoctonia & Fusarium**

564 Maribo MA811	4.84	--	--	--	--	4.38	--	--	--	--	4.47	--	--	--	--	4.50	--	--	--	--	Hi Rzm
556 Maribo MA812	4.90	--	--	--	--	4.12	--	--	--	--	3.93	--	--	--	--	4.82	--	--	--	--	Hi Rzm
511 SV 284	4.07	--	--	--	--	4.48	--	--	--	--	4.18	--	--	--	--	4.71	--	--	--	--	Hi Rzm
561 SV 285	4.52	--	--	--	--	3.98	--	--	--	--	4.35	--	--	--	--	5.42	--	--	--	--	Hi Rzm
526 SV 286	5.25	--	--	--	--	4.77	--	--	--	--	4.44	--	--	--	--	5.06	--	--	--	--	Hi Rzm
520 SV 287	5.28	--	--	--	--	4.20	--	--	--	--	4.13	--	--	--	--	5.11	--	--	--	--	Hi Rzm
507 SV 288	4.88	--	--	--	--	5.39	--	--	--	--	4.23	--	--	--	--	4.51	--	--	--	--	Hi Rzm
523 SV 289	4.65	--	--	--	--	4.42	--	--	--	--	4.37	--	--	--	--	5.45	--	--	--	--	Hi Rzm
582 SV RR371	4.71	4.59	--	4.65	--	4.51	4.55	--	4.53	--	4.19	4.31	--	4.25	--	5.36	4.91	--	5.13	--	Hi Rzm
555 SV RR375	4.96	5.08	--	5.02	--	3.83	4.54	--	4.19	--	4.13	4.25	--	4.19	--	5.51	5.44	--	5.47	--	Hi Rzm
538 SX 1885	5.32	--	--	--	--	4.65	--	--	--	--	4.32	--	--	--	--	5.55	--	--	--	--	Hi Rzm
539 SX 1886	4.79	--	--	--	--	4.47	--	--	--	--	4.27	--	--	--	--	4.94	--	--	--	--	Hi Rzm
559 SX 1887	4.89	--	--	--	--	4.49	--	--	--	--	4.16	--	--	--	--	5.35	--	--	--	--	Hi Rzm
546 SX 1888	4.92	--	--	--	--	4.03	--	--	--	--	4.57	--	--	--	--	5.47	--	--	--	--	Hi Rzm
565 SX 1889	3.91	--	--	--	--	5.16	--	--	--	--	4.68	--	--	--	--	4.67	--	--	--	--	Hi Rzm
524 SX RR1879	4.44	4.88	--	4.66	--	4.39	4.18	--	4.28	--	4.32	4.36	--	4.34	--	5.18	4.64	--	4.91	--	Hi Rzm
<b>ACSC Conventional</b>																					
910 BETA EXP 687	3.90	3.99	4.14	3.95	4.01	4.15	4.30	4.88	4.23	4.44	3.85	4.20	4.16	4.02	4.07	3.90	3.51	3.41	3.70	3.60	Hi Rzm
918 BETA EXP 698	4.18	4.18	4.27	4.18	4.21	3.68	3.62	3.69	3.65	3.66	4.22	4.45	4.35	4.34	4.34	3.25	3.06	2.74	3.16	3.02	Hi Rzm
919 BETA EXP 747	4.25	4.40	--	4.32	--	4.02	3.60	--	3.81	--	4.10	3.93	--	4.01	--	4.70	4.58	--	4.64	--	Hi Rzm
906 BETA EXP 758	4.22	4.52	--	4.37	--	3.70	3.29	--	3.50	--	3.98	4.31	--	4.14	--	4.20	3.91	--	4.06	--	Hi Rzm
907 BETA EXP 872	4.82	--	--	--	--	3.95	--	--	--	--	4.41	--	--	--	--	3.69	--	--	--	--	Hi Rzm
903 Crystal 620	4.30	4.14	4.19	4.22	4.21	3.79	4.09	4.28	3.94	4.05	4.15	4.37	4.54	4.26	4.35	3.47	2.79	2.73	3.13	3.00	Hi Rzm
904 Crystal 840	4.33	--	--	--	--	3.80	--	--	--	--	4.04	--	--	--	--	3.56	--	--	--	--	Hi Rzm
917 Crystal R761	4.72	4.93	4.99	4.82	4.88	4.09	4.01	3.57	4.05	3.89	4.36	4.54	4.57	4.45	4.49	4.11	3.23	3.25	3.67	3.53	Hi Rzm
912 Hilleshög HIL2243Rz	4.04	--	--	--	--	4.98	--	--	--	--	4.98	--	--	--	--	5.43	--	--	--	--	Hi Rzm
911 Hilleshög HM3035Rz	4.23	4.42	4.53	4.33	4.39	5.18	5.18	4.40	5.18	4.92	4.01	4.07	3.93	4.04	4.00	4.45	3.70	3.65	4.07	3.93	Rzm
909 Hilleshög 9891Rz	4.23	4.13	4.42	4.18	4.26	4.72	4.89	4.45	4.81	4.69	3.76	4.46	4.22	4.11	4.15	3.58	3.66	3.76	3.62	3.67	Rzm
901 Maribo MA615Rz	4.58	4.81	5.04	4.70	4.81	4.72	5.30	4.80	5.01	4.94	4.37	4.73	4.54	4.55	4.55	4.88	4.72	5.11	4.80	4.91	Rzm
914 Seedex 8869 Cnv	4.66	5.21	4.76	4.94	4.88	4.82	4.99	4.70	4.90	4.84	4.56	4.40	4.67	4.48	4.54	3.77	3.53	2.92	3.65	3.41	Hi Rzm
908 Seedex Deuce	4.74	4.76	4.68	4.75	4.73	5.26	6.04	5.70	5.65	5.67	4.53	4.39	4.66	4.46	4.52	5.04	4.54	4.68	4.79	4.75	Hi Rzm
920 Strube 12720	5.21	5.65	--	5.43	--	6.64	8.11	--	7.37	--	5.17	4.59	--	4.88	--	5.61	5.60	--	5.60	--	Rzm
905 Strube 12845	4.38	--	--	--	--	6.22	--	--	--	--	4.71	--	--	--	--	4.88	--	--	--	--	Rzm
913 Strube 12884	5.49	--	--	--	--	5.89	--	--	--	--	5.33	--	--	--	--	5.11	--	--	--	--	Rzm
915 Strube 13897	4.72	--	--	--	--	5.39	--	--	--	--	4.68	--	--	--	--	5.79	--	--	--	--	Rzm
902 SV 48611	4.95	5.28	4.85	5.12	5.03	4.60	4.25	4.47	4.43	4.44	4.54	4.35	4.66	4.44	4.52	5.67	5.74	5.24	5.70	5.55	Hi Rzm
916 SV 48777	4.56	4.76	--	4.66	--	5.13	4.20	--	4.66	--	4.49	4.59	--	4.54	--	4.45	3.96	--	4.21	--	Hi Rzm

CR ratings on a scale of 1-9. Green < 4.5, Red > 5.0

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

Rhizoctonia ratings on a scale of 1-7. Green < 3.8, Red > 5.0. Specialty level is 3.82.

Fusarium ratings on a scale of 1-9. Green < 3.0, Red > 5.0

Green highlighted ratings indicate specialty or good resistance.

Red highlighted ratings indicate level of concern for some fields.

Hi Rzm = may perform better under severe Rzm.

Created 11/5/2018

Table 6. Planting & Harvest Dates, Previous Crop and Disease Levels for 2018 ACSC Official Trial Sites \*

Location	District / Trial Type	Cooperator	Planting Date	Harvest Date	Preceding Crop	Soil Type	Diseases Present @						Comments
							Aph	Rhc	Rzm	Fus	Maggot	Rt Aphid	
Casselton ND	Mhd/Hlb	Todd Weber	4/30	10/23	Wheat	Medium/Light	N	L-M	N	N	N	L	Wilting. RH in Conv
Glyndon MN	Mhd/Hlb	Menholt Farms	4/30	9/6	Wheat	Medium/Light	N	N	L-M	L-M	N	L	FS in Exp and Prop Trial
Georgetown MN	Mhd/Hlb	Hoff Farms	5/14	9/10	Soybeans	Medium	M-V	L-M	N	N	N	L	Severe AP (AP Specialty Site)
Ada MN	Mhd/Hlb	Ruebke Bros.	5/5	10/16	Wheat	Medium	N	L	M-V	N	N	L-V	RZ in all 4 Corners
Hillsboro ND	Mhd/Hlb	M&R Steenson Farms	5/7	9/13	Wheat	Medium	N	M	L-M	N	N	L	Severe RH in Part of Comm
Climax MN	EGF/Crk	Evenson Farms	5/6	9/11	Wheat	Medium	M-V	L-M	N	N	N	L-M	Light to Severe AP (AP Specialty Site)
Grand Forks ND	EGF/Crk	Drees Farming Association	5/15	9/24	Wheat	Medium/Light	N	L	L-M	N	L	N	Some Moderate Stands
Scandia MN	EGF/Crk	Dennis Deboer	5/3	10/18	Wheat	Medium	N	L	M	N	N	L-M	RA in all 4 Corners
East Grand Forks MN	EGF/Crk	Mark Holy	5/7	10/21	Wheat	Medium/Light	N	M	L	N	N	N	Light RH in Comm
Stephen MN	EGF/Crk	Jensen Farms	5/5	10/27	Barley	Medium	N	L	L	N	L	L	Some Brown Leaves
St Thomas ND	Dtn	Kennelly Farms	5/1	9/29	Wheat	Medium/Light	N	N	L	N	L	N	Lower Yield
Humboldt MN	Dtn	Youngren Farms	4/28	Abandon	Wheat	Medium/Heavy	N	L-M	N	N	L	M	Abandoned
Bathgate ND	Dtn	Shady Bend Farms	5/2	10/1	Wheat	Medium	N	N	N	N	L	N	Some Brown Leaves
Mhd Rhc-E	Rhc Nurs	Jon Hickel	5/16	7/14	Soybeans	Medium/Heavy	NA	V	NA	L	N	N	Heavy RH Infection
Mhd Rhc-W	Rhc Nurs	Jon Hickel	5/16	7/2	Soybeans	Medium/Heavy	NA	V	NA	L-M	N	N	Uniform RH Infection
NWROC Rhc	Rhc Nurs	Albert Sims	5/17	Abandon	Wheat	Medium	NA	L-M	N	N	N	N	Abandoned
BSDF Rhc	Rhc Nurs	Mitch McGrath	5/2	8/14	NA	NA	NA	V	NA	NA	NA	NA	Uniform RH Infection
Mhd SE Fus	Fusarium	Oberg Farms	6/22	7/18	Soybeans	Medium	NA	L	N	V	NA	NA	Replanted
Mhd Fus	Fusarium	Nelson Farms	5/12	7/26	Soybeans	Medium	NA	L	N	V	NA	NA	
Shakopee MN	Aph Nurs	Patrick O'Boyle	5/12	8/17	NA	NA	V	NA	NA	NA	NA	NA	
Longmont CO	RA Nurs	Kara Crist	6/30	9/20	NA	NA	NA	NA	NA	NA	NA	NA	Data Not Included
Foxhome CR	Cercospora	NDSU/Kevin Etzler	5/14	8/27	Soybeans	Medium	NA	L-M	NA	NA	NA	NA	Uniform CR Infection
BSDF CR	Cercospora	Mitch McGrath	5/1	9/6	NA	NA	NA	NA	NA	NA	NA	NA	Uniform CR Infection
Randolph MN CR	Cercospora	Patrick O'Boyle	5/5	8/9	NA	Medium/Light	NA	NA	NA	NA	NA	NA	Uniform CR Infection

Created 10-31-2018

\* 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)

Table 7. Seed Treatments Used on Approved Varieties in Official Variety Trials in 2018

Description	Years in Trial	Years ** Comm.	Fungicide (Rhizoctonia)	Insecticide (Spring Tails & Maggot)	'achigaren Rat (Aphanomyces)	Priming (Emergence)	Fungicide (Damping Off)
<b>ACSC Commercial</b>							
BTS 80RR52	9	7	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8337	6	4	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8500	4	2	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8524	4	2	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8606	3	1	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8629	3	1	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 093RR	9	7	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 247RR	7	5	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 355RR	6	3	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 467RR	5	1	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 572RR	4	2	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 573RR	4	1	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 574RR	4	2	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 578RR	4	1	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshög HM4302RR	8	5	Vibrance	Cruiser Maxx	45	XBEET	Apron XL Maxim
Hilleshög HM4448RR	7	5	Vibrance	Cruiser Maxx	45	XBEET	Apron XL Maxim
Hilleshög HM9528RR	6	4	Vibrance	NA	45	XBEET	Apron XL Maxim
Hilleshög HIL9708	4	1	Vibrance	Cruiser Maxx	45	XBEET	Apron XL Maxim
Maribo MA109	5	3	Vibrance	Cruiser Maxx	20	XBEET	Apron XL Maxim
Maribo MA305	6	3	Vibrance	Cruiser Maxx	20	XBEET	Apron XL Maxim
Maribo MA502	4	2	Vibrance	Cruiser Maxx	20	XBEET	Apron XL Maxim
Maribo MA504	4	2	Vibrance	Cruiser Maxx	20	XBEET	Apron XL Maxim
SX Avalanche RR	4	2	Metlock/Rizolex/Kabina	NipsIt	20	XBEET	Sebring Thiram
SX Bronco RR(1863)	3	1	Metlock/Rizolex/Kabina	NipsIt	20	XBEET	Sebring Thiram
SX Canyon RR	5	3	Metlock/Rizolex/Kabina	NipsIt	20	XBEET	Sebring Thiram
SX Cruze RR	5	3	Metlock/Rizolex/Kabina	NipsIt	20	XBEET	Sebring Thiram
SX Marathon RR	4	2	Metlock/Rizolex/Kabina	NipsIt	20	XBEET	Sebring Thiram
SV RR265	3	1	Metlock/Rizolex/Vibrance	NipsIt	45	XBEET	Sebring Thiram
SV RR266	3	1	Metlock/Rizolex/Vibrance	NipsIt	45	XBEET	Sebring Thiram
SV RR268	3	1	Metlock/Rizolex/Vibrance	NipsIt	45	XBEET	Sebring Thiram
SV RR333	6	3	Metlock/Rizolex/Vibrance	NipsIt	45	XBEET	Sebring Thiram
SV RR351	4	2	Metlock/Rizolex/Vibrance	NipsIt	45	XBEET	Sebring Thiram
<b>ACSC Experimental</b>							
BTS 8735	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8749	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8767	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8784	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8815	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8826	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8839	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8844	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8857	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8864	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8882	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BTS 8891	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 684RR	3	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 792RR	2	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 793RR	2	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 796RR	2	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 802RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 803RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 804RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 807RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 808RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 809RR	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshög HIL2230	1	NC	Vibrance	Poncho Beta	20	NA	Apron XL Maxim
Hilleshög HIL2231	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL2232	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL2233	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL2234	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL2235	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL2236	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Hilleshög HIL9920	2	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA717	2	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA808	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA809	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim

Table 7. Seed Treatments Used on Approved Varieties in Official Variety Trials in 2018

Maribo MA810	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA811	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA812	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
SX 1885	1	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SX 1886	1	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SX 1887	1	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SX 1888	1	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SX 1889	1	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SX RR1879	2	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SV 284	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV 285	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV 286	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV 287	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV 288	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV 289	1	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV RR371	2	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
SV RR375	2	NC	Metlock/Rizolex/Vibrance	NipsIt	20	NA	Sebring Thiram
<b>Conventional</b>							
BETA EXP 687	3	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 698	3	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 747	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 758	2	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
BETA EXP 872	1	NC	Systiva	Poncho Beta	35	Ultipro	Allegiance Thiram
Crystal 620	3	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal 840	1	NC	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Crystal R761	12	9	Kabina	Poncho Beta	45	XBEET	Allegiance Thiram
Hilleshög HM3035Rz	14	12	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
Hilleshög 9891Rz	3	2	Vibrance	Cruiser Maxx	45	NA	Apron XL Maxim
Hilleshög HIL2243Rz	1	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Maribo MA615Rz	3	NC	Vibrance	Cruiser Maxx	20	NA	Apron XL Maxim
Seedex 8869 Cnv	3	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
Seedex Deuce	11	NC	Metlock/Rizolex/Kabina	NipsIt	20	NA	Sebring Thiram
SV 48611	3	NC	Metlock/Rizolex/Vibrance	NipsIt	45	NA	Sebring Thiram
SV 48777	2	NC	Metlock/Rizolex/Vibrance	NipsIt	45	NA	Sebring Thiram
Strube 12720	2	NC	NA	Poncho Beta	14	3D Plus	Thiram
Strube 12845	1	NC	NA	Poncho Beta	14	3D Plus	Thiram
Strube 12884	1	NC	NA	Poncho Beta	14	3D Plus	Thiram
Strube 13897	1	NC	NA	Poncho Beta	14	3D Plus	Thiram

NA indicates no treatment applied in this category.

Created 11/5/2018

Table 8. 2018 Performance of All RR Varieties - ACSC Official Trial

Description @ Commercial Trial	Code	10 sites										Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	
		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
BTS 80RR52	130	346.5	100	9939	97	1.03	53.98	100	1536	97	18.36	28.94	167	1574	322	0	85.9
BTS 8337	119	356.8	103	10209	100	0.98	56.93	106	1619	102	18.81	28.83	155	1545	289	0	80.9
BTS 8500	124	343.7	99	11242	110	0.99	53.18	99	1719	108	18.18	33.16	175	1553	295	0	88.2
BTS 8524	127	333.6	96	11083	108	1.05	50.28	93	1658	105	17.72	33.49	196	1641	304	0	81.1
BTS 8606	106	349.8	101	10811	105	0.95	54.93	102	1684	106	18.44	31.19	161	1535	274	0	82.6
BTS 8629	110	343.2	99	11437	112	0.97	53.05	98	1752	111	18.13	33.69	187	1430	301	0	73.1
Crystal 093RR	126	356.0	103	10529	103	1.01	56.72	105	1666	105	18.81	29.83	149	1528	321	0	86.8
Crystal 247RR	113	345.4	100	10826	106	0.95	53.68	100	1669	105	18.21	31.60	189	1544	254	0	84.4
Crystal 355RR	109	350.1	101	9770	95	1.05	55.03	102	1524	96	18.56	28.13	172	1594	331	0	88.0
Crystal 467RR	120	340.9	98	10852	106	0.99	52.39	97	1653	104	18.04	32.15	216	1596	267	0	86.1
Crystal 572RR	112	354.6	102	10882	106	0.97	56.30	104	1718	108	18.70	30.91	146	1474	307	0	83.4
Crystal 573RR	101	354.3	102	10852	106	0.97	56.24	104	1711	108	18.68	30.89	154	1510	291	0	88.2
Crystal 574RR	114	342.5	99	11330	110	1.01	52.84	98	1733	109	18.14	33.40	177	1557	305	0	82.7
Crystal 578RR	115	346.5	100	10637	104	0.99	53.99	100	1645	104	18.31	30.97	177	1566	283	0	86.4
Hilleshog HM4302RR	107	343.8	99	10241	100	0.95	53.22	99	1572	99	18.14	30.07	196	1577	248	0	81.6
Hilleshog HM4448RR	125	346.8	100	11133	109	0.95	54.07	100	1720	109	18.29	32.45	161	1470	288	0	83.9
Hilleshog HM9529RR	117	344.5	99	10603	103	0.94	53.42	99	1632	103	18.17	31.07	174	1489	271	2	78.3
Hilleshog HIL9708	131	346.9	100	10848	106	0.95	54.10	100	1684	106	18.30	31.47	175	1493	276	0	85.3
Maribo MA109	128	354.3	102	9663	94	0.97	56.22	104	1522	96	18.68	27.53	176	1509	285	0	75.8
Maribo MA305	102	337.3	97	10549	103	0.94	51.36	95	1589	100	17.81	31.67	184	1459	275	0	76.1
Maribo MA502	116	335.4	97	10126	99	1.05	50.80	94	1520	96	17.82	30.52	232	1616	300	0	82.1
Maribo MA504	122	343.0	99	11406	111	0.99	52.98	98	1748	110	18.14	33.56	188	1538	291	0	84.4
SX Avalanche RR	129	348.8	101	10157	99	0.93	54.64	101	1582	100	18.37	29.33	169	1529	255	2	80.6
SX Bronco RR(1863)	105	349.0	101	10588	103	0.96	54.70	101	1647	104	18.41	30.58	173	1540	271	0	77.1
SX Canyon RR	103	346.0	100	10832	106	0.95	53.83	100	1674	106	18.25	31.58	159	1547	267	2	81.5
SX Cruze RR	121	319.5	92	10190	99	1.10	46.25	86	1465	92	17.08	32.14	203	1600	358	0	60.3
SX Marathon RR	111	347.2	100	11063	108	0.94	54.20	101	1717	108	18.30	32.08	149	1549	262	0	83.3
SV RR265	108	343.7	99	10824	106	0.93	53.20	99	1663	105	18.11	31.75	154	1522	259	0	83.6
SV RR266	118	345.5	100	10651	104	0.95	53.71	100	1644	104	18.22	31.08	158	1526	271	0	72.7
SV RR268	132	350.3	101	10767	105	0.96	55.08	102	1679	106	18.47	31.05	159	1548	271	0	80.6
SV RR333	123	351.1	101	10483	102	0.95	55.32	103	1642	104	18.50	30.04	158	1532	272	0	75.2
SV RR351	104	347.4	100	10715	104	0.93	54.24	101	1661	105	18.30	31.10	147	1546	258	0	78.6
Crystal 101RR (Check)	133	337.8	98	10591	103	1.07	51.49	95	1602	101	17.96	31.64	217	1693	297	0	83.5
BTS 8572 (Check)	134	350.7	101	10717	105	0.98	55.19	102	1677	106	18.51	30.77	145	1486	312	0	81.4
ACFILL #41	135	326.0	94	9641	94	0.93	48.12	89	1408	89	17.23	29.90	186	1498	257	0	83.1
ACFILL #42	136	332.3	96	9738	95	1.13	49.91	93	1448	91	17.74	29.65	233	1644	352	0	82.1
<b>Experimental Trial (Comm status)</b>																	
BTS 8735	250	354.1	102	10770	105	0.93	56.10	104	1689	107	18.63	30.77	177	1379	292	0	85.8
BTS 8749	243	347.6	100	10289	100	1.01	54.31	101	1596	101	18.40	29.85	166	1587	302	0	88.0
BTS 8767	225	344.7	100	10810	105	0.97	53.49	99	1664	105	18.21	31.63	174	1552	281	0	87.6
BTS 8784	210	358.0	103	10483	102	0.93	57.22	106	1667	105	18.82	29.42	134	1391	302	0	84.9
BTS 8815	211	351.1	101	10682	104	0.95	55.29	103	1670	105	18.51	30.66	174	1549	262	0	82.6
BTS 8826	245	352.1	102	9708	95	1.10	55.58	103	1522	96	18.70	27.72	179	1585	368	0	82.3
BTS 8839	232	354.4	102	10342	101	0.90	56.21	104	1627	103	18.62	29.44	151	1399	273	0	89.4
BTS 8844	205	353.9	102	10214	100	0.97	56.08	104	1608	101	18.66	29.07	180	1520	281	0	85.0
BTS 8857	235	349.9	101	9456	92	0.94	54.95	102	1472	93	18.44	27.33	142	1487	279	0	78.6
BTS 8864	224	356.1	103	10143	99	0.97	56.70	105	1605	101	18.77	28.65	140	1470	311	0	75.9
BTS 8882	229	345.3	100	11096	108	1.01	53.66	100	1709	108	18.27	32.42	183	1580	294	0	76.5
BTS 8891	226	356.3	103	10198	99	0.96	56.75	105	1612	102	18.78	28.86	151	1468	304	0	86.4
Crystal 684RR	227	342.3	99	11480	112	1.02	52.81	98	1756	111	18.13	33.86	194	1596	299	0	87.8
Crystal 792RR	240	349.9	101	10791	105	0.98	54.97	102	1684	106	18.48	31.04	153	1471	312	0	85.4
Crystal 793RR	238	356.7	103	11373	111	0.90	56.87	105	1804	114	18.74	32.05	143	1394	276	0	85.1
Crystal 796RR	231	345.4	100	11306	110	0.96	53.70	100	1743	110	18.24	33.04	159	1522	285	0	87.2
Crystal 802RR	207	353.3	102	10469	102	0.95	55.91	104	1647	104	18.61	29.80	151	1413	309	0	81.5
Crystal 803RR	244	352.2	102	11000	107	0.94	55.59	103	1727	109	18.55	31.41	158	1455	283	0	90.6
Crystal 804RR	246	343.5	99	11293	110	1.01	53.13	99	1731	109	18.18	33.20	196	1525	310	0	81.5
Crystal 807RR	215	347.9	100	10888	106	0.92	54.39	101	1692	107	18.32	31.45	194	1522	240	0	73.7
Crystal 808RR	218	347.8	100	11407	111	1.00	54.36	101	1771	112	18.39	33.03	191	1531	300	0	86.8
Crystal 809RR	214	350.6	101	10038	98	0.97	55.15	102	1566	99	18.50	28.86	178	1541	275	0	85.2
Hilleshog HIL2230	221	342.7	99	10295	100	0.97	52.91	98	1578	100	18.10	30.28	183	1474	294	0	86.1
Hilleshog HIL2231	208	334.3	97	9344	91	1.02	50.55	94	1398	88	17.73	28.28	221	1615	283	0	78.2
Hilleshog HIL2232	203	349.9	101	9924	97	1.00	54.97	102	1547	98	18.51	28.62	186	1538	302	0	85.1
Hilleshog HIL2233	209	351.4	101	10876	106	0.95	55.38	103	1705	108	18.52	31.13	164	1432	294	0	87.5
Hilleshog HIL2234	217	341.2	99	10172	99	0.96	52.52	97	1552	98	18.03	30.08	204	1538	262	0	85.8
Hilleshog HIL2235	247	342.9	99	10391	101	1.07	52.97	98	1592	100	18.21	30.57	200	1597	336	0	84.0
Hilleshog HIL2236	213	350.9	101	10030	98	0.94	55.23	102	1566	99	18.49	28.84	172	1437	286	0	87.9
Hilleshog HIL9920	223	355.2	103	10745	105	0.94	56.44	105	1695	107	18.69	30.47	171	1531	256	0	85.5
Maribo MA717	248	354.4	102	10573	103	0.96	56.21	104	1666	105	18.68	30.02	177	1486	290	0	87.2
Maribo MA808	234	337.7	98	9456	92	0.98	51.51	96	1430	90	17.87	28.29	222	1629	248	0	87.9
Maribo MA809	233	334.4	97	10632	104	1.00	50.59	94	1596	101	17.72	32.04	221	1610	270	0	83.4
Maribo MA810	220	343.8	99	9563	93	1.08	53.23	99	1467	93	18.26	28.05	199	1588	344	0	73.9
Maribo MA811	206	344.5	99	10237	100	1.02	53.41	99	1578	100	18.24	29.90	207	1589	296	0	73.0
Maribo MA812	222	351.6	102	9792	95	0.89	55.42	103	1532	97	18.48	28.08	153	1379	271	0	90.8
SX RR1879	219	347.1	100	10680	104	0.92	54.16	100	1652	104	18.28	31.09	151	1503	259	0	85.2
SX 1885	212	346.0	100	10397	101	0.98	53.87	100	1609	102	18.28						

Table 9. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Casselton ND										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch									
<b>Commercial Trial</b>																			
BTS 80RR52	130	337.5	102	10526	95	1.12	51.41	103	1610	97	17.98	31.04	122	1670	376	0	84.3		
BTS 8337	119	339.2	102	9874	89	1.12	51.90	104	1516	91	18.10	29.08	132	1800	350	0	82.8		
BTS 8500	124	326.6	98	11606	104	1.14	48.28	97	1721	103	17.48	35.58	135	1725	376	0	89.5		
BTS 8524	127	317.0	95	12261	110	1.18	45.55	91	1760	106	17.03	38.62	146	1700	413	0	85.9		
BTS 8606	106	334.4	101	10861	98	1.03	50.51	101	1647	99	17.74	32.17	134	1755	293	0	85.3		
BTS 8629	110	328.2	99	12484	112	1.09	48.76	98	1857	112	17.51	38.07	141	1640	360	0	78.5		
Crystal 093RR	126	343.5	103	11284	101	1.15	53.13	106	1735	104	18.35	33.16	114	1740	389	0	86.6		
Crystal 247RR	113	339.0	102	11834	106	1.04	51.83	104	1811	109	17.98	34.96	145	1801	271	0	86.2		
Crystal 355RR	109	336.8	101	10919	98	1.27	51.22	103	1654	99	18.13	32.67	145	1883	432	0	92.8		
Crystal 467RR	120	329.0	99	11580	104	1.17	48.96	98	1712	103	17.62	35.50	177	1867	341	0	84.5		
Crystal 572RR	112	346.5	104	11298	102	1.10	53.99	108	1758	106	18.44	32.67	123	1663	375	0	83.9		
Crystal 573RR	101	337.3	102	11516	104	1.07	51.37	103	1757	106	17.92	33.98	124	1725	325	0	90.4		
Crystal 574RR	114	327.7	99	11669	105	1.13	48.61	97	1748	105	17.51	35.21	144	1798	349	0	83.2		
Crystal 578RR	115	333.0	100	10903	98	1.16	50.11	100	1636	98	17.79	32.71	136	1813	361	0	86.3		
Hilleshog HM4302RR	107	338.9	102	11153	100	1.06	51.81	104	1692	102	18.01	33.17	148	1870	274	0	87.3		
Hilleshog HM4448RR	125	332.5	100	12221	110	1.06	49.97	100	1828	110	17.69	36.91	121	1593	361	0	84.4		
Hilleshog HM9528RR	117	333.4	100	12210	110	1.03	50.22	101	1843	111	17.72	36.60	138	1710	299	0	82.8		
Hilleshog HIL9708	131	337.0	101	12347	111	0.99	51.28	103	1903	114	17.85	36.27	140	1647	281	0	85.3		
Maribo MA109	128	333.4	100	10509	94	1.00	50.24	101	1587	95	17.67	31.55	146	1639	284	0	77.1		
Maribo MA305	102	314.4	95	11002	99	1.05	44.80	90	1591	96	16.77	34.70	167	1675	313	0	83.2		
Maribo MA502	116	321.7	97	10920	98	1.25	46.88	94	1595	96	17.33	33.91	172	1883	406	0	83.3		
Maribo MA504	122	328.0	99	12994	117	1.16	48.70	98	1925	116	17.56	39.76	153	1711	388	0	86.2		
SX Avalanche RR	129	346.6	104	11061	99	1.06	54.03	108	1709	103	18.37	32.23	132	1710	310	0	83.5		
SX Bronco RR(1863)	105	334.4	101	11603	104	1.09	50.53	101	1758	106	17.81	34.56	140	1789	325	0	81.5		
SX Canyon RR	103	342.6	103	11517	104	1.10	52.88	106	1774	107	18.24	33.81	128	1798	326	0	83.6		
SX Cruze RR	121	294.3	89	9728	87	1.34	39.03	78	1291	78	16.05	33.13	173	1817	493	0	58.2		
SX Marathon RR	111	335.0	101	10693	96	1.05	50.71	102	1608	97	17.82	32.12	127	1825	286	0	89.2		
SV RR265	108	340.5	102	11304	102	1.06	52.28	105	1730	104	18.07	33.19	122	1816	296	0	85.2		
SV RR266	118	335.6	101	11534	104	1.05	50.86	102	1763	106	17.82	34.03	123	1798	293	0	76.4		
SV RR268	132	335.4	101	11665	105	1.04	50.81	102	1775	107	17.79	34.66	119	1698	307	0	81.7		
SV RR333	123	338.3	102	10986	99	1.17	51.63	103	1667	100	18.08	32.55	128	1832	368	0	77.9		
SV RR351	104	336.2	101	11068	100	1.00	51.04	102	1671	100	17.82	33.03	132	1818	246	0	83.1		
Crystal 101RR (Check)	133	316.2	95	11113	100	1.33	45.30	91	1583	95	17.13	35.32	175	2005	427	0	84.6		
BTS 8572 (Check)	134	338.4	102	11925	107	1.03	51.68	104	1812	109	17.96	35.21	125	1674	322	0	85.5		
ACFILL #41	135	314.8	95	10688	96	1.06	44.90	90	1524	92	16.81	33.90	155	1797	295	0	84.8		
ACFILL #42	136	318.6	96	10583	95	1.25	45.99	92	1524	92	17.18	33.08	162	1903	408	0	85.1		
<b>Experimental Trial (Comm status)</b>																			
BTS 8735	250	337.1	101	11899	107	0.97	51.25	103	1803	108	17.83	34.99	120	1552	288	0	86.6		
BTS 8749	243	324.8	98	10339	93	1.24	47.84	96	1511	91	17.46	32.02	141	1803	427	0	84.1		
BTS 8767	225	331.9	100	10808	97	1.14	49.81	100	1619	97	17.74	32.67	134	1671	388	0	90.9		
BTS 8784	210	338.7	102	11320	102	1.12	51.69	104	1732	104	18.07	33.50	120	1615	399	0	83.6		
BTS 8815	211	340.5	102	12092	109	1.05	52.18	105	1846	111	18.06	35.60	143	1707	301	0	82.7		
BTS 8826	245	337.5	102	10858	98	1.28	51.35	103	1632	98	18.15	32.51	128	1794	469	0	83.2		
BTS 8839	232	338.1	102	11238	101	0.99	51.51	103	1704	102	17.90	33.43	128	1543	305	0	91.3		
BTS 8844	205	339.7	102	11018	99	1.07	51.96	104	1676	101	18.07	32.47	142	1705	321	0	87.0		
BTS 8857	235	336.9	101	10401	94	1.15	51.20	103	1585	95	18.01	30.80	137	1789	368	0	72.9		
BTS 8864	224	342.8	103	10635	96	1.14	52.82	106	1625	98	18.26	31.21	126	1610	404	0	71.9		
BTS 8882	229	325.1	98	11455	103	1.18	47.92	96	1677	101	17.44	35.31	148	1776	390	0	78.4		
BTS 8891	226	344.7	104	10891	98	1.11	53.35	107	1680	101	18.37	31.60	122	1667	372	0	87.4		
Crystal 684RR	227	316.2	95	12242	110	1.23	45.48	91	1778	107	17.03	38.47	157	1815	411	0	88.2		
Crystal 792RR	240	334.2	101	11750	106	1.11	50.46	101	1773	107	17.83	35.27	117	1613	393	0	89.4		
Crystal 793RR	238	335.9	101	11137	100	1.09	50.90	102	1673	100	17.88	33.22	115	1542	393	0	89.1		
Crystal 796RR	231	328.5	99	11914	107	1.12	48.88	98	1786	107	17.55	35.74	136	1669	376	0	80.7		
Crystal 802RR	207	332.0	100	10239	92	1.14	49.82	100	1528	92	17.73	30.93	126	1647	400	0	86.1		
Crystal 803RR	244	334.5	101	10766	97	1.05	50.52	101	1613	97	17.79	32.42	114	1551	355	0	95.1		
Crystal 804RR	246	316.7	95	11720	105	1.19	45.60	91	1690	102	17.03	36.93	150	1763	400	0	81.8		
Crystal 807RR	215	324.5	98	11516	104	1.06	47.75	96	1692	102	17.30	35.40	160	1787	281	0	80.5		
Crystal 808RR	218	326.8	98	11990	108	1.26	48.41	97	1778	107	17.61	36.56	162	1752	448	0	88.2		
Crystal 809RR	214	333.3	100	9812	88	1.07	50.20	101	1479	89	17.73	29.43	134	1705	320	0	82.1		
Hilleshog HIL2230	221	319.1	96	10788	97	1.09	46.25	93	1558	94	17.06	33.61	161	1671	341	0	88.6		
Hilleshog HIL2231	208	314.5	95	9814	88	1.16	45.00	90	1414	85	16.89	30.98	195	1822	343	0	80.2		
Hilleshog HIL2232	203	325.3	98	10376	93	1.23	47.98	96	1533	92	17.50	31.54	175	1723	437	0	78.7		
Hilleshog HIL2233	209	333.6	100	12280	110	1.04	50.30	101	1848	111	17.74	36.45	142	1602	321	0	93.2		
Hilleshog HIL2234	217	325.9	98	11519	104	1.14	48.18	97	1692	102	17.43	35.51	156	1723	360	0	85.8		
Hilleshog HIL2235	247	327.6	99	12413	112	1.22	48.81	97	1838	110	17.58	38.02	166	1771	418	0	86.0		
Hilleshog HIL2236	213	341.1	103	10815	97	1.03	52.37	105	1659	100	18.11	31.76	126	1617	312	0	84.2		
Hilleshog HIL9920	223	338.2	102	11778	106	1.11	51.54	103	1781	107	18.01	35.14							

Table 10. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Glyndon MN										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch								
<b>Commercial Trial</b>																		
BTS 80RR52	130	319.9	100	8200	98	1.05	46.38	100	1194	98	17.03	25.61	219	1413	352	0	81.8	
BTS 8337	119	338.3	106	8936	106	0.99	51.63	111	1360	111	17.90	26.38	207	1414	314	0	79.9	
BTS 8500	124	320.9	100	9510	113	1.04	46.66	100	1375	113	17.08	29.74	235	1400	347	0	86.1	
BTS 8524	127	301.4	94	8618	103	1.11	41.07	88	1182	97	16.18	28.51	261	1511	362	0	79.9	
BTS 8606	106	323.2	101	8539	102	1.00	47.31	102	1252	103	17.14	26.40	201	1408	324	0	74.0	
BTS 8629	110	320.6	100	10167	121	1.09	46.58	100	1475	121	17.13	31.77	271	1342	386	0	68.0	
Crystal 093RR	126	334.3	104	9194	109	1.00	50.49	109	1394	114	17.71	27.32	183	1382	343	0	78.1	
Crystal 247RR	113	322.0	101	8950	107	1.02	46.96	101	1311	107	17.10	27.68	276	1392	315	0	78.2	
Crystal 355RR	109	327.8	102	7921	94	1.03	48.64	105	1172	96	17.42	24.01	194	1439	344	0	75.5	
Crystal 467RR	120	314.0	98	9341	111	1.06	44.68	96	1332	109	16.77	29.71	335	1352	339	0	83.1	
Crystal 572RR	112	330.3	103	9209	110	0.94	49.36	106	1365	112	17.46	28.05	190	1287	320	0	75.5	
Crystal 573RR	101	332.2	104	8763	104	0.93	49.85	107	1312	107	17.54	26.18	186	1368	292	0	84.6	
Crystal 574RR	114	325.0	101	9769	116	1.02	47.83	103	1431	117	17.27	30.21	206	1442	337	0	77.4	
Crystal 578RR	115	326.2	102	8469	101	0.97	48.16	104	1256	103	17.28	25.76	239	1383	297	0	78.8	
Hilleshog HM4302RR	107	317.9	100	8670	103	0.99	46.32	100	1261	103	16.98	27.09	275	1386	293	0	73.8	
Hilleshog HM4448RR	125	323.8	101	8930	106	0.95	47.49	102	1313	108	17.15	27.60	191	1327	313	0	72.2	
Hilleshog HM9528RR	117	323.1	101	9717	116	0.94	47.27	102	1422	117	17.09	29.97	252	1320	288	0	79.9	
Hilleshog HIL9708	131	310.2	97	8812	105	0.95	43.59	94	1237	101	16.47	28.28	246	1279	308	0	87.8	
Maribo MA109	128	326.8	102	7829	93	0.96	48.35	104	1162	95	17.31	23.88	220	1349	306	0	67.9	
Maribo MA305	102	309.5	97	9230	110	0.93	43.40	93	1296	106	16.41	29.84	235	1250	306	0	69.5	
Maribo MA502	116	313.1	98	8980	107	0.99	44.43	96	1273	104	16.63	28.81	247	1375	306	0	71.1	
Maribo MA504	122	317.7	99	8967	107	0.97	45.73	98	1300	107	16.87	28.08	238	1344	309	0	82.5	
SX Avalanche RR	129	320.8	100	8545	102	0.94	46.62	100	1239	102	16.98	26.63	206	1331	300	0	78.0	
SX Bronco RR(1863)	105	324.8	101	8949	106	1.00	47.77	103	1318	108	17.24	27.41	235	1366	326	0	76.1	
SX Canyon RR	103	321.6	100	9315	111	0.91	46.84	101	1357	111	16.99	29.00	179	1375	276	0	78.1	
SX Cruze RR	121	295.4	92	9293	111	1.10	39.35	85	1239	102	15.87	31.46	249	1477	374	0	56.1	
SX Marathon RR	111	323.6	101	9484	113	0.91	47.43	102	1393	114	17.11	29.19	166	1413	273	0	81.7	
SV RR265	108	331.4	103	9751	116	0.92	49.66	107	1452	119	17.49	29.64	162	1377	291	0	83.3	
SV RR266	118	317.9	99	9045	108	0.94	45.79	99	1305	107	16.85	28.50	207	1338	299	0	65.2	
SV RR268	132	326.8	102	9155	109	0.94	48.34	104	1359	111	17.29	28.11	189	1380	292	0	82.8	
SV RR333	123	333.4	104	9136	109	0.87	50.25	108	1379	113	17.54	27.37	161	1326	267	0	70.9	
SV RR351	104	329.7	103	9370	112	0.93	49.17	106	1395	114	17.42	28.43	163	1380	299	0	78.7	
Crystal 101RR (Check)	133	311.8	97	8846	105	1.07	44.05	95	1255	103	16.65	28.37	246	1548	324	0	76.8	
BTS 8572 (Check)	134	321.6	100	8647	103	1.00	46.86	101	1261	103	17.09	27.05	188	1350	348	0	76.3	
ACFILL #41	135	307.7	96	7334	87	0.91	42.89	92	1019	83	16.29	23.91	217	1299	277	0	80.5	
ACFILL #42	136	312.5	98	8390	100	1.03	44.25	95	1180	97	16.64	27.05	245	1408	335	0	74.5	
<b>Experimental Trial (Comm status)</b>																		
BTS 8735	250	333.6	104	9518	113	1.13	50.19	108	1433	117	17.78	28.65	284	1271	431	0	84.8	
BTS 8749	243	330.1	103	9083	108	1.04	49.22	106	1355	111	17.54	27.57	224	1443	334	0	83.2	
BTS 8767	225	319.1	100	9679	115	1.09	46.15	99	1405	115	17.04	30.36	279	1462	349	0	82.0	
BTS 8784	210	331.5	103	8561	102	0.96	49.60	107	1284	105	17.51	25.90	157	1229	352	0	90.2	
BTS 8815	211	319.2	100	8511	101	1.06	46.18	99	1234	101	17.01	26.65	240	1467	335	0	80.5	
BTS 8826	245	321.1	100	8443	100	1.24	46.71	100	1228	101	17.27	26.43	295	1465	468	0	82.0	
BTS 8839	232	330.9	103	8970	107	0.95	49.44	106	1344	110	17.50	27.12	187	1323	310	0	89.1	
BTS 8844	205	323.6	101	8341	99	1.05	47.40	102	1224	100	17.22	25.77	246	1359	355	0	77.7	
BTS 8857	235	338.8	106	7853	93	0.94	51.64	111	1201	98	17.87	23.18	163	1344	308	0	82.0	
BTS 8864	224	327.9	102	8492	101	1.00	48.60	105	1262	103	17.39	25.88	178	1298	354	0	80.9	
BTS 8882	229	316.4	99	9386	112	1.08	45.38	98	1352	111	16.88	29.64	252	1439	351	0	77.4	
BTS 8891	226	329.1	103	8712	104	0.96	48.93	105	1296	106	17.39	26.61	181	1295	335	0	87.9	
Crystal 684RR	227	320.3	100	9872	117	1.05	46.47	100	1442	118	17.07	30.73	252	1396	340	0	90.2	
Crystal 792RR	240	326.3	102	9433	112	1.05	48.16	104	1396	114	17.35	28.91	201	1273	389	0	88.3	
Crystal 793RR	238	337.0	105	9903	118	0.92	51.14	110	1505	123	17.77	29.45	199	1251	308	0	86.3	
Crystal 796RR	231	325.4	102	9374	112	1.02	47.90	103	1381	113	17.27	29.00	204	1357	348	0	88.3	
Crystal 802RR	207	324.0	101	9058	108	1.04	47.52	102	1330	109	17.21	28.08	219	1258	382	0	76.6	
Crystal 803RR	244	328.2	102	9190	109	0.99	48.67	105	1369	112	17.39	27.96	197	1326	340	0	87.5	
Crystal 804RR	246	321.4	100	9496	113	1.07	46.78	101	1390	114	17.14	29.48	260	1378	362	0	87.9	
Crystal 807RR	215	317.7	99	8760	104	1.03	45.78	98	1265	104	16.89	27.69	319	1308	327	0	75.0	
Crystal 808RR	218	318.3	99	9608	114	1.05	45.94	99	1394	114	16.95	30.17	265	1339	349	0	91.4	
Crystal 809RR	214	329.0	103	8471	101	0.99	48.88	105	1261	103	17.44	25.79	226	1320	323	0	77.0	
Hilleshog HIL2230	221	309.3	97	8715	104	1.03	43.44	93	1222	100	16.46	28.40	304	1253	345	0	80.9	
Hilleshog HIL2231	208	306.2	96	8090	96	1.08	42.58	92	1129	92	16.37	26.43	299	1404	346	0	78.5	
Hilleshog HIL2232	203	323.4	101	8407	100	0.99	47.35	102	1231	101	17.17	25.93	234	1334	312	0	89.1	
Hilleshog HIL2233	209	318.5	99	8867	106	1.09	45.98	99	1277	105	16.99	28.05	262	1269	404	0	91.8	
Hilleshog HIL2234	217	313.1	98	8740	104	1.01	44.47	96	1250	102	16.66	27.85	261	1371	314	0	84.0	
Hilleshog HIL2235	247	307.0	96	8901	106	1.11	42.79	92	1247	102	16.44	28.97	309	1335	376	0	85.9	
Hilleshog HIL2236	213	323.1	101	8490	101	0.96	47.24	102	1246	102	17.09	26.32	262	1230	308	0	89.8	
Hilleshog HIL9920	223	326.6	102	8968	107	0.93	48.25	104	1327	109	17.26	27.42	228	1338				

2018 Performance of Varieties - ACSC Experimental RR Official Trial

Georgetown 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	130	294.5	100	7503	99	1.43	39.09	101	997	99	16.17	25.50	230	1971	503	0	88.0
BTS 8337	119	306.0	104	7648	100	1.26	42.39	110	1057	105	16.56	25.05	210	1819	416	0	88.0
BTS 8500	124	288.7	98	8624	113	1.37	37.42	97	1124	112	15.80	29.79	247	1897	464	0	92.5
BTS 8524	127	283.3	97	8518	112	1.36	35.87	93	1068	106	15.52	30.22	239	1972	447	0	88.3
BTS 8606	106	288.2	98	7864	103	1.35	37.29	96	1019	102	15.77	27.24	251	1858	462	0	87.5
BTS 8629	110	288.9	99	8375	110	1.30	37.50	97	1085	108	15.74	29.02	242	1788	443	0	82.3
Crystal 093RR	126	296.5	101	7618	100	1.36	39.66	103	1017	101	16.19	25.74	216	1890	473	0	87.5
Crystal 247RR	113	281.8	96	7120	93	1.37	35.44	92	903	90	15.45	25.09	276	2011	428	0	93.5
Crystal 355RR	109	295.1	101	7356	97	1.40	39.26	101	975	97	16.15	25.03	228	1912	493	0	95.6
Crystal 467RR	120	283.6	97	8162	107	1.34	35.98	93	1030	103	15.52	28.82	304	1971	402	0	93.2
Crystal 572RR	112	303.1	103	8187	107	1.35	41.56	107	1117	111	16.50	27.14	197	1910	465	0	88.1
Crystal 573RR	101	307.2	105	7922	104	1.33	42.73	110	1105	110	16.70	25.70	215	1825	467	0	94.8
Crystal 574RR	114	286.3	98	8518	112	1.38	36.75	95	1097	109	15.70	29.67	254	1920	465	0	87.5
Crystal 578RR	115	292.8	100	7882	103	1.31	38.61	100	1039	104	15.96	26.97	243	1898	423	0	91.4
Hilleshog HM4302RR	107	295.6	101	6927	91	1.24	39.41	102	929	93	16.03	23.27	242	1854	384	0	82.0
Hilleshog HM4448RR	125	293.7	100	7905	104	1.25	38.87	100	1044	104	15.92	26.89	222	1795	413	0	92.7
Hilleshog HM9528RR	117	289.3	99	7994	105	1.20	37.59	97	1040	104	15.66	27.62	244	1743	380	0	91.5
Hilleshog HIL9708	131	295.7	101	6914	91	1.25	39.42	102	926	92	16.03	23.24	263	1818	387	0	91.9
Maribo MA109	128	303.2	103	6806	89	1.26	41.57	107	935	93	16.43	22.47	236	1799	416	0	82.0
Maribo MA305	102	287.3	98	7007	92	1.21	37.02	96	903	90	15.57	24.36	230	1770	386	0	81.5
Maribo MA502	116	296.4	101	7807	103	1.35	39.63	102	1046	104	16.17	26.26	272	1862	454	0	83.9
Maribo MA504	122	284.0	97	7239	95	1.34	36.07	93	926	92	15.53	25.30	283	1891	431	0	89.4
SX Avalanche RR	129	301.9	103	7206	95	1.30	41.22	107	984	98	16.39	23.85	265	1905	405	0	89.6
SX Bronco RR(1863)	105	299.8	102	7535	99	1.19	40.61	105	1021	102	16.19	25.15	247	1754	369	0	90.1
SX Canyon RR	103	295.4	101	7754	102	1.34	39.36	102	1036	103	16.11	26.19	228	1920	441	0	87.2
SX Cruze RR	121	270.8	92	7863	103	1.39	32.31	84	943	94	14.93	28.96	255	1862	487	0	77.3
SX Marathon RR	111	300.9	103	7569	99	1.32	40.93	106	1031	103	16.37	25.06	209	1945	433	0	89.9
SV RR265	108	302.4	103	8022	105	1.31	41.35	107	1100	110	16.43	26.49	206	1900	434	20	88.8
SV RR266	118	299.0	102	7345	96	1.26	40.39	104	994	99	16.22	24.53	217	1856	402	0	76.3
SV RR268	132	300.7	103	8033	105	1.25	40.87	106	1093	109	16.29	26.75	208	1866	393	0	91.6
SV RR333	123	298.5	102	7425	97	1.31	40.24	104	1001	100	16.23	24.88	233	1880	427	0	83.1
SV RR351	104	301.1	103	8014	105	1.26	40.97	106	1091	109	16.30	26.63	230	1847	402	0	82.8
Crystal 101RR (Check)	133	280.2	96	7776	102	1.48	34.99	90	972	97	15.49	27.74	289	2000	511	0	86.5
BTS 8572 (Check)	134	302.6	103	7830	103	1.35	41.41	107	1071	107	16.49	25.91	221	1864	473	0	87.2
ACFILL #41	135	278.8	95	7552	99	1.25	34.59	89	939	94	15.19	27.11	238	1800	402	0	89.9
ACFILL #42	136	290.1	99	8237	108	1.39	37.84	98	1076	107	15.90	28.41	266	1903	472	0	87.5
<b>Experimental Trial (Comm status)</b>																	
BTS 8735	250	290.4	99	7706	101	1.36	37.92	98	1005	100	15.89	26.62	231	1744	510	0	92.6
BTS 8749	243	291.5	99	7948	104	1.35	38.25	99	1039	103	15.95	27.37	264	1826	471	0	89.6
BTS 8767	225	281.7	96	7601	100	1.32	35.49	92	957	95	15.42	26.96	297	1854	431	0	85.9
BTS 8784	210	303.7	104	8089	106	1.37	41.65	108	1107	110	16.57	26.75	216	1766	523	0	91.4
BTS 8815	211	296.7	101	8352	110	1.29	39.69	103	1112	111	16.14	28.30	248	1823	432	0	87.1
BTS 8826	245	290.2	99	7440	98	1.56	37.86	98	968	96	16.08	25.70	230	1896	636	0	77.5
BTS 8839	232	296.4	101	8134	107	1.27	39.60	102	1090	109	16.10	27.52	248	1644	462	0	89.2
BTS 8844	205	303.7	104	8070	106	1.28	41.61	108	1106	110	16.47	26.66	272	1754	431	0	87.7
BTS 8857	235	299.0	102	6245	82	1.32	40.31	104	841	84	16.28	20.88	226	1963	422	0	82.2
BTS 8864	224	304.4	104	6976	92	1.41	41.83	108	959	96	16.63	22.87	198	1849	531	0	79.1
BTS 8882	229	281.7	96	8385	110	1.47	35.50	92	1055	105	15.55	29.80	300	1908	531	0	77.4
BTS 8891	226	304.7	104	7929	104	1.45	41.94	108	1085	108	16.69	26.15	257	1846	547	0	85.1
Crystal 684RR	227	286.6	98	8745	115	1.33	36.85	95	1124	112	15.66	30.62	252	1872	446	0	92.9
Crystal 792RR	240	299.5	102	8704	114	1.29	40.48	105	1180	118	16.28	29.07	201	1746	464	0	88.2
Crystal 793RR	238	297.6	102	8010	105	1.28	39.94	103	1072	107	16.18	27.01	241	1776	441	0	94.1
Crystal 796RR	231	290.4	99	8766	115	1.32	37.92	98	1142	114	15.85	30.28	246	1816	456	0	94.9
Crystal 802RR	207	301.2	103	8331	109	1.28	40.95	106	1125	112	16.35	27.85	206	1660	478	0	89.7
Crystal 803RR	244	300.3	102	8488	111	1.30	40.70	105	1150	115	16.33	28.35	232	1809	452	0	92.0
Crystal 804RR	246	282.5	96	8838	116	1.41	35.71	92	1116	111	15.53	31.41	264	1794	525	0	87.5
Crystal 807RR	215	290.7	99	8550	112	1.31	38.01	98	1115	111	15.86	29.43	276	1834	432	0	80.3
Crystal 808RR	218	292.3	100	8467	111	1.40	38.46	99	1109	110	16.02	29.03	279	1856	501	0	85.6
Crystal 809RR	214	293.9	100	7924	104	1.31	38.90	101	1049	105	16.01	27.02	280	1744	456	0	89.4
Hilleshog HIL2230	221	297.9	102	7794	102	1.28	40.00	103	1048	104	16.18	26.11	230	1734	447	0	90.4
Hilleshog HIL2231	208	289.2	99	6904	91	1.38	37.59	97	894	89	15.85	23.98	317	1887	461	0	84.9
Hilleshog HIL2232	203	292.3	100	6949	91	1.29	38.45	99	915	91	15.92	23.78	270	1838	413	0	90.8
Hilleshog HIL2233	209	303.4	104	7801	102	1.25	41.55	107	1069	107	16.44	25.70	244	1736	424	0	87.2
Hilleshog HIL2234	217	291.6	100	7083	93	1.31	38.28	99	930	93	15.90	24.32	269	1892	415	0	86.4
Hilleshog HIL2235	247	285.1	97	7121	93	1.47	36.46	94	911	91	15.73	25.05	314	1919	523	0	92.0
Hilleshog HIL2236	213	302.4	103	7164	94	1.22	41.26	107	975	97	16.35	23.84	233	1721	408	0	92.2
Hilleshog HIL9920	223	304.4	104	7565	99	1.24	41.85	108	1044	104	16.47	24.78	252	1836	379	0	89.0
Maribo MA717	248	303.5	104	7055	93	1											

Table 12. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Ada MN										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch									
<b>Commercial Trial</b>																			
BTS 80RR52	130	335.3	99	11043	95	0.83	50.78	98	1673	94	17.60	32.90	144	1384	226	0	92.5		
BTS 8337	119	348.4	103	11760	101	0.75	54.54	105	1842	103	18.18	33.72	133	1342	181	0	88.3		
BTS 8500	124	331.6	98	13424	115	0.79	49.73	96	2013	113	17.37	40.48	156	1372	191	0	92.1		
BTS 8524	127	322.3	95	12793	110	0.86	47.06	91	1868	105	16.98	39.73	189	1449	216	0	90.6		
BTS 8606	106	336.5	99	12315	106	0.75	51.12	99	1871	105	17.58	36.64	152	1298	182	0	91.7		
BTS 8629	110	336.2	99	13873	119	0.72	51.05	99	2106	118	17.53	41.26	162	1228	175	0	81.8		
Crystal 093RR	126	347.1	102	12308	106	0.82	54.15	105	1921	108	18.18	35.43	126	1346	234	0	93.4		
Crystal 247RR	113	334.1	99	12679	109	0.76	50.43	97	1912	107	17.46	37.98	187	1317	168	0	94.3		
Crystal 355RR	109	340.4	100	10325	89	0.84	52.23	101	1585	89	17.86	30.33	169	1369	225	0	94.3		
Crystal 467RR	120	330.5	98	12554	108	0.75	49.40	95	1878	105	17.28	37.94	162	1362	162	0	94.3		
Crystal 572RR	112	346.5	102	12725	109	0.77	53.98	104	1983	111	18.09	36.71	133	1284	206	0	95.7		
Crystal 573RR	101	343.2	101	13182	113	0.74	53.05	102	2037	114	17.90	38.40	137	1302	179	0	96.0		
Crystal 574RR	114	332.4	98	13591	117	0.80	49.96	96	2045	115	17.42	40.83	153	1346	205	0	92.3		
Crystal 578RR	115	339.1	100	12642	108	0.75	51.87	100	1934	108	17.71	37.35	148	1313	180	0	96.6		
Hilleshog HM4302RR	107	329.4	97	11457	98	0.75	49.10	95	1708	96	17.23	34.83	182	1350	159	0	89.8		
Hilleshog HM4448RR	125	327.7	97	12976	111	0.73	48.80	94	1925	108	17.12	39.56	166	1258	175	0	94.4		
Hilleshog HM9528RR	117	324.9	96	12581	108	0.71	47.80	92	1847	104	16.96	38.73	161	1220	168	0	87.1		
Hilleshog HIL9708	131	330.5	98	12545	106	0.76	49.42	95	1875	105	17.28	38.00	199	1288	172	0	90.4		
Maribo MA109	128	342.5	101	11240	96	0.71	52.86	102	1734	97	17.84	32.79	138	1245	173	0	84.6		
Maribo MA305	102	323.2	95	12469	107	0.69	47.32	91	1826	102	16.85	38.60	157	1191	164	0	86.3		
Maribo MA502	116	324.7	96	12003	103	0.82	47.73	92	1767	99	17.06	36.90	233	1373	186	0	93.8		
Maribo MA504	122	325.7	96	13726	118	0.74	48.03	93	2024	114	17.02	42.14	182	1284	164	0	91.2		
SX Avalanche RR	129	336.9	99	11359	97	0.74	51.23	99	1724	97	17.58	33.78	157	1269	176	0	89.2		
SX Bronco RR(1863)	105	333.5	98	12273	105	0.73	50.25	97	1851	104	17.40	36.76	179	1256	164	0	83.8		
SX Canyon RR	103	325.7	96	12699	109	0.71	48.03	93	1873	105	17.00	38.98	150	1229	168	0	88.1		
SX Cruze RR	121	310.4	92	12287	105	0.78	43.63	84	1728	97	16.30	39.56	213	1238	199	0	73.2		
SX Marathon RR	111	334.0	99	12948	111	0.67	50.40	97	1954	110	17.37	38.81	112	1241	152	0	92.7		
SV RR265	108	327.0	97	12504	107	0.68	48.41	93	1850	104	17.02	38.24	146	1193	155	0	91.6		
SV RR266	118	331.7	98	12569	108	0.71	49.75	96	1887	106	17.29	37.87	153	1258	160	0	78.3		
SV RR268	132	337.8	100	12703	109	0.74	51.50	99	1937	109	17.63	37.63	148	1310	174	0	87.9		
SV RR333	123	336.9	99	12383	106	0.73	51.23	99	1883	106	17.57	36.73	150	1263	177	0	80.0		
SV RR351	104	328.1	97	12583	108	0.72	48.70	94	1868	105	17.12	38.35	140	1259	174	0	84.4		
Crystal 101RR (Check)	133	332.0	98	12262	105	0.86	49.83	96	1841	103	17.46	36.96	210	1460	201	0	93.5		
BTS 8572 (Check)	134	347.7	103	13002	112	0.76	54.33	105	2032	114	18.15	37.36	126	1283	208	0	90.3		
ACFILL #41	135	305.0	90	10736	92	0.78	42.09	81	1482	83	16.03	35.22	223	1289	183	0	91.2		
ACFILL #42	136	307.1	91	10941	94	0.88	42.70	82	1521	85	16.24	35.66	244	1404	223	0	89.4		
<b>Experimental Trial (Comm status)</b>																			
BTS 8735	250	340.4	100	12324	106	0.73	52.24	101	1889	106	17.76	36.11	144	1173	211	0	93.7		
BTS 8749	243	338.8	100	11421	98	0.76	51.78	100	1744	98	17.69	34.11	171	1355	165	0	95.3		
BTS 8767	225	336.0	99	11468	98	0.76	50.99	98	1737	97	17.56	34.54	164	1370	159	0	93.8		
BTS 8784	210	347.7	103	11684	100	0.76	54.27	105	1840	103	18.15	33.53	135	1232	213	0	93.8		
BTS 8815	211	340.4	100	11707	100	0.77	52.22	101	1802	101	17.78	34.52	169	1354	169	0	88.3		
BTS 8826	245	347.1	102	11066	95	0.81	54.11	104	1743	98	18.16	31.65	141	1353	219	0	89.9		
BTS 8839	232	342.0	101	11392	98	0.70	52.67	102	1746	98	17.80	33.56	135	1173	182	0	94.9		
BTS 8844	205	349.1	103	11106	95	0.74	54.66	106	1751	98	18.19	31.77	152	1304	171	0	94.9		
BTS 8857	235	331.1	98	10315	88	0.79	49.62	96	1543	87	17.34	31.27	150	1314	205	0	89.4		
BTS 8864	224	349.2	103	12564	108	0.77	54.69	106	1984	111	18.22	35.44	132	1278	205	0	81.7		
BTS 8882	229	334.1	99	11894	102	0.80	50.46	97	1798	101	17.50	35.85	162	1362	194	0	83.6		
BTS 8891	226	340.7	101	10620	91	0.79	52.30	101	1614	91	17.82	31.72	163	1265	215	0	94.1		
Crystal 684RR	227	337.3	100	13263	114	0.82	51.34	99	2022	113	17.67	38.87	191	1368	205	0	94.9		
Crystal 792RR	240	345.1	102	12048	103	0.74	53.54	103	1878	105	18.00	34.94	137	1278	186	0	94.9		
Crystal 793RR	238	346.0	102	12784	110	0.71	53.79	104	1957	110	18.02	37.28	139	1244	173	0	98.4		
Crystal 796RR	231	332.4	98	12216	105	0.81	49.97	96	1826	102	17.43	36.94	148	1360	210	0	92.6		
Crystal 802RR	207	345.2	102	12167	104	0.73	53.56	103	1876	105	18.01	35.35	142	1225	198	0	90.6		
Crystal 803RR	244	345.9	102	12797	110	0.72	53.77	104	2004	112	18.02	36.77	137	1236	182	0	98.9		
Crystal 804RR	246	334.4	99	13055	112	0.77	50.55	98	1964	110	17.50	38.83	162	1343	175	0	90.3		
Crystal 807RR	215	334.0	99	12203	105	0.79	50.45	97	1868	105	17.50	35.74	214	1348	176	0	78.1		
Crystal 808RR	218	337.9	100	13199	113	0.79	51.54	100	1993	112	17.67	39.02	167	1347	185	0	91.0		
Crystal 809RR	214	340.5	100	11421	98	0.76	52.26	101	1772	99	17.80	33.06	162	1351	171	0	98.1		
Hilleshog HIL2230	221	327.7	97	11070	95	0.73	48.65	94	1648	92	17.13	34.05	174	1259	175	0	91.0		
Hilleshog HIL2231	208	310.8	92	10043	86	0.76	43.90	85	1416	79	16.28	32.26	239	1270	161	0	86.3		
Hilleshog HIL2232	203	325.2	96	10678	92	0.69	47.96	93	1561	88	16.95	32.81	157	1251	145	0	90.2		
Hilleshog HIL2233	209	341.8	101	12280	105	0.70	52.60	102	1891	106	17.79	36.03	145	1246	160	0	91.8		
Hilleshog HIL2234	217	325.2	96	11027	95	0.76	47.96	93	1632	92	17.02	33.87	216	1329	152	0	93.4		
Hilleshog HIL2235	247	329.2	97	11872	102	0.84	49.07	95	1758	99	17.28	36.11	207	1396	201	0	92.5		
Hilleshog HIL2236	213	328.3	97	10966	94	0.70	48.83	94	1642	92	17.12	33.15	168	1194	170	0	95.7		
Hilleshog HIL9920	223	337.9	100	11837	102	0.74	51.55	100	1793	101	17.65	35.16	174	1304					

Table 13. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Hillsboro ND										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch									
<b>Commercial Trial</b>																			
BTS 80RR52	130	353.1	102	10934	101	1.05	55.89	104	1722	102	18.70	31.20	158	1680	309	0	93.0		
BTS 8337	119	352.1	102	10686	98	0.99	55.61	103	1691	101	18.59	30.20	152	1662	268	0	88.8		
BTS 8500	124	333.0	96	11700	108	1.02	50.13	93	1764	105	17.68	35.05	170	1669	286	0	95.9		
BTS 8524	127	336.8	97	11699	108	1.01	51.20	95	1770	105	17.85	34.89	165	1699	275	0	86.2		
BTS 8606	106	348.1	101	11626	107	0.99	54.46	101	1820	108	18.40	33.40	163	1649	269	0	89.3		
BTS 8629	110	337.7	98	11660	107	0.96	51.47	96	1781	106	17.85	34.40	171	1571	266	0	77.9		
Crystal 093RR	126	358.1	104	10812	100	1.02	57.31	107	1729	103	18.93	30.35	141	1606	317	0	93.3		
Crystal 247RR	113	328.4	95	10397	96	1.02	48.81	91	1541	92	17.44	31.74	202	1708	264	0	91.7		
Crystal 355RR	109	347.8	101	10548	97	1.05	54.37	101	1647	98	18.44	30.25	149	1687	311	0	93.7		
Crystal 467RR	120	335.5	97	11134	103	1.00	50.82	94	1684	100	17.78	33.25	188	1673	265	0	94.0		
Crystal 572RR	112	348.2	101	11363	105	1.02	54.48	101	1781	106	18.42	32.55	137	1585	314	0	91.9		
Crystal 573RR	101	356.2	103	11046	102	1.01	56.77	106	1762	105	18.82	30.98	136	1643	292	0	94.0		
Crystal 574RR	114	339.5	98	11750	108	1.02	51.99	97	1802	107	18.00	34.57	145	1636	302	0	90.9		
Crystal 578RR	115	333.8	97	10771	99	1.00	50.35	94	1625	97	17.69	32.30	192	1661	263	0	92.7		
Hilleshog HM4302RR	107	341.7	99	10905	101	0.96	52.63	98	1673	99	18.04	31.93	168	1646	242	0	89.8		
Hilleshog HM4448RR	125	328.9	95	10712	99	1.02	48.94	91	1592	95	17.46	32.63	178	1618	297	0	89.8		
Hilleshog HM9528RR	117	336.0	97	10694	99	1.00	50.98	95	1623	96	17.80	31.85	173	1623	284	0	86.8		
Hilleshog HIL9708	131	341.6	99	11292	104	0.99	52.57	98	1743	104	18.07	33.01	162	1596	285	0	90.7		
Maribo MA109	128	350.3	101	9966	92	1.05	55.08	102	1565	93	18.56	28.49	191	1643	309	0	82.3		
Maribo MA305	102	319.4	92	10320	95	1.02	46.21	86	1495	89	16.99	32.24	185	1613	291	0	81.8		
Maribo MA502	116	330.6	96	10617	98	1.08	49.43	92	1590	95	17.61	32.11	210	1730	297	0	90.3		
Maribo MA504	122	338.0	98	11448	106	0.98	51.56	96	1749	104	17.89	33.86	171	1601	273	0	89.6		
SX Avalanche RR	129	337.7	98	10183	94	0.99	51.46	96	1553	92	17.87	30.21	193	1653	258	0	86.5		
SX Bronco RR(1863)	105	349.2	101	11194	103	0.93	54.75	102	1751	104	18.39	32.02	165	1611	235	0	80.0		
SX Canyon RR	103	335.7	97	10999	101	0.98	50.89	95	1664	99	17.76	32.78	160	1647	261	0	85.7		
SX Cruze RR	121	315.8	91	10885	100	1.08	45.20	84	1556	92	16.87	34.39	170	1700	322	0	67.7		
SX Marathon RR	111	345.9	100	11770	108	0.96	53.81	100	1827	109	18.25	34.08	147	1684	242	0	87.0		
SV RR265	108	338.7	98	11163	103	0.92	51.76	96	1705	101	17.86	32.99	134	1631	236	0	89.3		
SV RR266	118	343.6	99	11202	103	0.93	53.16	99	1728	103	18.10	32.74	138	1607	244	0	78.1		
SV RR268	132	349.6	101	11086	102	0.98	54.88	102	1738	103	18.46	31.81	147	1697	258	0	88.5		
SV RR333	123	347.1	100	10693	99	1.01	54.16	101	1667	99	18.36	30.81	177	1652	278	0	81.7		
SV RR351	104	333.8	97	10438	96	0.94	50.35	94	1579	94	17.63	31.25	145	1606	248	0	85.7		
Crystal 101RR (Check)	133	341.9	99	11178	103	1.05	52.67	98	1717	102	18.15	32.87	201	1752	283	0	89.9		
BTS 8572 (Check)	134	340.5	98	10740	99	1.04	52.27	97	1643	98	18.06	31.65	163	1609	323	0	89.0		
ACFILL #41	135	311.4	90	9851	91	0.98	43.92	82	1391	83	16.56	31.67	183	1618	268	0	89.1		
ACFILL #42	136	339.1	98	10348	95	1.03	51.87	96	1582	94	17.99	30.56	171	1661	296	0	89.6		
<b>Experimental Trial (Comm status)</b>																			
BTS 8735	250	360.3	104	11434	105	0.96	57.93	108	1825	108	18.97	32.03	159	1530	283	0	95.0		
BTS 8749	243	341.3	99	10802	100	1.09	52.52	98	1667	99	18.15	31.60	156	1800	303	0	85.4		
BTS 8767	225	346.5	100	11420	105	1.00	54.00	100	1769	105	18.33	32.96	168	1649	282	0	94.0		
BTS 8784	210	360.5	104	10856	100	0.95	57.96	108	1737	103	18.96	30.24	165	1447	296	0	87.8		
BTS 8815	211	351.7	102	11182	103	1.01	55.49	103	1756	104	18.59	32.01	192	1649	269	0	90.7		
BTS 8826	245	354.7	103	9905	91	1.08	56.33	105	1566	93	18.81	28.08	147	1674	333	0	86.4		
BTS 8839	232	361.0	104	11003	101	0.99	58.11	108	1759	105	19.03	30.62	148	1575	290	0	96.8		
BTS 8844	205	358.7	104	11086	102	0.98	57.45	107	1774	105	18.91	31.10	152	1628	269	0	92.4		
BTS 8857	235	355.4	103	10394	96	0.98	56.53	105	1641	98	18.75	29.64	140	1552	295	0	83.3		
BTS 8864	224	358.3	104	10401	96	1.02	57.33	107	1659	99	18.92	29.24	145	1618	311	0	80.8		
BTS 8882	229	360.4	104	12040	111	1.06	57.96	108	1918	114	19.07	33.77	167	1704	303	0	80.3		
BTS 8891	226	350.3	101	10276	95	0.98	55.09	102	1614	96	18.50	29.59	151	1574	292	0	91.0		
Crystal 684RR	227	340.6	98	12011	111	1.08	52.31	97	1837	109	18.09	35.62	195	1723	303	0	92.2		
Crystal 792RR	240	350.8	101	11414	105	1.03	55.22	103	1787	106	18.57	32.64	164	1603	315	0	91.0		
Crystal 793RR	238	360.1	104	12264	113	0.98	57.87	108	1967	117	18.98	34.10	139	1539	298	0	89.5		
Crystal 796RR	231	348.7	101	12269	113	1.01	54.61	102	1925	114	18.45	35.37	149	1650	287	0	95.5		
Crystal 802RR	207	353.6	102	11073	102	1.00	56.02	104	1750	104	18.69	31.49	147	1541	313	0	84.4		
Crystal 803RR	244	349.8	101	11261	104	1.00	54.95	102	1768	105	18.50	32.25	191	1555	297	0	94.2		
Crystal 804RR	246	342.4	99	11888	110	1.11	52.81	98	1823	108	18.21	35.14	170	1684	349	0	83.3		
Crystal 807RR	215	354.7	103	11800	109	0.91	56.32	105	1871	111	18.65	33.30	151	1592	226	0	75.3		
Crystal 808RR	218	351.5	102	11575	107	0.98	55.43	103	1818	108	18.56	33.18	159	1612	272	0	91.6		
Crystal 809RR	214	350.3	101	10843	100	0.96	55.10	102	1694	101	18.48	30.87	146	1642	251	0	93.3		
Hilleshog HIL2230	221	334.9	97	10891	100	1.01	50.67	94	1636	97	17.75	32.74	197	1630	278	0	89.5		
Hilleshog HIL2231	208	334.1	97	10095	93	1.07	50.44	94	1527	91	17.76	30.43	195	1742	293	0	86.6		
Hilleshog HIL2232	203	347.8	101	11193	103	1.08	54.35	101	1747	104	18.46	32.28	185	1687	313	0	88.7		
Hilleshog HIL2233	209	346.6	100	11746	108	0.98	54.02	100	1824	108	18.31	33.83	150	1522	303	0	94.8		
Hilleshog HIL2234	217	343.4	99	10908	101	0.98	53.10	99	1679	100	18.15	31.96	166	1653	259	0	85.4		
Hilleshog HIL2235	247	335.0	97	10055	93	1.12	50.70	94	1515	90	17.86	30.18	185	1700	354	0	88.6		
Hilleshog HIL2236	213	345.9	100	10853	100	1.00	53.83	100	1681	100	18.29	31.89	164	1624	288	0	92.9		
Hilleshog HIL9920	223	359.6	104	11779	109	0.95	57.71	107	1876	112	18.92	32.94	161</						

Table 14. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Climax MN										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch								
<b>Commercial Trial</b>																		
BTS 80RR52	130	307.7	102	9820	100	1.00	42.87	105	1367	103	16.40	32.18	126	1651	310	0	93.9	
BTS 8337	119	322.1	107	9778	100	1.00	46.99	115	1419	107	17.11	30.52	136	1671	287	0	88.0	
BTS 8500	124	301.9	100	10955	112	1.03	41.22	101	1485	111	16.11	36.40	138	1593	314	0	96.5	
BTS 8524	127	284.1	94	10203	104	1.08	36.12	88	1292	97	15.28	35.98	172	1741	308	0	89.8	
BTS 8606	106	297.8	99	10007	102	1.04	40.03	98	1345	101	15.92	33.55	161	1588	319	0	87.4	
BTS 8629	110	298.0	99	11222	114	1.06	40.09	98	1504	113	15.97	37.80	162	1564	353	0	82.3	
Crystal 093RR	126	304.9	101	10719	109	1.10	42.08	103	1481	111	16.34	34.94	131	1610	375	0	94.8	
Crystal 247RR	113	289.2	96	9450	96	1.04	37.56	92	1224	92	15.50	32.82	181	1625	309	0	94.5	
Crystal 355RR	109	306.0	102	9283	95	1.02	42.38	103	1284	96	16.33	30.64	137	1645	322	0	95.1	
Crystal 467RR	120	290.7	97	9995	102	1.06	38.00	93	1306	98	15.60	34.34	208	1685	297	0	95.2	
Crystal 572RR	112	310.3	103	10239	104	1.00	43.63	106	1447	109	16.51	32.58	126	1456	315	0	93.2	
Crystal 573RR	101	303.4	101	10491	107	1.09	41.63	102	1442	108	16.26	34.62	147	1710	337	0	96.8	
Crystal 574RR	114	295.7	98	11004	112	0.99	39.44	96	1458	109	15.77	37.44	151	1635	290	0	90.6	
Crystal 578RR	115	298.9	99	9425	96	0.99	40.34	98	1264	95	15.93	31.60	160	1622	280	0	93.3	
Hilleshog HM4302RR	107	302.0	100	9093	93	0.93	41.25	101	1241	93	16.04	30.25	182	1478	260	0	90.6	
Hilleshog HM4448RR	125	306.4	102	10522	107	0.98	42.50	104	1458	109	16.28	34.27	142	1575	285	0	90.0	
Hilleshog HM9528RR	117	297.2	99	9607	98	0.93	39.88	97	1287	97	15.78	32.32	155	1445	279	0	87.2	
Hilleshog HIL9708	131	295.4	98	9614	98	0.95	39.36	96	1275	96	15.71	32.52	169	1562	251	0	92.7	
Maribo MA109	128	308.5	102	8338	85	0.94	43.11	105	1162	87	16.36	27.06	185	1455	268	0	86.1	
Maribo MA305	102	294.6	98	10007	102	0.96	39.13	95	1327	100	15.69	33.99	147	1472	293	0	92.7	
Maribo MA502	116	299.9	100	9758	100	1.03	40.64	99	1326	100	16.02	32.48	165	1552	328	0	88.9	
Maribo MA504	122	294.6	98	10265	105	0.98	39.11	95	1358	102	15.70	34.85	155	1506	303	0	94.4	
SX Avalanche RR	129	310.8	103	9412	96	0.87	43.75	107	1317	99	16.41	30.52	147	1404	249	0	85.7	
SX Bronco RR (1863)	105	312.1	104	10163	104	0.89	44.14	108	1434	108	16.50	32.58	143	1436	273	0	87.6	
SX Canyon RR	103	300.6	100	10027	102	0.96	40.83	100	1365	102	15.99	33.27	136	1536	286	0	88.5	
SX Cruze RR	121	278.1	92	9233	94	1.13	34.38	84	1138	85	15.03	33.20	181	1658	362	0	69.6	
SX Marathon RR	111	307.9	102	10223	104	0.94	42.94	105	1420	107	16.33	33.17	136	1552	263	0	92.8	
SV RR265	108	303.6	101	10228	104	1.01	41.69	102	1406	106	16.20	33.70	144	1715	282	0	92.8	
SV RR266	118	301.1	100	9964	102	1.02	41.00	100	1350	101	16.08	33.18	132	1685	301	0	75.8	
SV RR268	132	306.1	102	9968	102	0.99	42.40	103	1379	104	16.30	32.80	138	1627	293	0	87.4	
SV RR333	123	306.4	102	9710	99	0.95	42.50	104	1349	101	16.26	31.58	131	1606	248	0	84.1	
SV RR351	104	303.2	101	9590	98	1.02	41.59	101	1316	99	16.19	31.79	157	1608	307	0	86.4	
Crystal 101RR (Check)	133	284.0	94	10245	104	1.12	36.09	88	1302	98	15.33	36.24	208	1675	358	0	93.5	
BTS 8572 (Check)	134	306.9	102	9874	101	0.92	42.66	104	1375	103	16.27	32.17	126	1427	289	0	90.4	
ACFILL #41	135	281.4	93	8741	89	0.92	35.35	86	1100	83	14.99	31.09	154	1557	241	0	90.3	
ACFILL #42	136	300.3	100	9665	99	1.07	40.75	99	1317	99	16.09	32.16	152	1664	326	0	85.0	
<b>Experimental Trial (Comm status)</b>																		
BTS 8735	250	307.4	102	10356	106	0.89	42.71	104	1423	107	16.26	34.18	168	1313	288	0	92.9	
BTS 8749	243	301.9	100	9995	102	1.04	41.19	100	1359	102	16.13	33.46	157	1576	353	0	87.7	
BTS 8767	225	295.9	98	9864	101	0.97	39.55	96	1301	98	15.76	33.70	216	1663	238	0	89.7	
BTS 8784	210	313.4	104	9939	101	0.94	44.39	108	1395	105	16.61	31.86	121	1537	283	0	89.8	
BTS 8815	211	302.6	100	10023	102	1.00	41.42	101	1373	103	16.14	33.42	172	1581	305	0	94.1	
BTS 8826	245	300.3	100	9066	92	1.17	40.76	99	1223	92	16.18	30.65	152	1730	414	0	90.1	
BTS 8839	232	300.6	100	10258	105	0.87	40.85	100	1386	104	15.91	34.57	132	1319	285	0	95.3	
BTS 8844	205	308.5	102	9517	97	0.96	43.05	105	1326	100	16.40	30.98	169	1516	292	0	91.0	
BTS 8857	235	297.9	99	8432	86	0.91	40.10	98	1130	85	15.80	28.54	144	1438	284	0	93.6	
BTS 8864	224	308.8	103	8738	89	0.99	43.13	105	1216	91	16.45	28.45	121	1489	340	0	79.4	
BTS 8882	229	293.1	97	10266	105	1.02	38.77	95	1349	101	15.68	35.48	149	1637	322	0	83.3	
BTS 8891	226	312.7	104	9836	100	1.01	44.20	108	1371	103	16.64	31.78	151	1417	381	0	94.9	
Crystal 684RR	227	290.6	96	11298	115	1.06	38.07	93	1462	110	15.58	39.14	165	1592	340	0	95.5	
Crystal 792RR	240	312.9	104	10757	110	0.94	44.26	108	1493	112	16.57	34.84	117	1541	277	0	96.1	
Crystal 793RR	238	315.9	105	11112	113	0.86	45.09	110	1566	118	16.67	35.93	123	1370	267	0	93.7	
Crystal 796RR	231	297.6	99	10785	110	0.92	40.03	98	1456	109	15.82	36.40	148	1438	284	0	96.9	
Crystal 802RR	207	307.6	102	10630	108	0.92	42.78	104	1468	110	16.30	34.91	121	1350	311	0	90.5	
Crystal 803RR	244	310.2	103	10671	109	0.86	43.51	106	1491	112	16.39	34.92	113	1348	281	0	98.1	
Crystal 804RR	246	293.8	98	10791	110	1.04	38.99	95	1410	106	15.73	37.03	169	1402	389	0	90.1	
Crystal 807RR	215	296.2	98	9828	100	0.97	39.61	97	1292	97	15.76	33.49	201	1548	276	0	84.8	
Crystal 808RR	218	302.7	101	11024	112	1.09	41.43	101	1483	111	16.22	37.03	185	1521	377	0	94.1	
Crystal 809RR	214	303.9	101	9320	95	0.97	41.76	102	1270	95	16.16	30.78	169	1523	291	0	92.9	
Hilleshog HIL2230	221	307.7	102	10307	105	0.96	42.81	104	1431	107	16.36	33.68	155	1617	262	0	94.6	
Hilleshog HIL2231	208	297.0	99	9134	93	1.04	39.86	97	1208	91	15.89	31.12	204	1548	324	0	87.5	
Hilleshog HIL2232	203	304.7	101	9268	95	0.96	41.97	102	1271	95	16.22	30.58	159	1434	322	32	93.3	
Hilleshog HIL2233	209	307.7	102	10560	108	0.93	42.81	104	1480	111	16.34	34.35	144	1456	289	0	96.1	
Hilleshog HIL2234	217	301.3	100	9264	94	0.93	41.04	100	1255	94	16.01	30.91	166	1548	259	0	90.1	
Hilleshog HIL2235	247	292.5	97	10011	102	1.15	38.80	94	1316	99	15.79	34.58	181	1720	387	0	94.5	
Hilleshog HIL2236	213	305.3	101	9894	101	0.83	42.14	103	1358	102	16.11	32.68	132	1259	262	0	94.8	
Hilleshog HIL9920	223	317.1	105	10147	103	0.91	45.39	111	1447	109	16.77	32.16	131	1521	2			

Table 15. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

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	130	313.9	100	11695	100	1.21	44.66	101	1660	100	16.91	37.33	311	1904	322	0	70.4
BTS 8337	119	322.3	103	11784	101	1.20	47.05	106	1717	104	17.33	36.56	280	1795	354	0	56.5
BTS 8500	124	305.4	98	12914	110	1.27	42.21	95	1783	108	16.54	42.31	327	1864	368	0	63.1
BTS 8524	127	300.9	96	12251	105	1.24	40.93	92	1670	101	16.28	40.63	364	1917	315	0	57.7
BTS 8606	106	319.6	102	12640	108	1.13	46.27	104	1828	110	17.10	39.69	271	1852	287	0	61.6
BTS 8629	110	302.6	97	12563	107	1.22	41.40	93	1716	103	16.34	41.66	333	1702	373	0	53.0
Crystal 093RR	126	320.9	103	11595	99	1.21	46.67	105	1686	102	17.25	36.13	277	1806	361	0	70.0
Crystal 247RR	113	316.0	101	12596	108	1.09	45.24	102	1798	108	16.88	40.06	299	1815	252	0	60.3
Crystal 355RR	109	314.9	101	11452	98	1.28	44.95	101	1629	98	17.03	36.48	331	1823	391	0	67.2
Crystal 467RR	120	308.6	99	12528	107	1.10	43.13	97	1749	105	16.54	40.57	331	1853	239	0	66.2
Crystal 572RR	112	326.8	104	12777	109	1.18	48.35	109	1889	114	17.51	39.12	238	1729	363	0	63.7
Crystal 573RR	101	318.3	102	12181	104	1.23	45.92	104	1756	106	17.15	38.17	311	1758	364	0	68.0
Crystal 574RR	114	302.6	97	12447	106	1.28	41.42	93	1700	103	16.41	41.17	347	1854	368	0	56.0
Crystal 578RR	115	315.0	101	12279	105	1.26	44.97	101	1753	106	17.00	39.02	293	1914	361	0	66.7
Hilleshög HM4302RR	107	305.3	98	11144	95	1.16	42.19	95	1539	93	16.43	36.58	396	1860	267	0	61.4
Hilleshög HM4448RR	125	318.1	102	12807	109	1.13	45.85	103	1841	111	17.02	40.42	283	1707	314	0	64.7
Hilleshög HM9528RR	117	324.4	104	12408	106	1.08	47.67	107	1824	110	17.30	38.19	263	1692	290	0	60.2
Hilleshög HIL9708	131	317.4	101	12013	103	1.12	45.67	103	1728	104	17.00	37.79	301	1739	300	0	63.7
Maribo MA109	128	323.0	103	11093	95	1.20	47.25	107	1619	98	17.35	34.38	343	1740	342	0	52.7
Maribo MA305	102	306.0	98	12070	103	1.09	42.38	96	1672	101	16.40	39.39	310	1672	290	0	56.7
Maribo MA502	116	298.9	96	11248	96	1.35	40.34	91	1517	91	16.30	37.62	421	1906	383	0	66.5
Maribo MA504	122	313.8	100	13052	111	1.11	44.62	101	1856	112	16.81	41.60	287	1816	276	0	61.4
SX Avalanche RR	129	322.7	103	11705	100	1.09	47.16	106	1710	103	17.22	36.28	268	1812	262	0	60.8
SX Bronco RR (1863)	105	310.3	99	11388	97	1.27	43.61	98	1606	97	16.78	36.69	313	1871	378	0	50.9
SX Canyon RR	103	318.2	102	11868	101	1.18	45.87	103	1708	103	17.08	37.37	308	1787	323	0	64.3
SX Cruze RR	121	294.4	94	12095	103	1.16	39.06	88	1605	97	15.89	41.00	323	1806	300	0	50.8
SX Marathon RR	111	320.0	102	13050	111	1.09	46.40	105	1894	114	17.10	40.67	258	1781	275	0	60.2
SV RR265	108	314.5	101	12220	104	1.11	44.82	101	1742	105	16.83	38.87	285	1799	276	0	68.8
SV RR266	118	309.9	99	11659	100	1.19	43.50	98	1630	98	16.68	37.78	293	1763	343	0	55.3
SV RR268	132	312.7	100	11892	102	1.24	44.30	100	1681	101	16.88	38.11	337	1763	370	0	60.5
SV RR333	123	319.5	102	11807	101	1.16	46.27	104	1708	103	17.13	37.01	319	1750	314	0	57.7
SV RR351	104	327.9	105	12459	106	1.05	48.66	110	1846	111	17.44	38.10	215	1810	253	0	56.6
Crystal 101RR (Check)	133	298.9	96	11151	95	1.30	40.35	91	1505	91	16.24	37.35	416	1924	344	0	60.1
BTS 8572 (Check)	134	323.8	103	12547	107	1.18	47.49	107	1839	111	17.37	38.83	216	1756	375	0	58.3
ACFILL #41	135	293.1	94	10951	94	1.09	38.69	87	1438	87	15.74	37.57	324	1717	272	0	58.0
ACFILL #42	136	295.9	95	11163	95	1.42	39.51	89	1483	89	16.23	37.79	468	1877	432	0	64.1
<b>Experimental Trial (Comm status)</b>																	
BTS 8735	250	308.5	99	11878	101	1.16	43.15	97	1649	99	16.58	38.80	320	1636	349	0	65.0
BTS 8749	243	327.9	105	12264	105	1.16	48.45	109	1806	109	17.56	37.71	235	1812	334	0	69.4
BTS 8767	225	312.8	100	12128	104	1.06	44.33	100	1706	103	16.72	38.92	239	1813	256	0	67.1
BTS 8784	210	331.8	106	12223	104	1.08	49.52	112	1819	110	17.69	36.82	192	1616	348	0	66.1
BTS 8815	211	311.9	100	11906	102	1.12	44.10	99	1684	102	16.73	38.11	293	1856	274	0	59.6
BTS 8826	245	320.3	102	11280	96	1.30	46.38	105	1631	98	17.31	35.20	292	1854	419	0	57.1
BTS 8839	232	321.3	103	12323	105	1.06	46.67	105	1787	108	17.15	38.44	272	1650	288	0	70.4
BTS 8844	205	311.9	100	11583	99	1.24	44.09	99	1635	99	16.83	36.90	353	1798	362	0	62.9
BTS 8857	235	318.8	102	10768	92	1.08	45.98	104	1551	94	17.04	33.76	232	1696	306	0	54.6
BTS 8864	224	323.7	103	10941	93	1.11	47.31	107	1598	96	17.32	33.89	207	1719	337	0	55.3
BTS 8882	229	303.7	97	12207	104	1.20	41.86	94	1679	101	16.39	40.20	312	1896	322	0	56.9
BTS 8891	226	332.4	106	12052	103	1.10	49.69	112	1800	109	17.75	36.16	221	1747	316	0	64.5
Crystal 684RR	227	305.8	98	12925	110	1.19	42.42	96	1785	108	16.48	42.34	304	1904	307	0	64.2
Crystal 792RR	240	318.1	102	11893	102	1.18	45.79	103	1707	103	17.09	37.45	288	1704	353	0	66.5
Crystal 793RR	238	332.8	106	13374	114	1.03	49.80	112	1995	120	17.70	40.14	211	1641	293	0	62.5
Crystal 796RR	231	316.5	101	12770	109	1.09	45.34	102	1829	110	16.93	40.59	253	1677	280	0	64.4
Crystal 802RR	207	326.3	104	12003	102	1.03	48.00	108	1757	106	17.36	36.89	221	1608	288	0	61.0
Crystal 803RR	244	319.5	102	12395	106	1.18	46.17	104	1792	108	17.16	38.79	295	1797	331	0	67.3
Crystal 804RR	246	309.7	99	12721	109	1.23	43.50	98	1772	107	16.72	41.17	348	1869	338	0	58.7
Crystal 807RR	215	322.4	103	12120	103	1.05	46.95	106	1756	106	17.19	37.75	257	1848	237	0	57.4
Crystal 808RR	218	324.9	104	12683	108	1.13	47.65	107	1860	112	17.40	39.07	281	1816	298	0	66.5
Crystal 809RR	214	306.5	98	11547	99	1.27	42.62	96	1606	97	16.59	37.57	380	1879	348	0	59.6
Hilleshög HIL2230	221	316.9	101	11526	98	1.14	45.46	102	1647	99	17.00	36.52	258	1717	352	0	60.4
Hilleshög HIL2231	208	296.3	95	10581	90	1.24	39.84	90	1422	86	16.04	35.65	382	1940	311	0	55.1
Hilleshög HIL2232	203	314.6	101	11298	96	1.23	44.83	101	1609	97	16.96	35.89	329	1809	356	0	63.6
Hilleshög HIL2233	209	331.3	106	11767	100	1.03	49.38	111	1749	105	17.62	35.58	202	1673	280	0	61.2
Hilleshög HIL2234	217	302.8	97	11190	96	1.27	41.59	94	1537	93	16.40	36.92	438	1820	345	0	66.7
Hilleshög HIL2235	247	321.1	103	11896	102	1.16	46.61	105	1725	104	17.22	37.14	271	1865	301	0	63.6
Hilleshög HIL2236	213	313.0	100	11234	96	1.18	44.41	100	1598	96	16.83	36.00	307	1680	355	0	69.3
Hilleshög HIL9920	223	317.0	101	11926	102	1.11	45.50	103	1705	103	16.97	37.7					

Table 16. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Scandia MN										Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %	
		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 %							
<b>Commercial Trial</b>																		
BTS 80RR52	130	345.6	100	10792	97	0.97	53.74	99	1678	96	18.27	31.19	134	1553	292	0	86.6	
BTS 8337	119	356.1	103	11107	99	0.92	56.74	105	1767	101	18.74	31.22	138	1536	253	0	81.8	
BTS 8500	124	343.9	99	11930	107	0.93	53.23	98	1843	106	18.12	34.73	159	1517	259	0	93.2	
BTS 8524	127	332.3	96	11857	106	0.95	49.91	92	1780	102	17.56	35.73	160	1557	266	0	86.8	
BTS 8606	106	345.8	100	11992	107	0.85	53.78	99	1863	107	18.13	34.75	102	1439	240	0	86.7	
BTS 8629	110	341.2	98	12638	113	0.86	52.48	97	1944	112	17.91	37.05	148	1338	258	0	75.3	
Crystal 093RR	126	357.7	103	11864	106	0.93	57.20	106	1898	109	18.83	33.18	129	1479	282	0	88.5	
Crystal 247RR	113	346.1	100	12224	109	0.82	53.88	99	1901	109	18.12	35.38	136	1425	207	0	88.8	
Crystal 355RR	109	349.3	101	10784	97	1.00	54.79	101	1689	97	18.47	30.89	146	1572	300	0	92.1	
Crystal 467RR	120	338.5	97	11981	107	0.87	51.71	95	1831	105	17.79	35.44	166	1539	206	0	89.1	
Crystal 572RR	112	352.9	102	11758	105	0.92	55.81	103	1864	107	18.57	33.25	120	1502	269	0	88.1	
Crystal 573RR	101	348.7	100	11680	105	0.95	54.63	101	1825	105	18.38	33.59	148	1500	281	0	90.5	
Crystal 574RR	114	337.6	97	12289	110	0.93	51.44	95	1873	108	17.80	36.41	159	1551	250	0	84.5	
Crystal 578RR	115	338.0	97	11799	106	0.90	51.55	95	1799	103	17.80	34.92	149	1512	236	0	88.7	
Hilleshog HM4302RR	107	343.1	99	11241	101	0.89	53.01	98	1733	99	18.05	32.83	155	1542	222	0	87.1	
Hilleshog HM4448RR	125	346.9	100	12555	112	0.89	54.12	100	1959	112	18.23	36.21	145	1438	254	0	89.6	
Hilleshog HM9528RR	117	337.2	97	10819	97	0.87	51.33	95	1640	94	17.73	32.26	170	1441	232	0	76.6	
Hilleshog HIL9708	131	347.7	100	11945	107	0.85	54.32	100	1866	107	18.22	34.38	147	1449	219	0	87.9	
Maribo MA109	128	355.3	102	10619	95	0.86	56.51	104	1690	97	18.63	29.85	137	1449	236	0	78.1	
Maribo MA305	102	336.9	97	11604	104	0.83	51.24	95	1763	101	17.68	34.47	140	1387	225	0	77.2	
Maribo MA502	116	342.6	99	11296	101	0.88	52.86	98	1744	100	18.01	32.96	165	1496	225	0	79.4	
Maribo MA504	122	353.3	102	13214	118	0.87	55.94	103	2091	120	18.53	37.41	144	1450	236	0	88.7	
SX Avalanche RR	129	349.7	101	10920	98	0.90	54.92	101	1711	98	18.38	31.34	150	1469	250	0	85.5	
SX Bronco RR(1863)	105	353.5	102	11381	102	0.85	56.01	103	1801	103	18.53	32.22	134	1491	214	0	77.6	
SX Canyon RR	103	350.5	101	11130	100	0.86	55.13	102	1748	100	18.38	31.86	120	1476	232	0	81.2	
SX Cruze RR	121	322.0	93	10970	98	0.96	46.98	87	1600	92	17.06	34.07	151	1522	283	0	67.1	
SX Marathon RR	111	348.2	100	11950	107	0.86	54.47	100	1870	107	18.27	34.27	127	1459	234	0	81.1	
SV RR265	108	346.2	100	11941	107	0.87	53.91	99	1857	107	18.18	34.55	140	1452	236	0	81.2	
SV RR266	118	344.7	99	11210	100	0.91	53.47	99	1735	100	18.14	32.61	147	1471	263	0	75.3	
SV RR268	132	353.4	102	11547	103	0.88	55.96	103	1822	105	18.54	32.78	125	1477	245	0	83.9	
SV RR333	123	348.8	100	11217	100	0.85	54.65	101	1761	101	18.30	32.11	108	1463	228	0	76.8	
SV RR351	104	352.9	102	11931	107	0.89	55.83	103	1881	108	18.54	33.88	127	1505	244	0	77.7	
Crystal 101RR (Check)	133	335.3	97	11490	103	1.04	50.77	94	1741	100	17.81	34.27	207	1729	273	0	85.7	
BTS 8572 (Check)	134	358.9	103	11594	104	0.83	57.54	106	1860	107	18.78	32.29	112	1377	230	0	83.0	
ACFILL #41	135	325.8	94	10540	94	0.86	48.06	89	1554	89	17.15	32.38	147	1472	225	0	88.4	
ACFILL #42	136	332.0	96	10560	95	1.07	49.82	92	1583	91	17.66	31.83	216	1675	309	0	91.8	
<b>Experimental Trial (Comm status)</b>																		
BTS 8735	250	341.6	98	11949	107	0.79	52.62	97	1853	106	17.88	34.81	147	1270	219	0	88.5	
BTS 8749	243	346.2	100	11437	102	0.89	53.91	99	1780	102	18.21	33.06	199	1483	224	0	87.1	
BTS 8767	225	339.1	98	12306	110	0.87	51.90	96	1881	108	17.82	36.38	177	1443	226	0	92.0	
BTS 8784	210	357.1	103	11885	106	0.81	56.98	105	1909	110	18.69	33.05	114	1356	225	0	87.0	
BTS 8815	211	351.9	101	11830	106	0.85	55.51	102	1864	107	18.46	33.61	145	1488	210	0	86.1	
BTS 8826	245	344.4	99	10395	93	0.98	53.41	99	1620	93	18.23	30.06	180	1534	291	0	88.3	
BTS 8839	232	350.1	101	11321	101	0.82	55.01	101	1776	102	18.33	32.40	153	1320	230	0	92.3	
BTS 8844	205	353.8	102	11603	104	0.87	56.05	103	1838	106	18.57	32.79	154	1441	235	0	92.6	
BTS 8857	235	343.0	99	11011	99	0.83	53.00	98	1706	98	18.00	32.01	132	1417	218	0	80.4	
BTS 8864	224	353.1	102	11767	105	0.95	55.83	103	1864	107	18.63	33.27	145	1476	293	0	84.9	
BTS 8882	229	344.0	99	12452	112	0.99	53.29	98	1935	111	18.20	36.13	181	1559	288	0	78.8	
BTS 8891	226	351.3	101	11403	102	0.90	55.35	102	1792	103	18.48	32.51	146	1424	268	0	91.9	
Crystal 684RR	227	340.7	98	12358	111	0.92	52.37	97	1903	109	17.96	36.23	211	1549	226	0	94.8	
Crystal 792RR	240	348.8	100	12439	111	0.94	54.66	101	1951	112	18.40	35.63	155	1473	282	0	89.0	
Crystal 793RR	238	349.1	101	12246	110	0.85	54.90	101	1926	111	18.34	34.94	164	1382	230	0	91.4	
Crystal 796RR	231	340.1	98	12672	113	0.86	52.17	96	1950	112	17.87	37.15	142	1494	219	0	94.5	
Crystal 802RR	207	356.8	103	11897	107	0.81	56.88	105	1900	109	18.66	33.32	144	1324	224	0	88.1	
Crystal 803RR	244	350.7	101	12660	113	0.83	55.19	102	1997	115	18.37	36.02	142	1385	225	0	96.5	
Crystal 804RR	246	339.5	98	12439	111	0.93	52.04	96	1916	110	17.92	36.48	176	1475	267	0	83.0	
Crystal 807RR	215	344.6	99	12313	110	0.83	53.47	99	1919	110	18.07	35.57	163	1471	193	0	82.3	
Crystal 808RR	218	342.7	99	13008	117	0.91	52.92	98	2014	116	18.06	37.87	196	1483	238	0	92.1	
Crystal 809RR	214	349.0	101	10851	97	0.87	54.71	101	1707	98	18.33	30.95	151	1483	225	0	92.6	
Hilleshog HIL2230	221	355.4	102	11726	105	0.84	56.49	104	1861	107	18.62	33.02	129	1372	238	0	95.8	
Hilleshog HIL2231	208	341.9	98	11072	99	0.88	52.69	97	1714	98	17.98	32.24	172	1484	224	0	88.7	
Hilleshog HIL2232	203	355.3	102	11483	103	0.92	56.49	104	1828	105	18.71	32.27	210	1445	254	60	88.8	
Hilleshog HIL2233	209	353.5	102	12052	108	0.87	55.94	103	1913	110	18.55	33.98	150	1369	249	0	92.3	
Hilleshog HIL2234	217	339.9	98	10896	98	0.87	52.13	96	1674	96	17.87	32.08	178	1445	229	0	90.0	
Hilleshog HIL2235	247	348.7	100	11479	103	0.94	54.63	101	1804	104	18.38	32.81	181	1515	256	0	91.4	
Hilleshog HIL2236	213	355.4	102	11113	100	0.82	56.51	104	1773	102	18.61	31.18	145	1368	224	0	91.1	
Hilleshog HIL9920	223	357.0	103	11716	105	0.89	56.96											

Table 17. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	East Grand										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch								
<b>Commercial Trial</b>																		
BTS 80RR52	130	346.3	99	11844	101	0.91	53.92	99	1829	100	18.21	34.50	129	1537	248	0	81.9	
BTS 8337	119	363.5	104	11868	101	0.91	58.86	108	1925	105	19.07	32.53	120	1581	238	0	78.7	
BTS 8500	124	340.2	98	12870	110	0.95	52.19	96	1971	108	17.95	37.88	135	1626	253	0	87.6	
BTS 8524	127	332.1	95	12336	105	0.97	49.85	91	1847	101	17.56	37.11	160	1657	251	0	79.2	
BTS 8606	106	349.7	100	12389	105	0.91	54.91	101	1929	105	18.39	35.70	132	1554	241	0	83.6	
BTS 8629	110	350.8	101	12186	104	0.79	55.22	101	1909	104	18.34	34.96	111	1321	221	0	71.7	
Crystal 093RR	126	355.7	102	12099	103	0.93	56.61	104	1927	105	18.71	34.02	108	1480	289	0	88.7	
Crystal 247RR	113	345.1	99	12152	103	0.83	53.58	98	1895	104	18.10	35.20	140	1506	195	0	85.0	
Crystal 355RR	109	354.4	102	11677	99	0.95	56.25	103	1860	102	18.67	32.77	123	1600	271	0	86.6	
Crystal 467RR	120	339.7	97	12176	104	0.87	52.03	95	1858	102	17.86	35.80	155	1539	212	0	86.2	
Crystal 572RR	112	357.6	103	12201	104	0.92	57.17	105	1949	107	18.80	34.19	109	1508	275	0	80.8	
Crystal 573RR	101	352.8	101	12375	105	0.89	55.79	102	1963	107	18.54	35.14	111	1533	245	0	87.7	
Crystal 574RR	114	347.5	100	13087	111	0.91	54.26	99	2038	111	18.28	37.66	128	1590	237	0	80.3	
Crystal 578RR	115	347.3	100	11692	100	0.86	54.21	99	1821	100	18.24	33.80	121	1543	216	0	84.0	
Hilleshög HM4302RR	107	350.3	100	11324	96	0.91	55.08	101	1780	97	18.42	32.21	145	1607	227	0	80.8	
Hilleshög HM4448RR	125	343.0	98	12562	107	0.87	52.99	97	1933	106	18.03	36.79	129	1514	227	0	83.9	
Hilleshög HM9528RR	117	348.5	100	10941	93	0.90	54.55	100	1716	94	18.34	31.48	122	1544	248	0	71.2	
Hilleshög HIL9708	131	362.1	104	12606	107	0.86	58.46	107	2048	112	18.96	34.59	107	1512	225	0	89.2	
Maribo MA109	128	358.8	103	10995	94	0.91	57.53	105	1774	97	18.87	30.60	130	1551	250	0	78.0	
Maribo MA305	102	338.9	97	11457	98	0.86	51.83	95	1749	96	17.81	34.00	131	1463	230	0	76.3	
Maribo MA502	116	336.3	96	11263	96	0.94	51.06	94	1700	93	17.76	33.76	169	1651	231	0	83.2	
Maribo MA504	122	342.2	98	12809	109	0.89	52.75	97	1975	108	18.01	37.42	124	1558	236	0	87.1	
SX Avallanche RR	129	352.0	101	11504	98	0.87	55.57	102	1809	99	18.47	32.81	127	1517	233	0	77.3	
SX Bronco RR (1863)	105	349.7	100	11867	101	0.89	54.91	101	1855	101	18.37	33.99	130	1544	233	0	72.5	
SX Canyon RR	103	348.2	100	12832	109	0.86	54.47	100	2006	110	18.27	36.84	120	1561	211	0	79.5	
SX Cruze RR	121	327.1	94	11100	94	0.99	48.44	89	1647	90	17.34	33.88	147	1641	278	0	55.2	
SX Marathon RR	111	352.5	101	12617	107	0.86	55.70	102	2006	110	18.49	35.65	113	1554	217	0	82.4	
SV RR265	108	348.7	100	12130	103	0.85	54.62	100	1895	104	18.27	34.88	106	1529	209	0	80.6	
SV RR266	118	356.9	102	12438	106	0.85	56.96	104	1981	108	18.69	35.02	106	1520	214	0	70.1	
SV RR268	132	354.9	102	11989	102	0.90	56.39	103	1893	103	18.64	34.05	125	1589	230	0	77.6	
SV RR333	123	355.6	102	11924	102	0.84	56.60	104	1913	105	18.61	33.29	101	1529	208	0	74.7	
SV RR351	104	351.1	101	11620	99	0.92	55.30	101	1822	100	18.47	33.21	118	1620	236	0	71.3	
Crystal 101RR (Check)	133	341.8	98	11716	100	0.96	52.64	96	1783	97	18.04	34.61	150	1705	236	0	83.0	
BTS 8572 (Check)	134	351.8	101	11754	100	0.96	55.50	102	1847	101	18.55	33.54	121	1524	294	0	81.6	
ACFILL #41	135	325.6	93	10644	91	0.86	47.99	88	1563	85	17.13	32.72	130	1510	217	0	80.5	
ACFILL #42	136	332.4	95	10680	91	0.98	49.94	92	1600	87	17.61	32.23	178	1633	262	0	83.2	
<b>Experimental Trial (Comm status)</b>																		
BTS 8735	250	351.2	101	11252	96	0.79	55.31	101	1771	97	18.35	31.96	112	1363	208	0	81.4	
BTS 8749	243	350.8	101	12386	105	0.92	55.22	101	1935	106	18.46	35.43	126	1569	254	0	85.9	
BTS 8767	225	341.4	98	12382	105	0.88	52.58	96	1904	104	17.95	36.28	154	1497	228	0	85.9	
BTS 8784	210	360.5	103	11239	96	0.84	57.93	106	1801	98	18.87	31.24	106	1371	256	0	77.4	
BTS 8815	211	355.0	102	12426	106	0.86	56.38	103	1963	107	18.60	35.12	126	1497	218	0	78.0	
BTS 8826	245	356.4	102	11031	94	0.95	56.79	104	1759	96	18.77	30.91	123	1547	283	0	78.7	
BTS 8839	232	362.0	104	10994	94	0.80	58.33	107	1773	97	18.89	30.23	110	1384	209	0	81.5	
BTS 8844	205	345.9	99	11998	102	0.85	54.00	99	1872	102	18.17	34.43	144	1517	201	0	81.9	
BTS 8857	235	342.3	98	10654	91	0.89	52.82	97	1644	90	18.01	31.03	113	1520	249	0	74.2	
BTS 8864	224	354.4	102	10996	94	0.86	56.22	103	1737	95	18.58	31.14	110	1424	248	0	69.5	
BTS 8882	229	345.6	99	12498	106	0.89	53.75	98	1936	106	18.16	36.12	141	1561	219	0	71.3	
BTS 8891	226	361.6	104	11631	99	0.85	58.23	107	1862	102	18.93	32.25	118	1412	242	0	81.7	
Crystal 684RR	227	342.9	98	12219	104	0.91	52.97	97	1877	103	18.05	35.84	140	1573	239	0	85.5	
Crystal 792RR	240	353.6	101	11794	100	0.87	55.98	103	1860	102	18.54	33.45	117	1454	250	0	83.3	
Crystal 793RR	238	359.5	103	12892	110	0.77	57.65	106	2067	113	18.75	35.85	95	1338	202	0	78.8	
Crystal 796RR	231	345.6	99	12483	106	0.89	53.74	98	1934	106	18.16	36.09	131	1502	241	0	89.7	
Crystal 802RR	207	355.6	102	11407	97	0.87	56.54	104	1822	100	18.64	31.85	119	1417	257	0	76.4	
Crystal 803RR	244	358.0	103	12888	110	0.82	57.20	105	2056	112	18.71	35.96	102	1396	225	0	87.3	
Crystal 804RR	246	343.3	98	12385	105	0.90	53.09	97	1909	104	18.05	36.09	154	1490	248	0	78.5	
Crystal 807RR	215	349.4	100	12275	104	0.80	54.81	100	1930	105	18.26	34.98	128	1413	199	0	60.3	
Crystal 808RR	218	345.3	99	12729	108	0.87	53.64	98	1975	108	18.13	36.73	149	1502	224	0	81.8	
Crystal 809RR	214	346.8	99	11553	98	0.88	54.10	99	1802	98	18.22	33.23	144	1539	222	0	83.7	
Hilleshög HIL2230	221	351.7	101	11262	96	0.88	55.47	102	1768	97	18.47	32.15	125	1480	249	0	91.2	
Hilleshög HIL2231	208	338.6	97	10444	89	0.89	51.77	95	1586	87	17.82	31.03	144	1610	249	0	71.7	
Hilleshög HIL2232	203	362.5	104	11183	95	0.95	58.48	107	1811	99	19.06	30.59	126	1584	272	0	89.0	
Hilleshög HIL2233	209	356.6	102	12213	104	0.89	56.82	104	1941	106	18.71	34.27	124	1472	250	0	86.4	
Hilleshög HIL2234	217	345.7	99	11190	95	0.86	53.77	99	1737	95	18.14	32.30	142	1521	211	0	81.5	
Hilleshög HIL2235	247	344.0	99	11403	97	1.03	53.28	98	1757	96	18.22	33.22	146	1655	307	0	82.0	
Hilleshög HIL2236	213	359.2	103	10901	93	0.89	57.56	105	1750	96	18.85	30.23	115	1504	250	0	86.3	
Hilleshög HIL9920	223	364.5	105	11825	101	0.83	59.06	108	1922	105	19.05							

Table 18. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Stephen MN										Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter per Ac	Emerg. %
		Rec/T lbs.	Rec/T %Bnch	Rec/A lbs.	Rec/A %Bnch	Loss Mol %	Rev/T \$++	Rev/T %Bnch	Rev/A \$++	Rev/A %Bnch								
<b>Commercial Trial</b>																		
BTS 80RR52	130	377.2	99	9907	97	0.85	62.78	99	1650	97	19.70	26.22	158	1413	221	0	91.4	
BTS 8337	119	384.1	101	10403	102	0.75	64.75	102	1756	103	19.95	27.04	145	1291	183	0	84.1	
BTS 8500	124	380.0	100	11051	108	0.79	63.59	100	1845	108	19.79	29.17	161	1321	205	0	93.7	
BTS 8524	127	371.1	98	11424	112	0.88	61.03	96	1877	110	19.43	30.84	170	1519	217	0	85.2	
BTS 8606	106	382.1	101	10427	102	0.79	64.20	101	1750	103	19.91	27.29	147	1390	192	0	85.3	
BTS 8629	110	374.7	99	10994	108	0.79	62.06	98	1822	107	19.52	29.34	188	1322	194	0	79.4	
Crystal 093RR	126	385.0	101	10223	100	0.84	65.02	103	1726	101	20.09	26.56	144	1368	238	0	91.4	
Crystal 247RR	113	381.1	100	10628	104	0.76	63.90	101	1779	104	19.81	27.94	166	1378	160	0	88.8	
Crystal 355RR	109	381.0	100	9266	91	0.85	63.87	101	1553	91	19.89	24.34	149	1415	226	0	93.6	
Crystal 467RR	120	378.0	100	11167	110	0.85	63.02	99	1860	109	19.75	29.57	222	1444	191	0	89.7	
Crystal 572RR	112	381.3	100	10886	107	0.77	63.96	101	1823	107	19.84	28.63	141	1267	212	0	89.0	
Crystal 573RR	101	388.6	102	11071	109	0.79	66.06	104	1883	110	20.23	28.46	132	1361	206	0	93.1	
Crystal 574RR	114	377.0	99	11266	111	0.79	62.74	99	1874	110	19.64	29.87	151	1297	210	0	91.3	
Crystal 578RR	115	380.6	100	10642	104	0.79	63.75	101	1785	105	19.82	27.92	157	1383	189	0	91.0	
Hilleshog HM4302RR	107	365.9	96	10150	100	0.77	59.54	94	1648	97	19.06	27.82	173	1374	167	0	83.8	
Hilleshog HM4448RR	125	386.1	102	11205	110	0.78	65.33	103	1895	111	20.09	29.05	147	1338	200	0	90.1	
Hilleshog HM9528RR	117	372.5	98	10119	99	0.77	61.45	97	1668	98	19.39	27.18	164	1300	192	0	78.7	
Hilleshog HIL9708	131	382.0	101	10696	105	0.74	64.16	101	1796	105	19.84	28.03	147	1308	176	0	89.6	
Maribo MA109	128	382.1	101	9133	90	0.77	64.19	101	1533	90	19.88	23.95	151	1363	183	0	80.2	
Maribo MA305	102	381.1	100	10538	103	0.83	63.90	101	1761	103	19.88	27.78	203	1381	202	0	77.4	
Maribo MA502	116	370.7	98	9966	98	0.86	60.91	96	1638	96	19.39	26.86	261	1436	186	0	84.7	
Maribo MA504	122	368.5	97	10809	106	0.86	60.28	95	1768	104	19.28	29.34	208	1419	216	0	89.5	
SX Avalanche RR	129	386.7	102	10820	106	0.74	65.50	103	1834	108	20.08	27.94	147	1359	162	0	83.3	
SX Bronco RR(1863)	105	381.5	101	10688	105	0.75	64.03	101	1788	105	19.82	28.15	143	1333	173	0	83.0	
SX Canyon RR	103	377.7	100	10808	106	0.77	62.91	99	1800	106	19.65	28.65	130	1388	183	0	87.3	
SX Cruze RR	121	358.6	95	10683	105	0.83	57.46	91	1711	100	18.76	29.83	171	1380	215	0	69.2	
SX Marathon RR	111	372.1	98	11037	108	0.75	61.33	97	1819	107	19.35	29.69	139	1343	173	0	91.0	
SV RR265	108	362.5	96	10689	105	0.73	58.58	92	1726	101	18.86	29.49	158	1323	161	0	86.9	
SV RR266	118	373.5	98	10451	103	0.75	61.72	97	1724	101	19.43	28.05	133	1368	172	0	79.6	
SV RR268	132	382.8	101	10704	105	0.73	64.40	102	1800	106	19.87	27.99	128	1383	155	0	81.1	
SV RR333	123	377.5	99	10363	102	0.77	62.87	99	1724	101	19.65	27.49	151	1360	180	0	79.8	
SV RR351	104	367.5	97	10615	104	0.74	60.01	95	1734	102	19.11	28.88	147	1356	159	0	84.4	
Crystal 101RR (Check)	133	378.2	100	10914	107	0.81	63.08	99	1825	107	19.72	28.73	180	1443	176	0	90.4	
BTS 8572 (Check)	134	381.4	101	10666	105	0.78	63.99	101	1791	105	19.84	27.96	132	1306	206	0	89.6	
ACFILL #41	135	361.2	95	9911	97	0.76	58.20	92	1597	94	18.82	27.42	162	1318	177	0	90.2	
ACFILL #42	136	362.5	96	10135	99	0.90	58.58	92	1639	96	19.03	27.91	219	1473	228	0	87.5	
<b>Experimental Trial (Comm status)</b>																		
BTS 8735	250	396.0	104	10981	108	0.78	68.14	107	1880	110	20.58	27.83	178	1232	211	0	90.1	
BTS 8749	243	386.5	102	10018	98	0.76	65.41	103	1694	99	20.08	26.04	137	1388	173	0	90.7	
BTS 8767	225	384.7	101	10953	108	0.77	64.92	102	1845	108	20.00	28.52	144	1377	176	0	92.4	
BTS 8784	210	391.1	103	10399	102	0.72	66.72	105	1776	104	20.27	26.60	124	1210	192	0	89.0	
BTS 8815	211	389.9	103	10753	106	0.78	66.41	105	1835	108	20.27	27.52	152	1376	186	0	88.0	
BTS 8826	245	396.9	105	9787	96	0.87	68.38	108	1682	99	20.70	24.73	140	1390	249	0	88.8	
BTS 8839	232	381.8	101	10787	106	0.72	64.10	101	1806	106	19.80	28.18	142	1223	182	0	95.4	
BTS 8844	205	394.2	104	10343	102	0.72	67.63	107	1773	104	20.43	26.26	127	1311	161	0	88.8	
BTS 8857	235	386.5	102	9118	89	0.75	65.42	103	1542	90	20.07	23.74	106	1271	202	0	84.4	
BTS 8864	224	392.8	104	10474	103	0.78	67.20	106	1798	105	20.41	26.51	105	1315	210	0	81.2	
BTS 8882	229	375.2	99	10853	107	0.84	62.23	98	1797	105	19.60	28.86	198	1416	198	0	82.2	
BTS 8891	226	388.0	102	9968	98	0.74	65.85	104	1700	100	20.16	25.46	137	1261	193	0	88.3	
Crystal 684RR	227	377.0	99	11797	116	0.85	62.74	99	1965	115	19.70	31.22	182	1391	222	0	88.7	
Crystal 792RR	240	384.5	101	11072	109	0.77	64.86	102	1866	109	19.98	28.72	127	1292	206	0	86.7	
Crystal 793RR	238	393.0	104	11974	118	0.71	67.28	106	2044	120	20.35	30.53	129	1219	175	0	87.3	
Crystal 796RR	231	380.4	100	11242	110	0.81	63.72	100	1871	110	19.81	29.79	144	1319	223	0	91.9	
Crystal 802RR	207	388.5	102	10452	103	0.75	66.02	104	1770	104	20.17	27.01	125	1259	201	0	89.3	
Crystal 803RR	244	379.5	100	11180	110	0.83	63.45	100	1870	110	19.80	29.47	151	1360	219	0	95.4	
Crystal 804RR	246	384.7	101	11342	111	0.81	64.92	102	1906	112	20.04	29.58	183	1328	200	0	92.4	
Crystal 807RR	215	384.1	101	11319	111	0.78	64.76	102	1905	112	19.99	29.42	222	1335	168	0	81.2	
Crystal 808RR	218	385.7	102	11897	117	0.77	65.20	103	2015	118	20.04	30.66	165	1337	178	0	92.5	
Crystal 809RR	214	395.5	104	10078	99	0.76	67.99	107	1732	102	20.53	25.46	146	1344	174	0	90.2	
Hilleshog HIL2230	221	371.4	98	10332	101	0.74	61.15	96	1708	100	19.30	27.74	150	1303	171	0	89.1	
Hilleshog HIL2231	208	370.4	98	9136	90	0.82	60.84	96	1502	88	19.32	24.60	187	1414	188	0	81.0	
Hilleshog HIL2232	203	387.2	102	10150	100	0.80	65.65	103	1721	101	20.16	26.11	164	1355	200	0	90.4	
Hilleshog HIL2233	209	382.8	101	10886	107	0.79	64.39	102	1821	107	19.91	28.61	161	1299	205	0	87.0	
Hilleshog HIL2234	217	377.3	99	10412	102	0.78	62.81	99	1729	101	19.65	27.59	169	1382	173	0	88.8	
Hilleshog HIL2235	247	381.1	100	10577	104	0.86	63.90	101	1770	104	19.89	27.78	194	1469	197	0	87.4	
Hilleshog HIL2236	213	383.8	101	9982	98	0.76	64.67	102	1692	99	19.95	25.72	155	1306	181	0	91.2	
Hilleshog HIL9920	223	388.9	102	11149	109	0.74	66.12	104	1898	111								

Table 19. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

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	130	374.8	100	6161	91	1.28	62.10	100	1022	91	20.01	16.40	172	1506	529	0	85.7
BTS 8337	119	389.4	104	7110	105	1.14	66.29	106	1207	107	20.64	18.34	141	1514	431	0	81.1
BTS 8500	124	387.1	103	7836	115	1.06	65.63	105	1327	118	20.41	20.26	155	1464	376	0	85.7
BTS 8524	127	369.7	98	7784	115	1.18	60.64	97	1277	113	19.68	21.06	194	1631	409	0	75.0
BTS 8606	106	390.9	104	7549	111	1.12	66.70	107	1290	114	20.66	19.27	179	1465	416	0	79.5
BTS 8629	110	382.4	102	8300	122	1.17	64.27	103	1396	124	20.30	21.69	210	1391	459	0	69.8
Crystal 093RR	126	391.6	104	7178	106	1.10	66.90	107	1227	109	20.67	18.32	151	1469	409	0	82.4
Crystal 247RR	113	378.3	101	7400	109	1.11	63.11	101	1232	109	20.02	19.59	183	1505	396	0	79.3
Crystal 355RR	109	376.0	100	6312	93	1.27	62.45	100	1049	93	20.06	16.77	217	1582	488	0	89.4
Crystal 467RR	120	373.7	100	7291	107	1.18	61.80	99	1205	107	19.85	19.49	269	1618	390	0	85.0
Crystal 572RR	112	385.6	103	7446	110	1.07	65.19	105	1256	111	20.35	19.37	146	1416	398	0	80.5
Crystal 573RR	101	395.5	105	7565	111	1.05	68.02	109	1301	115	20.83	19.14	138	1418	384	0	84.6
Crystal 574RR	114	378.4	101	7911	116	1.20	63.12	101	1317	117	20.10	20.94	191	1516	461	0	84.5
Crystal 578RR	115	384.2	102	7438	109	1.19	64.80	104	1254	111	20.40	19.38	194	1532	439	0	86.4
Hilleshog HM4302RR	107	380.1	101	7084	104	1.10	63.63	102	1185	105	20.11	18.67	166	1553	377	0	76.3
Hilleshog HM4448RR	125	389.0	104	7681	113	1.18	66.15	106	1308	116	20.62	19.71	164	1474	466	0	80.2
Hilleshog HM9528RR	117	377.3	101	7303	107	1.17	62.82	101	1216	108	20.05	19.38	179	1523	435	0	75.3
Hilleshog HIL9708	131	370.1	99	7124	105	1.26	60.76	98	1168	104	19.80	19.29	201	1508	507	0	76.8
Maribo MA109	128	393.5	105	6659	98	1.24	67.46	108	1138	101	20.91	17.01	181	1525	480	0	77.3
Maribo MA305	102	379.8	101	7527	111	1.08	63.53	102	1259	112	20.10	19.82	202	1447	383	0	67.7
Maribo MA502	116	365.3	97	6876	101	1.23	59.37	95	1117	99	19.49	18.83	273	1584	432	0	76.2
Maribo MA504	122	381.3	102	7331	108	1.29	63.95	103	1229	109	20.35	19.25	226	1577	492	0	77.3
SX Avalanche RR	129	377.2	100	6977	103	0.96	62.80	101	1161	103	19.84	18.50	172	1539	275	20	74.4
SX Bronco RR (1863)	105	389.9	104	7702	113	1.09	66.43	107	1313	116	20.56	19.75	161	1550	370	0	75.8
SX Canyon RR	103	379.2	101	7450	110	1.09	63.37	102	1247	111	20.08	19.61	165	1583	366	0	79.8
SX Cruze RR	121	336.5	90	5995	88	1.66	51.11	82	909	81	18.50	17.86	285	1705	730	0	49.9
SX Marathon RR	111	377.3	101	7558	111	1.27	62.81	101	1258	112	20.12	20.04	177	1617	486	0	80.6
SV RR265	108	372.7	99	7252	107	1.17	61.50	99	1195	106	19.80	19.47	158	1539	434	0	80.2
SV RR266	118	379.7	101	7336	108	1.14	63.50	102	1228	109	20.13	19.29	149	1517	430	0	69.3
SV RR268	132	384.0	102	7851	116	1.10	64.73	104	1323	117	20.27	20.44	163	1584	374	0	77.3
SV RR333	123	384.4	102	7388	109	1.18	64.86	104	1246	110	20.40	19.23	168	1603	429	0	69.8
SV RR351	104	379.7	101	7768	114	1.14	63.49	102	1298	115	20.12	20.47	175	1543	415	0	78.5
Crystal 101RR (Check)	133	373.5	100	7608	112	1.22	61.73	99	1257	111	19.89	20.38	222	1645	426	0	79.4
BTS 8572 (Check)	134	377.2	100	7094	104	1.22	62.77	101	1183	105	20.08	18.76	158	1495	487	0	71.8
ACFILL #41	135	369.3	98	7046	104	1.07	60.51	97	1156	103	19.53	19.06	167	1447	386	0	80.4
ACFILL #42	136	360.2	96	6364	94	1.57	57.92	93	1022	91	19.58	17.69	280	1690	664	0	72.2
<b>Experimental Trial (Comm status)</b>																	
BTS 8735	250	392.2	104	6991	103	1.19	67.11	108	1201	106	20.82	17.78	218	1396	474	0	80.9
BTS 8749	243	371.7	99	6193	91	1.27	61.19	98	1020	90	19.84	16.64	157	1608	497	0	80.1
BTS 8767	225	379.3	101	6932	102	1.19	63.40	102	1164	103	20.17	18.17	183	1582	441	0	82.7
BTS 8784	210	380.4	101	6733	99	1.20	63.71	102	1132	100	20.21	17.62	144	1425	503	0	87.8
BTS 8815	211	382.8	102	6962	102	1.14	64.39	103	1175	104	20.25	18.09	186	1518	421	0	80.2
BTS 8826	245	379.1	101	6595	84	1.39	63.32	102	954	85	20.36	15.01	220	1571	576	0	74.8
BTS 8839	232	384.4	102	6795	100	1.09	64.83	104	1149	102	20.28	17.62	135	1305	452	0	86.3
BTS 8844	205	383.0	102	6651	98	1.29	64.44	104	1125	100	20.43	17.27	238	1572	496	0	79.7
BTS 8857	235	379.1	101	5673	84	1.04	63.33	102	951	84	20.00	14.89	140	1461	372	0	78.0
BTS 8864	224	379.6	101	6361	94	1.15	63.49	102	1067	95	20.12	16.66	154	1420	460	0	71.7
BTS 8882	229	382.6	102	8280	122	1.11	64.35	103	1396	124	20.24	21.58	167	1452	416	0	75.4
BTS 8891	226	394.4	105	6959	102	1.20	67.73	109	1200	106	20.90	17.57	164	1510	470	0	85.5
Crystal 684RR	227	377.7	101	7413	109	1.20	62.94	101	1239	110	20.08	19.55	212	1561	443	0	83.0
Crystal 792RR	240	372.8	99	6628	98	1.19	61.51	99	1095	97	19.85	17.78	141	1489	472	0	80.5
Crystal 793RR	238	382.6	102	7148	105	1.13	64.35	103	1210	107	20.26	18.56	152	1377	456	0	78.9
Crystal 796RR	231	377.4	101	7894	116	1.09	62.85	101	1318	117	19.96	20.84	168	1529	385	0	82.9
Crystal 802RR	207	375.0	100	6447	95	1.23	62.34	100	1072	95	20.01	17.11	165	1435	516	0	76.4
Crystal 803RR	244	385.9	103	6892	101	1.03	65.26	105	1169	104	20.30	17.82	134	1456	368	0	88.2
Crystal 804RR	246	381.1	102	7531	111	1.18	63.92	103	1269	112	20.21	19.67	230	1392	467	0	72.3
Crystal 807RR	215	374.8	100	6926	102	1.07	62.08	100	1152	102	19.79	18.39	196	1602	338	0	65.2
Crystal 808RR	218	378.7	101	7227	106	1.31	63.22	102	1208	107	20.23	19.06	249	1567	504	0	82.6
Crystal 809RR	214	383.4	102	6471	95	1.20	64.54	104	1094	97	20.35	16.81	197	1541	451	0	81.5
Hilleshog HIL2230	221	374.4	100	7189	106	1.25	61.99	100	1196	106	19.97	19.09	225	1540	477	0	80.3
Hilleshog HIL2231	208	372.0	99	6393	94	1.29	61.27	98	1055	94	19.87	17.16	256	1783	435	0	70.7
Hilleshog HIL2232	203	383.2	102	6133	90	1.23	64.49	104	1037	92	20.40	15.92	195	1609	456	0	83.2
Hilleshog HIL2233	209	382.5	102	7182	106	1.17	64.30	103	1209	107	20.28	18.73	186	1451	451	0	86.5
Hilleshog HIL2234	217	380.2	101	6912	102	1.04	63.67	102	1160	103	20.03	18.08	190	1533	338	0	79.2
Hilleshog HIL2235	247	372.6	99	6836	101	1.37	61.46	99	1131	100	20.01	18.29	208	1579	567	60	72.9
Hilleshog HIL2236	213	381.9	102	6877	101	1.15	64.14	103	1156	102	20.23	18.01	176	1383	466	0	85.2
Hilleshog HIL9920	223	384.1	102	7154	105	1.17	64.76	104	1213	108	20.34	18.50	197	1560	425	0	84.0

Table 20. 2018 Performance of Varieties - ACSC Experimental RR Official Trial

Description @	Code	Bathgate MN					Bathgate MN										
		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	130	364.0	100	8484	95	1.07	58.99	100	1370	95	19.26	23.36	136	1645	340	0	91.2
BTS 8337	119	372.6	102	8718	98	0.99	61.47	104	1438	100	19.62	23.38	118	1529	321	0	87.3
BTS 8500	124	366.2	101	9649	108	0.98	59.64	101	1564	109	19.30	26.38	127	1564	300	0	93.3
BTS 8524	127	350.4	96	9748	109	1.09	55.12	93	1534	106	18.60	27.81	146	1769	319	0	84.1
BTS 8606	106	367.3	101	9687	109	0.96	59.96	102	1585	110	19.32	26.24	128	1550	283	0	89.4
BTS 8629	110	358.7	99	9647	108	0.97	57.50	97	1535	107	18.91	27.17	125	1443	322	0	77.9
Crystal 093RR	126	368.3	101	8843	99	1.07	60.24	102	1447	100	19.48	24.02	118	1604	359	0	92.4
Crystal 247RR	113	363.8	100	9395	105	0.98	58.96	100	1527	106	19.17	25.71	136	1588	292	0	92.2
Crystal 355RR	109	372.6	102	8450	95	1.00	61.46	104	1387	96	19.63	22.74	106	1557	326	0	95.3
Crystal 467RR	120	364.6	100	8864	99	1.07	59.17	100	1444	100	19.29	24.23	168	1719	311	0	87.2
Crystal 572RR	112	370.1	102	9097	102	1.02	60.74	103	1496	104	19.53	24.64	116	1521	344	0	84.6
Crystal 573RR	101	361.9	99	9079	102	1.02	58.40	99	1461	101	19.11	25.11	121	1508	345	0	92.7
Crystal 574RR	114	359.7	99	9755	109	1.03	57.78	98	1558	108	19.01	27.24	138	1554	332	0	87.4
Crystal 578RR	115	366.8	101	9408	105	0.98	59.79	101	1538	107	19.31	25.53	122	1583	293	0	91.4
Hilleshog HM4302RR	107	367.8	101	9163	103	0.97	60.09	102	1498	104	19.35	24.95	142	1623	266	0	86.2
Hilleshog HM4448RR	125	373.5	103	9730	109	0.88	61.71	105	1605	111	19.56	26.12	104	1425	266	0	89.1
Hilleshog HM9528RR	117	364.8	100	9395	105	0.94	59.23	100	1534	106	19.20	25.64	119	1501	291	20	85.2
Hilleshog HIL9708	131	365.7	100	9023	101	0.99	59.49	101	1467	102	19.29	24.67	117	1585	300	0	90.9
Maribo MA109	128	373.8	103	8505	95	0.96	61.82	105	1406	98	19.65	22.76	129	1563	285	0	79.9
Maribo MA305	102	360.0	99	9287	104	0.99	57.85	98	1488	103	18.99	25.87	126	1495	326	0	84.1
Maribo MA502	116	352.8	97	8311	93	1.13	55.78	94	1305	91	18.77	23.76	168	1751	346	0	92.4
Maribo MA504	122	361.3	99	9746	109	1.02	58.22	99	1578	110	19.09	26.86	133	1595	320	0	91.4
SX Avalanche RR	129	356.8	98	8319	93	1.03	56.94	96	1326	92	18.87	23.46	143	1623	318	0	86.7
SX Bronco RR(1863)	105	364.8	100	8954	100	0.99	59.23	100	1456	101	19.23	24.47	131	1576	301	0	88.9
SX Canyon RR	103	362.8	100	9741	109	1.03	58.66	99	1573	109	19.16	26.90	121	1615	326	20	87.0
SX Cruze RR	121	336.5	92	8830	99	1.16	51.13	87	1340	93	17.99	26.35	147	1711	394	0	55.2
SX Marathon RR	111	363.4	100	9130	102	0.98	58.83	100	1477	103	19.15	25.20	122	1599	288	0	88.0
SV RR265	108	354.9	97	9311	104	0.98	56.38	95	1473	102	18.71	26.41	129	1580	291	0	88.8
SV RR266	118	362.9	100	9161	103	0.99	58.68	99	1477	103	19.14	25.22	135	1626	287	0	80.2
SV RR268	132	367.7	101	9140	102	0.97	60.07	102	1483	103	19.36	25.02	117	1580	289	0	85.1
SV RR333	123	371.3	102	8870	99	0.94	61.10	103	1459	101	19.50	23.94	111	1563	270	0	82.8
SV RR351	104	365.6	100	9319	104	0.99	59.46	101	1507	105	19.27	25.64	107	1559	314	0	86.0
Crystal 101RR (Check)	133	352.1	97	9526	107	1.05	55.59	94	1497	104	18.65	27.29	152	1741	294	0	90.2
BTS 8572 (Check)	134	367.9	101	9216	103	0.98	60.11	102	1509	105	19.37	25.05	111	1493	324	0	89.6
ACFILL #41	135	349.1	96	8799	99	0.93	54.75	93	1376	96	18.39	25.21	132	1510	272	0	88.2
ACFILL #42	136	359.8	99	8034	90	1.14	57.79	98	1290	90	19.13	22.32	150	1721	370	0	84.4
<b>Experimental Trial (Comm status)</b>																	
BTS 8735	250	378.6	104	9439	106	0.88	63.16	107	1571	109	19.81	25.06	115	1383	273	0	93.8
BTS 8749	243	365.9	100	8950	100	1.02	59.52	101	1454	101	19.31	24.39	115	1615	322	0	87.5
BTS 8767	225	365.8	100	9783	110	0.99	59.48	101	1595	111	19.27	26.55	136	1649	278	0	94.4
BTS 8784	210	382.1	105	9551	107	0.88	64.14	109	1609	112	19.98	24.89	105	1420	265	0	87.0
BTS 8815	211	369.9	102	9485	106	0.90	60.69	103	1559	108	19.41	25.77	121	1555	240	0	91.4
BTS 8826	245	368.8	101	8470	95	1.14	60.36	102	1397	97	19.55	22.61	128	1668	391	0	91.9
BTS 8839	232	374.3	103	8764	98	0.95	61.93	105	1466	102	19.65	23.24	110	1481	302	0	97.9
BTS 8844	205	377.3	104	8412	94	0.91	62.78	106	1412	98	19.78	22.38	121	1579	245	0	91.8
BTS 8857	235	372.0	102	8172	92	0.94	61.27	104	1346	93	19.54	22.19	107	1509	289	0	85.7
BTS 8864	224	377.2	104	8709	98	0.95	62.76	106	1445	100	19.81	23.14	108	1522	294	0	82.4
BTS 8882	229	370.4	102	9951	112	0.96	60.81	103	1646	114	19.48	26.71	131	1630	265	0	79.3
BTS 8891	226	374.5	103	9323	105	1.00	61.96	105	1558	108	19.71	24.67	124	1530	327	0	92.5
Crystal 684RR	227	363.9	100	10316	116	1.02	58.95	100	1671	116	19.21	28.38	129	1663	302	0	95.7
Crystal 792RR	240	370.0	102	9440	106	0.97	60.71	103	1558	108	19.47	25.35	110	1526	306	0	85.9
Crystal 793RR	238	372.4	102	10077	113	0.89	61.39	104	1675	116	19.51	26.94	102	1426	270	60	89.5
Crystal 796RR	231	363.0	100	10338	116	0.97	58.70	99	1677	116	19.11	28.49	119	1587	284	0	91.1
Crystal 802RR	207	377.9	104	9861	111	0.92	62.96	107	1665	116	19.81	25.85	100	1405	302	0	84.1
Crystal 803RR	244	372.6	102	9960	112	0.95	61.43	104	1653	115	19.57	26.70	117	1494	301	0	95.4
Crystal 804RR	246	364.6	100	10216	115	0.97	59.16	100	1660	115	19.20	28.06	135	1550	295	0	86.7
Crystal 807RR	215	371.7	102	9608	108	0.91	61.17	104	1606	111	19.50	25.76	125	1547	248	0	81.7
Crystal 808RR	218	365.7	100	10060	113	0.99	59.45	101	1658	115	19.28	27.53	131	1579	299	0	91.9
Crystal 809RR	214	371.5	102	9135	102	0.97	61.14	104	1504	104	19.53	24.48	121	1615	277	0	95.6
Hilleshog HIL2230	221	372.7	102	9159	103	0.99	61.46	104	1520	105	19.60	24.37	136	1534	307	0	94.5
Hilleshog HIL2231	208	360.0	99	7704	86	1.05	57.87	98	1226	85	19.04	21.42	160	1707	305	0	83.5
Hilleshog HIL2232	203	373.2	102	8541	96	0.96	61.59	104	1412	98	19.62	23.05	124	1594	275	0	94.0
Hilleshog HIL2233	209	369.0	101	9778	110	0.93	60.41	102	1628	113	19.37	26.10	113	1448	292	0	89.0
Hilleshog HIL2234	217	365.4	100	9192	103	0.93	59.37	101	1508	105	19.19	24.99	133	1592	253	0	92.6
Hilleshog HIL2235	247	362.7	100	8389	94	1.17	58.62	99	1360	94	19.30	23.07	149	1682	403	0	80.6
Hilleshog HIL2236	213	376.1	103	8964	101	0.90	62.41	106	1489	103	19.70	24.03	108	1446	276	0	92.7
Hilleshog HIL9920	223	383.1	105	9181	103	0.90	64.40	109	1548	107	20.05	23.93	118	1526	250		

Table 21. 2018 Performance of Varieties - Conventional Official Trials  
5 sites - All Characters

Unadjusted		Rec/T	Rec/T	Rec/A	Rec/A	Loss	Rev/T	Rev/T	Rev/A	Rev/A	Sugar	Yield	Na	K	AmN	Bolter	Emerg.
Description @	Code	lbs.	%Mean	lbs.	%Mean	Mol %	\$ ++	%Mean	\$ ++	%Mean	%	T/A	ppm	ppm	ppm	/Ac	%
BETA EXP 687	804	345.6	102	11006	93	1.12	53.73	104	1698	95	18.40	32.11	172	1534	393	0	84.4
BETA EXP 698	810	337.3	99	12134	103	1.06	51.36	99	1831	102	17.93	36.33	223	1632	308	0	80.2
BETA EXP 747	813	345.0	102	12377	105	0.93	53.57	103	1907	107	18.18	36.19	186	1433	273	0	81.9
BETA EXP 758	812	337.0	99	11501	98	1.06	51.26	99	1731	97	17.91	34.52	221	1624	304	10	84.1
BETA EXP 872	803	341.8	101	12279	104	1.08	52.63	101	1874	105	18.18	36.30	212	1696	311	0	71.2
Crystal 620	811	342.1	101	12221	104	1.05	52.73	102	1867	104	18.16	36.10	187	1583	323	0	78.7
Crystal 840	807	338.4	100	12429	105	1.04	51.66	100	1882	105	17.96	37.07	208	1632	299	0	77.4
Crystal R761	817	327.1	96	12172	103	1.17	48.44	93	1789	100	17.53	37.50	237	1771	354	0	82.6
Hilleshög HIL2243Rz	809	342.5	101	10801	92	1.14	52.83	102	1654	93	18.27	31.83	193	1687	366	10	81.7
Hilleshög HM3035Rz	808	348.5	103	9405	80	0.97	54.57	105	1464	82	18.38	27.20	163	1578	270	0	69.9
Hilleshög 9891Rz	805	343.1	101	10198	86	1.03	53.03	102	1563	87	18.18	29.99	172	1561	321	10	84.4
Maribo MA615Rz	802	323.8	95	11277	96	1.23	47.49	92	1640	92	17.43	35.11	277	1721	398	0	79.8
Seedex 8869 Cnv	820	332.7	98	12448	106	0.97	50.05	96	1859	104	17.60	37.71	185	1581	261	10	84.5
Seedex Deuce	815	337.8	100	12417	105	1.02	51.50	99	1885	105	17.90	36.93	185	1648	282	10	82.8
Strube 12720	818	327.6	97	13281	113	1.00	48.57	94	1953	109	17.38	40.90	216	1669	257	10	82.7
Strube 12845	801	330.2	97	12578	107	1.02	49.33	95	1862	104	17.53	38.44	178	1695	275	0	84.5
Strube 12884	806	329.3	97	12793	108	1.04	49.07	95	1885	105	17.50	39.31	233	1645	287	0	78.7
Strube 13897	819	329.7	97	12449	106	0.99	49.17	95	1845	103	17.48	38.03	210	1473	299	20	78.1
SV 48611	816	350.8	103	11930	101	0.99	55.21	106	1868	104	18.52	34.22	143	1597	292	0	80.9
SV 48777	814	351.1	104	11565	98	0.92	55.32	107	1815	102	18.47	33.09	155	1542	244	0	83.4
BTS 80RR52(Check)	821	342.6	101	11120	94	1.11	52.86	102	1704	95	18.24	32.70	174	1656	355	0	85.5
Crystal 101RR (Check)	822	334.8	99	12038	102	1.11	50.64	98	1808	101	17.85	36.23	217	1740	313	0	83.7
Crystal 355RR(Check)	823	349.9	103	11137	94	1.08	54.98	106	1739	97	18.57	32.06	167	1650	336	0	86.6
BTS 8572 (Check)	824	350.3	103	11480	97	1.01	55.09	106	1795	100	18.53	32.99	144	1539	324	0	80.6
Benchmark Mean		344.4		11443.8		1.1	53.4		1761.5		18.3	33.5	175.3	1646.3	331.8		84.1
Trial Mean		339.1		11793		1.05	51.88		1788		18.00	35.12	194	1620	310		81.2
Coeff. of Var. (%)		2.9		6.5		9.1	5.4		7.7		2.5	6.2	23.3	6.7	17.8		7.3
Mean LSD (0.05)		7.4		606		0.08	2.12		104		0.34	1.93	37	96	44		4.2
Mean LSD (0.01)		9.8		803		0.11	2.81		138		0.45	2.55	49	128	59		5.5
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2018 Data from 5 sites

Created 10/30/2018

%Mean = percentage of trial mean.

Trial # = 18ACSCnv

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 22. 2018 Performance of Varieties - Conventional Official Trials  
Casselton 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 687	804	348.1	104	12514	101	0.92	54.44	108	1944	104	18.32	36.25	83	1285	342	0	86.5
BETA EXP 698	810	327.3	98	12777	103	1.04	48.49	96	1888	101	17.40	38.85	141	1810	267	0	79.7
BETA EXP 747	813	345.1	103	12487	101	0.91	53.59	106	1935	104	18.16	36.32	120	1550	240	0	79.7
BETA EXP 758	812	328.8	98	11314	91	1.09	48.91	97	1673	90	17.53	34.86	134	1895	304	0	83.3
BETA EXP 872	803	334.1	100	13283	107	1.12	50.43	100	1993	107	17.83	39.98	144	1851	326	0	76.0
Crystal 620	811	338.9	101	13784	111	0.99	51.82	102	2103	113	17.93	40.77	113	1747	263	0	84.9
Crystal 840	807	335.2	100	12772	103	1.01	50.75	100	1947	104	17.77	37.91	133	1784	259	0	80.2
Crystal R761	817	317.3	95	13107	106	1.26	45.63	90	1881	101	17.13	41.34	165	2039	381	0	87.5
Hilleshög HIL2243Rz	809	322.4	96	11449	92	1.22	47.08	93	1681	90	17.34	35.19	162	1906	382	0	92.2
Hilleshög HM3035Rz	808	353.3	106	10328	83	0.94	55.93	111	1660	89	18.61	28.88	103	1743	236	0	72.4
Hilleshög 9891Rz	805	345.0	103	11192	90	0.98	53.56	106	1730	93	18.22	32.61	106	1601	286	0	90.6
Maribo MA615Rz	802	317.6	95	11737	95	1.28	45.71	90	1681	90	17.15	37.45	181	1967	405	0	91.2
Seedex 8869 Cnv	820	323.8	97	12754	103	0.98	47.47	94	1873	100	17.17	39.35	123	1770	248	0	83.3
Seedex Deuce	815	341.3	102	12687	102	1.13	52.51	104	1959	105	18.20	37.20	128	1955	317	0	87.0
Strube 12720	818	315.8	94	13417	108	1.08	45.19	89	1926	103	16.87	42.38	137	1864	293	0	87.5
Strube 12845	801	318.1	95	12906	104	1.07	45.84	91	1868	100	16.98	40.18	120	1874	286	0	90.1
Strube 12884	806	318.4	95	13622	110	1.08	45.94	91	1951	104	17.00	42.87	160	1832	285	0	78.7
Strube 13897	819	326.8	98	13486	109	0.92	48.35	96	1980	106	17.26	41.62	131	1632	241	0	88.5
SV 48611	816	346.5	104	11600	94	1.05	53.98	107	1828	98	18.37	33.18	113	1818	289	0	81.8
SV 48777	814	354.1	106	12093	98	0.97	56.16	111	1924	103	18.68	33.81	105	1741	245	0	89.1
BTS 80RR52(Check)	821	338.6	101	10973	89	1.08	51.72	102	1676	90	18.01	32.28	114	1811	307	0	87.0
Crystal 101RR (Check)	822	334.7	100	12883	104	1.10	50.62	100	1940	104	17.83	38.59	144	1992	269	0	88.5
Crystal 355RR(Check)	823	353.1	105	11775	95	1.04	55.88	110	1856	99	18.70	33.42	110	1826	287	0	90.6
BTS 8572 (Check)	824	347.8	104	12456	101	0.98	54.35	107	1953	104	18.36	35.81	115	1676	278	0	81.3
Benchmark Mean		343.6		12022		1.05	53.14		1856		18.23	35.03	121	1826	285		86.8
Trial Mean		334.7		12391		1.05	50.60		1869		17.78	37.13	129	1790	293		84.9
Coeff. of Var. (%)		3.2		5.6		9.4	6.0		6.9		2.9	5.8	15.3	12.5	12.3		6.8
Mean LSD (0.05)		17.5		1276		0.16	5.01		232		0.86	3.95	32	367	63		9.5
Mean LSD (0.01)		23.3		1709		0.22	6.69		310		1.15	5.29	43	490	84		12.7
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2018 Data from Casselton ND

Created 10/30/2018

%Mean = percentage of trial mean.

Trial # = 188201

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 23. 2018 Performance of Varieties - Conventional Official Trials

## 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 687	804	340.2	101	12502	91	0.86	52.18	103	1907	92	17.86	36.95	153	1396	244	0	92.4
BETA EXP 698	810	328.4	98	13926	102	0.86	48.79	96	2074	100	17.29	42.33	220	1448	201	0	88.9
BETA EXP 747	813	334.8	100	14738	108	0.75	50.63	100	2231	108	17.48	43.89	181	1238	183	0	95.6
BETA EXP 758	812	333.2	99	12429	91	0.79	50.17	99	1869	90	17.45	37.37	167	1389	185	60	94.9
BETA EXP 872	803	336.2	100	14381	105	0.83	51.04	101	2179	105	17.64	42.93	174	1482	185	0	76.4
Crystal 620	811	340.7	102	14324	105	0.78	52.33	103	2206	107	17.82	41.82	134	1365	191	0	92.9
Crystal 840	807	334.2	100	14755	108	0.82	50.45	99	2222	107	17.51	44.27	163	1443	194	0	91.4
Crystal R761	817	331.5	99	14047	103	0.85	49.69	98	2109	102	17.43	42.28	202	1476	192	0	92.6
Hilleshög HIL2243Rz	809	341.7	102	12339	90	0.87	52.61	104	1898	92	17.95	36.11	142	1496	224	60	91.4
Hilleshög HM3035Rz	808	345.4	103	10614	78	0.79	53.67	106	1656	80	18.08	30.71	160	1325	201	0	73.5
Hilleshög 9891Rz	805	340.4	102	11453	84	0.77	52.24	103	1754	85	17.77	33.70	150	1307	194	0	93.1
Maribo MA615Rz	802	329.4	98	13664	100	0.83	49.08	97	2031	98	17.29	41.64	194	1403	196	0	87.9
Seedex 8869 Cnv	820	328.7	98	14955	109	0.68	48.89	96	2219	107	17.10	45.59	152	1229	143	0	94.6
Seedex Deuce	815	335.3	100	14299	104	0.71	50.78	100	2167	105	17.48	42.63	139	1284	162	0	93.4
Strube 12720	818	321.8	96	15644	114	0.69	46.90	92	2278	110	16.78	48.72	165	1292	132	60	92.2
Strube 12845	801	319.8	95	14953	109	0.81	46.35	91	2172	105	16.80	46.57	174	1480	173	0	92.6
Strube 12884	806	313.2	93	14482	106	0.78	44.45	88	2059	99	16.47	46.18	189	1337	185	0	91.1
Strube 13897	819	330.3	99	14085	103	0.68	49.34	97	2108	102	17.20	42.53	141	1203	155	0	90.4
SV 48611	816	346.1	103	14283	104	0.74	53.88	106	2222	107	18.05	41.34	126	1305	183	0	92.0
SV 48777	814	341.4	102	12794	93	0.64	52.53	103	1978	96	17.74	37.34	116	1199	139	0	89.5
BTS 80RR52(Check)	821	344.2	103	13659	100	0.83	53.34	105	2111	102	18.03	39.80	135	1416	217	0	93.8
Crystal 101RR (Check)	822	339.0	101	14172	104	0.79	51.84	102	2169	105	17.74	41.76	160	1444	172	0	92.2
Crystal 355RR(Check)	823	345.9	103	12960	95	0.84	53.83	106	2015	97	18.13	37.45	144	1428	216	0	99.2
BTS 8572 (Check)	824	345.0	103	13129	96	0.78	53.56	105	2039	99	18.03	38.04	134	1326	205	0	92.5
Benchmark Mean		343.5		13480		0.81	53.14		2084		17.98	39.26	143	1404	202		94.4
Trial Mean		335.3		13691		0.78	50.77		2070		17.55	40.92	159	1363	186		91.0
Coeff. of Var. (%)		2.7		6.6		6.4	5.1		7.8		2.5	6.2	29.5	5.2	11.4		4.7
Mean LSD (0.05)		13.3		1327		0.07	3.80		238		0.64	3.71	66	101	30		6.4
Mean LSD (0.01)		17.6		1763		0.09	5.05		317		0.85	4.92	88	134	40		8.5
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2018 Data from Ada MN

Created 10/30/2018

%Mean = percentage of trial mean.

Trial # = 188204

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar &amp; 1.5% loss to molasses and does not consider hauling costs.

Table 24. 2018 Performance of Varieties - Conventional Official Trials  
Grand Forks 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 687	804	330.2	104	11531	98	1.31	49.33	108	1726	103	17.81	35.12	266	1733	457	0	68.8
BETA EXP 698	810	316.5	100	12471	106	1.29	45.40	100	1783	106	17.12	39.51	347	1819	390	0	65.3
BETA EXP 747	813	334.2	105	12510	107	1.08	50.46	111	1884	112	17.79	37.47	291	1582	312	0	60.0
BETA EXP 758	812	308.1	97	12283	105	1.32	43.00	95	1721	103	16.73	39.59	456	1769	383	0	66.6
BETA EXP 872	803	319.8	101	11618	99	1.35	46.35	102	1680	100	17.36	36.00	346	1917	413	0	54.4
Crystal 620	811	316.7	100	11736	100	1.33	45.46	100	1673	100	17.17	37.20	342	1774	436	0	49.8
Crystal 840	807	317.0	100	12383	106	1.32	45.54	100	1770	105	17.16	39.28	372	1845	394	0	55.9
Crystal R761	817	303.7	96	11801	101	1.44	41.72	92	1618	96	16.63	38.93	416	1961	445	0	63.2
Hilleshög HIL2243Rz	809	316.2	100	11021	94	1.33	45.29	100	1586	95	17.15	34.52	302	1803	439	0	57.0
Hilleshög HM3035Rz	808	322.2	102	9131	78	1.13	47.03	103	1315	78	17.24	28.53	259	1705	324	0	54.8
Hilleshög 9891Rz	805	322.2	102	10528	90	1.24	47.02	103	1538	92	17.33	32.94	282	1734	399	0	65.7
Maribo MA615Rz	802	293.5	93	10657	91	1.53	38.80	85	1408	84	16.21	36.14	495	1935	490	0	57.4
Seedex 8869 Cnv	820	314.2	99	12179	104	1.27	44.74	98	1738	104	16.98	38.90	334	1824	381	60	70.9
Seedex Deuce	815	317.5	100	12281	105	1.22	45.67	100	1766	105	17.09	38.83	299	1804	347	60	62.9
Strube 12720	818	298.5	94	12281	105	1.25	40.25	89	1668	99	16.18	40.76	400	1866	329	0	69.0
Strube 12845	801	314.3	99	12782	109	1.21	44.76	98	1820	108	16.93	40.54	316	1904	321	0	68.6
Strube 12884	806	308.7	97	11758	100	1.32	43.15	95	1645	98	16.74	38.42	406	1810	391	0	55.7
Strube 13897	819	303.1	96	12086	103	1.27	41.55	91	1662	99	16.43	39.68	402	1689	391	0	54.3
SV 48611	816	334.0	105	11664	100	1.11	50.42	111	1746	104	17.80	35.45	226	1753	316	0	59.5
SV 48777	814	332.6	105	11911	102	1.12	50.00	110	1794	107	17.75	35.94	263	1678	330	0	66.4
BTS 80RR52(Check)	821	317.4	100	11620	99	1.38	45.64	100	1676	100	17.26	36.43	313	1881	459	0	70.0
Crystal 101RR (Check)	822	303.5	96	11601	99	1.41	41.66	92	1580	94	16.58	38.47	406	1964	425	0	61.7
Crystal 355RR(Check)	823	327.9	104	11644	99	1.27	48.66	107	1714	102	17.65	35.99	246	1779	419	0	64.8
BTS 8572 (Check)	824	330.4	104	11732	100	1.22	49.37	109	1753	104	17.74	35.38	207	1774	397	0	59.2
Benchmark Mean		319.8		11649		1.32	46.33		1681		17.31	36.57	293	1850	425		63.9
Trial Mean		316.8		11717		1.28	45.47		1678		17.12	37.08	333	1804	391		61.7
Coeff. of Var. (%)		3.6		6.9		7.9	7.1		9.2		3.0	5.9	19.4	4.0	14.7		10.7
Mean LSD (0.05)		17.8		1225		0.16	5.10		240		0.80	3.26	103	107	91		9.9
Mean LSD (0.01)		23.7		1628		0.21	6.79		320		1.07	4.34	137	143	122		13.1
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2018 Data from Grand Forks ND

%Mean = percentage of trial mean.

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Created 10/03/2018

Trial # = 188207

Table 25. 2018 Performance of Varieties - Conventional Official Trials  
Scandia 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 687	804	340.5	101	10545	86	1.03	52.26	102	1621	87	18.06	30.88	175	1604	312	0	92.7
BETA EXP 698	810	335.9	100	12051	98	1.01	50.96	100	1825	98	17.81	36.05	212	1584	284	0	89.0
BETA EXP 747	813	332.0	99	12966	106	0.84	49.83	98	1951	105	17.44	38.88	171	1360	233	0	90.9
BETA EXP 758	812	336.6	100	12138	99	0.94	51.14	100	1838	99	17.77	36.18	170	1550	258	0	93.3
BETA EXP 872	803	337.6	100	13384	109	0.98	51.44	101	2037	110	17.86	39.76	198	1634	252	0	77.4
Crystal 620	811	336.7	100	12740	104	0.89	51.19	100	1928	104	17.73	38.06	170	1514	233	0	91.8
Crystal 840	807	335.1	100	13123	107	0.90	50.73	99	1988	107	17.66	39.15	173	1532	228	0	86.7
Crystal R761	817	323.9	96	12578	103	1.05	47.51	93	1842	99	17.24	38.97	212	1651	298	0	92.2
Hilleshög HIL2243Rz	809	346.0	103	10651	87	0.98	53.84	105	1665	90	18.28	30.68	152	1569	285	0	92.2
Hilleshög HM3035Rz	808	335.9	100	10382	85	0.97	50.95	100	1578	85	17.76	30.92	161	1562	277	0	77.1
Hilleshög 9891Rz	805	338.6	101	10576	86	0.95	51.74	101	1616	87	17.88	31.24	142	1532	280	60	89.5
Maribo MA615Rz	802	325.9	97	12057	98	1.05	48.10	94	1777	96	17.34	37.00	225	1588	308	0	89.9
Seedex 8869 Cnv	820	333.2	99	13310	109	0.79	50.16	98	2002	108	17.45	39.96	148	1416	186	0	91.6
Seedex Deuce	815	334.5	99	13014	106	0.89	50.56	99	1959	105	17.62	39.06	157	1523	226	0	90.0
Strube 12720	818	324.7	97	14169	116	0.89	47.73	93	2090	112	17.12	43.55	215	1546	194	0	89.6
Strube 12845	801	326.5	97	12583	103	0.90	48.27	94	1860	100	17.22	38.48	169	1504	233	0	90.9
Strube 12884	806	328.3	98	13683	112	0.94	48.79	95	2036	110	17.36	41.53	214	1504	254	0	93.7
Strube 13897	819	330.4	98	12963	106	0.88	49.38	97	1929	104	17.40	39.43	179	1363	253	0	88.3
SV 48611	816	348.8	104	12753	104	0.87	54.66	107	2005	108	18.31	36.36	131	1516	221	0	93.4
SV 48777	814	349.9	104	11944	97	0.82	54.96	108	1878	101	18.31	34.13	168	1425	197	0	92.9
BTS 80RR52(Check)	821	342.0	102	11022	90	0.91	52.70	103	1695	91	18.01	32.27	131	1555	238	0	93.3
Crystal 101RR (Check)	822	329.9	98	12335	101	1.03	49.24	96	1842	99	17.52	37.38	177	1686	279	0	92.6
Crystal 355RR(Check)	823	347.7	103	11046	90	0.96	54.32	106	1727	93	18.34	31.77	140	1553	282	0	95.4
BTS 8572 (Check)	824	352.1	105	12160	99	0.88	55.59	109	1907	103	18.49	34.70	126	1446	255	0	90.6
Benchmark Mean		342.9		11641		0.95	52.96		1793		18.09	34.03	143	1560	263		93.0
Trial Mean		336.4		12257		0.93	51.09		1858		17.75	36.52	171	1530	253		90.2
Coeff. of Var. (%)		2.2		5.4		6.8	4.2		5.8		2.0	5.7	20.6	3.9	13.4		4.9
Mean LSD (0.05)		11.0		1025		0.09	3.14		167		0.52	3.25	52	85	51		6.3
Mean LSD (0.01)		14.6		1364		0.12	4.17		222		0.69	4.32	69	112	68		8.4
Sig Lvl		**		**		**	**		**		**	**	**	**	**		**

\* 2018 Data from Scandia MN

Created 10/29/2018

%Mean = percentage of trial mean.

Trial # = 188208

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 26. 2018 Performance of Varieties - Conventional Official Trials  
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 687	804	378.0	101	8448	95	1.39	63.01	103	1401	95	20.30	22.48	166	1613	590	0	81.6
BETA EXP 698	810	375.0	101	9371	105	1.12	62.17	101	1554	106	19.89	24.99	194	1503	401	0	78.5
BETA EXP 747	813	379.8	102	8960	100	1.08	63.54	103	1503	102	20.07	23.52	172	1412	396	0	82.2
BETA EXP 758	812	380.3	102	9368	105	1.13	63.68	104	1558	106	20.17	24.87	164	1569	401	0	82.4
BETA EXP 872	803	379.4	102	9023	101	1.16	63.41	103	1509	103	20.15	23.77	198	1621	391	0	70.7
Crystal 620	811	378.3	102	8428	95	1.21	63.10	103	1407	96	20.14	22.31	171	1513	472	0	75.5
Crystal 840	807	370.4	99	9020	101	1.18	60.83	99	1487	101	19.68	24.21	221	1538	428	0	72.3
Crystal R761	817	359.1	96	9177	103	1.26	57.59	94	1474	100	19.19	25.49	187	1715	455	0	77.3
Hilleshög HIL2243Rz	809	378.9	102	8589	96	1.34	63.26	103	1436	98	20.27	22.64	196	1702	511	0	76.6
Hilleshög HM3035Rz	808	381.7	102	6578	74	0.98	64.07	104	1115	76	20.07	17.01	140	1539	302	0	71.2
Hilleshög 9891Rz	805	374.9	101	7451	84	1.21	62.13	101	1225	83	19.99	20.08	176	1600	452	0	83.5
Maribo MA615Rz	802	354.9	95	8298	93	1.49	56.38	92	1315	90	19.24	23.49	289	1744	587	0	75.0
Seedex 8869 Cnv	820	365.4	98	9174	103	1.11	59.41	97	1492	102	19.36	25.10	163	1675	355	0	80.5
Seedex Deuce	815	363.6	98	9607	108	1.11	58.89	96	1562	106	19.26	26.21	176	1699	348	0	80.4
Strube 12720	818	373.6	100	10662	120	1.16	61.76	100	1759	120	19.84	28.62	179	1791	358	0	75.7
Strube 12845	801	367.2	99	9500	107	1.14	59.91	97	1544	105	19.51	26.03	129	1690	385	0	80.9
Strube 12884	806	375.9	101	10441	117	1.09	62.40	102	1727	118	19.89	27.89	193	1734	316	0	73.8
Strube 13897	819	359.7	97	9626	108	1.17	57.76	94	1546	105	19.13	26.77	208	1458	440	120	70.3
SV 48611	816	376.7	101	9388	105	1.21	62.63	102	1560	106	20.01	24.90	131	1605	466	0	77.0
SV 48777	814	374.5	101	8804	99	1.06	62.01	101	1455	99	19.80	23.61	140	1688	325	0	79.7
BTS 80RR52(Check)	821	372.4	100	8393	94	1.32	61.40	100	1380	94	19.96	22.62	171	1616	533	0	82.8
Crystal 101RR (Check)	822	367.1	99	9213	103	1.19	59.88	97	1502	102	19.55	25.14	188	1618	420	0	83.4
Crystal 355RR(Check)	823	377.9	101	8185	92	1.23	62.98	102	1373	93	20.13	21.49	176	1650	453	0	83.4
BTS 8572 (Check)	824	377.2	101	8275	93	1.19	62.78	102	1372	93	20.03	21.97	140	1476	474	0	78.9
Benchmark Mean		373.7		8517		1.23	61.76		1407		19.92	22.81	169	1590	470		82.1
Trial Mean		372.6		8916		1.19	61.46		1469		19.82	23.97	178	1615	427		78.1
Coeff. of Var. (%)		2.7		7.1		11.1	4.8		8.2		2.4	6.5	17.4	4.2	21.0		9.6
Mean LSD (0.05)		15.7		1012		0.21	4.51		191		0.71	2.51	47	106	140		10.8
Mean LSD (0.01)		20.9		1348		0.27	5.99		254		0.95	3.34	63	141	187		14.3
Sig Lvl		**		**		**	*		**		*	**	**	**	**		**

\* 2018 Data from St Thomas ND

Created 10/11/2018

%Mean = percentage of trial mean.

Trial # = 188211

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

++ Revenue estimates are based on a \$46.40 beet payment at 17.5% sugar & 1.5% loss to molasses and does not consider hauling costs.

Table 27  
Calculation for Approval of Sugarbeet Varieties for ACSC Market for 2019

Description	Approval Status	Rec/Ton				Rev/Acre				R/T + \$/A Bench	Cercospora Rating +				
		2017	2018	2 Yr	% Bench	2017	2018	2 Yr	% Bench		2016	2017	2018	2 Yr Mean	3 Yr Mean
<b>Previously Approved (3 Yr)</b>															<b>&lt;=5.40</b>
BTS 80RR52	Approved	334.2	346.5	340.4	100.0	1699	1536	1618	99.1	199.1	4.28	4.37	4.38	4.38	4.34
BTS 8337	Approved	349.5	356.8	353.2	103.8	1842	1619	1731	106.0	209.7	4.62	4.36	4.64	4.50	4.54
BTS 8500	Approved	335.7	343.7	339.7	99.8	1862	1719	1791	109.6	209.5	4.54	4.29	4.40	4.34	4.41
BTS 8524	Approved	330.0	333.6	331.8	97.5	1796	1658	1727	105.8	203.3	4.74	4.38	4.50	4.44	4.54
BTS 8606	Approved	340.5	349.8	345.2	101.4	1882	1684	1783	109.2	210.6	5.12	4.73	4.80	4.76	4.88
BTS 8629	Approved	332.8	343.2	338.0	99.3	1884	1752	1818	111.3	210.6	4.59	4.29	4.52	4.40	4.46
Crystal 093RR	Approved	350.3	356.0	353.2	103.8	1866	1666	1766	108.1	211.9	4.95	4.49	4.88	4.68	4.77
Crystal 247RR	Approved	335.2	345.4	340.3	100.0	1832	1669	1751	107.2	207.2	4.65	4.55	4.54	4.55	4.58
Crystal 355RR	Approved	340.0	350.1	345.1	101.4	1711	1524	1618	99.1	200.4	4.60	4.36	4.52	4.44	4.50
Crystal 467RR	Approved	330.1	340.9	335.5	98.6	1804	1653	1729	105.8	204.4	4.69	4.46	4.61	4.53	4.58
Crystal 572RR	Approved	354.7	354.6	354.7	104.2	1891	1718	1805	110.5	214.7	4.57	4.27	4.45	4.36	4.43
Crystal 573RR	Approved	343.9	354.3	349.1	102.6	1785	1711	1748	107.0	209.6	4.35	4.15	4.38	4.26	4.29
Crystal 574RR	Approved	334.4	342.5	338.5	99.4	1875	1733	1804	110.5	209.9	4.51	4.35	4.42	4.38	4.43
Crystal 578RR	Approved	338.4	346.5	342.5	100.6	1899	1645	1772	108.5	209.1	4.87	4.91	4.74	4.83	4.84
Crystal 684RR	Approved	333.7	342.3	338.0	99.3	1899	1756	1828	111.9	211.2	4.57	4.34	4.41	4.38	4.44
Hilleshög HM4302RR	Approved	334.0	343.8	338.9	99.6	1597	1572	1585	97.0	196.6	4.13	3.93	4.26	4.09	4.10
Hilleshög HM4448RR	Approved	338.0	346.8	342.4	100.6	1829	1720	1775	108.7	209.3	5.21	5.28	5.26	5.27	5.25
Hilleshög HM9528RR	Approved	339.3	344.5	341.9	100.5	1785	1632	1709	104.6	205.1	4.73	4.99	4.79	4.89	4.84
Hilleshög HIL9708	Approved	338.6	346.9	342.8	100.7	1640	1684	1662	101.8	202.5	4.74	4.61	4.71	4.66	4.69
Maribo MA109	Approved	347.6	354.3	351.0	103.1	1569	1522	1546	94.6	197.8	4.14	4.14	4.33	4.23	4.20
Maribo MA305	Approved	331.7	337.3	334.5	98.3	1731	1589	1660	101.7	199.9	4.72	4.98	4.92	4.95	4.87
Maribo MA502	Approved	329.8	335.4	332.6	97.7	1642	1520	1581	96.8	194.5	4.79	5.01	4.95	4.98	4.92
Maribo MA504	Approved	333.9	343.0	338.5	99.4	1830	1748	1789	109.6	209.0	5.04	5.50	4.98	5.24	5.17
SV RR265	Approved	336.8	343.7	340.3	100.0	1836	1663	1750	107.1	207.1	5.00	5.19	4.48	4.83	4.89
SV RR266	Approved	337.9	345.5	341.7	100.4	1814	1644	1729	105.9	206.3	4.74	4.61	4.73	4.67	4.69
SV RR268	Approved	341.1	350.3	345.7	101.6	1802	1679	1741	106.6	208.2	5.13	5.06	4.70	4.88	4.97
SV RR333	Approved	338.9	351.1	345.0	101.4	1823	1642	1733	106.1	207.5	4.85	4.84	4.78	4.81	4.82
SV RR351	Approved	337.3	347.4	342.4	100.6	1783	1661	1722	105.5	206.0	4.50	4.41	4.61	4.51	4.51
SX Avalanche RR	Approved	342.2	348.8	345.5	101.5	1690	1582	1636	100.2	201.7	4.74	4.64	4.50	4.57	4.63
SX Bronco RR(1863)	Approved	342.4	349.0	345.7	101.6	1773	1647	1710	104.7	206.3	4.35	4.08	4.65	4.37	4.36
SX Canyon RR	Approved	342.4	346.0	344.2	101.1	1829	1674	1752	107.3	208.4	4.76	4.92	4.79	4.85	4.82
SX Cruze RR	Approved	318.4	319.5	319.0	93.7	1696	1465	1581	96.8	190.5	4.65	5.37	5.79	5.58	5.27
SX Marathon RR	Approved	340.4	347.2	343.8	101.0	1812	1717	1765	108.1	209.1	4.44	4.54	5.27	4.90	4.75
<b>Candidates for Approval (2 Yr)</b>															<b>&lt;=5.00</b>
BTS 8735	Approved	335.7	354.1	344.9	101.3	1836	1689	1763	107.9	209.3	--	4.22	4.21	4.22	--
BTS 8749	Approved	337.7	347.6	342.7	100.7	1719	1596	1658	101.5	202.2	--	4.05	4.10	4.08	--
BTS 8767	Approved	339.2	344.7	342.0	100.5	1878	1664	1771	108.5	208.9	--	4.16	4.32	4.24	--
BTS 8784	Approved	351.4	358.0	354.7	104.2	1787	1667	1727	105.8	210.0	--	3.65	3.73	3.69	--
Crystal 792RR	Approved	344.0	349.9	347.0	101.9	1799	1684	1742	106.6	208.6	--	3.94	4.26	4.10	--
Crystal 793RR	Approved	347.5	356.7	352.1	103.5	1896	1804	1850	113.3	216.7	--	3.93	4.26	4.10	--
Crystal 796RR	Approved	337.0	345.4	341.2	100.3	1950	1743	1847	113.1	213.3	--	4.85	4.74	4.79	--
Hilleshög HIL9920	Approved	347.2	355.2	351.2	103.2	1785	1695	1740	106.6	209.7	--	4.89	4.79	4.84	--
Maribo MA717	Approved	342.0	354.4	348.2	102.3	1742	1666	1704	104.3	206.7	--	4.85	4.78	4.81	--
SV RR371	Approved	339.0	346.0	342.5	100.6	1833	1622	1728	105.8	206.4	--	4.59	4.71	4.65	--
SV RR375	Not Approved	342.4	347.2	344.8	101.3	1802	1648	1725	105.6	206.9	--	5.08	4.96	5.02	--
SX RR1879	Approved	338.5	347.1	342.8	100.7	1770	1652	1711	104.8	205.5	--	4.88	4.44	4.66	--
<b>Benchmark Varieties</b>		2016	2017	2018		2016	2017	2018							
BTS 81RR17(Check)	Benchmark	310.2				1845									
Hilleshög HM4302RR	Benchmark	317.4	334.0			1801	1597								
BTS 80RR52	Benchmark	316.8	334.2	346.5		1960	1699	1536							
Crystal 101RR	Benchmark	306.3	329.3	337.8		1849	1718	1602							
Crystal 355RR	Benchmark		340.0	350.1		1711	1524								
BTS 8572	Benchmark			350.7			1677								
<b>Benchmark mean</b>		312.7	334.4	346.3	340.3	1864	1681	1585	1633						

+ All Cercospora ratings 2016-2018 were adjusted to 1982 basis.

Variety approval criteria include: 1) 2 years of official trial data, 2) Cercospora rating must not exceed 5.00 (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.

Created 11-05-2018

Bench for 2018 added Beta 8572 and dropped Hill 4302(Check).

To maintain approval, the 3-year Cercospora rating must not exceed 5.40 (1982 adjusted data).

**Table 28**  
**Projected Calculation for Approval of Sugarbeet Varieties for ACSC Market**

Description	Approval ^ Likely	Rec/Ton		Rev/Acre		R/T + \$/A	CR Rating ^^
		2018	% Bench	2018	% Bench	Bench	2018
Candidates for Retesting (1 Yr)							
BTS 8815	On Track	351.1	101.4	1670	105.4	206.8	4.65
BTS 8826	On Track	352.1	101.7	1522	96.0	197.7	4.21
BTS 8839	On Track	354.4	102.3	1627	102.7	205.0	4.41
BTS 8844	On Track	353.9	102.2	1608	101.5	203.7	4.62
BTS 8857	On Track	349.9	101.0	1472	92.9	193.9	4.36
BTS 8864	On Track	356.1	102.8	1605	101.3	204.1	4.32
BTS 8882	On Track	345.3	99.7	1709	107.8	207.6	4.53
BTS 8891	On Track	356.3	102.9	1612	101.7	204.6	4.57
Crystal 802RR	On Track	353.3	102.0	1647	103.9	206.0	4.46
Crystal 803RR	On Track	352.2	101.7	1727	109.0	210.7	4.01
Crystal 804RR	On Track	343.5	99.2	1731	109.2	208.4	4.42
Crystal 807RR	On Track	347.9	100.5	1692	106.8	207.2	4.49
Crystal 808RR	On Track	347.8	100.4	1771	111.8	212.2	4.86
Crystal 809RR	On Track	350.6	101.2	1566	98.8	200.1	4.63
Hilleshög HIL2230	Not On Track	342.7	99.0	1578	99.6	198.5	4.71
Hilleshög HIL2231	Not On Track	334.3	96.5	1398	88.2	184.8	4.85
Hilleshög HIL2232	On Track	349.9	101.0	1547	97.6	198.7	4.37
Hilleshög HIL2233	On Track	351.4	101.5	1705	107.6	209.1	4.87
Hilleshög HIL2234	Not On Track	341.2	98.5	1552	97.9	196.5	4.33
Hilleshög HIL2235	Not On Track	342.9	99.0	1592	100.5	199.5	4.11
Hilleshög HIL2236	On Track	350.9	101.3	1566	98.8	200.2	4.92
Maribo MA808	Not On Track	337.7	97.5	1430	90.2	187.8	4.99
Maribo MA809	Not On Track	334.4	96.6	1596	100.7	197.3	4.55
Maribo MA810	Not On Track	343.8	99.3	1467	92.6	191.9	5.36
Maribo MA811	Not On Track	344.5	99.5	1578	99.6	199.1	4.84
Maribo MA812	On Track	351.6	101.5	1532	96.7	198.2	4.90
SV 284	Not On Track	345.7	99.8	1581	99.8	199.6	4.07
SV 285	On Track	346.3	100.0	1633	103.0	203.1	4.52
SV 286	Not On Track	345.6	99.8	1610	101.6	201.4	5.25
SV 287	Not On Track	341.2	98.5	1615	101.9	200.4	5.28
SV 288	Not On Track	338.9	97.9	1612	101.7	199.6	4.88
SV 289	On Track	351.3	101.5	1689	106.6	208.0	4.65
SX 1885	Not On Track	346.0	99.9	1609	101.5	201.5	5.32
SX 1886	On Track	345.3	99.7	1628	102.7	202.4	4.79
SX 1887	On Track	348.6	100.7	1659	104.7	205.4	4.89
SX 1888	On Track	349.3	100.9	1698	107.1	208.0	4.92
SX 1889	On Track	346.3	100.0	1496	94.4	194.4	3.91
Benchmarks							
BTS 80RR52		346.5	100.1	1536	96.9		
Crystal 101RR		337.8	97.6	1602	101.1		
Crystal 355RR		350.1	101.1	1524	96.2		
BTS 8572		350.7	101.3	1677	105.8		
Benchmark Mean		346.3		1585			

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

Created 11-05-2018

^^ All Cercospora ratings 2018 were adjusted to 1982 basis.

Full market approval criteria include: 1) 2 years of official trial data, 2) Cercospora rating must not exceed 5.00 (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 2018 added Beta 8572 and dropped Hill 4302(Check).

Table 29  
Calculation for Approval of Sugarbeet Varieties for ACSC Aphanomyces Specialty Market for 2019

Trial Yrs	Description	Approval Status	Root Aph. Rating					Cercospora Rating +				
			2016	2017	2018	2 Yr	3 Yr	2016	2017	2018	2 Yr	3 Yr
<b>Previously Approved (3 Yrs)</b>			<b>&lt;=4.70</b>					<b>&lt;=5.40</b>				
9	BTS 80RR52	Approved	4.11	4.36	4.49	4.43	4.32	4.28	4.37	4.38	4.38	4.34
6	BTS 8337	Approved	3.26	3.78	3.74	3.76	3.59	4.62	4.36	4.64	4.50	4.54
4	BTS 8500	Approved	4.22	4.52	4.43	4.48	4.39	4.54	4.29	4.40	4.35	4.41
4	BTS 8524	Approved	3.89	4.49	4.08	4.29	4.15	4.74	4.38	4.50	4.44	4.54
9	Crystal 093RR	Approved	4.32	4.43	4.38	4.41	4.38	4.95	4.49	4.88	4.69	4.77
6	Crystal 355RR	Approved	4.46	4.84	4.42	4.63	4.57	4.60	4.36	4.52	4.44	4.49
5	Crystal 467RR	Approved	4.04	3.96	3.68	3.82	3.89	4.69	4.46	4.61	4.54	4.59
4	Crystal 573RR	Approved	4.06	3.84	4.33	4.09	4.08	4.35	4.15	4.38	4.27	4.29
4	Crystal 574RR	Approved	3.69	4.72	4.32	4.52	4.24	4.51	4.35	4.42	4.39	4.43
3	Crystal 684RR	Approved	3.74	4.31	3.83	4.07	3.96	4.57	4.34	4.41	4.38	4.44
6	Hilleshög HM9528RR	Approved	3.77	5.63	4.22	4.93	4.54	4.73	4.99	4.79	4.89	4.84
5	Maribo MA109	Approved	4.27	5.06	4.38	4.72	4.57	4.14	4.14	4.33	4.24	4.20
4	Maribo MA502	Approved	3.06	3.53	3.67	3.60	3.42	4.79	5.01	4.95	4.98	4.92
3	SV RR268	Approved	4.00	4.71	4.21	4.46	4.31	5.13	5.06	4.70	4.88	4.96
6	SV RR333	Approved	4.71	4.99	4.06	4.53	4.59	4.85	4.84	4.78	4.81	4.82
4	SV RR351	Approved	4.38	4.18	4.50	4.34	4.35	4.50	4.41	4.61	4.51	4.51
4	SX Avalanche RR	Approved	4.44	4.00	4.18	4.09	4.21	4.74	4.64	4.50	4.57	4.63
3	SX Bronco RR(1863)	Approved	3.55	4.88	4.05	4.47	4.16	4.35	4.08	4.65	4.37	4.36
5	SX Cruze RR	Approved	3.41	4.79	4.38	4.59	4.19	4.65	5.37	5.79	5.58	5.27
5	SX Canyon RR	Approved	4.28	4.33	4.34	4.34	4.32	4.76	4.92	4.79	4.86	4.82
<b>Candidates for Approval</b>			<b>&lt;=4.40</b>					<b>&lt;=5.00</b>				
3	BTS 8606	NO	4.60	4.91	4.43	4.67	4.65	5.12	4.73	4.80	4.77	4.88
3	BTS 8629	Approved	4.14	4.68	3.89	4.29	4.24	4.59	4.29	4.52	4.41	4.47
2	BTS 8735	Approved	--	4.74	4.00	4.37	--	--	4.22	4.21	4.22	--
2	BTS 8749	Approved	--	3.53	2.79	3.16	--	--	4.05	4.10	4.08	--
2	BTS 8767	NO	--	4.80	4.28	4.54	--	--	4.16	4.32	4.24	--
2	BTS 8784	NO	--	4.59	4.22	4.41	--	--	3.65	3.73	3.69	--
7	Crystal 247RR	NO	4.77	5.35	5.02	5.19	5.05	4.65	4.55	4.54	4.55	4.58
4	Crystal 572RR	NO	4.74	4.69	4.47	4.58	4.63	4.57	4.27	4.45	4.36	4.43
4	Crystal 578RR	Approved	4.44	4.56	4.21	4.39	4.40	4.87	4.91	4.74	4.83	4.84
2	Crystal 792RR	Approved	--	4.73	3.78	4.26	--	--	3.94	4.26	4.10	--
2	Crystal 793RR	Approved	--	3.02	3.32	3.17	--	--	3.93	4.26	4.10	--
2	Crystal 796RR	Approved	--	3.11	3.61	3.36	--	--	4.85	4.74	4.80	--
8	Hilleshög HM4302RR	NO	4.63	6.66	4.65	5.66	5.31	4.13	3.93	4.26	4.10	4.11
7	Hilleshög HM4448RR	NO	3.90	6.29	4.53	5.41	4.91	5.21	5.28	5.26	5.27	5.25
4	Hilleshög HIL9708	NO	4.82	5.94	4.25	5.10	5.00	4.74	4.61	4.71	4.66	4.69
2	Hilleshög HIL9920	NO	--	4.94	4.09	4.52	--	--	4.89	4.79	4.84	--
6	Maribo 305	NO	4.42	5.67	4.91	5.29	5.00	4.72	4.98	4.92	4.95	4.87
4	Maribo MA504	NO	4.54	6.20	5.30	5.75	5.35	5.04	5.50	4.98	5.24	5.17
2	Maribo MA717	NO	--	5.31	4.15	4.73	--	--	4.85	4.78	4.82	--
2	SX RR1879	Approved	--	4.18	4.39	4.29	--	--	4.88	4.44	4.66	--
4	SX Marathon RR	NO	4.38	4.52	4.72	4.62	4.54	4.44	4.54	5.27	4.91	4.75
2	SV RR265	NO	--	4.55	4.51	4.53	--	--	4.59	4.71	4.65	--
3	SV RR266	NO	4.62	5.64	4.72	5.18	4.99	4.74	4.61	4.73	4.67	4.69
2	SV RR371	NO	--	4.55	4.51	4.53	--	--	4.59	4.71	4.65	--
2	SV RR375	NO	--	4.54	3.83	4.19	--	--	5.08	4.96	5.02	--
Approval Criteria new varieties						4.40				5.00		
Criteria to Maintain Approval						4.70				5.40		

+ All Cercospora ratings 2016-2018 were adjusted to 1982 basis.

Created 11/6/2018

Aphanomyces approval criteria include: 1) Cercospora rating must not exceed 5.00 (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.

Table 30  
Calculation for Approval of Sugarbeet Varieties for ACSC Rhizoctonia Specialty Market for 2019

Description	Approval Status	Disease Index +					Cercospora Rating				
		2016	2017	2018	2 Yr Mn	3 Yr Mn	2016	2017	2018	2 Yr Mn	3 Yr Mn
Previously Approved (3 Yr)											
Crystal 355RR	Approved	3.96	4.09	3.66	3.88	3.90	4.60	4.36	4.52	4.44	4.49
Hilleshög HM4302RR	Approved	3.65	3.60	3.71	3.66	3.65	4.13	3.93	4.26	4.10	4.11
Maribo MA109	Approved	3.69	3.63	3.69	3.66	3.67	4.14	4.14	4.33	4.24	4.20
Candidates for Approval (2 Yr)											
BTS 80RR52	Not Approved	4.41	4.14	3.96	4.05	4.17	4.28	4.37	4.38	4.38	4.34
BTS 8337	Not Approved	4.08	4.30	4.07	4.19	4.15	4.62	4.36	4.64	4.50	4.54
BTS 8500	Not Approved	4.43	4.57	4.36	4.47	4.45	4.54	4.29	4.40	4.35	4.41
BTS 8524	Not Approved	4.20	4.41	4.23	4.32	4.28	4.74	4.38	4.50	4.44	4.54
BTS 8606	Not Approved	4.48	5.00	4.24	4.62	4.57	5.12	4.73	4.80	4.77	4.88
BTS 8629	Not Approved	3.73	4.21	4.02	4.12	3.99	4.59	4.29	4.52	4.41	4.47
BTS 8735	Not Approved	--	4.38	4.12	4.25	--	--	4.22	4.21	4.22	--
BTS 8749	Not Approved	--	3.95	3.88	3.92	--	--	4.05	4.10	4.08	--
BTS 8767	Not Approved	--	4.75	4.10	4.43	--	--	4.16	4.32	4.24	--
BTS 8784	Not Approved	--	4.64	4.60	4.62	--	--	3.65	3.73	3.69	--
Crystal 093RR	Not Approved	4.37	4.50	4.59	4.55	4.49	4.95	4.49	4.88	4.69	4.77
Crystal 247RR	Not Approved	4.32	4.49	4.56	4.53	4.46	4.65	4.55	4.54	4.55	4.58
Crystal 467RR	Not Approved	4.26	4.47	3.94	4.21	4.22	4.69	4.46	4.61	4.54	4.59
Crystal 572RR	Not Approved	4.21	4.47	4.54	4.51	4.41	4.57	4.27	4.45	4.36	4.43
Crystal 573RR	Not Approved	4.55	4.57	4.29	4.43	4.47	4.35	4.15	4.38	4.27	4.29
Crystal 574RR	Not Approved	4.47	4.16	4.36	4.26	4.33	4.51	4.35	4.42	4.39	4.43
Crystal 578RR	Not Approved	4.32	4.40	4.30	4.35	4.34	4.87	4.91	4.74	4.83	4.84
Crystal 684RR	Not Approved	4.41	4.57	4.39	4.48	4.46	4.57	4.34	4.41	4.38	4.44
Crystal 792RR	Not Approved	--	3.88	4.22	4.05	--	--	3.94	4.26	4.10	--
Crystal 793RR	Not Approved	--	4.26	4.11	4.19	--	--	3.93	4.26	4.10	--
Crystal 796RR	Not Approved	--	4.23	3.97	4.10	--	--	4.85	4.74	4.80	--
Hilleshög HM4448RR	Not Approved	4.51	4.63	4.38	4.51	4.51	5.21	5.28	5.26	5.27	5.25
Hilleshög HM9528RR	Not Approved	4.21	4.21	4.04	4.13	4.15	4.73	4.99	4.79	4.89	4.84
Hilleshög HIL9708	Not Approved	4.28	4.21	3.71	3.96	4.07	4.74	4.61	4.71	4.66	4.69
Hilleshög HIL9920	Not Approved	--	4.48	4.65	4.57	--	--	4.89	4.79	4.84	--
Maribo MA305	Not Approved	4.40	4.60	4.26	4.43	4.42	4.72	4.98	4.92	4.95	4.87
Maribo MA502	Not Approved	4.73	4.78	4.20	4.49	4.57	4.79	5.01	4.95	4.98	4.92
Maribo MA504	Not Approved	4.58	4.37	4.25	4.31	4.40	5.04	5.50	4.98	5.24	5.17
Maribo MA717	Not Approved	--	4.28	4.35	4.32	--	--	4.85	4.78	4.82	--
SV RR265	Not Approved	4.44	4.42	4.32	4.37	4.39	5.00	5.19	4.48	4.84	4.89
SV RR266	Not Approved	4.20	4.39	4.34	4.37	4.31	4.74	4.61	4.73	4.67	4.69
SV RR268	Not Approved	4.70	4.57	4.21	4.39	4.49	5.13	5.06	4.70	4.88	4.96
SV RR333	Not Approved	4.44	4.44	4.23	4.34	4.37	4.85	4.84	4.78	4.81	4.82
SV RR351	Not Approved	4.17	4.25	4.16	4.21	4.19	4.50	4.41	4.61	4.51	4.51
SV RR371	Not Approved	--	4.31	4.19	4.25	--	--	4.59	4.71	4.65	--
SV RR375	Not Approved	--	4.25	4.13	4.19	--	--	5.08	4.96	5.02	--
SX Avalanche RR	Not Approved	4.52	4.29	4.36	4.33	4.39	4.74	4.64	4.50	4.57	4.63
SX Bronco RR(1863)	Not Approved	4.54	4.23	4.73	4.48	4.50	4.35	4.08	4.65	4.37	4.36
SX Canyon RR	Not Approved	4.40	4.51	4.36	4.44	4.42	4.76	4.92	4.79	4.86	4.82
SX Cruze RR	Not Approved	4.69	4.39	4.23	4.31	4.44	4.65	5.37	5.79	5.58	5.27
SX Marathon RR	Not Approved	4.47	4.40	4.19	4.30	4.35	4.44	4.54	5.27	4.91	4.75
SX RR1879	Not Approved	--	4.36	4.32	4.34	--	--	4.88	4.44	4.66	--
Susceptible Checks											
RH CK#08 CRY539RR		4.84	4.74	4.68							
RH CK#21 CRY5768RR		4.32	4.66	4.52							
RH CK#25 HILL4043RR		4.76	4.51	4.83							
RH CK#28 CRY5658RR		4.57	4.36	4.02							
RH CK#29 BETA87RR58		4.67	4.79	--							
RH CK#31 HILL4000RR		4.80	4.65	--							
RH CK#35 SES36812RR		4.55	4.71	4.29							
RH CK#36 BTS85RR02		4.45	4.10	4.46							
RH CK#37 SES36918RR		4.67	4.43	4.32							
RH CK#40 CRY5101RR		4.65	4.55	4.50							
RH CK#45 BTS82RR33		4.19	4.73	4.70							
RH CK#47 SES36272RR		4.50	4.62	4.36							
RH CK#49 CRY5247RR		4.38	4.65	4.62							
Susceptible Hybrid Mean		4.64	4.66	4.48	4.57	4.59				5.00	5.40
Approval Criteria ++		3.82	3.82	3.82	3.82	3.82					
Disapproval Criteria						4.13					

Rhc and CR ratings were adjusted based upon check performance.

Created 11/6/2018

+ 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 2018.

Table 31.  
2018 Aphanomyces Ratings for Official Trial Entries  
Betaseed Nursery - Shakopee, MN & ACSC - RRV

Chk++	Code	Description	Unadjusted ^^		Adjusted ^^						Trial Yrs \$\$	
			George 7/31	Shak 8/22	George 7/31	Shak 8/22	2018	2 Yr	3 Yr	2017^^		2016 ^^
570	BTS 80RR52		4.62	4.15	4.58	4.40	4.49	4.43	4.32	4.36	4.11	9
501	BTS 8337		4.07	3.25	4.03	3.44	3.74	3.76	3.59	3.78	3.26	6
577	BTS 8500		4.31	4.34	4.27	4.60	4.43	4.48	4.39	4.52	4.22	4
503	BTS 8524		3.90	4.05	3.87	4.29	4.08	4.28	4.15	4.49	3.89	4
576	BTS 8606		4.41	4.23	4.37	4.48	4.43	4.67	4.64	4.91	4.60	3
527	BTS 8629		4.21	3.41	4.17	3.61	3.89	4.28	4.24	4.68	4.14	3
521	BTS 8735		3.83	3.97	3.80	4.20	4.00	4.37	--	4.74	--	2
512	BTS 8749		3.04	2.43	3.01	2.57	2.79	3.16	--	3.53	--	2
568	BTS 8767		4.33	4.02	4.29	4.26	4.28	4.54	--	4.80	--	2
572	BTS 8784		4.45	3.81	4.41	4.03	4.22	4.40	--	4.59	--	2
529	BTS 8815		4.09	3.67	4.05	3.89	3.97	--	--	--	--	1
505	BTS 8826		4.87	5.13	4.83	5.43	5.13	--	--	--	--	1
536	BTS 8839		3.69	3.60	3.66	3.81	3.74	--	--	--	--	1
516	BTS 8844		3.55	3.46	3.52	3.66	3.59	--	--	--	--	1
531	BTS 8857		5.06	4.74	5.02	5.02	5.02	--	--	--	--	1
554	BTS 8864		4.45	4.78	4.41	5.06	4.74	--	--	--	--	1
535	BTS 8882		5.06	4.67	5.02	4.95	4.98	--	--	--	--	1
553	BTS 8891		4.42	3.58	4.38	3.79	4.09	--	--	--	--	1
530	Crystal 093RR		4.12	4.42	4.08	4.68	4.38	4.41	4.38	4.43	4.32	9
542	Crystal 247RR		4.72	5.07	4.68	5.37	5.02	5.19	5.05	5.35	4.77	7
562	Crystal 355RR		4.14	4.48	4.10	4.74	4.42	4.63	4.58	4.84	4.46	6
513	Crystal 467RR		3.90	3.30	3.87	3.49	3.68	3.82	3.90	3.96	4.04	5
518	Crystal 572RR		4.26	4.45	4.22	4.71	4.47	4.58	4.63	4.69	4.74	4
563	Crystal 573RR		4.40	4.06	4.36	4.30	4.33	4.09	4.08	3.84	4.06	4
575	Crystal 574RR		4.15	4.28	4.11	4.53	4.32	4.52	4.24	4.72	3.69	4
508	Crystal 578RR		4.20	4.01	4.16	4.25	4.21	4.38	4.40	4.56	4.44	4
545	Crystal 684RR		3.71	3.76	3.68	3.98	3.83	4.07	3.96	4.31	3.74	3
522	Crystal 792RR		4.01	3.39	3.98	3.59	3.78	4.26	--	4.73	--	2
557	Crystal 793RR		3.58	2.92	3.55	3.09	3.32	3.17	--	3.02	--	2
574	Crystal 796RR		3.87	3.20	3.84	3.39	3.61	3.36	--	3.11	--	2
519	Crystal 802RR		3.98	3.73	3.95	3.95	3.95	--	--	--	--	1
558	Crystal 803RR		3.99	3.56	3.96	3.77	3.86	--	--	--	--	1
517	Crystal 804RR		3.91	3.11	3.88	3.29	3.58	--	--	--	--	1
550	Crystal 807RR		4.96	4.23	4.92	4.48	4.70	--	--	--	--	1
547	Crystal 808RR		3.73	3.30	3.70	3.49	3.60	--	--	--	--	1
534	Crystal 809RR		3.37	3.70	3.34	3.92	3.63	--	--	--	--	1
580	Hilleshög HM4302RR		4.56	4.52	4.52	4.79	4.65	5.66	5.32	6.66	4.63	8
510	Hilleshög HM4448RR		4.42	4.42	4.38	4.68	4.53	5.41	4.91	6.29	3.90	7
543	Hilleshög HM9528RR		3.87	4.35	3.84	4.61	4.22	4.93	4.54	5.63	3.77	6
560	Hilleshög HIL2230		3.70	4.01	3.67	4.25	3.96	--	--	--	--	1
581	Hilleshög HIL2231		3.72	3.86	3.69	4.09	3.89	--	--	--	--	1
502	Hilleshög HIL2232		3.68	4.46	3.65	4.72	4.19	--	--	--	--	1
566	Hilleshög HIL2233		4.16	3.69	4.12	3.91	4.02	--	--	--	--	1
579	Hilleshög HIL2234		4.80	4.53	4.76	4.80	4.78	--	--	--	--	1
514	Hilleshög HIL2235		4.46	4.56	4.42	4.83	4.63	--	--	--	--	1
506	Hilleshög HIL2236		3.69	4.88	3.66	5.17	4.41	--	--	--	--	1
533	Hilleshög HIL9708		4.19	4.10	4.15	4.34	4.25	5.09	5.00	5.94	4.82	4
525	Hilleshög HIL9920		3.80	4.17	3.77	4.42	4.09	4.52	--	4.94	--	2

Table 31.  
2018 Aphanomyces Ratings for Official Trial Entries  
Betaseed Nursery - Shakopee, MN & ACSC - RRV

541	Maribo MA109	3.80	4.72	3.77	5.00	4.38	4.72	4.57	5.06	4.27	5
532	Maribo MA305	4.28	5.26	4.24	5.57	4.91	5.29	5.00	5.67	4.42	6
515	Maribo MA502	3.85	3.32	3.82	3.52	3.67	3.60	3.42	3.53	3.06	4
504	Maribo MA504	4.88	5.44	4.84	5.76	5.30	5.75	5.34	6.20	4.54	4
567	Maribo MA717	4.00	4.10	3.97	4.34	4.15	4.73	--	5.31	--	2
578	Maribo MA808	4.09	4.47	4.05	4.73	4.39	--	--	--	--	1
509	Maribo MA809	4.95	4.85	4.91	5.14	5.02	--	--	--	--	1
571	Maribo MA810	4.28	3.59	4.24	3.80	4.02	--	--	--	--	1
564	Maribo MA811	4.21	4.33	4.17	4.59	4.38	--	--	--	--	1
556	Maribo MA812	3.71	4.30	3.68	4.55	4.12	--	--	--	--	1
511	SV 284	4.19	4.54	4.15	4.81	4.48	--	--	--	--	1
561	SV 285	3.68	4.08	3.65	4.32	3.98	--	--	--	--	1
526	SV 286	4.59	4.71	4.55	4.99	4.77	--	--	--	--	1
520	SV 287	4.26	3.94	4.22	4.17	4.20	--	--	--	--	1
507	SV 288	5.12	5.39	5.08	5.71	5.39	--	--	--	--	1
523	SV 289	4.17	4.45	4.13	4.71	4.42	--	--	--	--	1
552	SV RR265	3.87	4.23	3.84	4.48	4.16	4.76	4.69	5.35	4.54	3
540	SV RR266	4.23	4.95	4.19	5.24	4.72	5.18	4.99	5.64	4.62	3
548	SV RR268	3.96	4.25	3.93	4.50	4.21	4.46	4.31	4.71	4.00	3
537	SV RR333	3.86	4.05	3.83	4.29	4.06	4.52	4.59	4.99	4.71	6
544	SV RR351	4.03	4.72	4.00	5.00	4.50	4.34	4.35	4.18	4.38	4
582	SV RR371	3.94	4.83	3.91	5.12	4.51	4.53	--	4.55	--	2
555	SV RR375	3.51	3.95	3.48	4.18	3.83	4.19	--	4.54	--	2
538	SX 1885	4.02	5.01	3.99	5.31	4.65	--	--	--	--	1
539	SX 1886	4.28	4.44	4.24	4.70	4.47	--	--	--	--	1
559	SX 1887	4.28	4.47	4.24	4.73	4.49	--	--	--	--	1
546	SX 1888	3.93	3.94	3.90	4.17	4.03	--	--	--	--	1
565	SX 1889	5.07	5.00	5.03	5.30	5.16	--	--	--	--	1
573	SX Avalanche RR	3.82	4.32	3.79	4.58	4.18	4.09	4.21	4.00	4.44	4
569	SX Bronco RR(1863)	4.61	3.33	4.57	3.53	4.05	4.46	4.16	4.88	3.55	3
551	SX Canyon RR	4.08	4.37	4.04	4.63	4.34	4.33	4.32	4.33	4.28	5
549	SX Cruze RR	4.16	4.38	4.12	4.64	4.38	4.58	4.19	4.79	3.41	5
528	SX Marathon RR	4.40	4.80	4.36	5.08	4.72	4.62	4.54	4.52	4.38	4
524	SX RR1879	4.43	4.15	4.39	4.40	4.39	4.28	--	4.18	--	2
1	1001 AP CK#32 CRY5981RR	4.19	3.24	4.15	3.43	3.79	3.49	3.56	3.19	3.71	10
1	1002 AP CK#33 CRY5768RR	4.48	4.42	4.44	4.68	4.56	4.65	4.67	4.74	4.71	12
1	1003 AP CK#34 HILL4000RR	4.99	4.99	4.95	5.28	5.12	5.94	5.79	6.76	5.49	12
1	1004 AP CK#35 BETA87RR58	5.59	5.49	5.54	5.81	5.68	5.27	5.25	4.86	5.20	12
1	1005 AP CK#41 CRY5765RR	5.89	5.80	5.84	6.14	5.99	6.00	5.94	6.01	5.81	8
1	1006 AP CK#43 BTS80RR32	4.65	4.34	4.61	4.60	4.60	4.62	4.63	4.64	4.66	9
1	1007 AP CK#44 SX VISION RR	5.01	4.80	4.97	5.08	5.03	5.10	5.06	5.17	4.97	10
1	1008 AP CK#45 CRY5986RR	4.01	3.81	3.98	4.03	4.01	4.11	4.28	4.22	4.60	10
1	1009 AP CK#47 CRY5101RR	4.24	3.18	4.20	3.37	3.79	3.81	3.68	3.83	3.41	8
1	1010 AP CK#49 BTS82RR33	5.61	4.80	5.56	5.08	5.32	5.80	5.75	6.29	5.63	7
1	1011 AP CK#51 CRY5246RR	5.12	5.06	5.08	5.36	5.22	4.94	4.92	4.65	4.89	7
1	1012 AP CK#52 HILL4094RR	4.43	4.49	4.39	4.76	4.57	4.57	4.68	4.58	4.90	11
1	1013 AP CK#55 CRY5247RR	5.50	4.91	5.45	5.20	5.33	4.66	4.84	4.00	5.19	7
1	1014 AP CK#56 BTS8363	4.93	5.12	4.89	5.42	5.15	4.88	4.89	4.60	4.93	6
1	1015 AP CK#57 CRY5578RR	4.64	4.15	4.60	4.40	4.50	4.53	4.50	4.56	4.44	4
	1016 AP CHK SUS HYB#3	5.68	5.70	5.63	6.04	5.83	5.41	5.51	4.99	5.70	12
	1017 AP CHK MOD RES RR	5.14	4.33	5.10	4.59	4.84	4.75	4.75	4.65	4.76	12
	1018 AP CHK RES RR	3.90	4.82	3.87	5.10	4.49	4.49	4.30	4.49	3.93	13
	1019 AP CHK SUS HYB#3	6.02	5.52	5.97	5.85	5.91	5.45	5.53	4.99	5.70	12
	1020 AP CHK SUS HYB#4	6.12	5.64	6.07	5.97	6.02	6.00	5.94	5.99	5.82	12
	1021 AP CHK MOD RES RR#2	4.49	5.26	4.45	5.57	5.01	4.89	4.84	4.78	4.74	12
	1022 AP CHK MOD RES RR#3	4.64	4.84	4.60	5.13	4.86	5.02	5.02	5.17	5.03	10
	1023 AC CHK RES RR#3	3.95	2.94	3.92	3.11	3.51	3.37	3.26	3.23	3.02	11

Table 31.  
2018 Aphanomyces Ratings for Official Trial Entries  
Betaseed Nursery - Shakopee, MN & ACSC - RRV

Conventional											
910	BETA EXP 687	3.94	4.15	3.91	4.39	4.15	4.23	4.44	4.30	4.88	3
918	BETA EXP 698	4.02	3.20	3.98	3.39	3.68	3.65	3.66	3.62	3.69	3
919	BETA EXP 747	3.80	4.03	3.77	4.27	4.02	3.81	--	3.60	--	2
906	BETA EXP 758	4.10	3.16	4.07	3.34	3.70	3.50	--	3.29	--	2
907	BETA EXP 872	4.27	3.46	4.24	3.66	3.95	--	--	--	--	1
903	Crystal 620	3.98	3.44	3.95	3.64	3.79	3.94	4.05	4.09	4.28	3
904	Crystal 840	4.17	3.27	4.13	3.46	3.80	--	--	--	--	1
917	Crystal R761	4.08	3.91	4.04	4.14	4.09	4.05	3.89	4.01	3.57	12
912	Hilleshög HIL2243Rz	5.25	4.49	5.20	4.76	4.98	--	--	--	--	1
911	Hilleshög HM3035Rz	4.63	5.44	4.59	5.76	5.18	5.18	4.92	5.18	4.40	14
909	Hilleshög 9891Rz	4.06	5.12	4.02	5.42	4.72	4.81	4.69	4.89	4.45	3
901	Maribo MA615Rz	4.47	4.72	4.43	5.00	4.72	5.01	4.94	5.30	4.80	3
914	Seedex 8869 Cnv	4.55	4.84	4.52	5.12	4.82	4.90	4.84	4.99	4.70	3
908	Seedex Deuce	4.51	5.71	4.47	6.05	5.26	5.65	5.67	6.04	5.70	11
920	Strube 12720	6.36	6.58	6.30	6.97	6.64	7.37	--	8.11	--	2
905	Strube 12845	5.07	6.99	5.03	7.40	6.22	--	--	--	--	1
913	Strube 12884	5.25	6.22	5.20	6.58	5.89	--	--	--	--	1
915	Strube 13897	5.04	5.46	5.00	5.79	5.39	--	--	--	--	1
902	SV 48611	3.89	5.06	3.85	5.36	4.60	4.43	4.44	4.25	4.47	3
916	SV 48777	4.21	5.75	4.17	6.09	5.13	4.66	--	4.20	--	2
1001	AP CK#32 CRY5981RR	4.37	3.35	4.33	3.55	3.94	3.56	3.61	3.19	3.71	10
1005	AP CK#41 CRY5765RR	6.07	6.16	6.01	6.53	6.27	6.14	6.03	6.01	5.81	8
1010	AP CK#49 BTS82RR33	5.54	4.97	5.49	5.27	5.38	5.83	5.76	6.29	5.63	7
1011	AP CK#51 CRY5246RR	4.84	4.41	4.79	4.67	4.73	4.69	4.76	4.65	4.89	7
	Check Mean	4.89	4.57	4.84	4.84	4.84					
15	Trial Mean	4.32	4.29	4.28	4.54	4.41					
	Coeff. of Var. (%)	11.04	12.29	11.04	12.29						
	Mean LSD (0.05)	0.66	0.69	0.65	0.73						
	Mean LSD (0.01)	0.87	0.90	0.86	0.95						
	Sig Lvl	**	**	**	**						
	Adjustment Factor	0.991	1.059								

^ 2018 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 32.  
2018 Cercospora Ratings for Official Trial Entries  
Betaseed (Randolph MN), BSDF (Frankenmuth MI) & NDSU (Foxhome MN)

Chk	Code	Description	Unadjusted			Adjusted to 1982 Basis ++								Trial Yrs \$\$	
			Randolph	BSDF	Foxhome	Randolph	BSDF	Foxhome	2018	2 Yr	3 Yr	2017	2016		
			Avg	Avg	Avg	Avg	Avg	Avg	3 loc						
			8 Dates+	5 Dates+	8 Dates+	8 Dates+	5 Dates+	8 Dates+							
	570	BTS 80RR52	3.95	4.04	4.38	4.42	4.34	4.36	4.38	4.38	4.34	4.37	4.28		9
	501	BTS 8337	4.18	4.33	4.60	4.68	4.66	4.58	4.64	4.50	4.54	4.36	4.62		6
	577	BTS 8500	4.22	3.76	4.45	4.72	4.04	4.43	4.40	4.34	4.41	4.29	4.54		4
	503	BTS 8524	4.36	4.15	4.18	4.88	4.46	4.16	4.50	4.44	4.54	4.38	4.74		4
	576	BTS 8606	4.40	4.24	4.94	4.92	4.56	4.92	4.80	4.76	4.88	4.73	5.12		3
	527	BTS 8629	4.24	4.03	4.49	4.75	4.33	4.47	4.52	4.40	4.46	4.29	4.59		3
	521	BTS 8735	3.85	3.84	4.22	4.31	4.13	4.20	4.21	4.22	--	4.22	--		2
	512	BTS 8749	3.69	3.69	4.22	4.13	3.97	4.20	4.10	4.08	--	4.05	--		2
	568	BTS 8767	3.87	4.04	4.30	4.33	4.34	4.28	4.32	4.24	--	4.16	--		2
	572	BTS 8784	3.18	3.45	3.94	3.56	3.71	3.93	3.73	3.69	--	3.65	--		2
	529	BTS 8815	4.36	4.06	4.73	4.88	4.37	4.71	4.65	--	--	--	--		1
	505	BTS 8826	4.05	3.77	4.07	4.53	4.05	4.05	4.21	--	--	--	--		1
	536	BTS 8839	3.97	4.02	4.49	4.44	4.32	4.47	4.41	--	--	--	--		1
	516	BTS 8844	4.25	4.36	4.42	4.76	4.69	4.40	4.62	--	--	--	--		1
	531	BTS 8857	4.46	3.60	4.24	4.99	3.87	4.22	4.36	--	--	--	--		1
	554	BTS 8864	3.87	3.98	4.38	4.33	4.28	4.36	4.32	--	--	--	--		1
	535	BTS 8882	4.44	3.91	4.42	4.97	4.21	4.40	4.53	--	--	--	--		1
	553	BTS 8891	4.49	4.12	4.27	5.02	4.43	4.25	4.57	--	--	--	--		1
	530	Crystal 093RR	4.48	4.39	4.91	5.01	4.72	4.89	4.88	4.68	4.77	4.49	4.95	9	9
	542	Crystal 247RR	4.62	3.79	4.38	5.17	4.08	4.36	4.54	4.55	4.58	4.55	4.65	7	7
	562	Crystal 355RR	4.12	4.22	4.43	4.61	4.54	4.41	4.52	4.44	4.50	4.36	4.60	6	6
	513	Crystal 467RR	4.54	3.97	4.49	5.08	4.27	4.47	4.61	4.53	4.58	4.46	4.69	5	5
	518	Crystal 572RR	3.97	4.00	4.61	4.44	4.30	4.59	4.45	4.36	4.43	4.27	4.57	4	4
	563	Crystal 573RR	4.03	4.12	4.22	4.51	4.43	4.20	4.38	4.26	4.29	4.15	4.35	4	4
	575	Crystal 574RR	4.31	3.97	4.17	4.82	4.27	4.15	4.42	4.38	4.43	4.35	4.51	4	4
	508	Crystal 578RR	4.30	4.32	4.79	4.81	4.65	4.77	4.74	4.83	4.84	4.91	4.87	4	4
	545	Crystal 684RR	4.57	3.88	3.97	5.11	4.17	3.96	4.41	4.38	4.44	4.34	4.57	3	3
	522	Crystal 792RR	3.66	4.02	4.39	4.10	4.32	4.37	4.26	4.10	--	3.94	--	2	2
	557	Crystal 793RR	3.84	3.91	4.30	4.30	4.21	4.28	4.26	4.10	--	3.93	--	2	2
	574	Crystal 796RR	4.31	4.30	4.78	4.82	4.62	4.76	4.74	4.79	--	4.85	--	2	2
	519	Crystal 802RR	3.83	4.23	4.55	4.29	4.55	4.53	4.46	--	--	--	--	1	1
	558	Crystal 803RR	3.69	3.51	4.14	4.13	3.77	4.12	4.01	--	--	--	--	1	1
	517	Crystal 804RR	4.31	3.65	4.52	4.82	3.93	4.50	4.42	--	--	--	--	1	1
	550	Crystal 807RR	4.36	4.03	4.26	4.88	4.33	4.24	4.49	--	--	--	--	1	1
	547	Crystal 808RR	4.27	4.36	5.12	4.78	4.69	5.10	4.86	--	--	--	--	1	1
	534	Crystal 809RR	4.26	4.44	4.35	4.77	4.77	4.33	4.63	--	--	--	--	1	1
	580	Hilleshog HM4302RR	3.82	3.86	4.36	4.28	4.15	4.34	4.26	4.09	4.10	3.93	4.13	8	8
	510	Hilleshog HM4448RR	4.59	4.67	5.63	5.14	5.02	5.61	5.26	5.27	5.25	5.28	5.21	7	7
	543	Hilleshog HM9528RR	4.44	4.41	4.68	4.97	4.74	4.66	4.79	4.89	4.84	4.99	4.73	6	6
	560	Hilleshog HIL2230	4.25	4.29	4.77	4.76	4.61	4.75	4.71	--	--	--	--	1	1
	581	Hilleshog HIL2231	4.57	4.30	4.83	5.11	4.62	4.81	4.85	--	--	--	--	1	1
	502	Hilleshog HIL2232	4.13	3.95	4.27	4.62	4.25	4.25	4.37	--	--	--	--	1	1
	566	Hilleshog HIL2233	4.42	4.42	4.92	4.95	4.75	4.90	4.87	--	--	--	--	1	1
	579	Hilleshog HIL2234	3.85	4.16	4.22	4.31	4.47	4.20	4.33	--	--	--	--	1	1
	514	Hilleshog HIL2235	3.78	3.72	4.12	4.23	4.00	4.10	4.11	--	--	--	--	1	1
	506	Hilleshog HIL2236	4.57	4.60	4.71	5.11	4.95	4.69	4.92	--	--	--	--	1	1
	533	Hilleshog HIL9708	4.22	4.35	4.75	4.72	4.68	4.73	4.71	4.66	4.69	4.61	4.74	4	4
	525	Hilleshog HIL9920	4.23	4.37	4.97	4.73	4.70	4.95	4.79	4.84	--	4.89	--	2	2
	541	Maribo MA109	3.85	3.92	4.48	4.31	4.22	4.46	4.33	4.23	4.20	4.14	4.14	5	5
	532	Maribo MA305	4.18	4.91	4.83	4.68	5.28	4.81	4.92	4.95	4.87	4.98	4.72	6	6
	515	Maribo MA502	4.29	4.66	5.05	4.80	5.01	5.03	4.95	4.98	4.92	5.01	4.79	4	4
	504	Maribo MA504	4.34	4.42	5.34	4.86	4.75	5.32	4.98	5.24	5.17	5.50	5.04	4	4
	567	Maribo MA717	4.33	4.22	4.97	4.85	4.54	4.95	4.78	4.81	--	4.85	--	2	2
	578	Maribo MA808	4.44	4.87	4.79	4.97	5.24	4.77	4.99	--	--	--	--	1	1
	509	Maribo MA809	4.17	4.31	4.35	4.67	4.64	4.33	4.55	--	--	--	--	1	1
	571	Maribo MA810	4.45	5.37	5.34	4.98	5.78	5.32	5.36	--	--	--	--	1	1
	564	Maribo MA811	4.42	4.40	4.87	4.95	4.73	4.85	4.84	--	--	--	--	1	1
	556	Maribo MA812	4.41	4.50	4.94	4.94	4.84	4.92	4.90	--	--	--	--	1	1
	511	SV 284	3.59	3.69	4.24	4.02	3.97	4.22	4.07	--	--	--	--	1	1
	561	SV 285	4.12	4.21	4.45	4.61	4.53	4.43	4.52	--	--	--	--	1	1
	526	SV 286	4.60	4.67	5.61	5.15	5.02	5.59	5.25	--	--	--	--	1	1
	520	SV 287	4.75	4.78	5.39	5.32	5.14	5.37	5.28	--	--	--	--	1	1
	507	SV 288	4.40	4.40	4.99	4.92	4.73	4.97	4.88	--	--	--	--	1	1
	523	SV 289	4.21	4.32	4.62	4.71	4.65	4.60	4.65	--	--	--	--	1	1
	552	SV RR265	4.19	4.01	4.45	4.69	4.31	4.43	4.48	4.83	4.89	5.19	5.00	3	3
	540	SV RR266	4.30	4.32	4.74	4.81	4.65	4.72	4.73	4.67	4.69	4.61	4.74	3	3

Table 32.  
2018 Cercospora Ratings for Official Trial Entries  
Betaseed (Randolph MN), BSDL (Frankenmuth MI) & NDSU (Foxhome MN)

	548 SV RR268	4.48	4.08	4.72	5.01	4.39	4.70	4.70	4.88	4.97	5.06	5.13	3
	537 SV RR333	4.35	4.14	5.05	4.87	4.45	5.03	4.78	4.81	4.82	4.84	4.85	6
	544 SV RR351	4.31	4.12	4.60	4.82	4.43	4.58	4.61	4.51	4.51	4.41	4.50	4
	582 SV RR371	4.37	4.02	4.93	4.89	4.32	4.91	4.71	4.65	--	4.59	--	2
	555 SV RR375	4.57	4.24	5.24	5.11	4.56	5.22	4.96	5.02	--	5.08	--	2
	538 SX 1885	4.81	4.73	5.51	5.38	5.09	5.49	5.32	--	--	--	--	1
	539 SX 1886	4.37	4.33	4.85	4.89	4.66	4.83	4.79	--	--	--	--	1
	559 SX 1887	4.30	4.57	4.96	4.81	4.91	4.94	4.89	--	--	--	--	1
	546 SX 1888	4.64	4.41	4.84	5.19	4.74	4.82	4.92	--	--	--	--	1
	565 SX 1889	3.46	3.45	4.17	3.87	3.71	4.15	3.91	--	--	--	--	1
	573 SX Avalanche RR	4.21	4.01	4.50	4.71	4.31	4.48	4.50	4.57	4.63	4.64	4.74	4
	569 SX Bronco RR(1863)	4.18	4.25	4.73	4.68	4.57	4.71	4.65	4.37	4.36	4.08	4.35	3
	551 SX Canyon RR	4.33	4.29	4.93	4.85	4.61	4.91	4.79	4.85	4.82	4.92	4.76	5
	549 SX Cruze RR	5.32	5.59	5.41	5.95	6.01	5.39	5.79	5.58	5.27	5.37	4.65	5
	528 SX Marathon RR	4.82	4.66	5.42	5.39	5.01	5.40	5.27	4.90	4.75	4.54	4.44	4
	524 SX RR1879	4.02	4.04	4.49	4.50	4.34	4.47	4.44	4.66	--	4.88	--	2
1	1101 CR CK#19 CRY5539RR	4.55	4.95	5.79	5.09	5.32	5.77	5.39	5.44	5.39	5.49	5.30	14
1	1102 CR CK#24 HILL4012RR	4.71	5.12	5.93	5.27	5.51	5.91	5.56	5.35	5.33	5.13	5.31	13
1	1103 CR CK#28 HILL4010RR	4.63	5.01	5.26	5.18	5.39	5.24	5.27	5.36	5.38	5.44	5.43	13
1	1104 CR CK#48 MARI504	4.41	4.50	5.22	4.94	4.84	5.20	4.99	5.24	5.18	5.50	5.04	4
1	1105 CR CK#49 CRY5578RR	4.39	4.46	4.72	4.91	4.80	4.70	4.80	4.86	4.86	4.91	4.87	4
1	1106 CR CK#41 CRY5981RR	4.46	4.69	4.98	4.99	5.04	4.96	5.00	4.95	4.93	4.90	4.89	10
1	1107 CR CK#50 CRY5101RR	4.14	4.32	4.33	4.63	4.65	4.31	4.53	4.55	4.56	4.57	4.59	8
1	1108 CR CK#43 CRY5246RR	4.61	4.31	4.56	5.16	4.64	4.54	4.78	4.77	4.77	4.77	4.77	7
1	1109 CR CK#44 BETA80RR32	4.63	4.83	4.83	5.18	5.19	4.81	5.06	5.00	5.01	4.94	5.04	9
1	1110 CR CK#45 HILL4448RR	4.60	4.79	5.13	5.15	5.15	5.11	5.14	5.19	5.13	5.24	5.00	7
1	1111 CR CK#51 CRY5355RR	4.16	4.16	4.47	4.66	4.47	4.45	4.53	4.45	4.50	4.36	4.60	6
1	1112 CR CK#47 HILL4094RR	3.89	4.20	4.52	4.35	4.52	4.50	4.46	4.39	4.35	4.31	4.28	11
	1113 CR CK MOD SUS HYB#3	4.72	4.86	5.83	5.28	5.23	5.81	5.44	5.42	5.39	5.41	5.33	14
	1114 CR CK MOD SUS HYB#3	4.66	5.09	5.91	5.22	5.47	5.89	5.53	5.47	5.42	5.41	5.33	14
	1115 CR CK MOD RES HYB#4	3.63	3.96	4.76	4.06	4.26	4.74	4.35	4.28	4.27	4.22	4.24	11
	1116 CR CK MOD RES HYB#4	3.54	3.95	4.49	3.96	4.25	4.47	4.23	4.22	4.23	4.22	4.24	11
	1117 CR CK MOD SUS HYB#5	4.69	4.94	5.34	5.25	5.31	5.32	5.29	5.20	5.13	5.11	4.97	12
	Conventional												
	910 BETA EXP 687	3.49	3.75	3.79	3.90	4.03	3.78	3.90	3.95	4.01	3.99	4.14	3
	918 BETA EXP 698	4.12	3.78	3.87	4.61	4.07	3.86	4.18	4.18	4.21	4.18	4.27	3
	919 BETA EXP 747	3.91	3.85	4.25	4.37	4.14	4.23	4.25	4.32	--	4.40	--	2
	906 BETA EXP 758	3.78	4.27	3.86	4.23	4.59	3.85	4.22	4.37	--	4.52	--	2
	907 BETA EXP 872	4.91	4.46	4.19	5.49	4.79	4.17	4.82	--	--	--	--	1
	903 Crystal 620	4.30	3.86	3.95	4.82	4.15	3.93	4.30	4.22	4.21	4.14	4.19	3
	904 Crystal 840	4.17	4.20	3.80	4.67	4.52	3.79	4.33	--	--	--	--	1
	917 Crystal R761	4.19	4.64	4.50	4.68	4.99	4.48	4.72	4.82	4.88	4.93	4.99	12
	912 Hilleshög HIL2243Rz	3.53	3.79	4.09	3.95	4.08	4.08	4.04	--	--	--	--	1
	911 Hilleshög HM3035Rz	3.75	3.95	4.26	4.20	4.24	4.24	4.23	4.33	4.39	4.42	4.53	14
	909 Hilleshög 9891Rz	3.81	4.01	4.13	4.26	4.31	4.11	4.23	4.18	4.26	4.13	4.42	3
	901 Maribo MA615Rz	4.39	4.03	4.51	4.91	4.33	4.49	4.58	4.70	4.81	4.81	5.04	3
	914 Seedex 8869 Cnv	4.15	4.09	4.95	4.65	4.40	4.93	4.66	4.94	4.88	5.21	4.76	3
	908 Seedex Deuce	4.21	4.16	5.05	4.71	4.48	5.03	4.74	4.75	4.73	4.76	4.68	11
	920 Strube 12720	4.59	4.46	5.70	5.14	4.79	5.68	5.21	5.43	--	5.65	--	2
	905 Strube 12845	3.89	3.78	4.73	4.36	4.06	4.71	4.38	--	--	--	--	1
	913 Strube 12884	4.76	4.43	6.41	5.32	4.76	6.38	5.49	--	--	--	--	1
	915 Strube 13897	4.53	4.09	4.70	5.07	4.40	4.68	4.72	--	--	--	--	1
	902 SV 48611	4.62	4.48	4.89	5.17	4.82	4.87	4.95	5.12	5.03	5.28	4.85	3
	916 SV 48777	4.02	4.07	4.82	4.50	4.38	4.80	4.56	4.66	--	4.76	--	2
	1104 CR CK#48 MARI504	4.29	4.35	5.27	4.80	4.68	5.25	4.91	5.20	5.15	5.50	5.04	4
	1105 CR CK#49 CRY5578RR	4.40	4.83	4.69	4.92	5.20	4.67	4.93	4.92	4.91	4.91	4.87	4
	1106 CR CK#41 CRY5981RR	4.48	4.86	4.62	5.01	5.23	4.61	4.95	4.92	4.91	4.90	4.89	10
	1110 CR CK#45 HILL4448RR	4.69	4.39	5.47	5.25	4.72	5.45	5.14	5.19	5.13	5.24	5.00	7
12	Check Mean	4.43	4.61	4.98	4.96	4.96	4.96	4.96					
	Trial Mean	4.26	4.27	4.72	4.77	4.59	4.70	4.69					
	Coeff. of Var. (%)	3.90	6.32	7.08	3.90	6.32	7.08						
	Mean LSD (0.05)	0.21	0.43	0.41	0.24	0.46	0.41						
	Mean LSD (0.01)	0.28	0.57	0.54	0.31	0.61	0.54						
	Sig Mrk	**	**	**	**	**	**						
	Adj Factor				1.11913	1.07545	0.99624						

\* 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.

Table 33. 2018 Rhizoctonia Ratings for OVT Entries  
Rhizoctonia Nursery - BSDL, NWROC & Two ACSC Sites

Sus Chk Chk ^ @	Code	Description	Unadjusted				Adjusted @									
			BSDL	TSC-E	TSC-W	NWROC	BSDL	TSC-E	TSC-W	NWROC	2018	2 Yr	3 Yr	2017	2016	Years
			8/24	7/16	7/6		8/24	7/16	7/6							
570	BTS 80RR52		5.89	4.15	3.40	---	4.26	3.81	3.81	---	3.96	4.05	4.17	4.14	4.41	9
501	BTS 8337		5.71	4.73	3.33	---	4.13	4.35	3.73	---	4.07	4.18	4.15	4.30	4.08	6
577	BTS 8500		6.25	4.62	3.85	---	4.52	4.25	4.31	---	4.36	4.46	4.45	4.57	4.43	4
503	BTS 8524		6.20	4.31	3.79	---	4.48	3.96	4.24	---	4.23	4.32	4.28	4.41	4.20	4
576	BTS 8606		6.38	4.98	3.15	---	4.62	4.58	3.53	---	4.24	4.62	4.57	5.00	4.48	3
527	BTS 8629		6.01	4.45	3.24	---	4.35	4.09	3.63	---	4.02	4.12	3.99	4.21	3.73	3
521	BTS 8735		5.60	4.67	3.60	---	4.05	4.29	4.03	---	4.12	4.25	--	4.38	--	2
512	BTS 8749		5.82	4.59	2.88	---	4.21	4.22	3.22	---	3.88	3.92	--	3.95	--	2
568	BTS 8767		6.16	4.71	3.13	---	4.46	4.33	3.50	---	4.10	4.42	--	4.75	--	2
572	BTS 8784		6.22	4.99	4.20	---	4.50	4.59	4.70	---	4.60	4.62	--	4.64	--	2
529	BTS 8815		5.66	4.30	3.20	---	4.09	3.95	3.58	---	3.88	--	--	--	--	1
505	BTS 8826		6.07	3.54	2.95	---	4.39	3.25	3.30	---	3.65	--	--	--	--	1
536	BTS 8839		6.05	4.70	3.35	---	4.38	4.32	3.75	---	4.15	--	--	--	--	1
516	BTS 8844		6.51	4.27	3.37	---	4.71	3.92	3.77	---	4.14	--	--	--	--	1
531	BTS 8857		5.53	4.90	3.50	---	4.00	4.50	3.92	---	4.14	--	--	--	--	1
554	BTS 8864		6.20	5.16	4.84	---	4.48	4.74	5.42	---	4.88	--	--	--	--	1
535	BTS 8882		6.14	4.47	4.06	---	4.44	4.11	4.55	---	4.37	--	--	--	--	1
553	BTS 8891		6.02	4.45	2.72	---	4.35	4.09	3.05	---	3.83	--	--	--	--	1
530	Crystal 093RR		6.43	4.73	4.27	---	4.65	4.35	4.78	---	4.59	4.55	4.49	4.50	4.37	9
542	Crystal 247RR		6.48	4.81	4.08	---	4.69	4.42	4.57	---	4.56	4.52	4.46	4.49	4.32	7
562	Crystal 355RR		5.80	3.80	2.93	---	4.20	3.49	3.28	---	3.66	3.87	3.90	4.09	3.96	6
513	Crystal 467RR		5.97	4.17	3.29	---	4.32	3.83	3.68	---	3.94	4.21	4.23	4.47	4.26	5
518	Crystal 572RR		6.17	4.76	4.27	---	4.46	4.38	4.78	---	4.54	4.51	4.41	4.47	4.21	4
563	Crystal 573RR		5.41	5.18	3.76	---	3.91	4.76	4.21	---	4.29	4.43	4.47	4.57	4.55	4
575	Crystal 574RR		6.12	4.86	3.74	---	4.43	4.47	4.19	---	4.36	4.26	4.33	4.16	4.47	4
508	Crystal 578RR		6.21	4.87	3.50	---	4.49	4.48	3.92	---	4.30	4.35	4.34	4.40	4.32	4
545	Crystal 684RR		6.55	4.59	3.75	---	4.74	4.22	4.20	---	4.39	4.48	4.46	4.57	4.41	3
522	Crystal 792RR		5.84	4.59	3.76	---	4.22	4.22	4.21	---	4.22	4.05	--	3.88	--	2
557	Crystal 793RR		5.60	4.83	3.43	---	4.05	4.44	3.84	---	4.11	4.18	--	4.26	--	2
574	Crystal 796RR		6.17	4.41	3.03	---	4.46	4.05	3.39	---	3.97	4.10	--	4.23	--	2
519	Crystal 802RR		6.11	4.56	3.87	---	4.42	4.19	4.33	---	4.31	--	--	--	--	1
558	Crystal 803RR		6.44	5.19	4.09	---	4.66	4.77	4.58	---	4.67	--	--	--	--	1
517	Crystal 804RR		6.12	4.21	3.37	---	4.43	3.87	3.77	---	4.02	--	--	--	--	1
550	Crystal 807RR		6.08	4.57	3.42	---	4.40	4.20	3.83	---	4.14	--	--	--	--	1
547	Crystal 808RR		5.81	4.29	3.00	---	4.20	3.94	3.36	---	3.83	--	--	--	--	1
534	Crystal 809RR		6.48	4.63	3.77	---	4.69	4.26	4.22	---	4.39	--	--	--	--	1
580	Hilleshog HM4302RR		5.90	3.71	3.09	---	4.27	3.41	3.46	---	3.71	3.65	3.65	3.60	3.65	8
510	Hilleshog HM4448RR		5.99	4.76	3.95	---	4.33	4.38	4.42	---	4.38	4.50	4.51	4.63	4.51	7
543	Hilleshog HM9528RR		5.68	4.56	3.42	---	4.11	4.19	3.83	---	4.04	4.13	4.16	4.21	4.21	6
560	Hilleshog HIL2230		6.18	4.65	3.07	---	4.47	4.27	3.44	---	4.06	--	--	--	--	1
581	Hilleshog HIL2231		6.15	4.82	4.00	---	4.45	4.43	4.48	---	4.45	--	--	--	--	1
502	Hilleshog HIL2232		6.06	4.04	3.27	---	4.38	3.71	3.66	---	3.92	--	--	--	--	1
566	Hilleshog HIL2233		5.87	4.50	3.34	---	4.25	4.14	3.74	---	4.04	--	--	--	--	1
579	Hilleshog HIL2234		5.98	3.73	3.22	---	4.33	3.43	3.60	---	3.79	--	--	--	--	1
514	Hilleshog HIL2235		6.42	5.09	4.42	---	4.64	4.68	4.95	---	4.76	--	--	--	--	1
506	Hilleshog HIL2236		5.94	4.40	3.71	---	4.30	4.04	4.15	---	4.16	--	--	--	--	1
533	Hilleshog HIL9708		5.83	4.25	2.68	---	4.22	3.91	3.00	---	3.71	3.96	4.07	4.21	4.28	4
525	Hilleshog HIL9920		6.13	5.28	4.16	---	4.43	4.85	4.66	---	4.65	4.56	--	4.48	--	2
541	Maribo MA109		5.69	3.65	3.21	---	4.12	3.36	3.59	---	3.69	3.66	3.67	3.63	3.69	5
532	Maribo MA305		6.35	4.61	3.53	---	4.59	4.24	3.95	---	4.26	4.43	4.42	4.60	4.40	6
515	Maribo MA502		6.10	4.56	3.56	---	4.41	4.19	3.99	---	4.20	4.49	4.57	4.78	4.73	4
504	Maribo MA504		5.84	4.58	3.85	---	4.22	4.21	4.31	---	4.25	4.31	4.40	4.37	4.58	4
567	Maribo MA717		6.23	4.68	3.78	---	4.51	4.30	4.23	---	4.35	4.31	--	4.28	--	2
578	Maribo MA808		6.07	4.74	3.24	---	4.39	4.36	3.63	---	4.12	--	--	--	--	1
509	Maribo MA809		5.98	3.82	3.34	---	4.33	3.51	3.74	---	3.86	--	--	--	--	1
571	Maribo MA810		6.52	5.14	4.25	---	4.72	4.72	4.76	---	4.73	--	--	--	--	1
564	Maribo MA811		6.34	4.85	3.90	---	4.59	4.46	4.37	---	4.47	--	--	--	--	1
556	Maribo MA812		5.70	4.33	3.30	---	4.12	3.98	3.69	---	3.93	--	--	--	--	1
511	SV 284		5.88	4.58	3.63	---	4.25	4.21	4.06	---	4.18	--	--	--	--	1
561	SV 285		6.21	4.56	3.91	---	4.49	4.19	4.38	---	4.35	--	--	--	--	1
526	SV 286		5.77	4.92	4.13	---	4.17	4.52	4.62	---	4.44	--	--	--	--	1
520	SV 287		6.07	4.61	3.37	---	4.39	4.24	3.77	---	4.13	--	--	--	--	1
507	SV 288		5.98	4.59	3.70	---	4.33	4.22	4.14	---	4.23	--	--	--	--	1
523	SV 289		5.83	4.82	3.98	---	4.22	4.43	4.46	---	4.37	--	--	--	--	1
552	SV RR265		6.36	4.81	3.53	---	4.60	4.42	3.95	---	4.32	4.37	4.39	4.42	4.44	3
540	SV RR266		5.72	4.76	4.03	---	4.14	4.38	4.51	---	4.34	4.36	4.31	4.39	4.20	3
548	SV RR268		5.94	4.81	3.50	---	4.30	4.42	3.92	---	4.21	4.39	4.49	4.57	4.70	3
537	SV RR333		6.02	4.97	3.37	---	4.35	4.57	3.77	---	4.23	4.34	4.37	4.44	4.44	6
544	SV RR351		5.79	4.60	3.63	---	4.19	4.23	4.06	---	4.16	4.20	4.19	4.25	4.17	4
582	SV RR371		5.56	4.56	3.90	---	4.02	4.19	4.37	---	4.19	4.25	--	4.31	--	2
555	SV RR375		5.99	4.79	3.26	---	4.33	4.40	3.65	---	4.13	4.19	--	4.25	--	2



Table 34.  
2018 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)

Chk @	Code	Description	Unadjusted		Adjusted							Years
			N Mhd	S Mhd	N Mhd	S Mhd	2018	2 Yr	3 Yr	2017	2016	
			1 Dates+	4 Dates+	1 Dates+	4 Dates+						
570	BTS 80RR52		6.23	4.78	4.01	3.50	3.76	3.22	3.08	2.69	2.81	9
501	BTS 8337		7.02	5.24	4.52	3.84	4.18	4.00	4.01	3.83	4.01	6
577	BTS 8500		3.61	3.54	2.33	2.59	2.46	2.30	2.17	2.14	1.90	4
503	BTS 8524		6.36	5.15	4.10	3.77	3.93	3.59	3.52	3.24	3.38	4
576	BTS 8606		5.88	4.82	3.79	3.53	3.66	3.24	3.05	2.81	2.69	3
527	BTS 8629		7.25	5.63	4.67	4.12	4.40	4.30	4.21	4.20	4.04	3
521	BTS 8735		6.58	5.24	4.24	3.84	4.04	3.98	--	3.93	--	2
512	BTS 8749		6.59	4.54	4.25	3.32	3.79	3.53	--	3.28	--	2
568	BTS 8767		5.17	4.76	3.33	3.49	3.41	3.06	--	2.71	--	2
572	BTS 8784		5.75	5.22	3.71	3.82	3.76	3.20	--	2.63	--	2
529	BTS 8815		5.58	5.02	3.60	3.68	3.64	--	--	--	--	1
505	BTS 8826		4.40	4.15	2.84	3.04	2.94	--	--	--	--	1
536	BTS 8839		5.86	4.87	3.78	3.57	3.67	--	--	--	--	1
516	BTS 8844		5.02	3.58	3.24	2.62	2.93	--	--	--	--	1
531	BTS 8857		8.31	7.12	5.36	5.21	5.28	--	--	--	--	1
554	BTS 8864		6.16	5.78	3.97	4.23	4.10	--	--	--	--	1
535	BTS 8882		5.26	4.62	3.39	3.38	3.39	--	--	--	--	1
553	BTS 8891		4.88	4.90	3.14	3.59	3.37	--	--	--	--	1
530	Crystal 093RR		6.44	6.02	4.15	4.41	4.28	3.88	3.70	3.48	3.35	9
542	Crystal 247RR		5.09	4.64	3.28	3.40	3.34	3.17	3.05	3.00	2.80	7
562	Crystal 355RR		5.85	5.04	3.77	3.69	3.73	3.24	3.05	2.76	2.65	6
513	Crystal 467RR		3.88	4.55	2.50	3.33	2.92	2.45	2.25	1.98	1.84	5
518	Crystal 572RR		5.55	5.21	3.58	3.81	3.70	3.17	2.72	2.64	1.82	4
563	Crystal 573RR		6.26	5.96	4.03	4.36	4.20	3.65	3.60	3.10	3.49	4
575	Crystal 574RR		4.07	4.27	2.62	3.13	2.87	2.55	2.31	2.23	1.82	4
508	Crystal 578RR		5.74	4.13	3.70	3.02	3.36	2.88	2.59	2.41	1.99	4
545	Crystal 684RR		4.62	4.03	2.98	2.95	2.96	2.49	2.25	2.01	1.76	3
522	Crystal 792RR		5.42	4.80	3.49	3.51	3.50	3.16	--	2.81	--	2
557	Crystal 793RR		5.84	4.67	3.76	3.42	3.59	3.27	--	2.95	--	2
574	Crystal 796RR		5.46	4.36	3.52	3.19	3.36	2.85	--	2.34	--	2
519	Crystal 802RR		5.68	4.76	3.66	3.49	3.57	--	--	--	--	1
558	Crystal 803RR		6.57	5.45	4.23	3.99	4.11	--	--	--	--	1
517	Crystal 804RR		4.67	4.22	3.01	3.09	3.05	--	--	--	--	1
550	Crystal 807RR		6.81	5.68	4.39	4.16	4.27	--	--	--	--	1
547	Crystal 808RR		5.21	3.94	3.36	2.88	3.12	--	--	--	--	1
534	Crystal 809RR		4.67	3.39	3.01	2.48	2.75	--	--	--	--	1
580	Hilleshög HM4302RR		8.26	6.45	5.32	4.72	5.02	5.06	5.07	5.09	5.09	8
510	Hilleshög HM4448RR		8.39	6.90	5.41	5.05	5.23	5.29	5.28	5.35	5.26	7
543	Hilleshög HM9528RR		8.03	6.46	5.17	4.73	4.95	4.60	4.57	4.25	4.52	6
560	Hilleshög HIL2230		8.13	6.13	5.24	4.49	4.86	--	--	--	--	1
581	Hilleshög HIL2231		7.92	6.72	5.10	4.92	5.01	--	--	--	--	1
502	Hilleshög HIL2232		6.74	5.84	4.34	4.28	4.31	--	--	--	--	1
566	Hilleshög HIL2233		8.15	7.24	5.25	5.30	5.28	--	--	--	--	1
579	Hilleshög HIL2234		7.51	6.21	4.84	4.55	4.69	--	--	--	--	1
514	Hilleshög HIL2235		7.36	6.79	4.74	4.97	4.86	--	--	--	--	1
506	Hilleshög HIL2236		8.32	7.41	5.36	5.43	5.39	--	--	--	--	1
533	Hilleshög HIL9708		7.07	6.38	4.56	4.67	4.61	4.61	4.50	4.61	4.29	4
525	Hilleshög HIL9920		8.66	7.44	5.58	5.45	5.51	5.72	--	5.92	--	2

Table 34.  
2018 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)

541	Maribo MA109	7.80	6.65	5.03	4.87	4.95	4.59	4.56	4.23	4.50	5
532	Maribo MA305	8.80	7.15	5.67	5.24	5.45	5.67	5.74	5.89	5.89	6
515	Maribo MA502	4.66	4.99	3.00	3.65	3.33	3.17	2.76	3.02	1.92	4
504	Maribo MA504	7.43	6.56	4.79	4.80	4.80	4.66	4.64	4.52	4.60	4
567	Maribo MA717	7.78	6.44	5.01	4.72	4.86	4.91	--	4.95	--	2
578	Maribo MA808	7.00	6.26	4.51	4.58	4.55	--	--	--	--	1
509	Maribo MA809	7.06	6.09	4.55	4.46	4.50	--	--	--	--	1
571	Maribo MA810	7.77	6.80	5.01	4.98	4.99	--	--	--	--	1
564	Maribo MA811	7.30	5.86	4.70	4.29	4.50	--	--	--	--	1
556	Maribo MA812	7.62	6.46	4.91	4.73	4.82	--	--	--	--	1
511	SV 284	7.43	6.33	4.79	4.63	4.71	--	--	--	--	1
561	SV 285	8.83	7.03	5.69	5.15	5.42	--	--	--	--	1
526	SV 286	7.81	6.96	5.03	5.10	5.06	--	--	--	--	1
520	SV 287	8.08	6.86	5.21	5.02	5.11	--	--	--	--	1
507	SV 288	6.91	6.25	4.45	4.58	4.51	--	--	--	--	1
523	SV 289	8.57	7.34	5.52	5.37	5.45	--	--	--	--	1
552	SV RR265	8.35	7.51	5.38	5.50	5.44	5.38	5.34	5.32	5.26	3
540	SV RR266	8.73	7.98	5.63	5.84	5.73	5.69	5.52	5.64	5.18	3
548	SV RR268	7.76	7.15	5.00	5.24	5.12	5.06	5.11	5.01	5.20	3
537	SV RR333	8.10	6.92	5.22	5.07	5.14	5.24	5.11	5.35	4.84	6
544	SV RR351	8.19	7.26	5.28	5.32	5.30	5.13	5.00	4.96	4.75	4
582	SV RR371	8.43	7.22	5.43	5.29	5.36	5.13	--	4.91	--	2
555	SV RR375	8.59	7.48	5.54	5.48	5.51	5.47	--	5.44	--	2
538	SX 1885	8.78	7.42	5.66	5.43	5.55	--	--	--	--	1
539	SX 1886	7.80	6.62	5.03	4.85	4.94	--	--	--	--	1
559	SX 1887	8.62	7.02	5.56	5.14	5.35	--	--	--	--	1
546	SX 1888	8.26	7.67	5.32	5.62	5.47	--	--	--	--	1
565	SX 1889	7.02	6.59	4.52	4.83	4.67	--	--	--	--	1
573	SX Avalanche RR	8.61	7.10	5.55	5.20	5.37	5.56	5.50	5.75	5.38	4
569	SX Bronco RR(1863)	8.42	7.67	5.43	5.62	5.52	5.78	5.79	6.04	5.80	3
551	SX Canyon RR	7.88	6.53	5.08	4.78	4.93	5.03	5.10	5.12	5.26	5
549	SX Cruze RR	7.93	6.09	5.11	4.46	4.78	4.38	3.85	3.98	2.80	5
528	SX Marathon RR	8.62	7.47	5.56	5.47	5.51	5.18	5.08	4.84	4.90	4
524	SX RR1879	8.07	7.06	5.20	5.17	5.18	4.91	--	4.64	--	2
1	1201 FS CK #07 CRY5658RR	5.46	4.83	3.52	3.54	3.53	3.19	3.01	2.85	2.66	13
1	1202 FS CK #08 HILL4000RR	8.64	8.26	5.57	6.05	5.81	6.20	6.18	6.59	6.15	12
1	1203 FS CK #09 HILL4010RR	8.97	8.24	5.78	6.03	5.91	6.16	6.25	6.41	6.42	13
1	1204 FS CK #12 HILL4012RR	8.87	7.70	5.72	5.64	5.68	5.78	5.91	5.89	6.15	13
1	1205 FS CK #13 HILL4043RR	8.63	8.05	5.56	5.89	5.73	6.02	6.03	6.31	6.05	12
1	1206 FS CK #30 BTS8337	7.09	5.76	4.57	4.22	4.39	4.11	4.08	3.83	4.01	6
1	1207 FS CK #18 CRY5768RR	7.77	6.41	5.01	4.69	4.85	4.61	4.54	4.37	4.40	10
1	1208 FS CK #31 SXMarathon	7.54	6.69	4.86	4.90	4.88	4.86	4.87	4.84	4.90	4
1	1209 FS CK #28 SES36918RR	8.14	7.56	5.25	5.54	5.39	5.22	5.19	5.04	5.13	10
1	1210 FS CK #29 CRY5875RR	8.41	6.44	5.42	4.72	5.07	4.92	4.84	4.77	4.68	11
	1211 FS CHK RES RR #1	5.16	4.99	3.33	3.65	3.49	3.11	2.86	2.73	2.37	8
	1212 FS CHK SUS RR #2	8.91	7.99	5.74	5.85	5.80	6.08	6.10	6.37	6.12	8
	1213 FS CHK MOD RR RES #2	7.28	5.96	4.69	4.36	4.53	4.44	4.35	4.35	4.17	12
	1214 FS CHK MOD RR SUS #1	8.10	6.93	5.22	5.07	5.15	4.88	5.00	4.61	5.23	12
	1215 FS CHK RES RR #2	4.91	4.41	3.16	3.23	3.20	2.80	2.55	2.40	2.04	7
	1216 FS CHK SUS RR #10	8.00	7.09	5.16	5.19	5.17	5.18	5.25	5.20	5.38	5
	1217 FS CHK SUS RR #11	8.39	7.25	5.41	5.31	5.36	5.48	5.62	5.61	5.89	6

Table 34.  
2018 Fusarium Ratings for Official Trial Entries  
ACSC Nurseries - (Two Moorhead, MN Sites)

Conventional											
910	BETA EXP 687	5.35	5.93	3.45	4.34	3.90	3.70	3.60	3.51	3.41	3
918	BETA EXP 698	4.55	4.88	2.93	3.58	3.25	3.16	3.02	3.06	2.74	3
919	BETA EXP 747	7.57	6.17	4.88	4.51	4.70	4.64	--	4.58	--	2
906	BETA EXP 758	6.02	6.18	3.88	4.52	4.20	4.06	--	3.91	--	2
907	BETA EXP 872	5.47	5.26	3.52	3.85	3.69	--	--	--	--	1
903	Crystal 620	5.38	4.75	3.46	3.47	3.47	3.13	3.00	2.79	2.73	3
904	Crystal 840	5.44	4.95	3.51	3.62	3.56	--	--	--	--	1
917	Crystal R761	5.85	6.09	3.77	4.46	4.11	3.67	3.53	3.23	3.25	12
912	Hilleshög HIL2243Rz	8.90	6.99	5.74	5.12	5.43	--	--	--	--	1
911	Hilleshög HM3035Rz	7.91	5.20	5.10	3.81	4.45	4.07	3.93	3.70	3.65	14
909	Hilleshög 9891Rz	5.79	4.68	3.73	3.43	3.58	3.62	3.67	3.66	3.76	3
901	Maribo MA615Rz	7.84	6.44	5.05	4.72	4.88	4.80	4.91	4.72	5.11	3
914	Seedex 8869 Cnv	6.02	5.00	3.88	3.66	3.77	3.65	3.41	3.53	2.92	3
908	Seedex Deuce	7.93	6.78	5.11	4.96	5.04	4.79	4.75	4.54	4.68	11
920	Strube 12720	9.00	7.39	5.80	5.41	5.61	5.60	--	5.60	--	2
905	Strube 12845	7.35	6.86	4.74	5.02	4.88	--	--	--	--	1
913	Strube 12884	8.50	6.47	5.48	4.74	5.11	--	--	--	--	1
915	Strube 13897	9.00	7.90	5.80	5.79	5.79	--	--	--	--	1
902	SV 48611	8.83	7.71	5.69	5.64	5.67	5.70	5.55	5.74	5.24	3
916	SV 48777	6.72	6.24	4.33	4.57	4.45	4.21	--	3.96	--	2
1201	FS CK #07 CRY5658RR	5.55	5.36	3.58	3.92	3.75	3.30	3.09	2.85	2.66	13
1205	FS CK #13 HILL4043RR	8.50	7.34	5.48	5.37	5.42	5.86	5.92	6.31	6.05	12
1208	FS CK #31 SXMarathon	8.08	7.03	5.21	5.15	5.18	5.01	4.97	4.84	4.90	4
1210	FS CK #29 CRY5875RR	7.91	6.29	5.10	4.60	4.85	4.81	4.77	4.77	4.68	11
10	Check Mean	7.95	6.99	5.12	5.12	5.12					
	Trial Mean	7.05	6.07	4.54	4.44	4.49					
	Coeff. of Var. (%)	7.34	9.44	7.34	9.44						
	Mean LSD (0.05)	0.66	0.75	0.43	0.55						
	Mean LSD (0.01)	0.87	0.99	0.56	0.72						
	Sig Mrk	**	**	**	**						
	Adj Factor			0.64444	0.73219						

@ Ratings adjusted to 2007 basis. (2005-2006 FS Nurseries). Ratings adjusted on the basis of checks.

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

Table 35. Herbicides and Fungicides Applied to ACSC Official Trials

Location	Herbicide			Fungicide		
	Herbicide & Rate	Spray Dates	Method	Fungicide Used	Spray Dates	Method
Casselton	RU1	5/31	Ground	Quadris	6/4,6/21	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3	7/13,7/24,8/6	Ground
	Conventional	5/26	Ground			
Glyndon	RU1	5/29	Ground	Quadris	6/1,6/20	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3	7/9,7/24,8/6	Ground
Georgetown	RU1	6/7	Ground	Quadris	6/9,6/21	Ground
	RU2	6/27	Ground	CR.1/CR.2/CR.3	7/9,7/24,8/6	Ground
Ada	RU1	5/29	Ground	Quadris	6/1,6/20	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3/CR.4	7/10,7/27,8/15,9/5	Air
	Conventional	5/26,6/4	Ground			
Hillsboro	RU1	5/29	Ground	Quadris	6/4,6/20	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3/CR.4	7/10,7/27,8/15,9/5	Air
Climax	RU1	5/25	Ground	Quadris	6/8,6/23	Ground
	RU2	6/18	Ground	CR.1/CR.2/CR.3	7/13,7/25,8/8	Ground
Grand Forks + #	RU1	6/7	Ground	Quadris	6/8,6/23	Ground
	RU2	6/26	Ground	CR.1/CR.2/CR.3	7/13,7/27,8/8	Ground
	Conventional	6/4	Ground			
Scandia	RU1	5/26	Ground	Quadris	5/30,6/18	Ground
	RU2	6/18	Ground	CR.1/CR.2/CR.3	7/13,7/25,8/8	Ground
	Conventional	5/26	Ground			
East Grand Forks#	RU1	5/30	Ground	Quadris	5/30,6/18	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3	7/12,7/27,8/10	Ground
Stephen	RU1	5/29	Ground	Quadris	5/31,6/22	Ground
	RU2	6/19	Ground	CR.1/CR.2/CR.3	7/18,8/3,8/16	Ground
St. Thomas+^	RU1	5/30	Ground	Quadris	5/31,6/19	Ground
	RU2	6/18	Ground	CR.1/CR.2/CR.3/CR.4	7/18,8/3,8/16,8/29	Ground
	Conventional	5/26,6/13	Ground			
Bathgate#	RU1	5/26	Ground	Quadris	5/31,6/19	Ground
	RU2	6/18	Ground	CR.1/CR.2/CR.3	7/18,8/3,8/16	Ground

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

RU1 = Roundup Powermax (28 oz./A), Event (1 gal./100 gal water).

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

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

^ Thimet applied at St Thomas near peak fly in early June.

# Lorsban 4E applied near peak fly in early June.

Quadris=first application on 2 leaf beets, second on 4-8 leaf beets.

CR.1=Insire XT + Penncozeb

CR.2=Agritin + Incognito

CR.3=Proline+Penncozeb

CR.4=Headline + Agritin