RESULTS OF AMERICAN CRYSTAL'S 2004 OFFICIAL CODED VARIETY TRIALS

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

This report presents data from the 2004 American Crystal and Minn-Dak official trials and describes the procedures and cultural practices involved in the trials.

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Procedures and Cultural Practices

Seven sugarbeet seed company groups participated in the 2004 coded variety testing program (Table 38). Testing was conducted both in the Crystal and Minn-Dak areas of the Red River Valley by American Crystal Sugar Company personnel at the Technical Services Center.

All Crystal and Minn-Dak entries were coded at the NWROC under the direction of Dr. Larry Smith and Mr. Todd Cymbaluk. The seed then was sent to the American Crystal Technical Services Center at Moorhead for official testing.

Cooperators from each district within the Crystal and Minn-Dak growing areas continue to be rotated for a wider testing base.

Soil test results at all test sites were obtained from the growers and may have been sampled differently and analyzed at different labs. This information only can be related to the current year's results, not the three-year summary results.

The number of non-disease testing sites planted in the Crystal area was nine with six harvested. We continued plant-to-stand trials (5.1 - 5.3 inch spacing) to evaluate the commercial coded entries, in six replications. The semi-commercial trials remained as plant-to-thin trials with seed spaced at 2.6 inches, with four replications. Two Aphanomyces and six rhizomania specialty trials were planted at locations each with potential disease present. The Minn-Dak area continued with three locations. Plots were planted crosswise (90°) to the cooperators' normal farming operations, where possible. Row spacing remained at 22 inches. Plot rows for all official trials were maintained at 44 feet with about 39 feet harvested. A lattice plot design was used for all coded trials. Planting was performed with two vacuum planters, which included a 12-row Hege plot planter and a modified 12-row Heath planter. These planters gave excellent single seed spacing which contributed to easier emergence counts and thinning. Emergence counts were taken from a 12 foot center section of two rows of each plot to be harvested. Multiple seedlings were counted as a single plant if they emerged less than one inch apart. Thinning of the semi-commercial plots occurred during the four to six leaf stages. Plants were thinned to 8 inch (150 beets/100 feet) spacing. The stands in the plant-to-stand commercial coded trials were refined by removing doubles (multiple seedlings less than one inch apart) by hand but were not further reduced.

Micro rate herbicides and full rates of fungicides were applied using a pickup sprayer driven down the alleys. Ground spraying was conducted by American Crystal Sugar technical staff.

All plot rows were measured for total length (after approximately 2.5 feet at each end were rototilled off about Auguest 20) while skips greater than 30 inches were measured for adjustment purposes. Adjustments in the plant-to-stand trials were made only when gaps exceeded 5 feet. Harvest was performed with a two modified four-row harvesters and a modified two-row harvester (4310, 4310A and 231John Deere). Typically, all plot rows were harvested. All harvested beets of each plot were used for yield determination while one sample for sugar and impurity analysis was obtained from each plot. Quality analysis was performed at the American Crystal Technical Services quality lab in Moorhead.

All coded herbicide resistant biotech trials were conducted as separate tests along side the regular coded trials. Entries were placed in six-row plots and replicated six times. The center four rows were sprayed with the corresponding herbicide (Roundup) and the center four rows were harvested for yield, sugar, and impurities. The regular commercial checks were sprayed with conventional sugarbeet herbicides as needed. Three applications of Roundup were made: 1) before thinning in the cotyledon to 2 leaf stage, 2) at approximately the 2-6 leaf stage and 3) at the 6-14 leaf stage. All biotech beets were destroyed following yield and quality evaluation.

The 2004 coded trials had good stands. The specialty trial at Perley was replanted. Trials at Perley, Grafton, St Thomas, Stephen and Fairmount were not harvested.

Acknowledgements

Thanks to the beet seed companies for their participation in the official variety testing program and to all grower-cooperators, agricultural, and beet seed staffs for their assistance. A special thanks also to Dr. Larry Smith and Mr. Todd Cymbaluk (NWROC, U of M – Crookston) for sampling and coding all variety entries. Thanks to Mr. John Luecke (NDSU) for spraying the herbicide biotech trials.

Table 1

Varieties Approved for Sale to ACSC Growers for the 2005 Sugarbeet Crop

Varieties Approved for Unlimited Sale

A Beta 3494 (BX1194)
Beta 3820 (+Aph)
Beta 6233
Beta 6400 (+Aph)
Beta 6610
Croplan Genetics CL 311
A Crystal 204 (CX204)
Crystal 723
Crystal 725
A Crystal 727 (CX206)
Crystal 817
Crystal 820 (+Aph)
Crystal 822 (+Aph)
Crystal 999
A Hilleshog 2162
A Holly 250 (02HX250)
Holly 956
Seedex Magnum
A Seedex Rezult (SX0828 +Aph +Rzm)
Van der Have H46177 (+Aph +Rzm)
Van der Have H66626
A Van der Have H66725

Varieties Available for Sale (no longer meet full market approval)

Beta 6225
Croplan Genetics CL 101
Croplan Genetics CL 102
Crystal R826 (+Rzm)
Hilleshog 2093
Hilleshog 2129
Seedex Thunder
Van der Have H66556
Van der Have H66561

Varieties Approved for Test Market (7500 Units maximum)

Beta 6302 (BX1302)
Crystal R308 (RX308)

Specialty Varieties (Aphanomyces - Aph)

C Beta 3494 (BX1194)
Beta 3800
Beta 3820
Beta 4818R
Beta 6400
Crystal 820
Crystal 822
Hilleshog 2469Rz (7169 +Rzm)
Seedex Aurora
Seedex Prizm (SX0822 +Rzm)
Seedex Rezult (SX0828 +Rzm)
Van der Have H46177 (+Rzm)

Specialty Varieties (Rhizomania - Rzm)

A Beta 1305 (BX1305)
Beta 4797 (BX1191)
Beta 4818R (+Aph)
A Beta BX1301 (+Rhc)
A Beta BX1303
A Crystal R306 (RX306)
A Crystal R308 (RX308)
Crystal R826
Hilleshog 2411Rz
Hilleshog 2463Rz (7163)
Hilleshog 2467Rz (7167)
Hilleshog 2469Rz (7169)
A Hilleshog 2480Rz (7180)
A Hilleshog 2496Rz (7196)
Hilleshog 7172Rz
A Holly 03HX317
A Holly 03HX364
A Seedex SX0831
A Seedex Prizm (SX0822 +Aph)
Seedex Rezult (SX0828 +Aph)
Van der Have H46177 (+Aph)
A Van der Have H46519
A Van der Have H46733(66733)
A Van der Have H47150
A Van der Have H47151

Specialty Varieties (Rhizoctonia - Rhc)

A Beta BX1301 (+Rzm)
Hilleshog 7172Rz (+Rzm)

A Newly Approved
C Last year of Aph approval sales is 2007.

(+Aph) additional Aph spec approval
(+Rhc) additional Rhizoctonia spec approval
(+Rzm) additional Rzm spec approval

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Table 2

Three Year Performance of Varieties Approved for Unlimited Sale to ACS Growers in 2005

All Crystal Districts *

	Years	Rec. Sugar / Ton (pounds)			Revenue / Ton (dollars) ++			Rec. Sugar / Acre (pounds)			Revenue / Acre (dollars) ++			Loss to Molasses (%)			Cercospora Rating (1-9) **	
	Comm		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr
Description	Seed +	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean
Beta 3494 (BX1194 Aph)	NC	311.4	320.4	99.9	37.91	39.23	99.8	5795	7320	97.5	707	896	97.3	1.08	1.16	103.6	4.50	4.51
Beta 3800(Aph)	4	305.6	312.1	97.3	36.62	37.38	95.1	6979	7544	100.5	836	903	98.1	1.00	1.10	98.6	4.53	4.64
Beta 3820(Aph)	4	311.9	320.3	99.9	38.04	39.25	99.9	6763	7501	99.9	824	920	100.0	0.99	1.09	97.1	4.36	4.34
Beta 4797(BX1197 Rzm)	NC	310.2	317.9	99.1	37.63	38.68	98.4	7267	7826	104.2	880	951	103.3	1.05	1.16	103.9	4.81	4.88
Beta 4818R(Aph & Rzm)	3	306.4	312.4	97.5	36.79	37.48	95.4	6836	7397	98.5	820	887	96.4	1.01	1.14	102.1	4.48	4.78
Beta 6225	3	303.8	311.4	97.1	36.21	37.24	94.8	7285	7704	102.6	868	921	100.0	0.99	1.09	97.1	4.85	4.65
Beta 6233	2	313.5	320.8	100.1	38.39	39.36	100.2	6906	7510	100.0	846	921	100.1	1.02	1.13	100.9	4.50	4.60
Beta 6400(Aph)	5	318.4	326.2	101.7	39.49	40.54	103.2	6576	7166	95.4	814	891	96.8	1.02	1.14	102.1	4.40	4.32
Beta 6610	3	309.0	315.5	98.4	37.38	38.17	97.1	6961	7450	99.2	840	901	97.9	1.00	1.12	100.1	4.61	4.73
Croplan Genetics CL101	6	303.9	309.1	96.4	36.22	36.72	93.4	7007	7439	99.1	834	885	96.1	1.10	1.21	108.1	5.06	5.06
Croplan Genetics CL102	6	297.2	307.0	95.7	34.72	36.24	92.2	6992	7513	100.1	814	887	96.4	1.10	1.18	105.7	5.15	4.98
Croplan Genetics CL311	2	305.9	318.4	99.3	36.67	38.79	98.7	6952	7525	100.2	833	917	99.7	1.04	1.13	101.1	5.17	5.01
Crystal 204(CX204)	NC	311.3	320.1	99.8	37.89	39.18	99.7	6762	7596	101.2	822	928	100.9	1.06	1.17	104.2	4.50	4.55
Crystal 723	2	315.7	324.3	101.1	38.88	40.12	102.1	6723	7424	98.9	827	918	99.7	1.01	1.09	97.7	4.52	4.46
Crystal 725	2	311.3	318.6	99.4	37.90	38.84	98.8	6965	7607	101.3	846	927	100.7	1.03	1.11	99.5	4.47	4.44
Crystal 727(CX206)	NC	317.1	322.6	100.6	39.20	39.75	101.1	7026	7687	102.4	869	947	103.0	0.99	1.13	100.6	4.47	4.49
Crystal 817	5	308.5	319.9	99.8	37.26	39.14	99.6	6699	7364	98.1	809	902	98.0	1.05	1.15	102.4	4.90	5.00
Crystal 820	2	310.7	318.2	99.2	37.75	38.74	98.6	6829	7673	102.2	831	935	101.6	1.02	1.12	99.8	4.70	4.66
Crystal 822	2	314.4	323.8	101.0	38.59	40.01	101.8	6753	7452	99.3	829	921	100.1	1.07	1.15	102.7	4.52	4.63
Crystal 999	5	306.6	317.1	98.9	36.83	38.51	98.0	6842	7501	99.9	822	911	99.0	1.04	1.13	101.2	4.68	4.51
Crystal R826(Rzm)	2	310.8	319.6	99.7	37.79	39.07	99.4	6551	7165	95.4	795	876	95.3	1.11	1.20	106.9	4.78	4.61
Hilleshog 2093	4	297.3	307.1	95.8	34.75	36.26	92.3	6778	7307	97.3	791	863	93.7	1.11	1.21	108.4	4.71	4.72
Hilleshog 2129	2	308.6	319.2	99.6	37.28	38.97	99.2	6420	7121	94.9	775	868	94.3	1.06	1.15	103.0	4.74	4.89
Hilleshog 2162(7162)	1	312.5	325.6	101.5	38.15	40.39	102.8	6691	7306	97.3	817	907	98.6	0.97	1.07	95.3	5.24	5.17
Hilleshog 2411Rz	2	307.1	312.9	97.6	36.94	37.57	95.6	6519	7173	95.5	783	861	93.6	1.07	1.19	106.0	4.39	4.45
Hilleshog 2463Rz(7163)	1	297.2	304.9	95.1	34.72	35.79	91.1	6586	7420	98.8	768	868	94.4	1.07	1.20	107.2	4.83	4.74
Hilleshog 2467Rz(7167)	1	300.5	309.4	96.5	35.45	36.79	93.6	6983	7428	98.9	824	881	95.7	1.05	1.18	105.4	4.88	4.88
Hilleshog 2469Rz(7169 Aph)	1	291.2	297.8	92.9	33.37	34.21	87.0	6525	7409	98.7	748	849	92.3	1.10	1.24	111.0	4.98	4.87
Hilleshog 7172Rz	1	292.8	301.4	94.0	33.73	35.02	89.1	6192	6733	89.7	712	782	84.9	1.04	1.15	103.0	3.65	3.32
Holly 250 (02HX250)	NC	308.8	320.6	100.0	37.34	39.28	100.0	7139	7717	102.8	862	945	102.7	1.04	1.13	101.2	4.89	4.94
Holly 956	2	307.8	320.4	99.9	37.11	39.26	99.9	7044	7694	102.5	850	945	102.7	1.01	1.12	99.8	5.02	4.95
Seedex Aurora(Aph)	2	302.7	314.3	98.0	35.96	37.87	96.4	6356	7374	98.2	754	887	96.5	1.03	1.10	97.9	4.13	4.16
Seedex Magnum	2	307.2	320.1	99.8	36.98	39.19	99.7	6877	7772	103.5	827	952	103.5	1.01	1.11	98.9	5.18	5.02
Seedex Prizm(SX0822 Aph)	1	309.9	315.3	98.3	37.58	38.13	97.0	6950	7467	99.5	843	901	98.0	0.94	1.07	95.5	4.48	4.04
Seedex Rezult(SX0828 Aph & Rzm)	1	310.3	319.5	99.7	37.67	39.03	99.3	6824	7429	99.0	828	907	98.6	0.95	1.08	96.2	4.33	4.91
Seedex Thunder	6	304.8	312.6	97.5	36.43	37.50	95.4	7094	7670	102.2	848	920	100.0	1.08	1.20	106.9	5.15	4.98
Van der Have H46177(Aph & Rzm)	3	310.1	317.3	99.0	37.63	38.56	98.1	6840	7382	98.3	831	897	97.5	0.95	1.09	97.4	4.49	4.16
Van der Have H46733(Rzm 66733)	NC	303.9	315.5	98.4	36.22	38.14	97.1	7136	7592	101.1	850	916	99.6	0.98	1.05	93.8	4.73	4.28
Van der Have H66556	3	300.8	312.1	97.3	35.53	37.38	95.1	6913	7602	101.3	816	910	98.8	1.07	1.15	102.7	5.09	4.93
Van der Have H66561	3	308.1	313.9	97.9	37.18	37.80	96.2	7241	7841	104.4	874	945	102.7	1.03	1.13	100.6	4.99	5.06
Van der Have H66626	2	309.5	318.5	99.3	37.49	38.83	98.8	6739	7605	101.3	816	928	100.8	1.01	1.13	100.9	5.14	5.07
Van der Have H66725	1	310.1	325.6	101.6	37.61	40.39	102.8	6839	7488	99.7	830	928	100.9	0.99	1.09	97.3	5.06	5.00
Mean of 22 fully approved		311.0	320.6		37.83	39.30		6797	7508		826	920		1.02	1.12		4.71	4.70
LSD .05		6.0			1.34			232			35			0.04			0.32	

* 2004 Data from Casselton, Borup, Ada, Crookston, Grand Forks & Alvarado. Created 11-12-04.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

** Lower numbers indicate better Cercospora tolerance (from Shakopee nursery)

Table 3

Three Year Performance of Varieties Approved for Unlimited Sale to ACS Growers in 2005

All Crystal Districts *

	Sugar Content (%)			Root Yield (Tons / Acre)			Seedling Vigor Rating* (1=Ex,5=Poor)			Field Emergence (%)		Bolter (%)		Aphanomyces (1-9) + Foliar		Aphanomyces (1-9) + Root	
Description	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	Ploidy @	2004	3 Yr Mean	2004	3 Yr Mean	2004	3 Yr Mean	2004	3 Yr Mean
Beta 3494 (BX1194 Aph)	16.65	17.18	100	18.57	22.81	97	4.8	NA	3N	32	NA	0.01	0.02	3.9	3.2	5.7	5.3
Beta 3800(Aph)	16.28	16.71	97	22.85	24.18	103	2.7	2.9	2N	78	78	0.00	0.00	2.5	2.6	4.5	4.5
Beta 3820(Aph)	16.59	17.11	100	21.70	23.40	100	2.8	2.9	3N	75	76	0.00	0.00	3.4	3.0	4.8	4.6
Beta 4797(BX1197 Rzm)	16.56	17.06	99	23.47	24.64	105	3.0	NA	3N	66	NA	0.02	0.01	3.5	3.2	5.0	4.7
Beta 4818R(Aph & Rzm)	16.33	16.77	98	22.35	23.68	101	2.6	3.0	3N	73	69	0.00	0.01	3.4	3.3	5.0	4.7
Beta 6225	16.18	16.66	97	23.98	24.74	106	2.9	2.7	2N	73	78	0.00	0.00	3.1	3.0	5.2	5.1
Beta 6233	16.69	17.17	100	22.02	23.40	100	2.8	2.9	3N	74	74	0.00	0.00	3.3	3.0	5.1	5.0
Beta 6400(Aph)	16.94	17.45	102	20.68	21.95	94	2.9	3.0	3N	73	73	0.00	0.01	3.3	3.0	5.2	4.7
Beta 6610	16.45	16.89	99	22.57	23.61	101	2.9	3.0	3N	72	72	0.00	0.00	3.5	3.1	5.0	4.9
Croplan Genetics CL101	16.29	16.66	97	23.11	24.05	103	2.9	2.7	3N	72	71	0.00	0.00	3.8	3.8	5.5	5.7
Croplan Genetics CL102	15.96	16.53	96	23.59	24.46	105	2.6	2.7	3N	76	73	0.01	0.00	4.1	3.8	5.6	5.5
Croplan Genetics CL311	16.33	17.05	99	22.72	23.60	101	2.8	NA	3N	79	NA	0.01	0.00	3.4	NA	5.4	NA
Crystal 204(CX204)	16.62	17.17	100	21.77	23.76	102	3.2	NA	3N	65	NA	0.02	0.02	3.2	NA	5.1	NA
Crystal 723	16.79	17.31	101	21.34	22.91	98	3.0	2.8	3N	70	74	0.00	0.00	3.5	3.2	5.4	5.0
Crystal 725	16.59	17.04	99	22.42	23.88	102	2.8	2.7	3N	71	76	0.00	0.00	2.8	2.8	4.9	4.5
Crystal 727(CX206)	16.85	17.26	101	22.13	23.79	102	3.3	NA	3N	65	NA	0.01	0.00	4.0	NA	5.4	NA
Crystal 817	16.47	17.14	100	21.71	22.98	98	3.0	2.7	3N	70	73	0.00	0.00	4.3	4.3	6.0	6.3
Crystal 820	16.55	17.02	99	21.96	24.07	103	2.9	2.7	3N	71	76	0.00	0.00	2.8	2.8	4.8	4.5
Crystal 822	16.79	17.34	101	21.47	23.00	98	2.6	2.3	3N	70	76	0.00	0.00	2.6	2.5	4.6	4.5
Crystal 999	16.37	16.99	99	22.32	23.65	101	2.7	2.6	3N	71	76	0.00	0.00	3.6	3.2	5.2	4.9
Crystal R826(Rzm)	16.65	17.17	100	21.12	22.39	96	3.0	2.4	3N	69	77	0.00	0.00	3.2	2.9	4.7	4.4
Hilleshog 2093	15.98	16.57	97	22.84	23.80	102	3.2	3.0	2N	73	75	0.00	0.00	4.3	4.6	6.0	6.7
Hilleshog 2129	16.49	17.11	100	20.83	22.32	95	3.0	NA	2N	75	NA	0.00	0.00	2.6	NA	4.8	NA
Hilleshog 2162(7162)	16.59	17.34	101	21.40	22.41	96	3.5	NA	2N	65	NA	0.00	0.00	3.1	NA	5.4	NA
Hilleshog 2411Rz	16.43	16.83	98	21.26	22.91	98	3.2	2.9	2N	70	72	0.00	0.00	4.4	3.9	5.9	5.8
Hilleshog 2463Rz(7163)	15.93	16.44	96	22.20	24.40	104	3.3	NA	2N	68	NA	0.00	0.00	3.6	2.8	5.4	4.4
Hilleshog 2467Rz(7167)	16.08	16.65	97	23.26	24.07	103	3.1	NA	2N	73	NA	0.00	0.00	4.5	3.9	5.8	5.9
Hilleshog 2469Rz(7169 Aph)	15.66	16.13	94	22.41	24.91	106	3.7	NA	2N	62	NA	0.00	0.00	3.5	2.8	4.9	4.3
Hilleshog 7172Rz	15.68	16.22	95	21.19	22.35	96	3.8	NA	2N	70	NA	0.00	0.01	4.0	3.8	5.4	5.3
Holly 250 (02HX250)	16.49	17.16	100	23.13	24.09	103	2.3	NA	3N	81	NA	0.00	0.00	3.3	NA	5.1	NA
Holly 956	16.41	17.14	100	22.85	23.96	102	3.2	2.9	3N	71	74	0.00	0.00	4.0	NA	5.8	NA
Seedex Aurora(Aph)	16.16	16.81	98	21.03	23.46	100	3.2	NA	3N	76	NA	0.02	0.01	2.9	3.1	4.8	4.7
Seedex Magnum	16.37	17.11	100	22.39	24.25	104	2.9	2.9	3N	77	75	0.00	0.04	3.6	3.7	5.2	5.5
Seedex Prizm(SX0822 Aph)	16.44	16.83	98	22.43	23.71	101	3.1	NA	2N	71	NA	0.02	0.01	3.2	2.9	5.1	4.8
Seedex Rezult(SX0828 Aph & Rzm)	16.47	17.05	99	21.99	23.24	99	3.3	NA	2N	69	NA	0.00	0.02	3.1	3.0	4.8	5.2
Seedex Thunder	16.32	16.83	98	23.28	24.53	105	2.9	2.7	3N	73	76	0.00	0.01	4.1	3.7	5.9	5.7
Van der Have H46177(Aph & Rzm)	16.45	16.95	99	22.03	23.25	99	3.2	3.2	2N	68	65	0.02	0.01	3.0	2.9	4.9	4.6
Van der Have H46733(Rzm 66733)	16.17	16.83	98	23.49	24.10	103	3.1	NA	2N	65	NA	0.01	0.03	3.0	NA	4.9	NA
Van der Have H66556	16.11	16.75	98	23.01	24.37	104	2.9	NA	3N	72	73	0.00	0.00	4.0	3.7	5.7	5.3
Van der Have H66561	16.44	16.83	98	23.50	24.96	107	2.9	2.9	3N	77	76	0.02	0.03	4.7	4.1	5.7	5.8
Van der Have H66626	16.48	17.06	99	21.79	23.85	102	3.0	2.7	3N	78	NA	0.00	0.01	3.4	NA	5.5	NA
Van der Have H66725	16.49	17.37	101	22.04	23.00	98	3.0	NA	2N	70	NA	0.02	0.02	3.3	3.2	5.1	5.4
Mean of 22 fully approved	16.57	17.15		21.86	23.40		3.0	2.8		71	74	0.005	0.006	3.5	3.3	5.3	5.1
LSD .05	0.28			0.73			0.4			4.6		NA		0.7		0.5	

* 2004 Data from Casselton, Borup, Ada, Crookston, Grand Forks & Alvarado. Created 11-12-04.

\+ Lower numbers indicate better Aphanomyces tolerance (1=Healthy, 9=Dead), from Shakopee nursery. Foliar rating (mid summer) and root rating (October) based upon plant stand and plant health.

@ Ploidy indicates number of chromosomes (2N = diploid, 3N=triploid). Diploids are generally somewhat smaller seedlings, while triploids are generally larger. Diploids can have higher emergence.

Table 4

Performance Data of Rhizomania Specialty Varieties Approved for Sale to ACSC Growers in 2005

Under None and Slight Rhizomania Conditions During 2003 & 2004 Growing Seasons +++

		Years**	No Indication of Rzm *												Slight Levels of Rzm *											
		Comm	Rev/Ton			Rev/Acre			Rec/Ton			Rec/Acre			Rev/Ton			Rev/Acre			Rec/Ton			Rec/Acre		
Description	Ploidy	Seed	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm	2004	2 Yr	%Rzm
Beta 1305 (BX1305 Rzm)	2N	NC	35.11	36.98	96	919	961	104	299	307	98	7817	7988	107	36.92	38.23	96	884	898	106	307	312	98	7354	7335	108
Beta 4797(BX1197 Rzm)	3N	NC	37.63	40.17	104	880	969	105	310	321	102	7267	7755	103	39.59	41.46	104	844	882	104	319	326	102	6792	6936	102
Beta 4818R(Aph & Rzm)	3N	3	36.79	39.60	103	820	925	101	306	318	102	6836	7431	99	38.92	40.70	102	815	856	101	316	323	101	6620	6769	100
Beta BX1301(Rhc & Rzm)	2N	NC	32.85	34.58	90	850	910	99	288	296	94	7463	7806	104	35.00	35.86	90	874	865	102	298	302	95	7459	7293	107
Beta BX1303(Rzm)	2N	NC	34.52	37.13	96	813	898	98	296	307	98	6965	7438	99	37.22	39.14	98	827	833	98	308	316	99	6855	6730	99
Crystal R306	3N	NC	36.42	38.78	101	853	943	103	305	315	100	7132	7646	102	39.02	40.08	101	847	866	102	316	320	100	6864	6895	102
Crystal R308	3N	NC	38.21	40.78	106	890	981	107	313	324	103	7292	7791	104	40.06	41.99	106	867	915	108	321	329	103	6950	7145	105
Crystal R826(Rzm)	3N	2	37.79	40.64	105	795	905	98	311	323	103	6551	7193	96	39.68	41.46	104	830	840	99	319	326	102	6693	6600	97
Hilleshog 2411Rz	2N	2	36.94	39.37	102	783	886	96	307	317	101	6519	7143	95	39.30	41.07	103	754	789	93	318	325	102	6101	6216	92
Hilleshog 2463Rz(7163)	2N	1	34.72	37.51	97	768	894	97	297	309	99	6586	7374	98	37.09	39.15	98	777	801	95	308	316	99	6455	6474	95
Hilleshog 2467Rz(7167)	2N	1	35.45	38.43	100	824	910	99	300	313	100	6983	7424	99	37.09	40.07	101	795	839	99	308	320	100	6593	6699	99
Hilleshog 2469Rz(7169 Aph)	2N	1	33.37	36.12	94	748	873	95	291	303	97	6525	7320	98	35.32	38.04	96	776	822	97	300	311	98	6587	6719	99
Hilleshog 2480Rz(7180)	2N	NC	35.87	38.50	100	817	921	100	302	313	100	6893	7509	100	37.27	39.54	99	722	794	94	309	318	100	5974	6366	94
Hilleshog 2496Rz(7196)	2N	NC	35.36	37.97	99	827	935	102	300	311	99	7012	7663	102	37.28	39.10	98	783	842	99	309	316	99	6481	6807	100
Hilleshog 7172Rz	2N	1	33.73	36.79	95	712	821	89	293	306	98	6192	6823	91	35.16	38.42	97	687	745	88	299	313	98	5855	6059	89
Holly 03HX317 Rzm	2N	NC	35.81	38.21	99	872	961	104	302	312	100	7333	7848	105	37.99	40.09	101	862	913	108	312	320	100	7074	7294	107
Holly 03HX364 Rzm	2N	NC	35.02	38.89	101	831	926	101	298	315	100	7070	7502	100	35.85	39.13	98	854	853	101	302	316	99	7212	6912	102
Seedex SX0831(Rzm)	2N	NC	37.91	40.18	104	822	894	97	312	321	102	6752	7138	95	41.49	42.69	107	843	858	101	327	332	104	6660	6666	98
Seedex Prizm(SX0822 Aph)	2N	1	37.58	40.49	105	843	938	102	310	322	103	6950	7463	100	39.96	41.19	104	804	815	96	320	325	102	6456	6428	95
Seedex Rezult(SX0828 Aph & Rzm)	2N	1	37.67	40.14	104	828	911	99	310	321	102	6824	7277	97	39.71	40.87	103	779	807	95	319	324	102	6276	6374	94
Van der Have H46177(Aph & Rzm)	2N	3	37.63	40.09	104	831	925	101	310	320	102	6840	7391	99	38.90	40.39	102	763	809	96	316	322	101	6202	6423	95
Van der Have H46519(Rzm)	2N	NC	33.72	36.08	94	911	957	104	293	303	97	7921	8050	107	34.80	36.44	92	924	932	110	298	304	95	7901	7763	114
Van der Have H46733(Rzm 66733)	2N	NC	36.22	39.53	103	850	938	102	304	318	101	7136	7552	101	37.71	40.88	103	829	850	100	310	324	101	6828	6720	99
Van der Have H47150(Rzm)	2N	NC	33.21	36.77	95	806	909	99	290	305	97	7029	7551	101	34.77	37.78	95	841	861	102	297	310	97	7201	7085	104
Van der Have H47151(Rzm)	2N	NC	35.31	39.31	102	823	903	98	299	317	101	6976	7294	97	37.30	40.90	103	873	881	104	309	324	102	7228	6988	103
Mean of 2 Susceptible Varieties			38.16	40.94	106	818	920	100	312	324	103	6709	7290	97	38.82	40.68	102	760	806	95	315	323	101	6170	6367	94
Mean of 25 Rzm Approved Varieties			35.79	38.52	100	829	920	100	302	313	100	6995	7495	100	37.74	39.78	100	818	847	100	311	319	100	6747	6788	100

2nd column for each trait is mean of 2003 and 2004 data. 3rd column is % of mean of all Rzm varieties.

+++ Categorization of Rzm infection based upon performance ratios of tolerant vs susceptible varieties. Semi commercial data upgraded to commercial status.

Cercospora data on page 6.

* 15 Non-infected trials & 11 Rhizomania infected trials (5 sites with slight infection, 3 with moderate infection & 3 site with severe infection).

** Varieties with 3 years may have been available as commercial seed for more than 3 years.

Table 5
Performance Data of Rhizomania Specialty Varieties Approved for Sale to ACSC Growers in 2005
Under Moderate and Severe Rhizomania Conditions During 2003 & 2004 Growing Seasons +++

	Moderate Levels of Rzm *												Severe Levels of Rzm *												Aph Rate 2 Yr	
	Rev/Ton			Rev/Acre			Rec/Ton			Rec/Acre			Rev/Ton			Rev/Acre			Rec/Ton			Rec/Acre				
Description	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	2004	2 Year	%Rzm	Foliar+	Root+
Beta 1305 (BX1305 Rzm)	34.87	36.65	98	873	825	124	298	305	99	7447	6885	124	32.99	35.56	96	765	815	111	290	300	98	6720	6892	113	2.8	4.5
Beta 4797(BX1197 Rzm)	34.07	37.73	101	714	686	103	294	310	101	6145	5652	102	35.45	36.23	97	684	711	97	300	304	99	5799	5959	98	3.3	4.8
Beta 4818R(Aph & Rzm)	34.41	37.86	102	639	640	96	296	311	101	5486	5265	95	35.08	36.03	97	616	645	88	299	303	98	5246	5430	89	3.6	4.7
Beta BX1301(Rhc & Rzm)	33.50	34.40	92	880	809	121	292	295	96	7753	6989	126	31.81	33.25	89	784	807	110	284	290	94	7000	7035	116	3.7	5.0
Beta BX1303(Rzm)	32.82	35.60	95	666	649	97	289	301	98	5891	5520	100	34.23	36.82	99	760	792	108	295	306	99	6538	6587	108	2.7	4.4
Crystal R306	32.36	36.81	99	614	660	99	287	306	99	5431	5497	99	34.17	35.69	96	646	705	96	295	301	98	5567	5944	98	3.0	4.6
Crystal R308	35.22	38.35	103	722	699	105	299	313	102	6112	5697	103	35.62	35.94	97	676	671	91	301	302	98	5717	5639	93	3.0	4.5
Crystal R826(Rzm)	35.31	38.81	104	632	616	92	300	315	102	5397	5027	91	37.34	36.73	99	688	658	90	309	306	99	5694	5463	90	3.0	4.5
Hilleshog 2411Rz	34.31	38.49	103	658	655	98	295	313	102	5706	5382	97	37.26	39.79	107	702	748	102	308	319	104	5836	6019	99	4.2	6.2
Hilleshog 2463Rz(7163)	29.62	35.37	95	547	591	89	275	299	97	5068	5026	91	34.45	36.81	99	693	749	102	296	306	99	5935	6209	102	3.0	4.7
Hilleshog 2467Rz(7167)	31.75	37.53	101	700	702	105	284	309	100	6245	5829	105	34.74	38.28	103	729	803	109	297	312	102	6234	6548	108	4.2	6.0
Hilleshog 2469Rz(7169 Aph)	30.20	34.29	92	544	588	88	277	295	96	5009	5089	92	32.40	34.36	92	654	704	96	287	295	96	5774	6036	99	2.9	4.3
Hilleshog 2480Rz(7180)	35.23	37.80	101	684	683	102	299	310	101	5802	5611	101	36.44	38.40	103	690	745	101	305	313	102	5778	6070	100	4.6	6.5
Hilleshog 2496Rz(7196)	33.02	36.37	98	665	672	101	290	304	99	5823	5630	102	35.30	37.51	101	698	776	106	300	309	100	5946	6400	105	4.0	6.1
Hilleshog 7172Rz	31.95	36.21	97	578	614	92	285	303	98	5157	5162	93	34.31	36.53	98	611	682	93	295	305	99	5264	5692	94	4.2	5.7
Holly 03HX317 Rzm	33.61	37.42	100	669	699	105	292	309	100	5809	5778	104	35.06	37.33	100	718	780	106	299	308	100	6098	6430	106	3.3	4.9
Holly 03HX364 Rzm	32.72	37.89	102	691	656	98	288	311	101	6054	5425	98	35.11	38.22	103	755	741	101	299	312	101	6430	6071	100	3.5	5.3
Seedex SX0831(Rzm)	36.47	39.89	107	666	668	100	305	319	104	5578	5359	97	38.94	40.96	110	676	726	99	316	324	105	5493	5740	94	2.8	4.5
Seedex Prizm(SX0924 Aph & Rzm)	36.62	39.88	107	662	636	95	306	319	104	5498	5097	92	37.61	39.72	107	656	695	95	310	319	104	5419	5582	92	2.8	4.9
Seedex Rezult(SX0828 Aph & Rzm)	35.73	38.88	104	585	576	86	302	315	102	4973	4699	85	37.25	36.71	99	661	615	84	308	306	99	5479	5131	84	3.0	4.9
Van der Have H46177(Aph & Rzm)	35.93	39.70	106	629	647	97	303	319	103	5287	5200	94	37.76	39.21	105	666	695	95	311	317	103	5503	5631	93	3.0	4.7
Van der Have H46519(Rzm)	30.20	34.69	93	736	748	112	277	297	96	6735	6434	116	33.64	36.78	99	878	894	122	292	306	99	7628	7452	122	3.6	4.9
Van der Have H46733(Rzm 66733)	33.78	38.01	102	651	632	95	293	311	101	5662	5219	94	34.29	37.87	102	680	707	96	295	311	101	5850	5816	96	2.7	4.6
Van der Have H47150(Rzm)	31.41	35.42	95	669	668	100	282	300	97	5999	5673	102	32.91	36.37	98	752	764	104	289	304	99	6607	6411	105	2.9	4.7
Van der Have H47151(Rzm)	33.43	38.30	103	653	652	98	291	312	101	5669	5345	96	36.38	38.67	104	737	725	99	305	314	102	6194	5913	97	3.0	4.4
Mean of 2 Susceptible Varieties	33.09	36.41	98	559	549	82	290	304	99	4874	4586	83	33.78	33.70	91	433	468	64	293	292	95	3756	4073	67		
Mean of 25 Rzm Approved Varieties	33.54	37.29	100	669	667	100	292	308	100	5829	5540	100	35.22	37.19	100	703	734	100	299	308	100	5990	6084	100		

2nd column for each trait is mean of 2003 and 2004 data. 3rd column is % of mean of all Rzm varieties.

Updated 11-16-04

+++ Categorization of Rzm infection based upon performance ratios of tolerant vs susceptible varieties. Semi commercial data upgraded to commercial status.

Cercospora data on page 6.

* 15 Non-infected trials & 11 Rhizomania infected trials (5 sites with slight infection, 3 with moderate infection & 3 site with severe infection).

+ Ratings are from Shakopee (1=healthy, 9=dead).

Table 6

2 Year Performance of All Varieties Approved for Sale to ACS Growers in 2005.

Non-Disease Sites Only

Description	Approved For	Rec/Ton Lbs.	% Mean	Rev/Ton $	% Mean	Rec/Acre Lbs.	% Mean	Rev/Acre $	% Mean	Loss to Molasses %	% Mean	Sugar Content %	% Mean	Root Yield Tons/Acre	% Mean	Cercospora ** (1-9)	Aph Root (1-9)
Beta 1305 (BX1305 Rzm)	Rzm	306.5	97	36.98	94	7988	107	961	104	1.20	109	16.5	97	26.1	111	4.95	4.46
Beta 3494 (BX1194 Aph)	Full Market & Aph	323.0	102	40.68	103	6937	93	876	94	1.12	102	17.3	102	21.4	91	4.41	5.39
Beta 3800(Aph)	Aph	315.3	99	38.94	99	7502	100	926	100	1.05	96	16.8	99	23.8	101	4.62	4.49
Beta 3820(Aph)	Full Market & Aph	323.9	102	40.88	104	7501	100	948	102	1.05	96	17.2	102	23.1	98	4.32	4.64
Beta 4797(BX1197 Rzm)	Rzm	320.8	101	40.17	102	7755	104	969	104	1.13	103	17.2	101	24.2	103	4.78	4.81
Beta 4818R(Aph & Rzm)	Aph & Rzm	318.3	100	39.60	100	7431	99	925	100	1.09	99	17.0	100	23.4	99	4.70	4.71
Beta 6225	Full Market	315.2	99	38.90	99	7704	103	950	102	1.04	95	16.8	99	24.5	104	4.64	5.10
Beta 6233	Full Market	325.1	102	41.16	104	7482	100	948	102	1.09	99	17.3	102	23.0	98	4.57	4.98
Beta 6302 (BX1302)	Test Market	332.0	105	42.67	108	7371	99	947	102	1.10	100	17.7	104	22.2	94	4.33	4.90
Beta 6400(Aph)	Full Market & Aph	328.5	103	41.92	106	7194	96	918	99	1.10	100	17.5	103	21.9	93	4.20	4.73
Beta 6610	Full Market	320.7	101	40.16	102	7491	100	938	101	1.07	97	17.1	101	23.4	99	4.71	4.95
Beta BX1301(Rhc & Rzm)	Rhc & Rzm	295.7	93	34.58	88	7806	104	910	98	1.25	114	16.0	94	26.5	112	4.59	5.03
Beta BX1303(Rzm)	Rzm	307.1	97	37.13	94	7438	100	898	97	1.19	108	16.5	97	24.2	103	4.70	4.43
Croplan Genetics CL101	Full Market	313.4	99	38.49	98	7609	102	935	101	1.18	107	16.8	99	24.3	103	5.18	5.60
Croplan Genetics CL102	Full Market	310.3	98	37.80	96	7517	101	915	99	1.15	104	16.7	98	24.2	103	5.05	5.43
Croplan Genetics CL311	Full Market	319.8	101	39.96	101	7469	100	934	101	1.10	100	17.1	101	23.3	99	5.07	5.59
Crystal 204(CX204)	Full Market	324.1	102	40.94	104	7453	100	941	101	1.12	102	17.3	102	23.0	98	4.45	4.77
Crystal 723	Full Market	326.6	103	41.51	105	7334	98	931	100	1.06	97	17.4	102	22.5	95	4.47	5.01
Crystal 725	Full Market	321.4	101	40.31	102	7566	101	948	102	1.09	99	17.2	101	23.6	100	4.43	4.44
Crystal 727(CX206)	Full Market	326.5	103	41.47	105	7620	102	969	104	1.07	98	17.4	102	23.3	99	4.39	5.00
Crystal 817	Full Market	321.8	101	40.40	102	7309	98	919	99	1.11	101	17.2	101	22.7	96	4.97	6.27
Crystal 820	Full Market & Aph	320.4	101	40.09	102	7537	101	945	102	1.08	98	17.1	101	23.5	100	4.59	4.43
Crystal 822	Full Market & Aph	325.5	102	41.25	105	7387	99	937	101	1.12	102	17.4	102	22.7	96	4.58	4.52
Crystal 999	Full Market	320.1	101	40.03	101	7493	100	937	101	1.09	99	17.1	101	23.4	99	4.49	4.83
Crystal R306	Rzm	314.6	99	38.78	98	7646	102	943	102	1.16	105	16.9	99	24.3	103	4.95	4.59
Crystal R308	Test Market & Rzm	323.6	102	40.78	103	7791	104	981	106	1.10	100	17.3	102	24.1	102	4.63	4.54
Crystal R826(Rzm)	Full Market & Rzm	322.8	102	40.64	103	7193	96	905	98	1.16	106	17.3	102	22.3	95	4.65	4.46
Hilleshog 2093	Full Market	308.9	97	37.49	95	7281	97	883	95	1.17	107	16.6	98	23.6	100	4.74	6.76
Hilleshog 2129	Full Market	320.6	101	40.14	102	6883	92	861	93	1.11	101	17.1	101	21.5	91	4.73	5.29
Hilleshog 2162(7162)	Full Market	326.5	103	41.48	105	7253	97	922	99	1.02	93	17.3	102	22.2	94	5.27	5.43
Hilleshog 2411Rz	Rzm	317.3	100	39.37	100	7143	96	886	96	1.15	104	17.0	100	22.5	96	4.49	6.21
Hilleshog 2463Rz(7163)	Rzm	309.0	97	37.51	95	7374	99	894	96	1.16	105	16.6	98	23.9	102	4.69	4.66
Hilleshog 2467Rz(7167)	Rzm	313.1	99	38.43	97	7424	99	910	98	1.14	103	16.8	99	23.8	101	4.86	6.01
Hilleshog 2469Rz(7169 Aph)	Aph & Rzm	302.9	95	36.12	92	7320	98	873	94	1.20	109	16.3	96	24.2	103	4.89	4.29
Hilleshog 2480Rz(7180)	Rzm	313.2	99	38.50	98	7509	100	921	99	1.10	100	16.8	99	24.0	102	4.06	6.48
Hilleshog 2496Rz(7196)	Rzm	310.9	98	37.97	96	7663	103	935	101	1.12	102	16.7	98	24.7	105	4.39	6.07
Hilleshog 7172Rz	Rhc & Rzm	305.9	96	36.79	93	6823	91	821	89	1.10	100	16.4	97	22.3	95	3.38	5.75
Holly 250 (02HX250)	Full Market	323.2	102	40.73	103	7679	103	967	104	1.10	100	17.3	102	23.8	101	4.99	5.20
Holly 03HX317 Rzm	Rzm	312.0	98	38.21	97	7848	105	961	104	1.04	95	16.6	98	25.2	107	4.72	4.88
Holly 03HX364 Rzm	Rzm	314.9	99	38.89	99	7502	100	926	100	1.07	97	16.8	99	23.8	101	4.83	5.27
Holly 956	Full Market	322.3	101	40.53	103	7684	103	968	104	1.08	98	17.2	101	23.8	101	5.10	6.09
Seedex SX0831(Rzm)	Rzm	320.9	101	40.18	102	7138	96	894	96	1.00	91	17.0	100	22.2	94	3.96	4.48
Seedex Aurora(Aph)	Aph	317.0	100	39.32	100	7174	96	890	96	1.06	96	16.9	100	22.6	96	4.19	4.74
Seedex Magnum	Full Market	321.4	101	40.33	102	7691	103	966	104	1.08	98	17.2	101	23.9	101	5.16	5.35
Seedex Prizm(SX0822 Aph)	Aph & Rzm	322.1	101	40.49	103	7463	100	938	101	0.99	90	17.1	101	23.2	98	4.19	4.87
Seedex Rezult(SX0828 Aph & Rzm)	Full Market & Aph & Rzm	320.7	101	40.14	102	7277	97	911	98	1.03	94	17.1	101	22.7	96	4.77	4.92
Seedex Thunder	Full Market	316.8	100	39.26	99	7660	103	950	102	1.15	104	17.0	100	24.2	103	5.10	5.89
Van der Have H46177(Aph & Rzm)	Full Market & Aph & Rzm	320.4	101	40.09	102	7391	99	925	100	1.06	96	17.1	101	23.1	98	4.19	4.74
Van der Have H46519(Rzm)	Rzm	302.8	95	36.08	91	8050	108	957	103	1.13	103	16.3	96	26.7	113	5.15	4.94
Van der Have H46733(Rzm 66733)	Rzm	317.9	100	39.53	100	7552	101	938	101	1.00	91	16.9	100	23.8	101	4.26	4.57
Van der Have H47150(Rzm)	Rzm	305.4	96	36.77	93	7551	101	909	98	1.09	99	16.4	96	24.7	105	4.37	4.74
Van der Have H47151(Rzm)	Rzm	316.8	100	39.31	100	7294	98	903	97	0.99	91	16.8	99	23.1	98	4.14	4.35
Van der Have H66556	Full Market	314.0	99	38.64	98	7518	101	925	100	1.12	102	16.8	99	24.0	102	4.99	5.47
Van der Have H66561	Full Market	318.6	100	39.67	101	7863	105	981	106	1.09	99	17.0	100	24.7	105	5.07	5.78
Van der Have H66626	Full Market	322.1	101	40.48	103	7520	101	947	102	1.09	99	17.2	101	23.3	99	5.19	5.64
Van der Have H66725	Full Market	326.0	103	41.37	105	7373	99	935	101	1.07	97	17.4	102	22.6	96	5.11	5.46
Mean of 22 full market varieties approved for sale in2005		317.6		39.46		7472		928		1.10		17.0		23.5		4.65	5.12

Data from semi-commercial trials upgraded to commercial status. ** Lower numbers indicate better CR tolerance (from Shakopee nursery). Created 11-11-04.

++ 2003 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09. Revenue does not consider hauling costs.

Table 7
Performance Data of Specialty Varieties Approved for Sale to ACS Growers in 2005
Aphanomyces, Rhizomania & Disease Free Conditions +++

			Disease Free Sites ++						Rhizomania (Rzm) Infected Sites *				Aphanomyces (Aph) Infected Sites							Aph Rating	
	Disease		Rev/Ton ($)			Rev/Acre ($)			Rev/Ton ($)		Rev/Acre ($)		Rev/Ton ($)			Rev/Acre ($)			CR Rating	2 Yr	
Description	Tolerance	Ploidy	2004	2 Yr	%Mean	2004	2 Yr	%Mean	2 Yr	%Mean	2 Yr	%Mean	2004	3 Yr	%Mean	2004	3 Yr	%Mean	2 Yr +	Foliar+	Root+
Beta 1305 (BX1305 Rzm)	Rzm	2N	35.11	36.98	91	919	961	102	37.05	96	846	111	NA	NA	NA	NA	NA	NA	4.95	2.8	4.5
Beta 3494 (BX1194 Aph)	Full Market & Aph	3N	37.91	40.68	100	707	876	93	NA	NA	NA	NA	34.93	32.64	99	305	462	87	4.41	3.4	5.4
Beta 3800(Aph)	Aph	2N	36.62	38.94	96	836	926	99	NA	NA	NA	NA	34.75	32.30	98	525	565	106	4.62	2.6	4.5
Beta 3820(Aph)	Full Market & Aph	3N	38.04	40.88	100	824	948	101	NA	NA	NA	NA	35.27	32.86	100	456	537	101	4.32	2.9	4.6
Beta 4797(BX1197 Rzm)	Rzm	3N	37.63	40.17	99	880	969	103	39.29	102	774	102	NA	NA	NA	NA	NA	NA	4.78	3.3	4.8
Beta 4818R(Aph & Rzm)	Aph & Rzm	3N	36.79	39.60	97	820	925	99	38.91	101	735	96	35.62	31.30	95	519	517	97	4.70	3.6	4.7
Beta 6400(Aph)	Full Market & Aph	3N	39.49	41.92	103	814	918	98	NA	NA	NA	NA	38.85	35.52	108	598	569	107	4.20	3.0	4.7
Beta BX1301(Rhc & Rzm)	Rhc & Rzm	2N	32.85	34.58	85	850	910	97	34.69	90	824	108	NA	NA	NA	NA	NA	NA	4.59	3.7	5.0
Beta BX1303(Rzm)	Rzm	2N	34.52	37.13	91	813	898	96	37.60	97	766	101	NA	NA	NA	NA	NA	NA	4.70	2.7	4.4
Crystal 820	Full Market & Aph	3N	37.75	40.09	98	831	945	101	NA	NA	NA	NA	36.91	33.17	101	503	559	105	4.59	2.8	4.4
Crystal 822	Full Market & Aph	3N	38.59	41.25	101	829	937	100	NA	NA	NA	NA	38.39	34.48	105	613	593	111	4.58	2.5	4.5
Crystal R306	Rzm	3N	36.42	38.78	95	853	943	101	38.37	99	766	101	NA	NA	NA	NA	NA	NA	4.95	3.0	4.6
Crystal R308	Test Market & Rzm	3N	38.21	40.78	100	890	981	105	39.58	103	785	103	NA	NA	NA	NA	NA	NA	4.63	3.0	4.5
Crystal R826(Rzm)	Full Market & Rzm	3N	37.79	40.64	100	795	905	97	39.83	103	727	95	NA	NA	NA	NA	NA	NA	4.65	3.0	4.5
Hilleshog 2411Rz	Rzm	2N	36.94	39.37	97	783	886	95	40.22	104	735	96	NA	NA	NA	NA	NA	NA	4.49	4.2	6.2
Hilleshog 2463Rz(7163)	Rzm	2N	34.72	37.51	92	768	894	95	37.86	98	728	96	NA	NA	NA	NA	NA	NA	4.69	3.0	4.7
Hilleshog 2467Rz(7167)	Rzm	2N	35.45	38.43	94	824	910	97	39.20	102	784	103	NA	NA	NA	NA	NA	NA	4.86	4.2	6.0
Hilleshog 2469Rz(7169 Aph)	Aph & Rzm	2N	33.37	36.12	89	748	873	93	36.20	94	724	95	31.61	30.18	92	469	507	95	4.89	2.9	4.3
Hilleshog 2480Rz(7180)	Rzm	2N	35.87	38.50	95	817	921	98	38.82	101	742	97	NA	NA	NA	NA	NA	NA	4.06	4.6	6.5
Hilleshog 2496Rz(7196)	Rzm	2N	35.36	37.97	93	827	935	100	38.06	99	770	101	NA	NA	NA	NA	NA	NA	4.39	4.0	6.1
Hilleshog 7172Rz	Rhc & Rzm	2N	33.73	36.79	90	712	821	88	37.47	97	688	90	NA	NA	NA	NA	NA	NA	3.38	4.2	5.7
Holly 03HX317 Rzm	Rzm	2N	35.81	38.21	94	872	961	102	38.81	101	815	107	NA	NA	NA	NA	NA	NA	4.72	3.3	4.9
Holly 03HX364 Rzm	Rzm	2N	35.02	38.89	95	831	926	99	38.78	100	764	100	NA	NA	NA	NA	NA	NA	4.83	3.5	5.3
Seedex SX0831(Rzm)	Rzm	2N	37.91	40.18	99	822	894	95	41.62	108	764	100	NA	NA	NA	NA	NA	NA	3.96	2.8	4.5
Seedex Aurora(Aph)	Aph	3N	35.96	39.32	97	754	890	95	NA	NA	NA	NA	34.86	32.84	100	416	503	94	4.19	3.3	4.7
Seedex Prizm(SX0822 Aph)	Aph & Rzm	2N	37.58	40.49	99	843	938	100	40.59	105	725	95	35.69	32.26	98	512	515	97	4.19	2.8	4.9
Seedex Rezult(SX0828 Aph & Rzm)	Full Market & Aph & Rzm	2N	37.67	40.14	99	828	911	97	39.55	102	691	91	35.34	33.43	102	491	532	100	4.77	3.0	4.9
Van der Have H46177(Aph & Rzm)	Full Market & Aph & Rzm	2N	37.63	40.09	98	831	925	99	40.14	104	731	96	36.53	32.80	100	528	544	102	4.19	3.0	4.7
Van der Have H46519(Rzm)	Rzm	2N	33.72	36.08	89	911	957	102	36.29	94	870	114	NA	NA	NA	NA	NA	NA	5.15	3.6	4.9
Van der Have H46733(Rzm 66733)	Rzm	2N	36.22	39.53	97	850	938	100	39.33	102	744	98	NA	NA	NA	NA	NA	NA	4.26	2.7	4.6
Van der Have H47150(Rzm)	Rzm	2N	33.21	36.77	90	806	909	97	36.82	95	778	102	NA	NA	NA	NA	NA	NA	4.37	2.9	4.7
Van der Have H47151(Rzm)	Rzm	2N	35.31	39.31	97	823	903	96	39.82	103	776	102	NA	NA	NA	NA	NA	NA	4.14	3.0	4.4
	(Rhc=Rhizoctonia root rot)																				
Mean of 22 Fully Approved Varieties			37.83	40.73	100	826	938	100													
Mean of Specialty Varieties			36.23	38.94	95.6	822	920	98.1	38.59		762		35.73	32.81		494	534			3.2	4.9

Second column for each trait is mean of multiple years of data. Third column is percent of mean across years.

+ Ratings represent two years of data from Roseville & Shakopee (1=healthy, 9=dead).

Updated 11-12-04

++ Semi commercial trial data upgraded to commercial status.

+++ 2 Aphanomyces trials, 11 Rhizomania trials, 16 disease free trials (2003 & 2004 data combined).

* 11 Rhizomania infected trials - 5 in 2003, 6 in 2004 from ACSC area (5 with slight infection, 3 with moderate Rzm and 3 with severe Rzm)

Table 8

Three Year Performance of Varieties Approved for Unlimited Sale to ACS Growers in 2005

Mhd/Hlb District *

Description	Years Comm Seed +	Rec. Sugar / Ton (pounds) 2004	Rec. Sugar / Ton (pounds) 3 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr % Mean	Revenue / Ton (dollars) ++ 2004	Revenue / Ton (dollars) ++ 3 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr % Mean	Rec. Sugar / Acre (pounds) 2004	Rec. Sugar / Acre (pounds) 3 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr % Mean	Revenue / Acre (dollars) ++ 2004	Revenue / Acre (dollars) ++ 3 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr % Mean	Loss to Molasses (%) 2004	Loss to Molasses (%) 3 Yr Mean	Loss to Molasses (%) 3 Yr % Mean	Sugar Content (%) 2004	Sugar Content (%) 3 Yr Mean	Sugar Content (%) 3 Yr % Mean	Root Yield (Tons / Acre) 2004	Root Yield (Tons / Acre) 3 Yr Mean	Root Yield (Tons / Acre) 3 Yr % Mean
Beta 3494 (BX1194 Aph)	NC	304.2	318.4	99	36.29	38.83	98.3	5820	6991	96	697	850	95.4	1.03	1.19	102	16.3	17.1	99	19.0	21.9	97
Beta 3800(Aph)	4	300.7	311.8	97	35.52	37.34	94.5	7008	7249	100	829	864	96.9	0.97	1.14	98	16.0	16.7	97	23.3	23.3	103
Beta 3820(Aph)	4	305.6	322.5	100	36.62	39.78	100.7	6818	7252	100	817	892	100.0	0.95	1.12	96	16.2	17.2	100	22.3	22.6	99
Beta 4797(BX1197 Rzm)	NC	305.1	321.1	100	36.50	39.44	99.9	7389	7726	106	883	945	106.0	1.02	1.18	101	16.3	17.2	100	24.2	24.1	106
Beta 4818R(Aph & Rzm)	3	300.3	314.0	98	35.42	37.86	95.9	6662	7254	100	785	873	97.9	0.97	1.19	102	16.0	16.9	98	22.2	23.1	102
Beta 6225	3	298.3	311.2	97	34.98	37.21	94.2	7238	7431	102	848	884	99.1	0.97	1.14	98	15.9	16.7	97	24.3	24.0	106
Beta 6233	2	307.3	320.8	100	36.99	39.38	99.7	6892	7290	100	830	892	100.0	0.98	1.17	101	16.3	17.2	100	22.4	22.8	100
Beta 6400(Aph)	5	312.1	326.7	102	38.08	40.70	103.1	6672	6916	95	814	858	96.2	0.98	1.18	101	16.6	17.5	102	21.4	21.3	94
Beta 6610	3	300.8	314.3	98	35.53	37.92	96.0	6904	7231	99	814	868	97.3	0.96	1.17	100	16.0	16.9	98	23.0	23.1	102
Croplan Genetics CL101	6	299.2	308.9	96	35.16	36.69	92.9	6982	7294	100	819	866	97.1	1.08	1.26	108	16.0	16.7	97	23.4	23.6	104
Croplan Genetics CL102	6	293.0	305.0	95	33.76	35.81	90.7	6905	7149	98	793	834	93.5	1.07	1.22	105	15.7	16.5	96	23.7	23.6	104
Croplan Genetics CL311	2	303.1	320.7	100	36.05	39.35	99.7	6982	7384	101	832	902	101.2	1.01	1.18	102	16.2	17.2	100	23.0	23.1	102
Crystal 204(CX204)	NC	305.1	318.9	99	36.49	38.95	98.6	6774	7247	100	809	881	98.8	1.03	1.22	105	16.3	17.2	100	22.3	22.8	100
Crystal 723	2	313.1	325.0	101	38.29	40.31	102.1	6905	7184	99	843	887	99.5	0.96	1.13	97	16.6	17.4	101	22.1	22.2	98
Crystal 725	2	307.6	320.4	100	37.05	39.27	99.4	7120	7395	102	859	903	101.3	0.99	1.15	99	16.4	17.2	100	23.1	23.1	102
Crystal 727(CX206)	NC	311.5	323.8	101	37.94	40.05	101.4	7105	7510	103	869	928	104.1	0.97	1.19	103	16.6	17.4	101	22.7	23.2	102
Crystal 817	5	302.3	320.4	100	35.86	39.29	99.5	6819	7063	97	809	862	96.7	1.02	1.19	102	16.1	17.2	100	22.6	22.1	97
Crystal 820	2	308.3	318.2	99	37.22	38.77	98.2	6805	7352	101	823	892	100.1	0.98	1.17	101	16.4	17.1	99	22.1	23.2	102
Crystal 822	2	308.6	322.7	100	37.28	39.78	100.7	6887	7191	99	834	884	99.2	1.02	1.20	103	16.4	17.3	101	22.3	22.3	98
Crystal 999	5	301.3	318.8	99	35.63	38.94	98.6	6799	7298	100	804	889	99.7	1.00	1.17	101	16.1	17.1	99	22.6	22.9	101
Crystal R826(Rzm)	2	302.8	320.3	100	35.97	39.27	99.4	6536	6898	95	777	843	94.5	1.06	1.25	107	16.2	17.3	100	21.6	21.6	95
Hilleshog 2093	4	294.2	307.4	96	34.03	36.36	92.1	6816	6940	95	789	815	91.5	1.08	1.25	108	15.8	16.6	97	23.2	22.7	100
Hilleshog 2129	2	305.9	321.6	100	36.67	39.55	100.1	6587	7054	97	791	862	96.7	1.01	1.18	102	16.3	17.3	100	21.5	22.0	97
Hilleshog 2162(7162)	1	309.8	328.6	102	37.54	41.11	104.1	6884	7250	100	836	903	101.3	0.93	1.11	95	16.4	17.5	102	22.2	22.1	97
Hilleshog 2411Rz	2	305.6	316.2	98	36.60	38.36	97.1	6584	7072	97	789	855	95.8	1.02	1.23	106	16.3	17.0	99	21.5	22.4	99
Hilleshog 2463Rz(7163)	1	291.0	304.0	95	33.32	35.61	90.2	6600	7207	99	754	839	94.1	1.03	1.28	110	15.6	16.5	96	22.7	23.8	105
Hilleshog 2467Rz(7167)	1	292.8	313.2	97	33.73	37.68	95.4	7111	7463	102	821	894	100.3	1.03	1.22	105	15.7	16.9	98	24.3	23.9	105
Hilleshog 2469Rz(7169 Aph)	1	287.5	300.2	93	32.55	34.78	88.1	6657	7293	100	756	840	94.2	1.06	1.31	112	15.4	16.3	95	23.1	24.4	107
Hilleshog 7172Rz	1	290.8	307.1	96	33.29	36.32	92.0	6393	6740	93	731	792	88.8	0.97	1.19	103	15.5	16.5	96	22.0	22.1	97
Holly 250 (02HX250)	NC	303.7	320.2	100	36.19	39.25	99.4	7211	7530	103	859	919	103.0	1.01	1.19	102	16.2	17.2	100	23.8	23.6	104
Holly 956	2	303.4	319.8	100	36.12	39.14	99.1	7140	7338	101	854	896	100.5	0.99	1.18	101	16.2	17.2	100	23.4	23.0	101
Seedex Aurora(Aph)	2	298.7	316.0	98	35.05	38.31	97.0	6388	7120	98	749	858	96.2	0.99	1.14	98	15.9	16.9	98	21.4	22.6	100
Seedex Magnum	2	297.6	319.9	100	34.82	39.19	99.2	6956	7540	104	816	921	103.3	0.99	1.15	99	15.9	17.1	100	23.3	23.6	104
Seedex Prizm(SX0822 Aph)	1	304.0	317.3	99	36.26	38.62	97.8	6984	7255	100	834	875	98.1	0.89	1.11	95	16.1	17.0	99	22.9	23.0	101
Seedex Rezult(SX0828 Aph & Rzm)	1	307.9	323.1	101	37.13	39.88	101.0	6928	7395	102	838	910	102.0	0.87	1.10	94	16.3	17.2	100	22.4	22.9	101
Seedex Thunder	6	301.4	312.4	97	35.67	37.49	94.9	7217	7460	102	855	891	100.0	1.06	1.26	108	16.1	16.9	98	23.9	24.0	105
Van der Have H46177(Aph & Rzm)	3	305.3	321.4	100	36.54	39.52	100.1	7016	7273	100	843	890	99.9	0.90	1.11	96	16.2	17.2	100	22.9	22.7	100
Van der Have H46733(Rzm 66733)	NC	294.3	314.0	98	34.06	37.86	95.9	7080	7451	102	822	894	100.2	0.96	1.10	94	15.7	16.8	97	24.0	23.8	105
Van der Have H66556	3	294.3	314.6	98	34.07	37.97	96.2	6868	7412	102	795	892	100.1	1.04	1.18	102	15.8	16.9	98	23.4	23.6	104
Van der Have H66561	3	304.3	313.8	98	36.32	37.80	95.7	7417	7579	104	887	911	102.2	0.99	1.18	102	16.2	16.9	98	24.4	24.2	107
Van der Have H66626	2	304.0	318.6	99	36.25	38.89	98.5	6895	7259	100	824	884	99.1	0.97	1.18	102	16.2	17.1	99	22.6	22.8	100
Van der Have H66725	1	306.0	325.6	101	36.71	40.45	102.4	6920	7302	100	832	905	101.4	0.95	1.12	97	16.3	17.4	101	22.5	22.4	99
Mean of 22 fully approved		305.8	321.3		36.66	39.49		6875	7281		825	892		0.98	1.16		16.27	17.23		22.45	22.71	
LSD .05		9.1			2.05			323			50			0.06			0.43			1.08		

* 2004 Data from Casselton, Borup & Ada.

Created 11-04-04.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 9

Three Year Performance of Varieties Approved for Unlimited Sale to ACS Growers in 2005

Crk/EGF District *

		Rec. Sugar / Ton (pounds)			Revenue / Ton (dollars) ++			Rec. Sugar / Acre (pounds)			Revenue / Acre (dollars) ++			Loss to Molasses (%)			Sugar Content (%)			Root Yield (Tons / Acre)		
	Years Comm		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %		3 Yr	3 Yr %
Description	Seed +	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean	2004	Mean	Mean
Beta 3494 (BX1194 Aph)	NC	317.9	317.6	100	39.39	38.59	100.7	5771	7495	99	715	911	98.9	1.13	1.16	104	17.0	17.0	101	18.1	23.6	98
Beta 3800(Aph)	4	310.5	306.8	97	37.70	36.18	94.4	6949	7657	101	843	904	98.1	1.02	1.09	98	16.5	16.4	97	22.4	24.9	104
Beta 3820(Aph)	4	318.8	317.8	100	39.59	38.66	100.9	6712	7658	101	833	934	101.4	1.03	1.08	96	17.0	17.0	100	21.1	24.0	100
Beta 4797(BX1197 Rzm)	NC	315.1	313.4	99	38.74	37.65	98.3	7150	7818	103	878	941	102.1	1.08	1.17	105	16.8	16.8	99	22.7	24.9	104
Beta 4818R(Aph & Rzm)	3	312.7	307.9	97	38.20	36.44	95.1	7013	7444	98	856	883	95.8	1.05	1.14	102	16.7	16.5	98	22.5	24.2	101
Beta 6225	3	310.3	306.0	97	37.66	36.00	94.0	7331	7762	102	888	916	99.4	1.01	1.07	96	16.5	16.4	97	23.7	25.3	106
Beta 6233	2	319.6	316.9	100	39.77	38.47	100.4	6914	7582	100	861	923	100.1	1.05	1.12	100	17.0	17.0	100	21.6	23.9	100
Beta 6400(Aph)	5	324.8	323.7	102	40.93	39.98	104.3	6482	7262	96	815	900	97.7	1.07	1.13	101	17.3	17.3	102	20.0	22.4	94
Beta 6610	3	317.0	313.2	99	39.17	37.65	98.3	7017	7619	100	866	919	99.7	1.05	1.12	100	16.9	16.8	99	22.2	24.3	101
Croplan Genetics CL101	6	309.0	305.1	96	37.37	35.80	93.4	7031	7505	99	849	884	95.9	1.12	1.20	107	16.6	16.4	97	22.8	24.6	103
Croplan Genetics CL102	6	301.3	301.7	95	35.65	35.04	91.5	7071	7626	101	835	890	96.5	1.13	1.17	105	16.2	16.3	96	23.5	25.2	105
Croplan Genetics CL311	2	308.2	312.4	99	37.20	37.44	97.7	6922	7556	100	834	909	98.7	1.07	1.14	102	16.5	16.8	99	22.5	24.1	101
Crystal 204(CX204)	NC	317.6	316.7	100	39.30	38.40	100.2	6759	7713	102	836	937	101.6	1.09	1.15	103	17.0	17.0	100	21.3	24.3	102
Crystal 723	2	318.4	317.4	100	39.48	38.57	100.7	6538	7442	98	809	905	98.2	1.06	1.10	98	17.0	17.0	100	20.6	23.4	98
Crystal 725	2	315.3	313.5	99	38.78	37.70	98.4	6817	7671	101	835	923	100.1	1.06	1.10	98	16.8	16.8	99	21.7	24.4	102
Crystal 727(CX206)	NC	321.9	317.8	100	40.27	38.63	100.8	6950	7901	104	869	964	104.6	1.02	1.11	99	17.1	17.0	100	21.6	24.8	104
Crystal 817	5	315.2	316.4	100	38.77	38.34	100.1	6574	7425	98	809	905	98.2	1.08	1.15	103	16.8	17.0	100	20.8	23.3	97
Crystal 820	2	313.8	315.1	100	38.45	38.04	99.3	6856	7810	103	841	946	102.7	1.05	1.09	98	16.7	16.8	99	21.8	24.7	103
Crystal 822	2	320.7	318.4	101	40.01	38.80	101.3	6624	7477	99	826	914	99.2	1.11	1.15	103	17.2	17.1	101	20.7	23.4	98
Crystal 999	5	312.6	314.1	99	38.18	37.83	98.7	6884	7664	101	840	925	100.3	1.08	1.13	101	16.7	16.8	99	22.0	24.4	102
Crystal R826(Rzm)	2	318.8	314.9	100	39.58	38.01	99.2	6571	7244	95	813	877	95.2	1.15	1.21	108	17.1	17.0	100	20.7	23.0	96
Hilleshog 2093	4	300.7	302.0	95	35.51	35.09	91.6	6743	7264	96	795	847	91.9	1.15	1.20	107	16.2	16.3	96	22.5	24.0	100
Hilleshog 2129	2	311.2	313.5	99	37.87	37.69	98.4	6253	7196	95	759	866	94.0	1.11	1.17	104	16.7	16.8	99	20.2	22.9	96
Hilleshog 2162(7162)	1	315.0	319.2	101	38.73	38.93	101.6	6488	7298	96	798	895	97.1	1.00	1.08	96	16.8	17.0	101	20.6	22.8	95
Hilleshog 2411Rz	2	309.2	308.9	98	37.41	36.66	95.7	6461	7121	94	778	848	92.0	1.13	1.19	106	16.6	16.6	98	21.0	23.0	96
Hilleshog 2463Rz(7163)	1	303.2	301.1	95	36.08	34.93	91.1	6565	7474	99	780	866	94.0	1.12	1.19	107	16.3	16.2	96	21.7	24.9	104
Hilleshog 2467Rz(7167)	1	308.1	303.2	96	37.17	35.42	92.4	6855	7455	98	827	871	94.5	1.07	1.20	107	16.5	16.4	97	22.3	24.6	103
Hilleshog 2469Rz(7169 Aph)	1	294.6	291.0	92	34.13	32.72	85.4	6381	7355	97	738	828	89.8	1.14	1.24	111	15.9	15.8	93	21.7	25.3	106
Hilleshog 7172Rz	1	294.3	294.3	93	34.06	33.42	87.2	5993	6691	88	693	763	82.8	1.12	1.17	104	15.8	15.9	94	20.4	22.7	95
Holly 250 (02HX250)	NC	314.4	314.4	99	38.59	37.88	98.8	7064	7763	102	865	938	101.7	1.08	1.14	102	16.8	16.9	100	22.5	24.6	103
Holly 956	2	311.9	316.8	100	38.03	38.42	100.3	6950	7823	103	847	954	103.5	1.04	1.12	100	16.6	17.0	100	22.3	24.6	103
Seedex Aurora(Aph)	2	306.7	308.5	98	36.86	36.58	95.5	6333	7415	98	759	882	95.7	1.06	1.10	98	16.4	16.5	98	20.7	24.0	100
Seedex Magnum	2	316.6	317.7	100	39.08	38.62	100.8	6798	7869	104	838	961	104.3	1.03	1.10	98	16.9	17.0	100	21.5	24.7	103
Seedex Prizm(SX0822 Aph)	1	315.0	311.1	98	38.73	37.18	97.0	6908	7574	100	850	909	98.6	0.99	1.08	96	16.7	16.6	98	21.9	24.3	101
Seedex Rezult(SX0828 Aph & Rzm)	1	312.3	313.4	99	38.13	37.66	98.3	6714	7472	98	818	899	97.6	1.04	1.11	99	16.7	16.8	99	21.6	23.8	99
Seedex Thunder	6	308.2	308.1	97	37.19	36.49	95.2	6973	7742	102	841	920	99.8	1.11	1.19	106	16.5	16.6	98	22.7	25.1	105
Van der Have H46177(Aph & Rzm)	3	314.8	311.7	99	38.69	37.29	97.3	6669	7299	96	820	876	95.0	1.00	1.11	99	16.7	16.7	99	21.2	23.4	98
Van der Have H46733(Rzm 66733)	NC	312.9	313.3	99	38.25	37.62	98.2	7191	7759	102	878	934	101.3	1.00	1.04	93	16.7	16.7	99	23.0	24.7	103
Van der Have H66556	3	307.9	307.3	97	37.13	36.29	94.7	6956	7722	102	837	913	99.1	1.10	1.15	103	16.5	16.5	98	22.6	25.1	105
Van der Have H66561	3	312.0	309.0	98	38.04	36.70	95.8	7061	7957	105	861	948	102.9	1.07	1.11	99	16.7	16.6	98	22.6	25.7	107
Van der Have H66626	2	315.1	314.3	99	38.74	37.88	98.9	6580	7575	100	808	916	99.4	1.05	1.13	101	16.8	16.8	99	20.9	24.0	100
Van der Have H66725	1	313.8	320.5	101	38.45	39.21	102.3	6754	7532	99	827	923	100.1	1.03	1.10	98	16.7	17.1	101	21.5	23.5	98
Mean of 22 fully approved		316.2	316.3		38.99	38.32		6720	7587		828	922		1.06	1.12		17	17		21	24	
LSD .05		7.9			1.78			335			50			0.06			0.37			1.04		

* 2004 Data from Climax MN, Grand Forks ND & Alvarado MN.

Created 11-04-04.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 10

Three Year Performance of Varieties Approved for Unlimited Sale to ACS Growers in 2005

Drayton District *

	Years	Rec. Sugar / Ton (pounds)			Revenue / Ton (dollars) ++			Rec. Sugar / Acre (pounds)			Revenue / Acre (dollars) ++			Loss to Molasses (%)			Sugar Content (%)			Root Yield (Tons / Acre)		
Description	Comm Seed +	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean
Beta 3494 (BX1194 Aph)	NC	316.0	326.8	100	38.95	40.68	99.6	5515	7147	96	679	887	96.1	1.14	1.16	106	16.9	17.5	100	17.5	21.8	97
Beta 3800(Aph)	4	309.6	321.2	98	37.52	39.43	96.6	6927	7546	102	837	925	100.3	1.00	1.08	99	16.5	17.1	98	22.5	23.5	104
Beta 3820(Aph)	4	314.8	325.6	99	38.68	40.43	99.0	6466	7344	99	793	911	98.7	1.03	1.08	99	16.8	17.4	99	20.6	22.6	100
Beta 4797(BX1197 Rzm)	NC	308.4	321.6	98	37.25	39.52	96.8	6904	7678	104	831	940	101.9	1.06	1.14	104	16.5	17.2	99	22.5	23.9	106
Beta 4818R(Aph & Rzm)	3	308.6	319.5	98	37.28	39.08	95.7	6801	7424	100	820	907	98.3	1.03	1.11	101	16.5	17.1	98	22.1	23.2	103
Beta 6225	3	306.0	320.2	98	36.70	39.23	96.1	7230	7732	104	865	944	102.3	0.99	1.07	97	16.3	17.1	98	23.7	24.2	107
Beta 6233	2	315.3	328.3	100	38.78	41.04	100.5	6624	7428	100	814	926	100.3	1.04	1.11	101	16.8	17.5	100	21.0	22.6	100
Beta 6400(Aph)	5	320.5	331.6	101	39.97	41.76	102.3	6261	7025	95	778	883	95.7	1.06	1.16	105	17.1	17.7	102	19.6	21.2	94
Beta 6610	3	312.4	322.4	98	38.15	39.70	97.2	6736	7263	98	822	893	96.8	1.04	1.10	100	16.7	17.2	99	21.6	22.5	100
Croplan Genetics CL101	6	304.1	315.9	96	36.27	38.24	93.7	6884	7351	99	819	890	96.5	1.12	1.19	109	16.3	17.0	97	22.7	23.2	103
Croplan Genetics CL102	6	300.7	317.5	97	35.50	38.60	94.5	6999	7559	102	826	922	99.9	1.10	1.17	106	16.1	17.0	98	23.3	23.7	105
Croplan Genetics CL311	2	304.4	324.5	99	36.34	40.16	98.4	6736	7443	100	802	921	99.8	1.06	1.09	99	16.3	17.3	99	22.2	22.9	101
Crystal 204(CX204)	NC	316.5	328.4	100	39.06	41.06	100.6	6629	7538	102	817	939	101.8	1.08	1.13	103	16.9	17.5	100	21.0	23.0	102
Crystal 723	2	318.9	334.5	102	39.59	42.43	103.9	6419	7428	100	795	941	102.0	1.05	1.07	98	17.0	17.8	102	20.2	22.2	98
Crystal 725	2	313.0	325.4	99	38.27	40.38	98.9	6602	7519	101	803	933	101.1	1.07	1.11	101	16.7	17.4	100	21.2	23.1	102
Crystal 727(CX206)	NC	320.3	328.7	100	39.91	41.12	100.7	6737	7395	100	838	923	100.0	1.01	1.10	100	17.0	17.5	100	21.1	22.5	99
Crystal 817	5	311.4	327.3	100	37.91	40.81	99.9	6319	7311	99	769	911	98.7	1.06	1.11	101	16.6	17.5	100	20.3	22.3	99
Crystal 820	2	309.6	322.9	99	37.51	39.81	97.5	6608	7599	103	800	938	101.6	1.05	1.10	100	16.5	17.2	99	21.4	23.4	104
Crystal 822	2	311.8	332.0	101	38.01	41.87	102.5	6454	7417	100	787	934	101.2	1.14	1.13	103	16.7	17.7	101	20.7	22.3	99
Crystal 999	5	304.8	321.2	98	36.43	39.43	96.6	6719	7371	99	802	904	98.0	1.08	1.12	102	16.3	17.2	98	22.0	22.9	101
Crystal R826(Rzm)	2	312.3	327.0	100	38.11	40.74	99.8	6384	7137	96	775	889	96.4	1.16	1.17	107	16.8	17.5	100	20.6	21.8	96
Hilleshog 2093	4	296.2	314.0	96	34.50	37.81	92.6	6507	7434	100	754	894	96.8	1.15	1.20	109	16.0	16.9	97	22.1	23.6	105
Hilleshog 2129	2	309.9	326.0	100	37.58	40.50	99.2	6048	6878	93	729	852	92.3	1.08	1.12	102	16.6	17.4	100	19.7	21.1	93
Hilleshog 2162(7162)	1	313.9	331.9	101	38.47	41.83	102.5	6340	7175	97	777	904	97.9	0.97	1.02	93	16.7	17.6	101	20.2	21.6	95
Hilleshog 2411Rz	2	303.9	316.6	97	36.22	38.40	94.0	6216	7130	96	736	862	93.4	1.11	1.16	106	16.3	17.0	97	20.6	22.5	100
Hilleshog 2463Rz(7163)	1	297.9	312.6	95	34.88	37.51	91.9	6267	7277	98	732	870	94.3	1.09	1.15	105	16.0	16.8	96	21.1	23.3	103
Hilleshog 2467Rz(7167)	1	299.3	315.2	96	35.19	38.07	93.2	6514	7169	97	764	863	93.5	1.07	1.13	103	16.0	16.9	97	21.8	22.8	101
Hilleshog 2469Rz(7169 Aph)	1	291.6	305.1	93	33.47	35.81	87.7	6133	7209	97	702	844	91.4	1.12	1.19	109	15.7	16.5	94	21.1	23.7	105
Hilleshog 7172Rz	1	289.5	305.5	93	32.98	35.91	88.0	5559	6389	86	631	751	81.4	1.10	1.13	103	15.6	16.4	94	19.3	20.9	92
Holly 250 (02HX250)	NC	310.7	330.0	101	37.75	41.43	101.5	6885	7663	103	836	960	104.0	1.08	1.11	101	16.6	17.6	101	22.2	23.2	103
Holly 956	2	307.2	327.0	100	36.97	40.75	99.8	6750	7645	103	811	953	103.3	1.04	1.08	99	16.4	17.4	100	22.0	23.3	103
Seedex Aurora(Aph)	2	303.4	320.6	98	36.11	39.29	96.2	5975	7239	98	708	884	95.8	1.05	1.06	96	16.2	17.1	98	19.8	22.6	100
Seedex Magnum	2	312.4	328.9	100	38.14	41.15	100.8	6588	7654	103	802	956	103.6	1.01	1.07	97	16.6	17.5	100	21.1	23.3	103
Seedex Prizm(SX0822 Aph)	1	310.7	320.5	98	37.76	39.29	96.2	6720	7335	99	816	896	97.1	0.98	1.05	96	16.5	17.1	98	21.7	22.9	101
Seedex Rezult(SX0828 Aph & Rzm)	1	307.2	324.0	99	36.96	40.03	98.0	6576	7233	98	789	893	96.8	1.05	1.06	97	16.4	17.3	99	21.5	22.3	99
Seedex Thunder	6	303.5	319.2	97	36.13	38.99	95.5	6813	7561	102	811	922	99.9	1.13	1.18	108	16.3	17.1	98	22.5	23.7	105
Van der Have H46177(Aph & Rzm)	3	308.1	321.4	98	37.18	39.48	96.7	6378	7287	98	769	895	97.0	0.99	1.07	97	16.4	17.1	98	20.7	22.6	100
Van der Have H46733(Rzm 66733)	NC	308.5	322.6	99	37.25	39.75	97.3	6910	7306	99	833	896	97.1	0.99	1.04	95	16.4	17.2	98	22.5	22.7	101
Van der Have H66556	3	304.9	319.2	97	36.44	38.98	95.5	6783	7472	101	808	911	98.7	1.08	1.13	103	16.3	17.1	98	22.3	23.4	103
Van der Have H66561	3	310.6	322.0	98	37.73	39.62	97.0	6934	7717	104	842	948	102.7	1.06	1.10	101	16.6	17.2	98	22.4	23.9	106
Van der Have H66626	2	312.3	327.4	100	38.11	40.82	100.0	6354	7634	103	773	951	103.1	1.04	1.09	99	16.7	17.5	100	20.4	23.3	103
Van der Have H66725	1	309.8	332.9	102	37.55	42.07	103.0	6571	7507	101	795	946	102.6	1.02	1.07	97	16.5	17.7	101	21.3	22.6	100
Mean of 22 fully approved		312.3	327.4		38.12	40.83		6512	7410		793	923		1.05	1.10		16.7	17.5		20.9	22.6	
LSD .05		8.9			2.00			423			58			0.08			0.41			1.42		

* 2004 Data from Grand Forks ND & Alvarado MN because St. Thomas ND, Grafton ND & Stephen MN sites were lost. Created 11-04-04.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 11

Three Year Performance of Varieties With 'Commercial Seed' Approved for Unlimited Sale to ACS Growers in 2005

All Crystal Districts *

Years ** Comm. Seed	Description	Rec. Sugar / Ton (pounds) 2004	Rec. Sugar / Ton (pounds) 2 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr % Comm	Revenue / Ton (dollars) ++ 2004	Revenue / Ton (dollars) ++ 2 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr % Comm	Rec. Sugar / Acre (pounds) 2004	Rec. Sugar / Acre (pounds) 2 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr % Comm	Revenue / Acre (dollars) ++ 2004	Revenue / Acre (dollars) ++ 2 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr % Comm
NC	Beta 3494 (BX1194 Aph)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4	Beta 3800(Aph)	305.6	315.3	312.1	99	36.62	37.76	37.38	98.7	6979	7826	7544	101	836	926	903	100.0
4	Beta 3820(Aph)	311.9	324.5	320.3	102	38.04	39.85	39.25	103.6	6763	7871	7501	100	824	948	920	101.9
NC	Beta 4797(BX1197 Rzm)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Beta 4818R(Aph & Rzm)	306.4	315.5	312.4	99	36.79	37.83	37.48	98.9	6836	7677	7397	99	820	925	887	98.3
3	Beta 6225	303.8	315.2	311.4	99	36.21	37.76	37.24	98.3	7285	7913	7704	103	868	950	921	102.0
2	Beta 6233	313.5	324.5	NC	NC	38.39	39.85	NC	NC	6906	7812	NC	NC	846	948	NC	NC
5	Beta 6400(Aph)	318.4	330.0	326.2	104	39.49	41.07	40.54	107.0	6576	7461	7166	96	814	918	891	98.7
3	Beta 6610	309.0	318.7	315.5	100	37.38	38.56	38.17	100.8	6961	7694	7450	99	840	938	901	99.8
6	Croplan Genetics CL101	303.9	311.7	309.1	98	36.22	36.97	36.72	96.9	7007	7655	7439	99	834	935	885	98.0
6	Croplan Genetics CL102	297.2	311.8	307.0	98	34.72	37.00	36.24	95.7	6992	7773	7513	100	814	915	887	98.3
2	Croplan Genetics CL311	305.9	324.6	NC	NC	36.67	39.85	NC	NC	6952	7811	NC	NC	833	934	NC	NC
NC	Crystal 204(CX204)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Crystal 723	315.7	328.5	NC	NC	38.88	40.75	NC	NC	6723	7774	NC	NC	827	931	NC	NC
2	Crystal 725	311.3	322.2	NC	NC	37.90	39.32	NC	NC	6965	7929	NC	NC	846	948	NC	NC
NC	Crystal 727(CX206)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5	Crystal 817	308.5	325.6	319.9	102	37.26	40.08	39.14	103.3	6699	7696	7364	98	809	919	902	99.9
2	Crystal 820	310.7	321.9	NC	NC	37.75	39.24	NC	NC	6829	8095	NC	NC	831	945	NC	NC
2	Crystal 822	314.4	328.5	NC	NC	38.59	40.73	NC	NC	6753	7802	NC	NC	829	937	NC	NC
5	Crystal 999	306.6	322.3	317.1	101	36.83	39.35	38.51	101.7	6842	7830	7501	100	822	937	911	100.9
2	Crystal R826(Rzm)	310.8	323.9	NC	NC	37.79	39.72	NC	NC	6551	7471	NC	NC	795	905	NC	NC
4	Hilleshog 2093	297.3	312.0	307.1	98	34.75	37.02	36.26	95.7	6778	7572	7307	98	791	883	863	95.6
2	Hilleshog 2129	308.6	324.5	NC	NC	37.28	39.81	NC	NC	6420	7471	NC	NC	775	861	NC	NC
1	Hilleshog 2162(7162)	312.5	NC	NC	NC	38.15	NC	NC	NC	6691	NC	NC	NC	817	NC	NC	NC
2	Hilleshog 2411Rz	307.1	315.8	NC	NC	36.94	37.88	NC	NC	6519	7499	NC	NC	783	886	NC	NC
1	Hilleshog 2463Rz(7163)	297.2	NC	NC	NC	34.72	NC	NC	NC	6586	NC	NC	NC	768	NC	NC	NC
1	Hilleshog 2467Rz(7167)	300.5	NC	NC	NC	35.45	NC	NC	NC	6983	NC	NC	NC	824	NC	NC	NC
1	Hilleshog 2469Rz(7169 Aph)	291.2	NC	NC	NC	33.37	NC	NC	NC	6525	NC	NC	NC	748	NC	NC	NC
1	Hilleshog 7172Rz	292.8	NC	NC	NC	33.73	NC	NC	NC	6192	NC	NC	NC	712	NC	NC	NC
NC	Holly 250 (02HX250)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Holly 956	307.8	326.7	NC	NC	37.11	40.33	NC	NC	7044	8019	NC	NC	850	968	NC	NC
2	Seedex Aurora(Aph)	302.7	320.0	NC	NC	35.96	38.83	NC	NC	6356	7883	NC	NC	754	890	NC	NC
2	Seedex Magnum	307.2	326.5	NC	NC	36.98	40.30	NC	NC	6877	8220	NC	NC	827	966	NC	NC
1	Seedex Prizm(SX0822 Aph)	309.9	NC	NC	NC	37.58	NC	NC	NC	6950	NC	NC	NC	843	NC	NC	NC
1	Seedex Rezult(SX0828 Aph & Rzm)	310.3	NC	NC	NC	37.67	NC	NC	NC	6824	NC	NC	NC	828	NC	NC	NC
6	Seedex Thunder	304.8	316.5	312.6	99	36.43	38.04	37.50	99.0	7094	7959	7670	102	848	950	920	101.9
3	Van der Have H46177(Aph & Rzm)	310.1	320.9	317.3	101	37.63	39.03	38.56	101.8	6840	7653	7382	99	831	925	897	99.4
NC	Van der Have H46733(Rzm 66733)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Van der Have H66556	300.8	317.7	312.1	99	35.53	38.30	37.38	98.7	6913	7946	7602	101	816	925	910	100.8
3	Van der Have H66561	308.1	316.8	313.9	100	37.18	38.11	37.80	99.8	7241	8141	7841	105	874	981	945	104.6
2	Van der Have H66626	309.5	323.0	NC	NC	37.49	39.50	NC	NC	6739	8038	NC	NC	816	947	NC	NC
1	Van der Have H66725	310.1	NC	NC	NC	37.61	NC	NC	NC	6839	NC	NC	NC	830	NC	NC	NC
	Commercial Seed Mean	306.7	320.9	314.3	100	36.86	39.03	37.88	100	6806	7803	7492	100	817	930	903	100
	LSD .05	6.0				1.34				232				35			

* 2004 Data from Casselton, Borup, Ada, Crookston, Grand Forks & Alvarado.

NC indicates non-commercial seed was involved in at least one year for this comparison.

Created 11-12-04.

** Varieties with 3 years may have been available as commercial seed for more than 3 years.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 12

Three Year Performance of Varieties With 'Commercial Seed' Approved for Unlimited Sale to ACS Growers in 2005

Mhd/Hlb District *

Years ** Comm. Seed	Description	Rec. Sugar / Ton (pounds) 2004	Rec. Sugar / Ton (pounds) 2 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr % Comm	Revenue / Ton (dollars) ++ 2004	Revenue / Ton (dollars) ++ 2 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr % Comm	Rec. Sugar / Acre (pounds) 2004	Rec. Sugar / Acre (pounds) 2 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr % Comm	Revenue / Acre (dollars) ++ 2004	Revenue / Acre (dollars) ++ 2 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr % Comm
NC	Beta 3494 (BX1194 Aph)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4	Beta 3800(Aph)	300.7	317.0	311.8	99	35.52	39.32	37.34	98.1	7008	7151	7249	100	829	885	864	99.1
4	Beta 3820(Aph)	305.6	329.8	322.5	102	36.62	42.27	39.78	104.6	6818	7253	7252	100	817	928	892	102.2
NC	Beta 4797(BX1197 Rzm)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Beta 4818R(Aph & Rzm)	300.3	322.6	314.0	100	35.42	40.61	37.86	99.5	6662	7320	7254	100	785	921	873	100.0
3	Beta 6225	298.3	316.1	311.2	99	34.98	39.12	37.21	97.8	7238	7272	7431	102	848	896	884	101.3
2	Beta 6233	307.3	328.3	NC	NC	36.99	41.90	NC	NC	6892	7217	NC	NC	830	920	NC	NC
5	Beta 6400(Aph)	312.1	331.9	326.7	104	38.08	42.74	40.70	107.0	6672	6865	6916	95	814	880	858	98.3
3	Beta 6610	300.8	321.1	314.3	100	35.53	40.27	37.92	99.7	6904	7178	7231	100	814	897	868	99.5
6	Croplan Genetics CL101	299.2	315.0	308.9	98	35.16	38.88	36.69	96.4	6982	7355	7294	101	819	909	866	99.2
6	Croplan Genetics CL102	293.0	311.2	305.0	97	33.76	38.02	35.81	94.1	6905	6977	7149	99	793	849	834	95.6
2	Croplan Genetics CL311	303.1	325.5	NC	NC	36.05	41.29	NC	NC	6982	7237	NC	NC	832	917	NC	NC
NC	Crystal 204(CX204)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Crystal 723	313.1	330.7	NC	NC	38.29	42.45	NC	NC	6905	7108	NC	NC	843	909	NC	NC
2	Crystal 725	307.6	325.7	NC	NC	37.05	41.31	NC	NC	7120	7345	NC	NC	859	930	NC	NC
NC	Crystal 727(CX206)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5	Crystal 817	302.3	325.5	320.4	102	35.86	41.28	39.29	103.3	6819	6913	7063	97	809	874	862	98.8
2	Crystal 820	308.3	323.3	NC	NC	37.22	40.75	NC	NC	6805	7128	NC	NC	823	897	NC	NC
2	Crystal 822	308.6	326.7	NC	NC	37.28	41.54	NC	NC	6887	7051	NC	NC	834	896	NC	NC
5	Crystal 999	301.3	325.4	318.8	101	35.63	41.27	38.94	102.4	6799	7272	7298	101	804	921	889	101.8
2	Crystal R826(Rzm)	302.8	325.7	NC	NC	35.97	41.32	NC	NC	6536	6862	NC	NC	777	868	NC	NC
4	Hilleshog 2093	294.2	311.8	307.4	98	34.03	38.14	36.36	95.6	6816	6771	6940	96	789	824	815	93.5
2	Hilleshog 2129	305.9	325.1	NC	NC	36.67	41.18	NC	NC	6587	6670	NC	NC	791	843	NC	NC
1	Hilleshog 2162(7162)	309.8	NC	NC	NC	37.54	NC	NC	NC	6884	NC	NC	NC	836	NC	NC	NC
2	Hilleshog 2411Rz	305.6	326.0	NC	NC	36.60	41.40	NC	NC	6584	7034	NC	NC	789	893	NC	NC
1	Hilleshog 2463Rz(7163)	291.0	NC	NC	NC	33.32	NC	NC	NC	6600	NC	NC	NC	754	NC	NC	NC
1	Hilleshog 2467Rz(7167)	292.8	NC	NC	NC	33.73	NC	NC	NC	7111	NC	NC	NC	821	NC	NC	NC
1	Hilleshog 2469Rz(7169 Aph)	287.5	NC	NC	NC	32.55	NC	NC	NC	6657	NC	NC	NC	756	NC	NC	NC
1	Hilleshog 7172Rz	290.8	NC	NC	NC	33.29	NC	NC	NC	6393	NC	NC	NC	731	NC	NC	NC
NC	Holly 250 (02HX250)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Holly 956	303.4	325.3	NC	NC	36.12	41.22	NC	NC	7140	7274	NC	NC	854	921	NC	NC
2	Seedex Aurora(Aph)	298.7	322.5	NC	NC	35.05	40.60	NC	NC	6388	6890	NC	NC	749	865	NC	NC
2	Seedex Magnum	297.6	325.7	NC	NC	34.82	41.35	NC	NC	6956	7386	NC	NC	816	937	NC	NC
1	Seedex Prizm(SX0822 Aph)	304.0	NC	NC	NC	36.26	NC	NC	NC	6984	NC	NC	NC	834	NC	NC	NC
1	Seedex Rezult(SX0828 Aph & Rzm)	307.9	NC	NC	NC	37.13	NC	NC	NC	6928	NC	NC	NC	838	NC	NC	NC
6	Seedex Thunder	301.4	319.7	312.4	99	35.67	39.94	37.49	98.5	7217	7398	7460	103	855	922	891	102.1
3	Van der Have H46177(Aph & Rzm)	305.3	327.5	321.4	102	36.54	41.73	39.52	103.9	7016	7213	7273	100	843	917	890	102.0
NC	Van der Have H46733(Rzm 66733)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Van der Have H66556	294.3	318.8	314.6	100	34.07	39.75	37.97	99.8	6868	7213	7412	102	795	900	892	102.3
3	Van der Have H66561	304.3	320.7	313.8	100	36.32	40.17	37.80	99.4	7417	7600	7579	104	887	952	911	104.4
2	Van der Have H66626	304.0	325.7	NC	NC	36.25	41.31	NC	NC	6895	7159	NC	NC	824	908	NC	NC
1	Van der Have H66725	306.0	NC	NC	NC	36.71	NC	NC	NC	6920	NC	NC	NC	832	NC	NC	NC
	Commercial Seed Mean	301.9	323.2	314.9	100.0	35.78	40.75	38.05	100.0	6869	7147	7253	100.0	815	899	873	100.0
	LSD .05	9.1				2.05				323				50			

* 2004 Data from Casselton, Borup & Ada.

NC indicates non-commercial seed was involved in at least one year for this comparison.

Created 11-04-04.

** Varieties with 3 years may have been available as commercial seed for more than 3 years.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 13

Three Year Performance of Varieties With 'Commercial Seed' Approved for Unlimited Sale to ACS Growers in 2005

Crk/EGF District *

Years ** Comm. Seed	Description	Rec. Sugar / Ton (pounds) 2004	Rec. Sugar / Ton (pounds) 2 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr % Comm	Revenue / Ton (dollars) ++ 2004	Revenue / Ton (dollars) ++ 2 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr % Comm	Rec. Sugar / Acre (pounds) 2004	Rec. Sugar / Acre (pounds) 2 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr % Comm	Revenue / Acre (dollars) ++ 2004	Revenue / Acre (dollars) ++ 2 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr % Comm
NC	Beta 3494 (BX1194 Aph)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4	Beta 3800(Aph)	310.5	311.8	306.8	99	37.70	38.11	36.18	98.0	6949	7895	7657	101	843	965	904	100.0
4	Beta 3820(Aph)	318.8	320.6	317.8	103	39.59	40.12	38.66	104.7	6712	7850	7658	101	833	985	934	103.3
NC	Beta 4797(BX1197 Rzm)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Beta 4818R(Aph & Rzm)	312.7	313.6	307.9	99	38.20	38.52	36.44	98.7	7013	7755	7444	98	856	953	883	97.7
3	Beta 6225	310.3	311.5	306.0	99	37.66	38.04	36.00	97.5	7331	8084	7762	102	888	988	916	101.3
2	Beta 6233	319.6	322.0	NC	NC	39.77	40.44	NC	NC	6914	7839	NC	NC	861	986	NC	NC
5	Beta 6400(Aph)	324.8	326.3	323.7	104	40.93	41.41	39.98	108.3	6482	7542	7262	96	815	959	900	99.5
3	Beta 6610	317.0	319.9	313.2	101	39.17	39.95	37.65	102.0	7017	7969	7619	101	866	996	919	101.6
6	Croplan Genetics CL101	309.0	309.6	305.1	98	37.37	37.60	35.80	97.0	7031	7912	7505	99	849	961	884	97.7
6	Croplan Genetics CL102	301.3	306.2	301.7	97	35.65	36.85	35.04	94.9	7071	7930	7626	101	835	957	890	98.4
2	Croplan Genetics CL311	308.2	315.6	NC	NC	37.20	38.99	NC	NC	6922	7790	NC	NC	834	966	NC	NC
NC	Crystal 204(CX204)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Crystal 723	318.4	319.9	NC	NC	39.48	39.95	NC	NC	6538	7543	NC	NC	809	942	NC	NC
2	Crystal 725	315.3	316.5	NC	NC	38.78	39.18	NC	NC	6817	7820	NC	NC	835	967	NC	NC
NC	Crystal 727(CX206)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5	Crystal 817	315.2	318.0	316.4	102	38.77	39.53	38.34	103.8	6574	7595	7425	98	809	948	905	100.0
2	Crystal 820	313.8	318.0	NC	NC	38.45	39.53	NC	NC	6856	7967	NC	NC	841	994	NC	NC
2	Crystal 822	320.7	321.4	NC	NC	40.01	40.30	NC	NC	6624	7711	NC	NC	826	968	NC	NC
5	Crystal 999	312.6	316.8	314.1	101	38.18	39.26	37.83	102.5	6884	7904	7664	101	840	980	925	102.3
2	Crystal R826(Rzm)	318.8	320.1	NC	NC	39.58	39.99	NC	NC	6571	7579	NC	NC	813	948	NC	NC
4	Hilleshog 2093	300.7	304.2	302.0	97	35.51	36.39	35.09	95.0	6743	7563	7264	96	795	906	847	93.7
2	Hilleshog 2129	311.2	316.9	NC	NC	37.87	39.28	NC	NC	6253	7248	NC	NC	759	899	NC	NC
1	Hilleshog 2162(7162)	315.0	NC	NC	NC	38.73	NC	NC	NC	6488	NC	NC	NC	798	NC	NC	NC
2	Hilleshog 2411Rz	309.2	311.6	NC	NC	37.41	38.07	NC	NC	6461	7391	NC	NC	778	904	NC	NC
1	Hilleshog 2463Rz(7163)	303.2	NC	NC	NC	36.08	NC	NC	NC	6565	NC	NC	NC	780	NC	NC	NC
1	Hilleshog 2467Rz(7167)	308.1	NC	NC	NC	37.17	NC	NC	NC	6855	NC	NC	NC	827	NC	NC	NC
1	Hilleshog 2469Rz(7169 Aph)	294.6	NC	NC	NC	34.13	NC	NC	NC	6381	NC	NC	NC	738	NC	NC	NC
1	Hilleshog 7172Rz	294.3	NC	NC	NC	34.06	NC	NC	NC	5993	NC	NC	NC	693	NC	NC	NC
NC	Holly 250 (02HX250)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Holly 956	311.9	318.5	NC	NC	38.03	39.64	NC	NC	6950	8040	NC	NC	847	1005	NC	NC
2	Seedex Aurora(Aph)	306.7	313.8	NC	NC	36.86	38.58	NC	NC	6333	7569	NC	NC	759	934	NC	NC
2	Seedex Magnum	316.6	318.6	NC	NC	39.08	39.66	NC	NC	6798	8077	NC	NC	838	1009	NC	NC
1	Seedex Prizm(SX0822 Aph)	315.0	NC	NC	NC	38.73	NC	NC	NC	6908	NC	NC	NC	850	NC	NC	NC
1	Seedex Rezult(SX0828 Aph & Rzm)	312.3	NC	NC	NC	38.13	NC	NC	NC	6714	NC	NC	NC	818	NC	NC	NC
6	Seedex Thunder	308.2	313.0	308.1	99	37.19	38.40	36.49	98.8	6973	7969	7742	102	841	980	920	101.7
3	Van der Have H46177(Aph & Rzm)	314.8	315.8	311.7	101	38.69	39.03	37.29	101.0	6669	7569	7299	96	820	936	876	96.8
NC	Van der Have H46733(Rzm 66733)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Van der Have H66556	307.9	310.0	307.3	99	37.13	37.71	36.29	98.3	6956	7922	7722	102	837	964	913	101.0
3	Van der Have H66561	312.0	314.0	309.0	100	38.04	38.61	36.70	99.4	7061	8168	7957	105	861	1008	948	104.9
2	Van der Have H66626	315.1	319.0	NC	NC	38.74	39.75	NC	NC	6580	7831	NC	NC	808	978	NC	NC
1	Van der Have H66725	313.8	NC	NC	NC	38.45	NC	NC	NC	6754	NC	NC	NC	827	NC	NC	NC
	Commercial Seed Mean	311.6	315.8	310.0	100	37.96	39.03	36.92	100	6743	7787	7574	100	820	964	904	100
	LSD .05	7.9				1.78				335				50			

* 2004 Data from Climax MN, Grand Forks ND & Alvarado MN.

NC indicates non-commercial seed was involved in at least one year for this comparison.

Created 11-04-04.

** Varieties with 3 years may have been available as commercial seed for more than 3 years.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 14

Three Year Performance of Varieties With 'Commercial Seed' Approved for Unlimited Sale to ACS Growers in 2005

Drayton District *

Years ** Comm. Seed	Description	Rec. Sugar / Ton (pounds) 2004	Rec. Sugar / Ton (pounds) 2 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr Mean	Rec. Sugar / Ton (pounds) 3 Yr % Comm	Revenue / Ton (dollars) ++ 2004	Revenue / Ton (dollars) ++ 2 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr Mean	Revenue / Ton (dollars) ++ 3 Yr % Comm	Rec. Sugar / Acre (pounds) 2004	Rec. Sugar / Acre (pounds) 2 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr Mean	Rec. Sugar / Acre (pounds) 3 Yr % Comm	Revenue / Acre (dollars) ++ 2004	Revenue / Acre (dollars) ++ 2 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr Mean	Revenue / Acre (dollars) ++ 3 Yr % Comm
NC	Beta 3494 (BX1194 Aph)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4	Beta 3800(Aph)	309.6	322.6	321.2	100	37.52	40.59	39.43	100.0	6927	7179	7546	102	837	903	925	101.6
4	Beta 3820(Aph)	314.8	328.3	325.6	101	38.68	41.89	40.43	102.5	6466	7015	7344	99	793	897	911	100.0
NC	Beta 4797(BX1197 Rzm)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Beta 4818R(Aph & Rzm)	308.6	324.7	319.5	99	37.28	41.08	39.08	99.1	6801	7113	7424	100	820	901	907	99.6
3	Beta 6225	306.0	323.1	320.2	100	36.70	40.71	39.23	99.5	7230	7471	7732	104	865	941	944	103.6
2	Beta 6233	315.3	330.1	NC	NC	38.78	42.30	NC	NC	6624	7040	NC	NC	814	904	NC	NC
5	Beta 6400(Aph)	320.5	332.1	331.6	103	39.97	42.75	41.76	105.9	6261	6739	7025	95	778	869	883	97.0
3	Beta 6610	312.4	326.0	322.4	100	38.15	41.36	39.70	100.7	6736	6982	7263	98	822	888	893	98.1
6	Croplan Genetics CL101	304.1	319.3	315.9	98	36.27	39.85	38.24	97.0	6884	7338	7351	99	819	917	890	97.7
6	Croplan Genetics CL102	300.7	318.1	317.5	99	35.50	39.59	38.60	97.9	6999	7349	7559	102	826	916	922	101.2
2	Croplan Genetics CL311	304.4	321.6	NC	NC	36.34	40.38	NC	NC	6736	7075	NC	NC	802	888	NC	NC
NC	Crystal 204(CX204)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Crystal 723	318.9	335.4	NC	NC	39.59	43.52	NC	NC	6419	7009	NC	NC	795	911	NC	NC
2	Crystal 725	313.0	327.4	NC	NC	38.27	41.69	NC	NC	6602	7180	NC	NC	803	915	NC	NC
NC	Crystal 727(CX206)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
5	Crystal 817	311.4	328.3	327.3	102	37.91	41.91	40.81	103.5	6319	6969	7311	98	769	893	911	100.0
2	Crystal 820	309.6	322.3	NC	NC	37.51	40.53	NC	NC	6608	7108	NC	NC	800	896	NC	NC
2	Crystal 822	311.8	331.0	NC	NC	38.01	42.52	NC	NC	6454	6991	NC	NC	787	900	NC	NC
5	Crystal 999	304.8	322.2	321.2	100	36.43	40.52	39.43	100.0	6719	7029	7371	99	802	884	904	99.3
2	Crystal R826(Rzm)	312.3	328.0	NC	NC	38.11	41.83	NC	NC	6384	6804	NC	NC	775	867	NC	NC
4	Hilleshog 2093	296.2	313.9	314.0	98	34.50	38.62	37.81	95.9	6507	7068	7434	100	754	870	894	98.1
2	Hilleshog 2129	309.9	324.0	NC	NC	37.58	40.92	NC	NC	6048	6294	NC	NC	729	793	NC	NC
1	Hilleshog 2162(7162)	313.9	NC	NC	NC	38.47	NC	NC	NC	6340	NC	NC	NC	777	NC	NC	NC
2	Hilleshog 2411Rz	303.9	318.3	NC	NC	36.22	39.62	NC	NC	6216	6714	NC	NC	736	834	NC	NC
1	Hilleshog 2463Rz(7163)	297.9	NC	NC	NC	34.88	NC	NC	NC	6267	NC	NC	NC	732	NC	NC	NC
1	Hilleshog 2467Rz(7167)	299.3	NC	NC	NC	35.19	NC	NC	NC	6514	NC	NC	NC	764	NC	NC	NC
1	Hilleshog 2469Rz(7169 Aph)	291.6	NC	NC	NC	33.47	NC	NC	NC	6133	NC	NC	NC	702	NC	NC	NC
1	Hilleshog 7172Rz	289.5	NC	NC	NC	32.98	NC	NC	NC	5559	NC	NC	NC	631	NC	NC	NC
NC	Holly 250 (02HX250)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2	Holly 956	307.2	326.4	NC	NC	36.97	41.48	NC	NC	6750	7311	NC	NC	811	931	NC	NC
2	Seedex Aurora(Aph)	303.4	319.1	NC	NC	36.11	39.81	NC	NC	5975	6629	NC	NC	708	828	NC	NC
2	Seedex Magnum	312.4	328.3	NC	NC	38.14	41.90	NC	NC	6588	7231	NC	NC	802	925	NC	NC
1	Seedex Prizm(SX0822 Aph)	310.7	NC	NC	NC	37.76	NC	NC	NC	6720	NC	NC	NC	816	NC	NC	NC
1	Seedex Rezult(SX0828 Aph & Rzm)	307.2	NC	NC	NC	36.96	NC	NC	NC	6576	NC	NC	NC	789	NC	NC	NC
6	Seedex Thunder	303.5	320.4	319.2	99	36.13	40.10	38.99	98.9	6813	7260	7561	102	811	911	922	101.3
3	Van der Have H46177(Aph & Rzm)	308.1	322.4	321.4	100	37.18	40.56	39.48	100.1	6378	6989	7287	98	769	881	895	98.3
NC	Van der Have H46733(Rzm 66733)	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3	Van der Have H66556	304.9	320.9	319.2	99	36.44	40.22	38.98	98.8	6783	7142	7472	101	808	896	911	100.0
3	Van der Have H66561	310.6	325.6	322.0	100	37.73	41.28	39.62	100.5	6934	7390	7717	104	842	938	948	104.1
2	Van der Have H66626	312.3	327.2	NC	NC	38.11	41.64	NC	NC	6354	7115	NC	NC	773	908	NC	NC
1	Van der Have H66725	309.8	NC	NC	NC	37.55	NC	NC	NC	6571	NC	NC	NC	795	NC	NC	NC
	Commercial Seed Mean	307.5	324.5	321.2	100.0	37.04	41.04	39.44	100.0	6533	7055	7427	100.0	785	893	911	100.0
	LSD .05	8.9				2.00				423				58			

* 2004 Data from Grand Forks ND & Alvarado MN because St. Thomas ND, Grafton ND & Stephen MN sites were lost.

NC indicates non-commercial seed was involved in at least one year for this comparison.

Created 11-04-04.

** Varieties with 3 years may have been available as commercial seed for more than 3 years.

++ 2004 Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. 2003 Revenue estimate was $40.09 and 2002 used $37.46. Revenue does not consider hauling costs.

Table 15
2004 Performance of Varieties - ACSC Commercial Coded Test
All ACSC Locations - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	311.4	5795	1.08	37.91	707	16.65	18.57	247	1794	273	4.8	32.4	0.01
Beta 3800(Aph)	30	305.6	6979	1.00	36.62	836	16.28	22.85	300	1602	237	2.7	78.2	0.00
Beta 3820(Aph)	5	311.9	6763	0.99	38.04	824	16.59	21.70	247	1622	245	2.8	74.7	0.00
Beta 4797(BX1197 Rzm)	42	310.2	7267	1.05	37.63	880	16.56	23.47	244	1726	265	3.0	65.6	0.02
Beta 4818R(Aph & Rzm)	15	306.4	6836	1.01	36.79	820	16.33	22.35	249	1676	246	2.6	73.2	0.00
Beta 6225	26	303.8	7285	0.99	36.21	868	16.18	23.98	308	1547	244	2.9	72.9	0.00
Beta 6233	4	313.5	6906	1.02	38.39	846	16.69	22.02	241	1687	252	2.8	73.7	0.00
Beta 6400(Aph)	11	318.4	6576	1.02	39.49	814	16.94	20.68	246	1714	248	2.9	72.8	0.00
Beta 6610	21	309.0	6961	1.00	37.38	840	16.45	22.57	259	1647	243	2.9	71.7	0.00
Croplan Genetics CL101	35	303.9	7007	1.10	36.22	834	16.29	23.11	277	1730	290	2.9	71.8	0.00
Croplan Genetics CL102	32	297.2	6992	1.10	34.72	814	15.96	23.59	300	1738	280	2.6	75.7	0.01
Croplan Genetics CL311	14	305.9	6952	1.04	36.67	833	16.33	22.72	257	1675	265	2.8	78.7	0.01
Crystal 204(CX204)	38	311.3	6762	1.06	37.89	822	16.62	21.77	266	1752	258	3.2	64.9	0.02
Crystal 723	25	315.7	6723	1.01	38.88	827	16.79	21.34	240	1652	257	3.0	69.5	0.00
Crystal 725	36	311.3	6965	1.03	37.90	846	16.59	22.42	268	1656	257	2.8	70.8	0.00
Crystal 727(CX206)	2	317.1	7026	0.99	39.20	869	16.85	22.13	205	1693	247	3.3	64.7	0.01
Crystal 817	22	308.5	6699	1.05	37.26	809	16.47	21.71	260	1678	271	3.0	70.0	0.00
Crystal 820	8	310.7	6829	1.02	37.75	831	16.55	21.96	267	1615	261	2.9	71.4	0.00
Crystal 822	31	314.4	6753	1.07	38.59	829	16.79	21.47	295	1688	270	2.6	70.4	0.00
Crystal 999	40	306.6	6842	1.04	36.83	822	16.37	22.32	274	1640	271	2.7	71.3	0.00
Crystal R826(Rzm)	13	310.8	6551	1.11	37.79	795	16.65	21.12	285	1784	279	3.0	68.5	0.00
Hilleshog 2093	3	297.3	6778	1.11	34.75	791	15.98	22.84	279	1785	286	3.2	72.9	0.00
Hilleshog 2129	43	308.6	6420	1.06	37.28	775	16.49	20.83	214	1664	300	3.0	74.5	0.00
Hilleshog 2162(7162)	27	312.5	6691	0.97	38.15	817	16.59	21.40	207	1625	242	3.5	65.3	0.00
Hilleshog 2411Rz	6	307.1	6519	1.07	36.94	783	16.43	21.26	293	1633	292	3.2	69.9	0.00
Hilleshog 2463Rz(7163)	29	297.2	6586	1.07	34.72	768	15.93	22.20	343	1723	250	3.3	67.8	0.00
Hilleshog 2467Rz(7167)	10	300.5	6983	1.05	35.45	824	16.08	23.26	308	1694	253	3.1	72.9	0.00
Hilleshog 2469Rz(7169 Aph)	16	291.2	6525	1.10	33.37	748	15.66	22.41	359	1799	241	3.7	62.2	0.00
Hilleshog 7172Rz	41	292.8	6192	1.04	33.73	712	15.68	21.19	354	1650	241	3.8	70.0	0.00
Holly 250 (02HX250)	19	308.8	7139	1.04	37.34	862	16.49	23.13	247	1658	280	2.3	80.8	0.00
Holly 956	37	307.8	7044	1.01	37.11	850	16.41	22.85	237	1652	260	3.2	71.0	0.00
Seedex Aurora(Aph)	23	302.7	6356	1.03	35.96	754	16.16	21.03	234	1728	252	3.2	76.4	0.02
Seedex Magnum	9	307.2	6877	1.01	36.98	827	16.37	22.39	229	1681	254	2.9	76.8	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	309.9	6950	0.94	37.58	843	16.44	22.43	217	1639	216	3.1	71.2	0.02
Seedex Rezult(SX0828 Aph & Rzm)	33	310.3	6824	0.95	37.67	828	16.47	21.99	214	1643	222	3.3	68.9	0.00
Seedex Thunder	20	304.8	7094	1.08	36.43	848	16.32	23.28	277	1715	283	2.9	73.5	0.00
Van der Have H46177(Aph & Rzm)	39	310.1	6840	0.95	37.63	831	16.45	22.03	206	1634	224	3.2	68.1	0.02
Van der Have H46519(Rzm)	12	292.8	7921	1.04	33.72	911	15.67	27.08	254	1744	248	2.9	78.8	0.07
Van der Have H46733(Rzm 66733)	18	303.9	7136	0.98	36.22	850	16.17	23.49	208	1648	244	3.1	64.5	0.01
Van der Have H66556	1	300.8	6913	1.07	35.53	816	16.11	23.01	273	1706	275	2.9	72.5	0.00
Van der Have H66561	24	308.1	7241	1.03	37.18	874	16.44	23.50	261	1668	259	2.9	77.4	0.02
Van der Have H66626	7	309.5	6739	1.01	37.49	816	16.48	21.79	221	1645	265	3.0	77.7	0.00
Van der Have H66725	34	310.1	6839	0.99	37.61	830	16.49	22.04	211	1632	256	3.0	69.7	0.02
Crystal 960(Filler)	44	289.9	5953	1.06	33.08	679	15.55	20.56	291	1701	262	2.5	81.0	0.00
Van der Have H66240(Filler)	45	306.0	7320	1.11	36.70	878	16.41	23.92	290	1720	301	2.9	73.3	0.02
Maribo Ultramono(Filler)	46	290.3	5930	1.15	33.16	675	15.67	20.53	379	1837	267	2.1	79.4	0.02
Van der Have H66156(Filler)	47	297.1	6596	1.12	34.69	770	15.97	22.23	325	1759	280	3.2	63.0	0.00
Hilleshog 8277(Filler)	48	298.7	6498	1.09	35.06	763	16.02	21.75	248	1718	296	3.3	74.8	0.00
Crystal 725 PAT(Filler)	49	310.7	6953	1.01	37.75	845	16.55	22.36	257	1665	249	2.7	71.5	0.00
Check Mean		305.9	6803	1.04	36.68	815	16.33	22.26	265	1687	260	3.0	71.2	0.01
Coeff. of Var. (%)		3.3	6.3	7.5	6.2	7.9	2.9	5.8	24.7	4.9	14.5	13.4	11.2	
F Value		11.0	19.8	11.0	11.0	15.3	11.0	22.4	11.6	10.6	6.7	10.0	19.7	
Mean LSD (0.05)		6.0	232	0.04	1.34	35	0.28	0.73	34	49	21	0.4	4.6	
Mean LSD (0.01)		7.9	305	0.05	1.77	47	0.37	0.96	45	65	28	0.5	6.0	

* 2004 Data from Casselton, Borup, Ada, Climax, Grand Forks & Alvarado. Created 10-26-04.

+ Lower numbers indicate better seedling vigor. Trial # = 04ACCm

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 16
2004 Performance of Varieties - ACSC Commercial Coded Test
Casselton, ND - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	271.7	4668	1.17	28.98	498	14.76	17.19	268	1697	359		28.6	0.00
Beta 3800(Aph)	30	270.3	5728	1.06	28.66	606	14.57	21.26	302	1513	308		84.4	0.00
Beta 3820(Aph)	5	282.5	5956	1.05	31.41	660	15.17	21.12	223	1470	344		80.0	0.00
Beta 4797(BX1197 Rzm)	42	277.3	6094	1.21	30.25	663	15.08	22.01	228	1682	408		69.6	0.14
Beta 4818R(Aph & Rzm)	15	274.3	5755	1.10	29.56	620	14.81	21.00	237	1559	353		77.3	0.00
Beta 6225	26	280.3	6136	1.07	30.91	673	15.08	21.93	270	1448	342		78.1	0.00
Beta 6233	4	289.2	5887	1.07	32.91	670	15.54	20.36	200	1560	345		79.2	0.00
Beta 6400(Aph)	11	282.6	5557	1.10	31.44	621	15.23	19.61	240	1652	328		73.9	0.00
Beta 6610	21	269.8	6010	1.03	28.56	634	14.52	22.31	287	1521	292		74.3	0.00
Croplan Genetics CL101	35	274.3	6122	1.23	29.57	660	14.95	22.30	250	1628	430		72.1	0.00
Croplan Genetics CL102	32	269.9	5864	1.20	28.58	619	14.70	21.75	237	1715	390		77.7	0.00
Croplan Genetics CL311	14	279.2	5857	1.13	30.67	644	15.09	20.93	227	1525	386		79.6	0.00
Crystal 204(CX204)	38	283.7	5917	1.10	31.67	660	15.28	20.87	242	1591	339		64.7	0.07
Crystal 723	25	287.3	5904	1.09	32.50	665	15.45	20.65	227	1534	357		72.6	0.00
Crystal 725	36	283.2	6108	1.10	31.56	685	15.26	21.48	238	1550	351		71.2	0.00
Crystal 727(CX206)	2	277.2	5824	1.13	30.21	636	14.99	20.92	215	1648	358		72.4	0.00
Crystal 817	22	277.9	5747	1.16	30.38	624	15.05	20.80	278	1660	358		77.1	0.00
Crystal 820	8	286.6	5435	1.15	32.33	613	15.47	19.04	233	1568	386		74.1	0.00
Crystal 822	31	281.8	5778	1.13	31.26	643	15.22	20.45	266	1571	356		71.8	0.00
Crystal 999	40	268.4	5547	1.13	28.24	583	14.55	20.74	276	1539	368		72.3	0.00
Crystal R826(Rzm)	13	271.4	5495	1.21	28.92	586	14.79	20.21	286	1665	393		74.0	0.00
Hilleshog 2093	3	266.6	5717	1.23	27.83	594	14.55	21.49	249	1779	387		74.6	0.00
Hilleshog 2129	43	280.0	5383	1.14	30.86	595	15.14	19.22	178	1574	399		76.0	0.00
Hilleshog 2162(7162)	27	285.1	5461	1.08	31.99	609	15.33	19.26	185	1609	337		61.9	0.00
Hilleshog 2411Rz	6	277.7	5322	1.17	30.32	579	15.06	19.21	265	1540	403		71.1	0.00
Hilleshog 2463Rz(7163)	29	260.0	5321	1.14	26.35	539	14.14	20.53	359	1581	335		68.7	0.00
Hilleshog 2467Rz(7167)	10	260.6	5652	1.15	26.49	573	14.17	21.80	324	1595	347		79.0	0.00
Hilleshog 2469Rz(7169 Aph)	16	252.5	5192	1.21	24.66	506	13.84	20.58	429	1720	327		63.1	0.00
Hilleshog 7172Rz	41	271.3	5345	1.07	28.88	567	14.64	19.71	305	1543	304		70.9	0.00
Holly 250 (02HX250)	19	277.0	6039	1.12	30.17	660	14.98	21.79	227	1552	377		85.9	0.00
Holly 956	37	276.9	5939	1.12	30.15	645	14.96	21.48	228	1566	367		64.5	0.00
Seedex Aurora(Aph)	23	273.3	5218	1.09	29.35	563	14.76	19.09	214	1662	326		76.5	0.07
Seedex Magnum	9	276.2	5786	1.09	29.99	630	14.90	20.94	229	1601	335		85.2	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	284.4	5898	0.96	31.83	660	15.18	20.71	189	1550	263		73.6	0.07
Seedex Rezult(SX0828 Aph & Rzm)	33	287.3	5602	0.93	32.48	632	15.30	19.48	170	1523	256		70.3	0.00
Seedex Thunder	20	277.7	5951	1.25	30.33	648	15.13	21.46	265	1636	435		71.2	0.00
Van der Have H46177(Aph & Rzm)	39	278.3	5746	1.01	30.46	630	14.92	20.63	210	1564	287		72.1	0.07
Van der Have H46519(Rzm)	12	266.4	6806	1.07	27.79	711	14.40	25.50	226	1566	326		76.6	0.22
Van der Have H46733(Rzm 66733)	18	273.6	5878	1.09	29.41	631	14.78	21.44	213	1561	353		65.4	0.00
Van der Have H66556	1	265.5	5744	1.17	27.58	595	14.43	21.70	283	1649	363		70.0	0.00
Van der Have H66561	24	272.6	6080	1.17	29.18	651	14.79	22.35	266	1634	378		72.9	0.00
Van der Have H66626	7	281.6	5562	1.08	31.20	617	15.16	19.75	202	1538	357		78.0	0.00
Van der Have H66725	34	279.3	5659	1.08	30.68	623	15.04	20.26	196	1556	353		78.2	0.00
Crystal 960(Filler)	44	260.8	5003	1.12	26.52	510	14.16	19.12	251	1646	335		80.9	0.00
Van der Have H66240(Filler)	45	279.1	5908	1.24	30.64	645	15.18	21.35	287	1646	420		77.6	0.14
Maribo Ultramono(Filler)	46	249.9	5019	1.29	24.08	482	13.78	20.12	399	1792	381		76.3	0.07
Van der Have H66156(Filler)	47	256.8	5487	1.28	25.62	546	14.12	21.37	355	1717	406		61.0	0.00
Hilleshog 8277(Filler)	48	266.0	5445	1.18	27.71	565	14.48	20.57	226	1638	393		75.1	0.00
Crystal 725 PAT(Filler)	49	277.2	5990	1.17	30.21	654	15.03	21.59	279	1582	385		62.8	0.00
Check Mean		274.5	5705	1.13	29.62	615	14.86	20.81	254	1600	357		72.7	
Coeff. of Var. (%)		3.5	5.7	7.8	7.4	7.7	3.1	5.7	18.4	5.2	14.7		9.6	
F Value		4.7	6.8	3.9	4.7	6.2	4.4	6.2	6.8	4.3	3.1		8.0	
Mean LSD (0.05)		11.5	390	0.11	2.59	57	0.55	1.43	56	99	62		8.4	
Mean LSD (0.01)		15.2	515	0.14	3.42	75	0.73	1.89	74	131	82		11.1	

* 2004 Data from Casselton

Created 10-26-04.

Trial # = 048601

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 17
2004 Performance of Varieties - ACSC Commercial Coded Test
Borup, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	335.0	6136	0.89	43.23	795	17.65	18.19	122	1761	177		45.9	0.00
Beta 3800(Aph)	30	324.2	7305	0.87	40.79	919	17.08	22.53	196	1602	180		77.2	0.00
Beta 3820(Aph)	5	322.8	6689	0.85	40.48	839	16.99	20.75	170	1613	169		79.9	0.00
Beta 4797(BX1197 Rzm)	42	335.0	7766	0.82	43.21	1003	17.57	23.13	123	1673	150		66.4	0.00
Beta 4818R(Aph & Rzm)	15	322.8	6558	0.84	40.48	824	16.98	20.22	147	1661	159		71.8	0.00
Beta 6225	26	318.6	7680	0.86	39.54	952	16.80	24.14	195	1576	176		80.6	0.00
Beta 6233	4	326.9	7037	0.87	41.39	888	17.20	21.65	157	1701	167		78.9	0.00
Beta 6400(Aph)	11	341.9	7004	0.84	44.77	915	17.94	20.50	139	1644	168		74.9	0.00
Beta 6610	21	326.8	6884	0.82	41.39	871	17.16	21.10	152	1616	153		74.1	0.00
Croplan Genetics CL101	35	325.1	6824	0.90	41.01	858	17.15	21.09	159	1715	182		79.0	0.00
Croplan Genetics CL102	32	322.3	7009	0.86	40.37	877	16.98	21.75	154	1714	158		78.6	0.00
Croplan Genetics CL311	14	331.3	7549	0.86	42.39	967	17.43	22.75	133	1687	170		83.7	0.00
Crystal 204(CX204)	38	334.8	6934	0.91	43.17	894	17.64	20.74	150	1747	186		74.7	0.00
Crystal 723	25	334.9	7050	0.80	43.21	909	17.55	21.04	143	1549	160		76.0	0.00
Crystal 725	36	334.0	7238	0.84	43.00	933	17.54	21.64	148	1646	157		80.6	0.00
Crystal 727(CX206)	2	340.7	7492	0.85	44.50	981	17.88	21.92	121	1666	170		72.2	0.00
Crystal 817	22	327.5	7158	0.82	41.54	909	17.20	21.81	135	1622	157		70.4	0.00
Crystal 820	8	326.3	7025	0.85	41.26	885	17.15	21.63	158	1595	175		74.7	0.00
Crystal 822	31	337.1	7276	0.86	43.69	942	17.71	21.67	154	1620	179		74.2	0.00
Crystal 999	40	329.7	7052	0.83	42.03	897	17.32	21.45	149	1636	157		80.0	0.00
Crystal R826(Rzm)	13	330.5	6718	0.89	42.21	858	17.41	20.32	166	1720	175		70.3	0.00
Hilleshog 2093	3	319.6	6818	0.92	39.77	849	16.90	21.32	156	1768	186		82.2	0.00
Hilleshog 2129	43	327.9	6870	0.86	41.63	871	17.25	20.96	123	1629	192		82.9	0.00
Hilleshog 2162(7162)	27	330.9	7049	0.79	42.29	903	17.33	21.25	117	1498	170		72.7	0.00
Hilleshog 2411Rz	6	333.6	6843	0.85	42.92	879	17.53	20.55	168	1558	183		82.4	0.00
Hilleshog 2463Rz(7163)	29	324.6	6915	0.85	40.88	869	17.08	21.31	174	1676	154		72.8	0.00
Hilleshog 2467Rz(7167)	10	325.6	7465	0.86	41.11	944	17.14	22.89	169	1638	168		76.5	0.00
Hilleshog 2469Rz(7169 Aph)	16	315.0	6916	0.88	38.71	850	16.63	21.96	160	1750	161		75.3	0.00
Hilleshog 7172Rz	41	312.9	6234	0.87	38.26	762	16.52	19.96	209	1603	171		83.2	0.00
Holly 250 (02HX250)	19	331.7	7378	0.86	42.48	943	17.45	22.30	134	1597	197		84.2	0.00
Holly 956	37	323.0	7445	0.86	40.52	936	17.02	23.01	155	1644	173		82.0	0.00
Seedex Aurora(Aph)	23	325.0	6394	0.85	40.97	806	17.10	19.66	132	1633	181		82.9	0.07
Seedex Magnum	9	314.4	7063	0.89	38.59	866	16.61	22.52	172	1644	192		84.2	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	326.1	7369	0.76	41.21	933	17.07	22.56	116	1525	146		78.5	0.00
Seedex Rezult(SX0828 Aph & Rzm)	33	326.4	7207	0.79	41.29	910	17.11	22.13	127	1508	163		74.6	0.00
Seedex Thunder	20	326.5	7461	0.86	41.32	943	17.19	22.89	148	1716	161		75.0	0.00
Van der Have H46177(Aph & Rzm)	39	326.2	7136	0.79	41.25	902	17.10	21.89	125	1529	159		77.4	0.07
Van der Have H46519(Rzm)	12	305.8	8002	0.89	36.66	960	16.18	26.16	155	1714	178		86.1	0.00
Van der Have H46733(Rzm 66733)	18	313.3	7162	0.84	38.35	875	16.51	22.95	141	1583	179		73.6	0.00
Van der Have H66556	1	321.4	6843	0.86	40.17	855	16.93	21.33	145	1694	162		75.0	0.00
Van der Have H66561	24	337.5	8030	0.82	43.79	1041	17.69	23.80	135	1605	160		80.9	0.00
Van der Have H66626	7	326.1	7247	0.81	41.21	916	17.12	22.24	134	1569	165		85.8	0.00
Van der Have H66725	34	329.5	7050	0.82	41.99	902	17.30	21.26	133	1589	166		73.5	0.00
Crystal 960(Filler)	44	316.2	6208	0.86	39.00	765	16.68	19.67	138	1647	182		80.5	0.00
Van der Have H66240(Filler)	45	326.0	7840	0.89	41.21	990	17.19	24.07	161	1681	189		78.7	0.00
Maribo Ultramono(Filler)	46	324.5	6041	0.92	40.87	761	17.15	18.60	178	1813	170		84.0	0.00
Van der Have H66156(Filler)	47	323.1	7058	0.91	40.56	884	17.07	21.90	173	1743	182		68.2	0.00
Hilleshog 8277(Filler)	48	314.9	6933	0.85	38.70	853	16.60	22.00	147	1597	183		86.7	0.00
Crystal 725 PAT(Filler)	49	318.4	7116	0.86	39.48	882	16.78	22.34	186	1660	162		77.9	0.00
Check Mean		326.0	7071	0.85	41.20	893	17.15	21.70	151	1644	171		77.2	
Coeff. of Var. (%)		2.7	6.9	5.5	4.8	7.8	2.4	6.6	19.0	4.7	11.7		8.9	
F Value		4.3	4.3	3.0	4.3	3.9	4.6	5.0	3.0	4.7	2.0		5.6	
Mean LSD (0.05)		10.1	586	0.06	2.28	83	0.48	1.73	34	91	24		7.9	
Mean LSD (0.01)		13.4	772	0.07	3.00	110	0.63	2.28	45	120	31		10.3	

* 2004 Data from Borup

Created 10-26-04.

Trial # = 048602

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 18
2004 Performance of Varieties - ACSC Commercial Coded Test
Ada, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	305.9	6626	1.04	36.68	795	16.33	21.65	285	1582	283		38.4	0.00
Beta 3800(Aph)	30	307.3	7953	0.98	37.00	958	16.35	25.88	343	1396	265		80.6	0.00
Beta 3820(Aph)	5	311.3	7865	0.95	37.89	957	16.52	25.26	289	1466	246		76.3	0.00
Beta 4797(BX1197 Rzm)	42	302.9	8296	1.03	36.00	987	16.17	27.38	312	1492	284		73.7	0.00
Beta 4818R(Aph & Rzm)	15	302.9	7705	0.96	36.01	916	16.11	25.41	307	1483	242		72.6	0.00
Beta 6225	26	296.1	7927	0.99	34.48	924	15.80	26.74	377	1374	265		71.2	0.00
Beta 6233	4	307.2	7738	0.99	36.97	932	16.35	25.19	284	1479	268		71.5	0.00
Beta 6400(Aph)	11	311.9	7420	0.99	38.02	905	16.58	23.79	287	1521	257		75.7	0.00
Beta 6610	21	305.9	7797	1.01	36.68	934	16.30	25.54	302	1475	279		76.0	0.00
Croplan Genetics CL101	35	298.7	7997	1.10	35.06	939	16.04	26.75	356	1533	319		74.6	0.00
Croplan Genetics CL102	32	286.7	7907	1.15	32.36	890	15.49	27.65	429	1535	323		77.5	0.00
Croplan Genetics CL311	14	299.5	7500	1.04	35.24	882	16.01	25.06	336	1534	275		74.7	0.00
Crystal 204(CX204)	38	296.9	7502	1.08	34.65	875	15.93	25.28	355	1562	292		67.2	0.07
Crystal 723	25	316.3	7793	0.99	39.01	960	16.80	24.67	257	1534	263		76.2	0.00
Crystal 725	36	305.0	8027	1.03	36.48	960	16.28	26.30	344	1495	276		73.8	0.00
Crystal 727(CX206)	2	317.0	8030	0.94	39.17	992	16.79	25.37	213	1491	255		66.4	0.00
Crystal 817	22	300.5	7609	1.07	35.45	898	16.09	25.33	313	1504	313		72.5	0.00
Crystal 820	8	312.1	7951	0.95	38.08	970	16.55	25.46	299	1385	256		78.3	0.00
Crystal 822	31	307.4	7617	1.06	37.01	915	16.43	24.83	417	1494	274		72.6	0.00
Crystal 999	40	305.7	7796	1.04	36.63	933	16.32	25.54	324	1433	302		72.9	0.00
Crystal R826(Rzm)	13	306.2	7408	1.07	36.75	888	16.38	24.23	371	1574	273		71.9	0.00
Hilleshog 2093	3	296.3	7986	1.09	34.51	930	15.91	26.94	374	1561	293		73.2	0.00
Hilleshog 2129	43	309.6	7482	1.02	37.50	906	16.50	24.16	248	1488	310		79.0	0.00
Hilleshog 2162(7162)	27	313.1	8151	0.94	38.30	997	16.59	26.03	246	1448	250		67.8	0.00
Hilleshog 2411Rz	6	305.7	7606	1.04	36.64	911	16.33	24.90	318	1458	302		72.0	0.00
Hilleshog 2463Rz(7163)	29	288.5	7539	1.09	32.75	855	15.51	26.17	440	1577	264		71.3	0.00
Hilleshog 2467Rz(7167)	10	291.6	8157	1.10	33.47	936	15.68	28.00	391	1600	282		73.1	0.00
Hilleshog 2469Rz(7169 Aph)	16	295.2	7844	1.07	34.27	911	15.84	26.58	449	1580	250		67.9	0.00
Hilleshog 7172Rz	41	288.8	7597	0.97	32.83	862	15.41	26.35	376	1430	235		75.3	0.00
Holly 250 (02HX250)	19	302.6	8192	1.04	35.93	973	16.17	27.03	280	1545	295		81.7	0.00
Holly 956	37	310.2	8086	0.99	37.65	982	16.50	26.04	261	1468	280		74.6	0.00
Seedex Aurora(Aph)	23	297.9	7484	1.03	34.88	877	15.92	25.12	288	1597	267		78.5	0.00
Seedex Magnum	9	302.2	7956	1.00	35.84	944	16.11	26.32	278	1500	273		77.4	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	301.6	7679	0.96	35.72	910	16.04	25.46	278	1524	238		69.4	0.00
Seedex Rezult(SX0828 Aph & Rzm)	33	310.9	7980	0.88	37.80	971	16.42	25.67	215	1458	216		77.0	0.00
Seedex Thunder	20	300.2	8232	1.07	35.40	971	16.07	27.42	331	1508	305		73.7	0.00
Van der Have H46177(Aph & Rzm)	39	311.5	8187	0.90	37.94	997	16.47	26.27	213	1475	226		69.3	0.00
Van der Have H46519(Rzm)	12	284.5	8868	1.00	31.87	997	15.23	31.03	355	1524	244		79.1	0.00
Van der Have H46733(Rzm 66733)	18	296.8	8176	0.95	34.62	953	15.78	27.59	245	1472	252		66.8	0.00
Van der Have H66556	1	295.7	8016	1.09	34.38	932	15.88	27.09	324	1625	295		68.4	0.00
Van der Have H66561	24	302.0	8177	0.98	35.80	970	16.08	27.04	318	1462	255		79.8	0.00
Van der Have H66626	7	304.6	7828	1.02	36.38	935	16.25	25.70	276	1578	270		80.2	0.00
Van der Have H66725	34	308.5	8031	0.95	37.25	970	16.38	26.03	227	1479	263		66.5	0.00
Crystal 960(Filler)	44	286.5	6887	1.07	32.31	776	15.39	24.05	375	1556	276		83.2	0.00
Van der Have H66240(Filler)	45	301.9	8384	1.09	35.77	993	16.18	27.82	353	1494	316		72.9	0.00
Maribo Ultramono(Filler)	46	278.1	6846	1.16	30.42	747	15.07	24.68	472	1655	290		84.3	0.07
Van der Have H66156(Filler)	47	292.7	7360	1.12	33.70	846	15.76	25.17	398	1591	301		66.0	0.00
Hilleshog 8277(Filler)	48	300.6	7534	1.03	35.48	891	16.05	25.07	274	1483	302		77.0	0.00
Crystal 725 PAT(Filler)	49	316.7	7998	0.97	39.11	988	16.80	25.23	291	1444	259		73.7	0.00
Check Mean		302.0	7811	1.02	35.80	925	16.12	25.88	320	1509	274		73.3	
Coeff. of Var. (%)		3.8	6.0	6.8	7.1	8.2	3.3	5.3	22.2	5.4	10.1		10.3	
F Value		3.4	4.1	4.5	3.4	3.1	3.3	6.1	4.3	3.1	4.6		4.8	
Mean LSD (0.05)		13.4	546	0.08	3.02	89	0.62	1.60	85	97	33		8.7	
Mean LSD (0.01)		17.7	719	0.11	3.98	117	0.81	2.10	112	128	43		11.5	

* 2004 Data from Ada

Created 10-26-04.

Trial # = 048603

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 19
2004 Performance of Varieties - ACSC Commercial Coded Test
ACSC Mhd/Hlb Locations - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	304.2	5820	1.03	36.29	697	16.25	19.01	225	1677	273		38.1	0.00
Beta 3800(Aph)	30	300.7	7008	0.97	35.52	829	16.01	23.26	280	1502	251		80.8	0.00
Beta 3820(Aph)	5	305.6	6818	0.95	36.62	817	16.23	22.34	228	1515	252		78.8	0.00
Beta 4797(BX1197 Rzm)	42	305.1	7389	1.02	36.50	883	16.28	24.22	221	1619	281		70.2	0.05
Beta 4818R(Aph & Rzm)	15	300.3	6662	0.97	35.42	785	15.98	22.22	230	1568	252		73.9	0.00
Beta 6225	26	298.3	7238	0.97	34.98	848	15.89	24.27	281	1467	261		76.5	0.00
Beta 6233	4	307.3	6892	0.98	36.99	830	16.34	22.41	214	1583	260		76.7	0.00
Beta 6400(Aph)	11	312.1	6672	0.98	38.08	814	16.58	21.36	222	1608	251		74.7	0.00
Beta 6610	21	300.8	6904	0.96	35.53	814	16.00	22.99	247	1536	242		74.9	0.00
Croplan Genetics CL101	35	299.2	6982	1.08	35.16	819	16.03	23.40	255	1623	311		74.9	0.00
Croplan Genetics CL102	32	293.0	6905	1.07	33.76	793	15.72	23.65	273	1654	290		77.5	0.00
Croplan Genetics CL311	14	303.1	6982	1.01	36.05	832	16.17	22.96	233	1581	277		79.5	0.00
Crystal 204(CX204)	38	305.1	6774	1.03	36.49	809	16.28	22.25	249	1631	272		69.4	0.05
Crystal 723	25	313.1	6905	0.96	38.29	843	16.61	22.07	209	1539	260		74.9	0.00
Crystal 725	36	307.6	7120	0.99	37.05	859	16.37	23.11	243	1564	261		75.4	0.00
Crystal 727(CX206)	2	311.5	7105	0.97	37.94	869	16.55	22.67	183	1598	261		70.5	0.00
Crystal 817	22	302.3	6819	1.02	35.86	809	16.13	22.56	242	1598	276		73.0	0.00
Crystal 820	8	308.3	6805	0.98	37.22	823	16.39	22.07	230	1518	273		75.8	0.00
Crystal 822	31	308.6	6887	1.02	37.28	834	16.44	22.30	279	1562	270		72.9	0.00
Crystal 999	40	301.3	6799	1.00	35.63	804	16.06	22.59	250	1537	276		75.0	0.00
Crystal R826(Rzm)	13	302.8	6536	1.06	35.97	777	16.19	21.57	274	1651	280		71.8	0.00
Hilleshog 2093	3	294.2	6816	1.08	34.03	789	15.79	23.19	260	1702	289		76.8	0.00
Hilleshog 2129	43	305.9	6587	1.01	36.67	791	16.30	21.49	183	1566	300		79.4	0.00
Hilleshog 2162(7162)	27	309.8	6884	0.93	37.54	836	16.43	22.17	183	1522	253		67.9	0.00
Hilleshog 2411Rz	6	305.6	6584	1.02	36.60	789	16.30	21.52	250	1523	296		75.2	0.00
Hilleshog 2463Rz(7163)	29	291.0	6600	1.03	33.32	754	15.57	22.71	325	1607	251		71.1	0.00
Hilleshog 2467Rz(7167)	10	292.8	7111	1.03	33.73	821	15.67	24.26	295	1609	266		75.8	0.00
Hilleshog 2469Rz(7169 Aph)	16	287.5	6657	1.06	32.55	756	15.44	23.07	346	1682	247		68.8	0.00
Hilleshog 7172Rz	41	290.8	6393	0.97	33.29	731	15.51	22.00	296	1527	236		76.0	0.00
Holly 250 (02HX250)	19	303.7	7211	1.01	36.19	859	16.19	23.76	213	1566	290		83.6	0.00
Holly 956	37	303.4	7140	0.99	36.12	854	16.16	23.42	214	1559	273		73.7	0.00
Seedex Aurora(Aph)	23	298.7	6388	0.99	35.05	749	15.93	21.39	212	1633	258		79.3	0.05
Seedex Magnum	9	297.6	6956	0.99	34.82	816	15.87	23.30	226	1579	267		81.8	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	304.0	6984	0.89	36.26	834	16.10	22.91	194	1531	215		74.2	0.02
Seedex Rezult(SX0828 Aph & Rzm)	33	307.9	6928	0.87	37.13	838	16.26	22.42	171	1497	211		73.3	0.00
Seedex Thunder	20	301.4	7217	1.06	35.67	855	16.13	23.92	248	1622	300		73.5	0.00
Van der Have H46177(Aph & Rzm)	39	305.3	7016	0.90	36.54	843	16.16	22.89	182	1521	224		72.6	0.05
Van der Have H46519(Rzm)	12	285.5	7899	0.99	32.09	888	15.26	27.65	246	1603	250		80.7	0.07
Van der Have H46733(Rzm 66733)	18	294.3	7080	0.96	34.06	822	15.67	23.98	200	1538	261		68.3	0.00
Van der Have H66556	1	294.3	6868	1.04	34.07	795	15.75	23.37	250	1654	273		71.1	0.00
Van der Have H66561	24	304.3	7417	0.99	36.32	887	16.20	24.35	240	1567	264		77.9	0.00
Van der Have H66626	7	304.0	6895	0.97	36.25	824	16.17	22.63	204	1565	264		81.4	0.00
Van der Have H66725	34	306.0	6920	0.95	36.71	832	16.25	22.54	185	1541	260		72.4	0.00
Crystal 960(Filler)	44	287.7	6016	1.02	32.59	682	15.40	20.90	255	1615	265		81.2	0.00
Van der Have H66240(Filler)	45	302.4	7390	1.08	35.89	878	16.19	24.41	267	1608	308		76.6	0.05
Maribo Ultramono(Filler)	46	284.4	5966	1.13	31.84	663	15.34	21.15	349	1752	280		81.8	0.05
Van der Have H66156(Filler)	47	290.8	6613	1.11	33.28	756	15.65	22.77	309	1684	296		65.4	0.00
Hilleshog 8277(Filler)	48	293.8	6662	1.02	33.95	772	15.71	22.58	216	1574	292		79.9	0.00
Crystal 725 PAT(Filler)	49	304.1	7028	1.00	36.26	840	16.20	23.04	252	1563	269		72.0	0.00
Check Mean		300.8	6862	1.00	35.54	811	16.04	22.80	242	1584	267		74.4	0.01
Coeff. of Var. (%)		3.3	6.3	7.0	6.4	8.1	3.0	5.9	21.5	5.1	13.5		9.7	
F Value		4.9	10.1	6.0	4.9	7.9	4.9	10.4	4.9	5.7	3.1		10.7	
Mean LSD (0.05)		9.1	323	0.06	2.05	50	0.43	1.08	53	69	34		5.8	
Mean LSD (0.01)		12.0	428	0.08	2.71	66	0.56	1.44	70	92	45		7.6	

* 2004 Data from Casselton, Borup, Ada

Created 10-26-04.

Trial # = 04ACCMh

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 20
2004 Performance of Varieties - ACSC Commercial Coded Test
Climax, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	321.5	6278	1.13	40.18	785	17.21	19.50	267	1816	300	5.0	20.4	0.00
Beta 3800(Aph)	30	312.3	7030	1.05	38.12	858	16.67	22.48	395	1607	242	2.5	67.1	0.00
Beta 3820(Aph)	5	326.1	7189	1.03	41.22	908	17.33	22.06	271	1631	266	2.8	67.4	0.00
Beta 4797(BX1197 Rzm)	42	328.9	7671	1.10	41.86	976	17.55	23.34	267	1748	293	3.0	62.5	0.00
Beta 4818R(Aph & Rzm)	15	321.1	7429	1.09	40.09	928	17.14	23.16	279	1712	292	2.7	69.2	0.00
Beta 6225	26	318.8	7535	1.04	39.57	934	16.97	23.72	361	1557	259	2.8	67.8	0.00
Beta 6233	4	328.4	7491	1.07	41.73	952	17.49	22.80	272	1733	272	2.7	62.2	0.00
Beta 6400(Aph)	11	333.1	6911	1.07	42.80	888	17.73	20.77	267	1742	270	3.0	62.8	0.00
Beta 6610	21	326.4	7550	1.05	41.28	954	17.37	23.19	274	1666	272	3.0	64.3	0.00
Croplan Genetics CL101	35	318.2	7316	1.11	39.45	907	17.02	23.00	299	1750	284	2.7	59.7	0.00
Croplan Genetics CL102	32	302.4	7215	1.19	35.90	852	16.31	24.03	401	1743	313	2.7	67.6	0.00
Croplan Genetics CL311	14	315.8	7312	1.08	38.90	900	16.87	23.15	300	1643	291	2.8	72.6	0.00
Crystal 204(CX204)	38	319.7	7018	1.11	39.78	873	17.10	21.96	296	1781	284	3.2	50.6	0.00
Crystal 723	25	317.2	6792	1.09	39.21	838	16.94	21.46	321	1685	276	2.8	50.8	0.00
Crystal 725	36	319.8	7240	1.04	39.81	900	17.03	22.70	287	1618	271	2.7	63.4	0.00
Crystal 727(CX206)	2	325.2	7386	1.04	41.02	932	17.29	22.72	266	1668	265	3.3	43.5	0.00
Crystal 817	22	323.1	7091	1.10	40.55	891	17.25	21.92	259	1714	300	2.8	62.5	0.00
Crystal 820	8	322.3	7332	1.06	40.37	920	17.17	22.70	294	1651	272	3.2	58.2	0.00
Crystal 822	31	338.8	6980	1.05	44.08	908	18.00	20.61	267	1690	273	2.8	65.6	0.00
Crystal 999	40	328.1	7194	1.07	41.68	914	17.48	21.93	276	1690	284	2.7	62.9	0.00
Crystal R826(Rzm)	13	332.2	6957	1.15	42.59	892	17.76	20.93	315	1856	286	3.0	60.3	0.00
Hilleshog 2093	3	309.6	7230	1.14	37.50	877	16.62	23.30	289	1705	324	3.2	56.3	0.00
Hilleshog 2129	43	313.7	6690	1.16	38.43	818	16.84	21.33	263	1737	339	3.2	57.3	0.00
Hilleshog 2162(7162)	27	318.0	6791	1.05	39.41	840	16.96	21.37	232	1689	281	3.5	55.0	0.00
Hilleshog 2411Rz	6	319.4	6927	1.17	39.72	861	17.14	21.75	347	1672	334	3.2	49.8	0.00
Hilleshog 2463Rz(7163)	29	314.0	7156	1.18	38.51	876	16.87	22.84	369	1834	291	3.4	55.6	0.00
Hilleshog 2467Rz(7167)	10	325.6	7518	1.08	41.11	950	17.36	23.07	280	1767	260	3.2	64.9	0.00
Hilleshog 2469Rz(7169 Aph)	16	300.5	6883	1.18	35.46	808	16.20	23.00	416	1891	259	3.8	44.7	0.00
Hilleshog 7172Rz	41	303.8	6864	1.18	36.19	817	16.37	22.62	422	1799	285	3.7	52.8	0.00
Holly 250 (02HX250)	19	321.4	7387	1.08	40.17	919	17.14	23.14	291	1618	298	2.0	80.4	0.00
Holly 956	37	321.4	7353	1.04	40.17	919	17.11	22.87	241	1673	273	3.2	59.8	0.00
Seedex Aurora(Aph)	23	313.0	7031	1.10	38.26	861	16.74	22.48	280	1769	279	3.2	62.6	0.00
Seedex Magnum	9	324.9	7222	1.07	40.96	911	17.32	22.19	239	1738	280	2.8	69.0	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	323.5	7290	1.02	40.64	916	17.20	22.51	241	1725	248	3.2	67.5	0.00
Seedex Rezult(SX0828 Aph & Rzm)	33	322.6	7025	1.02	40.43	880	17.15	21.78	250	1704	248	3.6	59.0	0.00
Seedex Thunder	20	317.4	7316	1.07	39.27	903	16.94	23.08	275	1661	290	2.8	69.0	0.00
Van der Have H46177(Aph & Rzm)	39	328.4	7270	1.00	41.73	925	17.42	22.11	206	1707	251	3.3	57.3	0.00
Van der Have H46519(Rzm)	12	315.7	8627	1.07	38.89	1063	16.86	27.36	251	1775	270	2.8	64.3	0.00
Van der Have H46733(Rzm 66733)	18	321.8	7746	1.03	40.26	968	17.12	24.11	232	1680	267	3.2	50.8	0.07
Van der Have H66556	1	314.4	7301	1.12	38.58	896	16.84	23.22	299	1700	305	2.8	67.4	0.00
Van der Have H66561	24	314.8	7313	1.09	38.68	899	16.83	23.22	307	1673	287	3.0	70.3	0.00
Van der Have H66626	7	320.6	7027	1.07	39.99	876	17.10	21.92	238	1716	285	2.9	66.4	0.00
Van der Have H66725	34	321.9	7090	1.04	40.28	888	17.13	22.00	242	1641	279	3.2	60.2	0.07
Crystal 960(Filler)	44	290.2	6011	1.15	33.15	687	15.67	20.67	371	1760	290	2.7	78.9	0.00
Van der Have H66240(Filler)	45	317.8	7458	1.18	39.35	923	17.07	23.51	332	1771	325	2.7	65.0	0.00
Maribo Ultramono(Filler)	46	300.5	6047	1.18	35.46	715	16.21	20.08	444	1847	263	2.2	69.8	0.00
Van der Have H66156(Filler)	47	310.2	6800	1.10	37.65	827	16.62	21.86	331	1743	271	3.3	58.7	0.00
Hilleshog 8277(Filler)	48	313.0	6742	1.18	38.27	824	16.83	21.53	287	1863	315	3.5	56.4	0.00
Crystal 725 PAT(Filler)	49	324.2	7396	1.01	40.80	929	17.22	22.85	279	1604	253	2.5	72.1	0.00
Check Mean		318.8	7152	1.09	39.58	887	17.03	22.45	296	1718	282	3.0	61.3	
Coeff. of Var. (%)		3.2	5.5	6.8	5.7	7.0	2.7	4.9	23.3	5.0	12.4	14.5	15.7	
F Value		4.4	6.2	2.8	4.4	5.4	4.4	6.7	3.3	4.0	2.1	6.4	5.9	
Mean LSD (0.05)		12.1	467	0.09	2.72	75	0.56	1.32	83	102	42	0.5	11.2	
Mean LSD (0.01)		15.9	616	0.12	3.58	98	0.74	1.74	110	134	56	0.7	14.8	

* 2004 Data from Climax

Created 10-26-04.

\+ Lower numbers indicate better seedling vigor.

Trial # = 048604

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 21
2004 Performance of Varieties - ACSC Commercial Coded Test
Grand Forks, ND - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	319.6	5677	1.09	39.76	707	17.07	17.71	267	1910	241	4.7	32.4	0.00
Beta 3800(Aph)	30	307.4	6875	1.00	37.02	828	16.38	22.38	303	1744	203	3.0	71.0	0.00
Beta 3820(Aph)	5	317.2	6419	0.98	39.21	794	16.84	20.26	254	1739	203	2.8	71.2	0.00
Beta 4797(BX1197 Rzm)	42	309.4	6832	1.03	37.47	827	16.50	22.12	260	1803	227	2.9	61.6	0.00
Beta 4818R(Aph & Rzm)	15	307.5	6826	1.02	37.03	822	16.39	22.20	272	1781	213	2.6	73.2	0.00
Beta 6225	26	303.3	7023	0.98	36.09	835	16.14	23.16	332	1606	208	2.9	70.2	0.00
Beta 6233	4	313.1	6351	1.01	38.29	777	16.67	20.27	258	1779	220	2.8	75.5	0.00
Beta 6400(Aph)	11	319.5	6373	1.02	39.73	792	16.99	19.97	271	1792	216	2.9	71.4	0.00
Beta 6610	21	308.7	6594	1.01	37.30	796	16.44	21.40	267	1772	217	2.8	71.3	0.00
Croplan Genetics CL101	35	309.9	6814	1.05	37.57	825	16.55	21.98	252	1839	237	3.0	70.0	0.00
Croplan Genetics CL102	32	305.7	7019	1.02	36.63	841	16.31	22.97	260	1772	223	2.5	77.4	0.00
Croplan Genetics CL311	14	301.4	6638	1.06	35.67	785	16.13	22.03	287	1827	229	2.7	78.8	0.07
Crystal 204(CX204)	38	318.6	6700	1.01	39.53	831	16.93	21.02	245	1839	205	3.2	64.9	0.00
Crystal 723	25	319.7	6340	1.02	39.77	788	17.00	19.86	249	1735	235	3.0	65.6	0.00
Crystal 725	36	314.2	6749	0.99	38.55	828	16.71	21.47	262	1747	210	2.8	70.0	0.00
Crystal 727(CX206)	2	316.5	6629	0.98	39.06	818	16.81	20.94	222	1790	207	3.2	68.4	0.07
Crystal 817	22	314.7	5955	1.00	38.67	732	16.74	18.94	238	1753	223	3.1	66.4	0.00
Crystal 820	8	311.5	6707	1.02	37.93	815	16.58	21.57	296	1701	229	2.7	68.8	0.00
Crystal 822	31	315.4	6553	1.06	38.82	806	16.83	20.78	301	1806	231	2.5	71.5	0.00
Crystal 999	40	307.7	6717	0.99	37.08	808	16.38	21.88	282	1720	211	2.7	71.3	0.00
Crystal R826(Rzm)	13	317.1	6163	1.12	39.21	762	16.97	19.44	299	1849	267	3.0	63.9	0.00
Hilleshog 2093	3	295.9	6637	1.13	34.42	771	15.93	22.47	302	1890	266	3.2	72.0	0.00
Hilleshog 2129	43	305.8	6146	1.06	36.65	735	16.35	20.17	221	1756	277	2.8	74.6	0.00
Hilleshog 2162(7162)	27	313.9	6337	0.96	38.48	777	16.66	20.18	240	1686	210	3.3	62.5	0.00
Hilleshog 2411Rz	6	305.6	6164	1.08	36.60	736	16.35	20.28	312	1711	269	3.1	68.3	0.00
Hilleshog 2463Rz(7163)	29	299.8	6057	1.06	35.30	713	16.05	20.18	347	1793	218	3.2	68.8	0.00
Hilleshog 2467Rz(7167)	10	301.3	6258	1.03	35.64	740	16.09	20.77	325	1691	231	3.0	74.3	0.00
Hilleshog 2469Rz(7169 Aph)	16	289.7	6315	1.05	33.04	718	15.53	21.82	330	1850	200	3.6	61.5	0.00
Hilleshog 7172Rz	41	289.7	5363	1.01	33.04	611	15.49	18.52	350	1697	203	3.9	67.4	0.00
Holly 250 (02HX250)	19	307.8	6778	1.06	37.10	817	16.45	22.03	276	1786	244	2.5	76.2	0.00
Holly 956	37	303.0	6571	1.02	36.03	781	16.17	21.76	276	1740	225	3.1	70.8	0.00
Seedex Aurora(Aph)	23	299.3	6085	0.99	35.18	715	15.95	20.35	225	1762	217	3.2	78.0	0.00
Seedex Magnum	9	315.3	6586	0.97	38.80	810	16.74	20.87	200	1709	227	3.0	74.5	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	309.6	6709	0.95	37.50	813	16.43	21.67	237	1724	192	3.1	66.7	0.00
Seedex Rezult(SX0828 Aph & Rzm)	33	306.5	6761	1.00	36.82	811	16.32	22.10	249	1798	210	3.0	68.3	0.00
Seedex Thunder	20	305.6	7128	1.06	36.61	854	16.35	23.30	292	1818	236	3.0	71.7	0.00
Van der Have H46177(Aph & Rzm)	39	308.5	6470	0.94	37.26	782	16.37	20.98	222	1751	185	3.1	65.2	0.00
Van der Have H46519(Rzm)	12	294.9	7886	1.03	34.21	916	15.78	26.72	265	1894	201	3.0	81.1	0.00
Van der Have H46733(Rzm 66733)	18	304.4	6869	0.97	36.33	818	16.19	22.62	235	1768	198	3.0	63.4	0.00
Van der Have H66556	1	307.8	6722	1.00	37.10	809	16.39	21.87	260	1719	227	3.0	73.8	0.00
Van der Have H66561	24	313.6	7111	1.01	38.42	871	16.69	22.65	253	1727	229	2.8	75.6	0.14
Van der Have H66626	7	316.5	6522	0.95	39.06	805	16.78	20.61	201	1665	222	3.1	75.2	0.00
Van der Have H66725	34	310.6	6524	0.99	37.72	792	16.52	21.04	221	1683	238	2.8	75.2	0.00
Crystal 960(Filler)	44	288.2	5897	1.02	32.69	667	15.43	20.50	280	1775	220	2.2	81.8	0.00
Van der Have H66240(Filler)	45	313.0	7218	1.04	38.28	882	16.69	23.10	264	1802	233	3.0	73.1	0.00
Maribo Ultramono(Filler)	46	289.7	5714	1.14	33.04	651	15.63	19.75	399	1908	233	2.1	80.0	0.00
Van der Have H66156(Filler)	47	300.7	6222	1.13	35.51	735	16.16	20.69	344	1818	264	3.0	60.5	0.00
Hilleshog 8277(Filler)	48	305.6	6181	1.04	36.60	741	16.31	20.14	237	1818	236	3.1	72.1	0.00
Crystal 725 PAT(Filler)	49	317.8	6843	0.99	39.36	848	16.88	21.55	233	1815	199	2.9	69.7	0.00
Check Mean		307.7	6531	1.02	37.09	786	16.41	21.25	271	1773	224	3.0	70.1	
Coeff. of Var. (%)		2.9	5.6	5.8	5.3	6.8	2.5	5.4	19.9	4.6	11.5	12.3	9.8	
F Value		4.9	7.8	3.3	4.9	6.6	5.5	8.6	3.2	3.3	3.5	6.2	6.8	
Mean LSD (0.05)		10.5	436	0.07	2.35	63	0.48	1.38	65	98	31	0.4	8.1	
Mean LSD (0.01)		13.8	575	0.09	3.10	84	0.63	1.82	86	129	41	0.6	10.7	

* 2004 Data from Grand Forks

Created 10-26-04.

\+ Lower numbers indicate better seedling vigor.

Trial # = 048605

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 22
2004 Performance of Varieties - ACSC Commercial Coded Test
Alvarado, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	312.5	5407	1.18	38.16	658	16.81	17.39	280	2003	280		27.2	0.07
Beta 3800(Aph)	30	311.7	6968	1.00	37.99	845	16.59	22.50	257	1746	219		88.4	0.00
Beta 3820(Aph)	5	313.6	6508	1.07	38.41	795	16.75	20.81	279	1817	249		73.1	0.00
Beta 4797(BX1197 Rzm)	42	307.5	6961	1.09	37.03	834	16.47	22.78	273	1945	232		58.9	0.00
Beta 4818R(Aph & Rzm)	15	309.5	6793	1.03	37.50	819	16.51	22.08	244	1876	213		74.8	0.00
Beta 6225	26	309.1	7446	1.00	37.39	898	16.45	24.14	304	1719	213		69.8	0.00
Beta 6233	4	317.1	6902	1.07	39.20	851	16.93	21.84	270	1863	237		74.4	0.00
Beta 6400(Aph)	11	321.7	6156	1.10	40.23	764	17.19	19.28	273	1918	247		78.3	0.00
Beta 6610	21	315.8	6868	1.07	38.91	846	16.87	21.77	276	1836	244		70.9	0.00
Croplan Genetics CL101	35	297.4	6969	1.19	34.76	812	16.06	23.52	350	1914	286		76.3	0.00
Croplan Genetics CL102	32	296.5	7006	1.18	34.56	816	16.00	23.64	319	1943	278		77.2	0.07
Croplan Genetics CL311	14	307.4	6847	1.06	37.01	820	16.42	22.39	256	1834	240		82.5	0.00
Crystal 204(CX204)	38	314.0	6552	1.15	38.51	801	16.85	20.94	307	2006	246		64.7	0.00
Crystal 723	25	318.4	6518	1.08	39.49	805	17.00	20.58	245	1872	252		75.8	0.00
Crystal 725	36	311.8	6481	1.16	38.00	781	16.75	21.05	333	1879	280		65.8	0.00
Crystal 727(CX206)	2	323.9	6856	1.04	40.72	859	17.23	21.26	202	1912	226		64.8	0.00
Crystal 817	22	307.9	6660	1.13	37.13	804	16.52	21.55	336	1802	277		71.8	0.00
Crystal 820	8	307.1	6509	1.08	36.95	784	16.44	21.22	317	1788	245		73.5	0.00
Crystal 822	31	308.6	6390	1.22	37.29	773	16.65	20.62	360	1945	299		66.9	0.00
Crystal 999	40	301.6	6696	1.16	35.71	793	16.24	22.15	329	1826	299		68.2	0.00
Crystal R826(Rzm)	13	306.7	6589	1.19	36.86	784	16.53	21.69	278	2054	277		71.5	0.00
Hilleshog 2093	3	296.6	6372	1.17	34.59	736	16.00	21.71	303	2005	265		79.5	0.00
Hilleshog 2129	43	314.3	5945	1.10	38.57	724	16.81	19.12	247	1788	286		77.9	0.00
Hilleshog 2162(7162)	27	314.2	6367	0.99	38.55	781	16.70	20.24	219	1804	206		71.0	0.00
Hilleshog 2411Rz	6	301.5	6206	1.14	35.68	727	16.21	20.75	351	1843	266		75.7	0.00
Hilleshog 2463Rz(7163)	29	295.6	6495	1.13	34.36	752	15.91	22.09	366	1893	234		69.4	0.00
Hilleshog 2467Rz(7167)	10	297.5	6778	1.10	34.78	789	15.98	22.89	358	1876	225		71.3	0.00
Hilleshog 2469Rz(7169 Aph)	16	293.1	5963	1.19	33.80	686	15.85	20.48	369	2006	249		60.9	0.00
Hilleshog 7172Rz	41	289.5	5743	1.18	32.99	649	15.66	20.02	474	1832	255		71.6	0.00
Holly 250 (02HX250)	19	313.6	6963	1.10	38.41	852	16.78	22.24	279	1846	266		77.0	0.00
Holly 956	37	311.5	6879	1.07	37.95	837	16.65	22.09	270	1819	250		74.8	0.00
Seedex Aurora(Aph)	23	307.5	5878	1.10	37.04	702	16.48	19.32	259	1940	242		80.0	0.00
Seedex Magnum	9	309.5	6608	1.05	37.50	797	16.52	21.47	261	1899	212		72.7	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	312.0	6752	1.00	38.06	823	16.61	21.67	246	1802	210		70.3	0.07
Seedex Rezult(SX0828 Aph & Rzm)	33	307.0	6341	1.09	36.92	759	16.44	20.83	275	1873	245		66.2	0.00
Seedex Thunder	20	300.6	6527	1.19	35.48	769	16.22	21.80	356	1945	276		79.7	0.00
Van der Have H46177(Aph & Rzm)	39	308.7	6293	1.04	37.31	758	16.48	20.47	272	1786	231		68.1	0.00
Van der Have H46519(Rzm)	12	289.3	7318	1.14	32.94	829	15.60	25.40	262	1986	263		84.9	0.22
Van der Have H46733(Rzm 66733)	18	311.9	6939	1.01	38.03	844	16.61	22.34	193	1826	224		68.2	0.00
Van der Have H66556	1	302.6	6842	1.17	35.93	809	16.29	22.69	327	1848	297		80.7	0.00
Van der Have H66561	24	307.3	6767	1.11	36.99	814	16.48	22.09	290	1907	245		84.1	0.00
Van der Have H66626	7	308.5	6175	1.12	37.26	741	16.54	20.19	269	1797	293		80.4	0.00
Van der Have H66725	34	308.6	6606	1.06	37.27	796	16.49	21.46	251	1842	244		65.9	0.07
Crystal 960(Filler)	44	297.6	5800	1.11	34.81	676	15.99	19.57	320	1821	260		82.3	0.00
Van der Have H66240(Filler)	45	298.9	7055	1.23	35.09	826	16.17	23.68	332	1923	318		72.3	0.00
Maribo Ultramono(Filler)	46	298.7	5830	1.21	35.06	682	16.15	19.60	387	2019	263		81.3	0.00
Van der Have H66156(Filler)	47	299.6	6687	1.17	35.26	787	16.15	22.33	349	1937	263		62.4	0.00
Hilleshog 8277(Filler)	48	291.5	6153	1.25	33.43	700	15.82	21.24	324	1906	344		79.9	0.00
Crystal 725 PAT(Filler)	49	310.5	6380	1.07	37.70	774	16.59	20.55	268	1885	230		70.6	0.00
Check Mean		306.5	6546	1.11	36.81	783	16.44	21.46	297	1881	255		72.5	
Coeff. of Var. (%)		3.9	7.5	10.2	7.4	9.5	3.1	7.0	33.9	4.8	20.9		13.0	
F Value		2.5	3.9	1.8	2.5	3.1	2.9	4.7	1.5	3.8	1.6		5.7	
Mean LSD (0.05)		14.5	595	0.14	3.27	89	0.62	1.83	122	108	64		10.9	
Mean LSD (0.01)		19.2	785	0.18	4.31	118	0.82	2.41	161	143	85		14.3	

* 2004 Data from Alvarado

Created 10-26-04.

Trial # = 048606

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 23
2004 Performance of Varieties - ACSC Commercial Coded Test
ACSC Crk/EGF Locations - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 3494 (BX1194 Aph)	28	317.9	5771	1.13	39.39	715	17.03	18.14	270	1910	274	4.8	26.7	0.02
Beta 3800(Aph)	30	310.5	6949	1.02	37.70	843	16.54	22.44	318	1700	222	2.7	75.6	0.00
Beta 3820(Aph)	5	318.8	6712	1.03	39.59	833	16.97	21.07	267	1730	239	2.8	70.6	0.00
Beta 4797(BX1197 Rzm)	42	315.1	7150	1.08	38.74	878	16.83	22.74	268	1833	251	3.0	61.0	0.00
Beta 4818R(Aph & Rzm)	15	312.7	7013	1.05	38.20	856	16.68	22.48	266	1785	240	2.6	72.6	0.00
Beta 6225	26	310.3	7331	1.01	37.66	888	16.52	23.65	333	1627	228	2.9	69.3	0.00
Beta 6233	4	319.6	6914	1.05	39.77	861	17.04	21.62	266	1792	243	2.8	70.7	0.00
Beta 6400(Aph)	11	324.8	6482	1.07	40.93	815	17.31	20.01	271	1820	245	2.9	70.8	0.00
Beta 6610	21	317.0	7017	1.05	39.17	866	16.90	22.16	272	1759	244	2.9	68.7	0.00
Croplan Genetics CL101	35	309.0	7031	1.12	37.37	849	16.56	22.81	298	1836	268	2.9	68.7	0.00
Croplan Genetics CL102	32	301.3	7071	1.13	35.65	835	16.19	23.51	328	1821	272	2.6	74.0	0.02
Croplan Genetics CL311	14	308.2	6922	1.07	37.20	834	16.48	22.49	281	1768	253	2.8	77.8	0.02
Crystal 204(CX204)	38	317.6	6759	1.09	39.30	836	16.97	21.31	284	1874	245	3.2	60.3	0.00
Crystal 723	25	318.4	6538	1.06	39.48	809	16.98	20.59	271	1764	254	3.0	64.2	0.00
Crystal 725	36	315.3	6817	1.06	38.78	835	16.82	21.73	293	1748	252	2.8	66.4	0.00
Crystal 727(CX206)	2	321.9	6950	1.02	40.27	869	17.11	21.62	230	1788	232	3.3	58.9	0.02
Crystal 817	22	315.2	6574	1.08	38.77	809	16.83	20.82	278	1759	266	3.0	67.0	0.00
Crystal 820	8	313.8	6856	1.05	38.45	841	16.74	21.84	302	1713	248	2.9	66.9	0.00
Crystal 822	31	320.7	6624	1.11	40.01	826	17.15	20.65	310	1813	268	2.6	67.9	0.00
Crystal 999	40	312.6	6884	1.08	38.18	840	16.70	22.03	296	1743	265	2.7	67.6	0.00
Crystal R826(Rzm)	13	318.8	6571	1.15	39.58	813	17.09	20.69	297	1918	277	3.0	65.2	0.00
Hilleshog 2093	3	300.7	6743	1.15	35.51	795	16.19	22.49	297	1869	285	3.2	69.1	0.00
Hilleshog 2129	43	311.2	6253	1.11	37.87	759	16.67	20.18	245	1761	301	3.0	69.8	0.00
Hilleshog 2162(7162)	27	315.0	6488	1.00	38.73	798	16.75	20.59	231	1726	232	3.5	62.8	0.00
Hilleshog 2411Rz	6	309.2	6461	1.13	37.41	778	16.58	20.99	335	1744	289	3.2	64.6	0.00
Hilleshog 2463Rz(7163)	29	303.2	6565	1.12	36.08	780	16.28	21.69	361	1840	248	3.3	64.5	0.00
Hilleshog 2467Rz(7167)	10	308.1	6855	1.07	37.17	827	16.48	22.27	321	1779	239	3.1	70.1	0.00
Hilleshog 2469Rz(7169 Aph)	16	294.6	6381	1.14	34.13	738	15.87	21.72	372	1916	237	3.7	55.7	0.00
Hilleshog 7172Rz	41	294.3	5993	1.12	34.06	693	15.84	20.41	415	1774	247	3.8	64.0	0.00
Holly 250 (02HX250)	19	314.4	7064	1.08	38.59	865	16.80	22.50	281	1750	270	2.3	78.0	0.00
Holly 956	37	311.9	6950	1.04	38.03	847	16.64	22.30	263	1746	249	3.2	68.4	0.00
Seedex Aurora(Aph)	23	306.7	6333	1.06	36.86	759	16.40	20.71	255	1823	246	3.2	73.5	0.00
Seedex Magnum	9	316.6	6798	1.03	39.08	838	16.86	21.49	233	1782	239	2.9	71.8	0.00
Seedex Prizm(SX0924 Aph & Rzm)	17	315.0	6908	0.99	38.73	850	16.74	21.93	242	1747	217	3.1	68.2	0.02
Seedex Rezult(SX0828 Aph & Rzm)	33	312.3	6714	1.04	38.13	818	16.65	21.55	259	1789	234	3.3	64.5	0.00
Seedex Thunder	20	308.2	6973	1.11	37.19	841	16.52	22.65	307	1808	267	2.9	73.4	0.00
Van der Have H46177(Aph & Rzm)	39	314.8	6669	1.00	38.69	820	16.74	21.19	233	1748	223	3.2	63.6	0.00
Van der Have H46519(Rzm)	12	299.7	7950	1.08	35.29	935	16.07	26.54	261	1884	244	2.9	76.8	0.07
Van der Have H46733(Rzm 66733)	18	312.9	7191	1.00	38.25	878	16.65	23.02	220	1759	229	3.1	60.7	0.02
Van der Have H66556	1	307.9	6956	1.10	37.13	837	16.49	22.63	295	1759	276	2.9	73.8	0.00
Van der Have H66561	24	312.0	7061	1.07	38.04	861	16.67	22.64	284	1769	254	2.9	76.8	0.05
Van der Have H66626	7	315.1	6580	1.05	38.74	808	16.80	20.93	236	1725	267	3.0	74.0	0.00
Van der Have H66725	34	313.8	6754	1.03	38.45	827	16.72	21.54	237	1723	253	3.0	67.0	0.05
Crystal 960(Filler)	44	291.9	5887	1.10	33.53	675	15.69	20.22	326	1786	257	2.5	81.0	0.00
Van der Have H66240(Filler)	45	310.0	7260	1.15	37.60	879	16.65	23.45	308	1831	292	2.9	70.0	0.00
Maribo Ultramono(Filler)	46	296.1	5883	1.18	34.48	685	15.99	19.88	409	1923	253	2.1	77.1	0.00
Van der Have H66156(Filler)	47	303.4	6575	1.13	36.12	783	16.31	21.67	341	1834	266	3.2	60.6	0.00
Hilleshog 8277(Filler)	48	303.4	6337	1.16	36.10	753	16.32	20.92	282	1861	299	3.3	69.7	0.00
Crystal 725 PAT(Filler)	49	317.4	6880	1.02	39.26	851	16.89	21.67	260	1767	228	2.7	70.9	0.00
Check Mean		311.0	6743	1.08	37.82	819	16.63	21.72	288	1790	254	3.0	68.0	0.01
Coeff. of Var. (%)		3.3	6.2	7.8	6.1	7.8	2.8	5.8	26.2	4.8	15.5	13.4	12.8	
F Value		7.1	10.9	5.4	7.1	9.0	7.1	11.9	5.4	6.1	4.2	10.0	10.5	
Mean LSD (0.05)		7.9	335	0.06	1.78	50	0.37	1.04	52	70	27	0.4	7.1	
Mean LSD (0.01)		10.5	444	0.08	2.36	66	0.49	1.38	69	93	36	0.5	9.4	

* 2004 Data from Climax, Grand Forks, Alvarado

Created 10-26-04.

+ Lower numbers indicate better seedling vigor.

Trial # = 04ACCCr

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 24
2004 Performance of Varieties - ACSC Commercial Coded Test
Drayton Area - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 3494 (BX1194 Aph)	28	316.0	5515	1.14	38.95	679	16.94	17.48	273	1956	261	4.7	0.04	29.8
Beta 3800(Aph)	30	309.6	6927	1.00	37.52	837	16.48	22.45	280	1745	211	3.0	0.00	79.8
Beta 3820(Aph)	5	314.8	6466	1.03	38.68	793	16.77	20.58	268	1779	226	2.8	0.00	72.2
Beta 4797(BX1197 Rzm)	42	308.4	6904	1.06	37.25	831	16.49	22.47	267	1875	230	2.9	0.00	60.0
Beta 4818R(Aph & Rzm)	15	308.6	6801	1.03	37.28	820	16.46	22.11	258	1828	214	2.6	0.00	74.4
Beta 6225	26	306.0	7230	0.99	36.70	865	16.29	23.65	319	1661	212	2.9	0.00	70.1
Beta 6233	4	315.3	6624	1.04	38.78	814	16.81	21.03	263	1823	229	2.8	0.00	74.9
Beta 6400(Aph)	11	320.5	6261	1.06	39.97	778	17.09	19.62	272	1855	232	2.9	0.00	74.9
Beta 6610	21	312.4	6736	1.04	38.15	822	16.66	21.58	271	1802	230	2.8	0.00	71.0
Croplan Genetics CL101	35	304.1	6884	1.12	36.27	819	16.32	22.70	299	1876	260	3.0	0.00	73.0
Croplan Genetics CL102	32	300.7	6999	1.10	35.50	826	16.13	23.30	290	1859	252	2.5	0.04	77.3
Croplan Genetics CL311	14	304.4	6736	1.06	36.34	802	16.28	22.19	272	1830	234	2.7	0.04	80.5
Crystal 204(CX204)	38	316.5	6629	1.08	39.06	817	16.90	20.97	277	1923	225	3.2	0.00	65.0
Crystal 723	25	318.9	6419	1.05	39.59	795	16.99	20.20	247	1804	244	3.0	0.00	70.9
Crystal 725	36	313.0	6602	1.07	38.27	803	16.72	21.22	296	1813	243	2.8	0.00	67.9
Crystal 727(CX206)	2	320.3	6737	1.01	39.91	838	17.02	21.07	211	1851	216	3.2	0.04	66.6
Crystal 817	22	311.4	6319	1.06	37.91	769	16.63	20.28	288	1777	250	3.1	0.00	69.2
Crystal 820	8	309.6	6608	1.05	37.51	800	16.53	21.38	305	1743	236	2.7	0.00	71.1
Crystal 822	31	311.8	6454	1.14	38.01	787	16.73	20.68	331	1876	266	2.5	0.00	69.1
Crystal 999	40	304.8	6719	1.08	36.43	802	16.32	22.04	307	1770	256	2.7	0.00	70.0
Crystal R826(Rzm)	13	312.3	6384	1.16	38.11	775	16.77	20.57	288	1951	272	3.0	0.00	67.6
Hilleshog 2093	3	296.2	6507	1.15	34.50	754	15.97	22.09	301	1949	266	3.2	0.00	75.6
Hilleshog 2129	43	309.9	6048	1.08	37.58	729	16.58	19.66	234	1772	282	2.8	0.00	76.2
Hilleshog 2162(7162)	27	313.9	6340	0.97	38.47	777	16.67	20.20	229	1743	208	3.3	0.00	66.8
Hilleshog 2411Rz	6	303.9	6216	1.11	36.22	736	16.30	20.58	331	1778	266	3.1	0.00	71.9
Hilleshog 2463Rz(7163 Aph)	29	297.9	6267	1.09	34.88	732	15.99	21.10	358	1844	227	3.2	0.00	69.0
Hilleshog 2467Rz(7167)	10	299.3	6514	1.07	35.19	764	16.03	21.83	343	1784	228	3.0	0.00	72.7
Hilleshog 2469Rz(7169 Aph)	16	291.6	6133	1.12	33.47	702	15.70	21.12	350	1931	225	3.6	0.00	61.2
Hilleshog 7172Rz	41	289.5	5559	1.10	32.98	631	15.57	19.30	413	1765	229	3.9	0.00	69.6
Holly 250 (02HX250)	19	310.7	6885	1.08	37.75	836	16.61	22.18	277	1815	255	2.5	0.00	76.7
Holly 956	37	307.2	6750	1.04	36.97	811	16.40	22.00	274	1782	237	3.1	0.00	72.5
Seedex Aurora(Aph)	23	303.4	5975	1.05	36.11	708	16.22	19.81	243	1852	230	3.2	0.00	78.9
Seedex Magnum	9	312.4	6588	1.01	38.14	802	16.63	21.14	230	1803	219	3.0	0.00	73.4
Seedex Prizm(SX0822 Aph)	17	310.7	6720	0.98	37.76	816	16.51	21.65	243	1762	202	3.1	0.04	68.6
Seedex Rezult(SX0828 Aph & Rzm)	33	307.2	6576	1.05	36.96	789	16.41	21.50	263	1836	227	3.0	0.00	67.2
Seedex Thunder	20	303.5	6813	1.13	36.13	811	16.30	22.48	322	1881	255	3.0	0.00	75.6
Van der Have H46177(Aph & Rzm)	39	308.1	6378	0.99	37.18	769	16.40	20.74	246	1768	209	3.1	0.00	66.6
Van der Have H46519(Rzm)	12	291.7	7603	1.09	33.49	871	15.67	26.09	265	1940	232	3.0	0.11	83.0
Van der Have H46733(Rzm 66733)	18	308.5	6910	0.99	37.25	833	16.41	22.48	214	1798	210	3.0	0.00	65.8
Van der Have H66556	1	304.9	6783	1.08	36.44	808	16.33	22.30	293	1784	262	3.0	0.00	77.1
Van der Have H66561	24	310.6	6934	1.06	37.73	842	16.59	22.35	272	1819	237	2.8	0.07	79.9
Van der Have H66626	7	312.3	6354	1.04	38.11	773	16.65	20.43	234	1729	258	3.1	0.00	77.7
Van der Have H66725(Aph)	34	309.8	6571	1.02	37.55	795	16.51	21.25	234	1762	240	2.8	0.04	70.3
Crystal 960(Filler)	44	292.7	5840	1.07	33.72	670	15.71	20.02	301	1798	241	2.2	0.00	82.0
Van der Have H66240(Filler)	45	306.0	7161	1.13	36.70	857	16.43	23.46	298	1865	275	3.0	0.00	72.6
Maribo Ultramono(Filler)	46	294.2	5795	1.18	34.04	670	15.88	19.75	391	1962	247	2.1	0.00	80.9
Van der Have H66156(Filler)	47	300.1	6464	1.15	35.37	762	16.15	21.54	346	1878	263	3.0	0.00	61.6
Hilleshog 8277(Filler)	48	298.6	6132	1.14	35.04	717	16.07	20.59	280	1862	290	3.1	0.00	76.3
Crystal 725 PAT(Filler)	49	313.9	6617	1.03	38.47	811	16.72	21.08	251	1848	216	2.9	0.00	70.3
Check Mean		307.1	6539	1.07	36.95	785	16.42	21.35	284	1827	239	3.0	0.01	71.3
Coeff. of Var. (%)		3.4	6.6	8.4	6.4	8.2	2.8	6.3	27.8	4.7	17.4	12.3		11.6
F Value		5.7	7.4	3.5	5.7	6.9	6.3	7.4	3.2	6.5	2.4	6.2		11.1
Mean LSD (0.05)		8.9	423	0.08	2.00	58	0.41	1.42	67	72	39	0.4		6.8
Mean LSD (0.01)		11.7	564	0.10	2.63	77	0.55	1.90	89	95	52	0.6		8.9

* 2004 Data from Grand Forks & Alvarado. Created 11-04-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 04Dtn

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 25
2004 Performance of Varieties - Aphanomyces Specialty
Kindred, ND - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %	Hrv Std %
Beta 1305 (BX1305 Rzm)	419	282.8	4016	1.19	31.49	445	15.33	14.28	459	1410	374		0.00	32.0	28.2
Beta 1317(BX1317 Aph & Rzm)	405	283.7	5117	1.09	31.68	575	15.27	17.92	384	1333	345		0.00	64.8	48.9
Beta 3494 (BX1194 Aph)	412	298.1	2587	1.10	34.93	305	16.00	8.62	412	1503	302		0.00	25.0	22.2
Beta 3800(Aph)	418	297.3	4485	0.95	34.75	525	15.82	15.05	388	1245	265		0.00	69.0	54.7
Beta 3820(Aph)	423	299.6	3855	0.99	35.27	456	15.97	12.82	347	1402	269		0.00	61.5	45.5
Beta 4818R(Aph & Rzm)	411	301.2	4390	0.94	35.62	519	16.00	14.59	330	1350	251		0.00	67.2	46.0
Beta 6400(Aph)	432	315.5	4853	1.01	38.85	598	16.79	15.38	334	1449	278		0.00	68.8	46.5
Crystal 204(CX204)	426	302.6	3727	1.06	35.94	444	16.20	12.26	380	1561	272		0.00	43.5	32.4
Crystal 205	406	284.7	3925	1.05	31.91	441	15.28	13.74	328	1392	320		0.00	70.1	55.3
Crystal 725	429	300.1	3620	0.97	35.36	426	15.97	12.09	392	1342	256		0.00	46.4	36.2
Crystal 820	409	306.9	4187	0.99	36.91	503	16.34	13.66	341	1366	278		0.00	66.4	42.4
Crystal 822	433	313.5	4998	0.96	38.39	613	16.63	15.93	364	1363	247		0.00	65.6	42.0
Crystal 999	413	308.9	4421	0.99	37.35	535	16.43	14.28	356	1386	272		0.00	66.7	50.1
Crystal A300(Aph)	402	313.3	5098	0.98	38.33	625	16.64	16.23	344	1325	277		0.00	65.9	46.7
Crystal R826(Rzm)	422	307.2	4623	1.03	36.96	557	16.38	15.01	349	1463	282		0.00	65.9	50.4
Hilleshog 2463Rz(7163)	424	288.4	4150	1.05	32.73	473	15.47	14.34	447	1379	284		0.00	57.0	43.6
Hilleshog 2469Rz(7169 Aph)	414	283.4	4197	1.05	31.61	469	15.22	14.77	472	1418	260		0.00	70.1	47.6
Hilleshog 7212	428	312.0	4616	0.95	38.05	564	16.55	14.75	242	1461	260		0.00	82.3	59.8
Hilleshog 7221Rz	403	288.7	4423	0.98	32.80	503	15.42	15.30	433	1339	245		0.00	83.9	55.3
Hilleshog 7225	430	295.1	4132	1.03	34.24	480	15.78	14.00	425	1369	275		0.00	76.8	52.9
Holly 03HX317 Rzm	407	303.6	4437	0.90	36.17	528	16.09	14.63	261	1343	249		0.65	76.6	52.7
Holly 03HX323 Rzm	420	298.4	4763	0.98	34.99	559	15.90	15.93	350	1298	280		0.07	77.9	53.3
Holly 03HX324 Rzm	410	303.2	3732	0.93	36.07	445	16.09	12.28	252	1364	266		0.00	79.4	49.4
Holly 04HX449 Rzm	401	297.5	4492	0.94	34.80	526	15.81	15.06	222	1445	260		0.14	76.3	50.7
Holly 04HX450	425	283.1	3851	1.05	31.54	431	15.21	13.53	321	1507	295		0.00	72.7	47.1
Seedex SX0831(Rzm)	416	303.7	4391	0.93	36.18	524	16.11	14.43	280	1328	268		0.00	69.8	52.7
Seedex Aurora(Aph)	421	297.8	3554	1.01	34.86	416	15.90	11.93	285	1494	280		0.00	73.4	54.5
Seedex Prizm(SX0822 Aph)	408	301.5	4334	0.95	35.69	512	16.02	14.40	302	1436	247		0.00	58.6	44.4
Seedex Rezult(SX0828 Aph & Rzm)	431	300.0	4158	0.98	35.34	491	15.98	13.82	310	1448	263		0.00	65.4	49.4
Van der Have H46177(Aph & Rzm)	415	305.3	4435	0.93	36.53	528	16.19	14.61	255	1405	257		0.00	53.6	45.7
Van der Have H46519(Rzm)	427	286.4	2916	1.00	32.28	331	15.32	10.13	315	1426	285		0.07	82.6	44.0
Van der Have H46733(Rzm 66733)	417	301.4	4249	0.94	35.67	503	16.01	14.09	275	1392	255		0.07	58.3	41.9
Van der Have H47151(Rzm)	404	291.0	4115	1.00	33.33	473	15.55	14.09	286	1444	283		0.57	72.4	47.3
Susceptible Check (3N)	434	299.6	2774	1.07	35.25	331	16.05	9.11	449	1449	276		0.00	52.6	33.4
Resistant Check (2N very tol)	435	296.4	4207	0.98	34.55	491	15.80	14.15	286	1472	263		0.00	77.3	52.9
Crystal 960(Aph Chk)	436	294.0	4323	1.00	34.01	501	15.70	14.65	329	1410	277		0.00	71.1	53.1
Check Mean		298.5	4171	1.00	35.01	490	15.92	13.94	342	1403	275			65.7	46.6
Coeff. of Var. (%)		2.4	12.4	7.0	4.6	12.5	2.1	12.8	16.9	6.4	11.2			9.3	14.2
F Value		7.8	6.6	3.7	7.8	7.5	8.3	5.7	6.9	3.1	3.8			28.0	8.4
Mean LSD (0.05)		8.8	627	0.08	1.99	74	0.40	2.16	70	106	37			7.0	7.8
Mean LSD (0.01)		11.7	827	0.11	2.63	98	0.53	2.86	92	139	49			9.2	10.2

* 2004 Data from Kindred, ND. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048681

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 26

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Glyndon, MN - Slight Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	312.1	7467	0.98	38.07	910	16.59	23.95	245	1555	257		41.5	0.00
Beta 4797(BX1197 Rzm)	515	325.3	6071	0.80	41.05	771	17.07	18.52	195	1417	171		55.3	0.00
Beta 4818R(Aph & Rzm)	555	317.5	5712	0.80	39.29	707	16.67	17.98	244	1340	176		73.9	0.00
Beta BX1301(Rhc & Rzm)	524	307.6	7398	0.96	37.05	888	16.34	24.15	253	1511	247		71.8	0.00
Beta BX1303(Rzm)	538	312.3	6416	0.94	38.12	784	16.55	20.53	258	1550	225		64.8	0.00
Beta BX1451(Rzm)	505	303.7	6473	0.87	36.17	772	16.05	21.29	240	1446	201		55.2	0.00
Beta BX1452(Rzm)	552	317.1	6515	0.89	39.19	806	16.74	20.52	261	1566	179		71.1	0.00
Beta BX1453(Rzm)	514	311.3	6498	0.94	37.89	791	16.51	20.86	254	1628	204		60.4	0.00
Beta BX1454(Rzm)	547	328.2	6655	0.83	41.69	846	17.24	20.27	194	1428	194		71.4	0.07
Beta BX1455(Rzm)	502	312.6	6673	0.93	38.19	815	16.56	21.35	285	1450	229		70.0	0.00
Beta BX1456(Rzm)	540	319.1	6306	0.85	39.64	786	16.81	19.68	263	1444	184		72.8	0.00
Beta BX1457(Rzm)	556	304.7	6451	0.95	36.40	771	16.18	21.18	242	1592	222		70.0	0.00
Beta BX1458(Rzm)	527	324.0	5756	0.86	40.74	724	17.05	17.78	220	1505	182		56.3	0.00
Beta BX1459(Rzm)	517	323.6	6655	0.86	40.66	836	17.04	20.57	225	1445	204		70.3	0.00
Crystal R306	525	316.3	6193	0.87	39.03	764	16.68	19.58	265	1415	199		63.2	0.00
Crystal R308	539	325.7	6015	0.81	41.13	761	17.09	18.43	215	1403	177		65.9	0.00
Crystal R431	513	321.7	6169	0.87	40.24	772	16.96	19.17	209	1563	185		62.5	0.00
Crystal R432	553	306.0	6490	0.84	36.71	779	16.14	21.18	345	1390	152		70.3	0.00
Crystal R433	522	314.2	5330	0.90	38.55	654	16.61	16.96	238	1492	211		68.8	0.29
Crystal R434	535	310.3	6915	0.94	37.67	840	16.46	22.27	263	1492	238		66.2	0.00
Crystal R435	548	316.1	6219	0.83	38.98	768	16.64	19.65	221	1437	183		64.3	0.00
Crystal R436	511	307.5	6562	0.94	37.03	790	16.32	21.35	268	1598	212		70.8	0.00
Crystal R437	503	315.5	6162	0.78	38.84	759	16.56	19.53	233	1319	169		60.8	0.00
Crystal R438	545	328.5	6817	0.84	41.76	869	17.26	20.69	228	1426	187		61.8	0.00
Crystal R439	526	316.9	6071	0.85	39.16	751	16.70	19.13	293	1381	186		54.0	0.00
Crystal R826(Rzm)	516	325.0	5922	0.85	40.98	746	17.10	18.25	244	1447	183		53.6	0.00
Filler#6 (3N mod Tolerance)	518	319.7	2965	0.92	39.79	369	16.91	9.28	263	1633	185			0.00
Hilleshog 2411Rz	542	325.0	5618	0.86	40.98	708	17.12	17.28	266	1371	206		71.6	0.00
Hilleshog 2463Rz(7163)	529	308.7	5838	0.88	37.32	704	16.32	18.97	326	1416	192		64.5	0.00
Hilleshog 2467Rz(7167)	521	309.4	5692	0.85	37.46	690	16.32	18.37	270	1392	188		68.5	0.00
Hilleshog 2469Rz(7169 Aph)	551	300.0	6002	0.85	35.35	706	15.84	20.03	275	1508	157		61.2	0.00
Hilleshog 2480Rz(7180)	504	313.6	5567	0.87	38.42	683	16.55	17.73	318	1320	208		68.6	0.00
Hilleshog 2496Rz(7196)	533	314.1	5809	0.86	38.53	715	16.57	18.42	287	1321	211		64.8	0.00
Hilleshog 7172Rz	558	302.7	5342	0.93	35.95	635	16.07	17.65	365	1511	192		66.5	0.00
Hilleshog 7215Rz	512	309.4	6598	0.83	37.46	797	16.30	21.38	310	1376	165		76.6	0.00
Hilleshog 7217Rz	546	319.7	5846	0.89	39.78	728	16.88	18.27	244	1547	195		74.8	0.00
Hilleshog 7218Rz	532	309.5	5623	0.93	37.49	680	16.40	18.20	339	1457	208		73.3	0.00
Hilleshog 7220Rz	557	305.1	6087	0.83	36.50	727	16.09	19.97	286	1424	162		80.7	0.00
Hilleshog 7221Rz	508	305.0	6452	0.88	36.46	772	16.13	21.14	330	1475	175		75.3	0.00
Hilleshog 7223Rz	541	314.3	5439	0.78	38.57	667	16.50	17.30	187	1421	163		74.0	0.07
Holly 03HX317 Rzm	528	315.1	6747	0.80	38.74	830	16.55	21.39	193	1416	174		76.2	0.22
Holly 03HX323 Rzm	519	322.3	6645	0.83	40.38	831	16.95	20.64	258	1355	191		80.4	0.00
Holly 03HX324 Rzm	506	313.7	6473	0.82	38.42	792	16.51	20.67	206	1398	193		72.8	0.00
Holly 03HX364 Rzm	550	308.5	6447	0.82	37.27	778	16.24	20.90	195	1407	189		73.1	0.00
Holly 04HX448 Rzm	523	308.4	6771	0.87	37.24	819	16.28	21.92	210	1469	204		67.3	0.07
Holly 04HX449 Rzm	554	315.0	6461	0.85	38.73	796	16.60	20.47	195	1476	196		75.8	0.07
Seedex Prizm(SX0924 Aph & Rzm)	531	325.4	6088	0.78	41.07	767	17.05	18.74	181	1397	168		57.2	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	323.8	5525	0.77	40.70	695	16.96	17.05	158	1378	172		63.1	0.00
Seedex SX0831(Rzm)	510	333.2	5898	0.77	42.82	757	17.42	17.72	207	1288	176		66.0	0.00
Seedex SX0833(Rzm)	543	306.4	5502	0.92	36.80	661	16.24	17.95	282	1556	201		70.4	0.00
Van der Have H46177(Aph & Rzm)	509	320.0	5464	0.79	39.85	680	16.79	17.10	196	1412	169		56.5	0.00
Van der Have H46519(Rzm)	549	302.8	7064	0.82	35.97	840	15.95	23.32	251	1367	180		86.3	0.00
Van der Have H46530(Rzm)	537	313.7	7203	0.81	38.43	883	16.50	22.95	189	1415	185		82.1	0.07
Van der Have H46531(Rzm)	534	317.7	7185	0.82	39.33	889	16.70	22.63	201	1436	180		70.1	0.00
Van der Have H46532(Rzm)	501	308.7	7232	0.80	37.30	873	16.24	23.45	199	1343	192		70.9	0.00
Van der Have H46533(Rzm)	544	307.1	6637	0.82	36.94	799	16.17	21.60	234	1479	155		79.5	0.00
Van der Have H46733(Rzm 66733)	507	316.2	6692	0.82	38.98	826	16.62	21.16	223	1435	171		62.4	0.00
Van der Have H47150(Rzm)	520	301.7	7192	0.87	35.72	852	15.95	23.82	182	1466	218		75.0	0.07
Van der Have H47151(Rzm)	530	311.7	6996	0.84	37.98	852	16.43	22.46	180	1501	188		59.7	1.00
Susc 3N - Mod Aph	560	323.9	5837	0.89	40.73	734	17.08	18.02	301	1452	194		68.9	0.00
RZ Very Susc 2N - Aph Tol	561	290.8	3471	0.82	33.27	401	15.36	11.83	251	1443	163		65.3	0.00
Susc 3N - Aph Tol	562	308.1	5512	0.85	37.17	667	16.26	17.82	269	1461	176		57.9	0.00
Susc 2N - Mod Aph	563	313.5	5137	0.85	38.38	631	16.53	16.31	264	1314	214		72.9	0.00
Very Susc 2N - Aph Tol #2	564	301.0	4511	0.77	35.57	535	15.82	14.91	264	1280	161		74.8	0.00
Check Mean		313.9	6148	0.86	38.47	754	16.55	19.59	246	1443	190			
Coeff. of Var. (%)		2.3	11.3	5.7	4.1	12.1	2.1	10.9	17.7	5.6	9.6			
F Value		7.6	7.2	6.5	7.6	6.5	7.8	8.3	6.0	5.5	7.8		4.4	
Mean LSD (0.05)		8.4	830	0.06	1.88	108	0.40	2.53	52	96	22		10.7	
Mean LSD (0.01)		11.0	1093	0.08	2.48	142	0.53	3.33	68	126	29		14.1	

* 2004 Data from Averill, MN.

Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected.

Trial # = 048671

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 27

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Halstad, MN - Slight Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	297.7	7373	1.05	34.82	864	15.93	24.73	166	1851	261		44.5	0.00
Beta 4797(BX1197 Rzm)	515	313.3	7267	1.00	38.35	890	16.66	23.17	152	1886	215		64.9	0.00
Beta 4818R(Aph & Rzm)	555	310.8	6870	0.92	37.77	835	16.46	22.11	179	1753	186		58.5	0.00
Beta BX1301(Rhc & Rzm)	524	288.3	7184	1.05	32.73	817	15.46	24.84	165	1940	237		65.6	0.00
Beta BX1303(Rzm)	538	304.8	7245	0.99	36.43	865	16.23	23.77	155	1859	219		60.2	0.00
Beta BX1451(Rzm)	505	282.8	7564	0.96	31.48	845	15.10	26.62	169	1815	198		61.2	0.00
Beta BX1452(Rzm)	552	305.0	7596	0.98	36.48	909	16.23	24.87	184	1864	197		66.2	0.00
Beta BX1453(Rzm)	514	302.5	6627	1.04	35.90	785	16.16	21.98	182	2009	208		51.3	0.00
Beta BX1454(Rzm)	547	316.1	7591	0.96	38.97	936	16.77	24.00	158	1863	195		67.5	0.00
Beta BX1455(Rzm)	502	299.1	6806	1.00	35.14	800	15.95	22.74	191	1799	229		67.5	0.09
Beta BX1456(Rzm)	540	309.7	6761	0.96	37.53	819	16.45	21.83	169	1746	219		60.4	0.00
Beta BX1457(Rzm)	556	298.6	7662	1.03	35.03	899	15.96	25.65	140	1966	228		66.2	0.00
Beta BX1458(Rzm)	527	319.0	6499	1.01	39.63	808	16.96	20.34	155	1958	211		61.9	0.00
Beta BX1459(Rzm)	517	318.4	7553	0.95	39.49	937	16.87	23.71	132	1881	188		64.0	0.00
Crystal R306	525	312.0	7269	0.99	38.04	886	16.59	23.29	186	1817	217		61.8	0.00
Crystal R308	539	319.9	7091	0.96	39.83	884	16.95	22.12	143	1804	209		55.8	0.00
Crystal R431	513	298.1	7611	1.06	34.92	891	15.96	25.55	174	1992	228		66.7	0.00
Crystal R432	553	300.6	7233	0.94	35.49	853	15.97	24.13	205	1811	173		66.3	0.00
Crystal R433	522	308.7	6703	0.98	37.30	809	16.41	21.73	176	1828	206		60.4	0.52
Crystal R434	535	303.2	7936	1.08	36.07	944	16.24	26.17	190	1882	267		62.2	0.00
Crystal R435	548	309.6	6953	0.96	37.50	842	16.44	22.45	153	1797	210		57.4	0.00
Crystal R436	511	292.7	7260	1.06	33.71	837	15.70	24.77	182	2032	220		60.2	0.00
Crystal R437	503	311.0	7196	0.91	37.82	876	16.46	23.09	170	1732	185		59.1	0.00
Crystal R438	545	312.9	7851	0.96	38.25	960	16.60	25.08	171	1775	211		51.1	0.00
Crystal R439	526	313.6	7540	0.95	38.41	924	16.63	24.03	168	1790	203		56.6	0.00
Crystal R826(Rzm)	516	316.8	7639	1.01	39.13	941	16.85	24.18	191	1909	206		57.0	0.00
Filler#6 (3N mod Tolerance)	518	318.7	4231	1.01	39.56	528	16.94	13.17	168	1950	203		72.1	0.00
Hilleshog 2411Rz	542	306.5	6166	0.99	36.82	739	16.31	20.15	219	1661	242		56.9	0.00
Hilleshog 2463Rz(7163)	529	308.4	7049	0.99	37.23	851	16.41	22.84	213	1857	197		57.9	0.00
Hilleshog 2467Rz(7167)	521	303.6	6717	0.98	36.15	800	16.16	22.12	217	1795	202		65.5	0.00
Hilleshog 2469Rz(7169 Aph)	551	301.6	7104	0.97	35.70	840	16.04	23.59	196	1870	182		55.2	0.00
Hilleshog 2480Rz(7180)	504	302.5	6030	0.98	35.91	717	16.10	19.90	216	1673	233		61.5	0.00
Hilleshog 2496Rz(7196)	533	306.6	7085	0.94	36.84	852	16.27	23.08	190	1634	224		68.4	0.00
Hilleshog 7172Rz	558	294.2	6103	0.97	34.04	708	15.68	20.71	248	1745	198		61.7	0.00
Hilleshog 7215Rz	512	296.6	6865	0.98	34.58	800	15.81	23.14	235	1803	199		65.4	0.00
Hilleshog 7217Rz	546	309.1	6784	1.03	37.39	820	16.48	21.96	181	1992	204		64.8	0.00
Hilleshog 7218Rz	532	302.7	6689	0.99	35.95	796	16.12	22.05	205	1837	200		62.5	0.00
Hilleshog 7220Rz	557	294.5	7309	0.95	34.11	849	15.68	24.73	204	1821	180		71.2	0.00
Hilleshog 7221Rz	508	295.0	7105	0.90	34.23	823	15.66	24.13	176	1828	151		72.5	0.00
Hilleshog 7223Rz	541	308.4	6449	0.88	37.23	780	16.30	20.89	117	1790	162		68.3	0.11
Holly 03HX317 Rzm	528	306.2	7570	0.89	36.75	909	16.20	24.69	124	1710	190		69.2	0.17
Holly 03HX323 Rzm	519	304.7	7828	0.96	36.41	934	16.20	25.74	191	1745	215		65.9	0.00
Holly 03HX324 Rzm	506	293.6	7029	0.88	33.92	814	15.56	23.87	148	1742	167		69.6	0.07
Holly 03HX364 Rzm	550	290.3	7167	0.88	33.17	816	15.39	24.78	135	1705	178		72.9	0.00
Holly 04HX448 Rzm	523	296.7	7223	0.96	34.60	841	15.79	24.43	145	1831	206		58.3	0.00
Holly 04HX449 Rzm	554	304.0	6772	0.92	36.26	807	16.13	22.27	127	1793	194		67.7	0.09
Seedex Prizm(SX0924 Aph & Rzm)	531	315.8	6773	0.88	38.90	834	16.67	21.45	137	1742	171		63.6	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	311.0	6620	0.89	37.82	804	16.44	21.30	135	1748	178		59.7	0.00
Seedex SX0831(Rzm)	510	315.8	7268	0.82	38.91	895	16.61	23.05	131	1591	165		71.9	0.00
Seedex SX0833(Rzm)	543	295.3	6274	1.07	34.28	731	15.83	21.16	217	2019	214		62.9	0.00
Van der Have H46177(Aph & Rzm)	509	311.7	6919	0.89	37.97	842	16.48	22.22	131	1704	192		66.1	0.00
Van der Have H46519(Rzm)	549	288.1	8143	0.99	32.68	924	15.40	28.27	162	1947	195		79.5	0.00
Van der Have H46530(Rzm)	537	297.7	7416	0.93	34.83	867	15.81	24.91	129	1795	197		69.6	0.11
Van der Have H46531(Rzm)	534	291.6	7172	0.92	33.46	822	15.50	24.63	183	1737	189		68.7	0.00
Van der Have H46532(Rzm)	501	297.2	7917	0.93	34.72	926	15.79	26.60	162	1724	204		63.2	0.00
Van der Have H46533(Rzm)	544	290.6	7817	0.98	33.24	895	15.51	26.86	182	1969	168		73.1	0.00
Van der Have H46733(Rzm 66733)	507	302.8	6545	0.91	35.99	778	16.05	21.59	146	1748	184		58.5	0.00
Van der Have H47150(Rzm)	520	287.2	7073	0.98	32.47	800	15.34	24.63	132	1824	224		67.9	0.09
Van der Have H47151(Rzm)	530	302.4	7193	0.90	35.88	854	16.02	23.78	130	1733	190		63.4	0.60
Susc 3N - Mod Aph	560	320.9	6188	0.97	40.05	774	17.02	19.22	175	1862	197		63.9	0.00
RZ Very Susc 2N - Aph Tol	561	298.2	6031	0.93	34.95	708	15.84	20.18	155	1817	183		58.1	0.00
Susc 3N - Aph Tol	562	311.1	6951	0.91	37.85	847	16.47	22.30	171	1723	186		62.8	0.00
Susc 2N - Mod Aph	563	305.3	6450	1.01	36.53	775	16.27	21.03	176	1868	221		59.9	0.00
Very Susc 2N - Aph Tol #2	564	284.8	4980	0.96	31.93	561	15.20	17.41	185	1795	204		69.3	0.00
Check Mean		303.7	6998	0.96	36.18	833	16.15	23.06	170	1820	202		63.5	
Coeff. of Var. (%)		2.2	7.3	4.2	4.1	7.8	2.0	7.4	13.7	3.7	8.5		13.6	
F Value		8.2	6.5	7.3	8.2	5.8	8.7	7.6	6.1	8.8	6.4		2.3	
Mean LSD (0.05)		9.5	736	0.06	2.13	93	0.45	2.45	33	96	25		11.0	
Mean LSD (0.01)		12.5	971	0.08	2.81	123	0.60	3.24	44	127	33		14.5	

* 2004 Data from Averill, MN. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048674

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs. About 60% of the trial was harvested. Wet soil conditions prevented additional harvest.

Table 28

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Crookston, MN - Slight Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	310.4	7174	1.00	37.70	871	16.52	23.11	209	1724	243		38.0	0.00
Beta 4797(BX1197 Rzm)	515	317.9	7088	0.88	39.37	879	16.77	22.25	209	1597	183		60.9	0.00
Beta 4818R(Aph & Rzm)	555	319.9	7281	0.89	39.82	906	16.88	22.77	202	1582	193		75.3	0.00
Beta BX1301(Rhc & Rzm)	524	299.0	7799	0.95	35.12	917	15.90	26.01	209	1624	233		77.6	0.00
Beta BX1303(Rzm)	538	308.8	7029	0.99	37.33	848	16.43	22.84	199	1807	214		64.1	0.14
Beta BX1451(Rzm)	505	297.9	7480	0.92	34.88	875	15.81	25.14	243	1592	200		65.4	0.00
Beta BX1452(Rzm)	552	325.0	7350	0.92	40.96	926	17.17	22.67	212	1656	199		80.0	0.07
Beta BX1453(Rzm)	514	313.8	6995	0.98	38.46	856	16.67	22.35	206	1796	205		59.9	0.07
Beta BX1454(Rzm)	547	318.3	7176	0.87	39.47	888	16.79	22.65	189	1599	183		58.9	0.00
Beta BX1455(Rzm)	502	313.2	7055	0.98	38.31	863	16.63	22.57	212	1654	240		77.3	0.00
Beta BX1456(Rzm)	540	324.5	7053	0.87	40.87	889	17.10	21.76	194	1608	177		70.8	0.00
Beta BX1457(Rzm)	556	300.6	6605	0.99	35.48	782	16.02	21.93	205	1711	236		76.6	0.00
Beta BX1458(Rzm)	527	322.9	6486	0.91	40.49	812	17.06	20.12	195	1633	203		67.2	0.00
Beta BX1459(Rzm)	517	311.1	6759	0.96	37.84	822	16.52	21.71	231	1596	239		78.7	0.07
Crystal R306	525	320.3	7132	0.88	39.93	889	16.89	22.30	204	1556	192		67.7	0.00
Crystal R308	539	319.0	7652	0.85	39.63	951	16.80	23.92	164	1588	176		74.5	0.00
Crystal R431	513	314.0	7287	0.97	38.50	895	16.67	23.19	181	1782	216		74.2	0.00
Crystal R432	553	308.2	7931	0.90	37.20	956	16.31	25.83	228	1646	179		75.3	0.00
Crystal R433	522	318.6	6172	0.98	39.53	767	16.91	19.36	199	1694	238		67.7	1.21
Crystal R434	535	310.4	8091	1.04	37.69	982	16.56	26.06	237	1728	261		62.5	0.00
Crystal R435	548	310.2	6947	0.88	37.64	843	16.39	22.35	208	1573	193		62.8	0.00
Crystal R436	511	307.9	6920	1.00	37.12	834	16.40	22.53	230	1790	218		56.0	0.00
Crystal R437	503	316.0	7078	0.86	38.96	871	16.66	22.46	183	1598	174		72.7	0.00
Crystal R438	545	313.3	7048	0.91	38.34	862	16.58	22.48	216	1539	220		68.8	0.00
Crystal R439	526	321.0	7064	0.92	40.07	881	16.97	21.99	203	1625	206		71.1	0.00
Crystal R826(Rzm)	516	316.3	6545	0.99	39.01	808	16.80	20.68	262	1738	208		71.9	0.00
Filler#6 (3N mod Tolerance)	518	309.3	3251	0.95	37.44	393	16.41	10.49	227	1783	178		2.7	0.00
Hilleshog 2411Rz	542	320.3	6489	0.89	39.93	810	16.91	20.25	205	1526	212		75.8	0.00
Hilleshog 2463Rz(7163)	529	307.3	6579	0.90	36.98	790	16.27	21.46	249	1604	184		68.0	0.00
Hilleshog 2467Rz(7167)	521	310.5	7367	0.91	37.71	895	16.43	23.69	228	1550	211		73.4	0.00
Hilleshog 2469Rz(7169 Aph)	551	299.9	6697	0.89	35.32	790	15.88	22.25	264	1614	163		68.5	0.00
Hilleshog 2480Rz(7180)	504	310.2	6306	0.87	37.64	766	16.39	20.28	234	1471	202		77.6	0.00
Hilleshog 2496Rz(7196)	533	305.9	6641	0.89	36.68	797	16.19	21.69	251	1494	204		77.4	0.00
Hilleshog 7172Rz	558	301.0	6085	0.85	35.58	717	15.91	20.23	237	1534	170		75.3	0.00
Hilleshog 7215Rz	512	304.3	7424	0.90	36.31	886	16.12	24.39	295	1542	184		76.3	0.00
Hilleshog 7217Rz	546	312.7	6929	0.96	38.21	846	16.59	22.18	215	1695	214		73.2	0.00
Hilleshog 7218Rz	532	316.5	6777	0.88	39.07	838	16.70	21.37	209	1522	197		68.5	0.00
Hilleshog 7220Rz	557	298.0	6885	0.94	34.89	806	15.84	23.08	270	1614	202		78.1	0.00
Hilleshog 7221Rz	508	304.4	6921	0.89	36.34	826	16.12	22.74	242	1653	168		76.3	0.00
Hilleshog 7223Rz	541	315.7	6279	0.85	38.89	774	16.64	19.84	170	1572	182		79.2	0.07
Holly 03HX317 Rzm	528	313.7	7026	0.82	38.44	860	16.51	22.41	170	1516	171		81.5	0.43
Holly 03HX323 Rzm	519	317.9	7050	0.84	39.37	873	16.73	22.15	194	1522	177		81.5	0.07
Holly 03HX324 Rzm	506	318.3	7426	0.81	39.46	922	16.72	23.28	147	1536	165		80.5	0.00
Holly 03HX364 Rzm	550	307.7	7957	0.87	37.09	959	16.26	25.87	150	1540	214		75.5	0.07
Holly 04HX448 Rzm	523	306.8	7903	0.86	36.87	950	16.20	25.76	157	1522	204		73.4	0.00
Holly 04HX449 Rzm	554	312.7	6958	0.89	38.20	850	16.52	22.24	159	1568	213		84.1	0.29
Seedex Prizm(SX0924 Aph & Rzm)	531	320.5	6522	0.84	39.95	814	16.86	20.31	166	1542	180		68.2	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	322.4	6669	0.85	40.39	835	16.97	20.69	154	1573	189		75.5	0.00
Seedex SX0831(Rzm)	510	331.9	6772	0.78	42.54	869	17.38	20.39	157	1461	163		71.9	0.00
Seedex SX0833(Rzm)	543	302.6	6755	1.03	35.93	804	16.16	22.25	262	1763	236		74.0	0.21
Van der Have H46177(Aph & Rzm)	509	316.4	6341	0.84	39.04	783	16.66	20.05	171	1543	180		74.5	0.07
Van der Have H46519(Rzm)	549	301.3	8423	0.87	35.63	997	15.94	27.92	190	1622	178		79.7	0.21
Van der Have H46530(Rzm)	537	309.9	8001	0.86	37.57	971	16.36	25.79	157	1561	198		82.3	0.00
Van der Have H46531(Rzm)	534	313.6	7584	0.83	38.40	929	16.50	24.20	165	1524	176		78.4	0.00
Van der Have H46532(Rzm)	501	311.5	8476	0.87	37.95	1030	16.45	27.32	169	1561	201		75.3	0.00
Van der Have H46533(Rzm)	544	305.9	7998	0.93	36.68	960	16.22	26.06	203	1727	187		87.2	0.21
Van der Have H46733(Rzm 66733)	507	312.5	7182	0.87	38.17	876	16.50	23.06	181	1581	193		65.4	0.00
Van der Have H47150(Rzm)	520	303.0	7276	0.93	36.02	864	16.08	24.02	147	1640	234		83.6	0.00
Van der Have H47151(Rzm)	530	312.5	7488	0.86	38.15	913	16.48	24.03	164	1615	175		71.9	1.21
Susc 3N - Mod Aph	560	319.7	6168	0.88	39.78	768	16.87	19.27	189	1612	186		72.4	0.00
RZ Very Susc 2N - Aph Tol	561	291.6	4984	0.84	33.46	572	15.42	17.13	218	1533	162		74.0	0.00
Susc 3N - Aph Tol	562	311.0	6353	0.85	37.82	776	16.40	20.36	214	1494	182		69.0	0.00
Susc 2N - Mod Aph	563	307.6	6257	0.88	37.06	753	16.26	20.35	223	1499	203		72.7	0.00
Very Susc 2N - Aph Tol #2	564	292.2	4902	0.79	33.61	562	15.41	16.82	214	1438	156		78.4	0.00
Check Mean		311.5	6942	0.90	37.94	845	16.48	22.29	204	1605	197		71.5	
Coeff. of Var. (%)		2.5	6.4	5.0	4.7	7.3	2.3	6.2	17.5	5.0	11.8		11.1	
F Value		5.7	18.1	9.0	5.7	14.4	5.8	20.6	4.8	6.9	5.6		13.1	
Mean LSD (0.05)		9.4	531	0.05	2.11	74	0.46	1.63	43	95	28		9.0	
Mean LSD (0.01)		12.4	699	0.07	2.78	97	0.60	2.14	56	126	36		11.9	

* 2004 Data from Averill, MN. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048676

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 29

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Felton, MN - Moderate Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	297.9	7447	1.30	34.87	873	16.20	24.94	348	1796	402		36.7	0.00
Beta 4797(BX1197 Rzm)	515	294.3	6145	1.11	34.07	714	15.82	20.81	425	1552	290		58.4	0.00
Beta 4818R(Aph & Rzm)	555	295.8	5486	1.03	34.41	639	15.82	18.51	443	1492	241		77.3	0.00
Beta BX1301(Rhc & Rzm)	524	291.8	7753	1.24	33.50	880	15.83	26.89	269	1784	392		77.4	0.00
Beta BX1303(Rzm)	538	288.7	5891	1.14	32.82	666	15.58	20.50	384	1587	317		70.7	0.00
Beta BX1451(Rzm)	505	287.3	7673	1.17	32.50	868	15.54	26.69	459	1578	322		60.7	0.00
Beta BX1452(Rzm)	552	285.4	6018	1.09	32.06	677	15.36	21.07	463	1542	269		72.0	0.07
Beta BX1453(Rzm)	514	281.9	6497	1.21	31.27	719	15.30	23.10	482	1703	307		65.5	0.00
Beta BX1454(Rzm)	547	297.5	6074	1.03	34.79	707	15.91	20.53	363	1497	272		61.8	0.00
Beta BX1455(Rzm)	502	292.6	6777	1.21	33.69	782	15.84	23.10	440	1629	342		77.3	0.00
Beta BX1456(Rzm)	540	290.8	5422	1.02	33.27	620	15.57	18.64	403	1524	240		73.8	0.07
Beta BX1457(Rzm)	556	280.4	5982	1.21	30.93	662	15.23	21.27	394	1682	349		71.9	0.00
Beta BX1458(Rzm)	527	309.3	5952	0.98	37.44	720	16.44	19.26	346	1469	244		64.0	0.00
Beta BX1459(Rzm)	517	299.0	5736	1.05	35.11	677	16.00	19.09	387	1494	278		77.3	0.00
Crystal R306	525	286.7	5431	1.08	32.36	614	15.42	18.93	414	1455	300		71.8	0.00
Crystal R308	539	299.4	6112	1.06	35.22	722	16.03	20.32	336	1576	278		71.5	0.07
Crystal R431	513	294.0	6584	1.15	34.01	765	15.85	22.30	362	1722	298		69.6	0.00
Crystal R432	553	273.7	6168	1.09	29.44	672	14.77	22.28	595	1489	230		71.3	0.00
Crystal R433	522	299.5	5642	1.11	35.23	665	16.08	18.80	365	1591	308		68.4	0.14
Crystal R434	535	287.6	8080	1.37	32.56	915	15.75	28.11	431	1781	429		65.7	0.00
Crystal R435	548	284.8	5004	1.03	31.92	557	15.27	17.70	403	1484	258		69.4	0.14
Crystal R436	511	281.2	5829	1.15	31.11	647	15.21	20.66	445	1641	289		71.7	0.00
Crystal R437	503	294.5	5416	0.94	34.11	627	15.67	18.36	366	1388	229		69.9	0.00
Crystal R438	545	306.8	6439	1.08	36.87	773	16.42	21.04	399	1484	299		62.1	0.00
Crystal R439	526	291.5	5818	1.09	33.43	667	15.67	19.94	435	1570	272		62.1	0.00
Crystal R826(Rzm)	516	299.8	5397	1.07	35.31	632	16.06	18.09	515	1489	244		69.5	0.00
Filler#6 (3N mod Tolerance)	518	303.1	2418	1.06	36.05	289	16.22	7.93	357	1681	243			0.00
Hilleshog 2411Rz	542	295.4	5706	1.13	34.31	658	15.90	19.45	457	1482	317		79.7	0.00
Hilleshog 2463Rz(7163)	529	274.5	5068	1.15	29.62	547	14.88	18.45	642	1460	265		72.0	0.00
Hilleshog 2467Rz(7167)	521	284.0	6245	1.16	31.75	700	15.36	21.92	564	1543	283		74.6	0.00
Hilleshog 2469Rz(7169 Aph)	551	277.1	5009	1.12	30.20	544	14.98	18.13	506	1649	247		67.3	0.00
Hilleshog 2480Rz(7180)	504	299.5	5802	1.07	35.23	684	16.04	19.35	468	1379	291		75.0	0.00
Hilleshog 2496Rz(7196)	533	289.7	5823	1.10	33.02	665	15.58	20.06	467	1448	297		74.5	0.00
Hilleshog 7172Rz	558	284.9	5157	1.15	31.95	578	15.38	18.12	596	1576	252		74.0	0.00
Hilleshog 7215Rz	512	273.1	6079	1.16	29.29	649	14.82	22.35	726	1417	258		80.7	0.00
Hilleshog 7217Rz	546	282.1	5631	1.11	31.33	625	15.21	19.97	448	1638	260		79.9	0.00
Hilleshog 7218Rz	532	297.8	6220	1.09	34.86	730	15.97	20.85	378	1580	285		72.5	0.00
Hilleshog 7220Rz	557	282.8	5212	0.99	31.47	584	15.13	18.33	383	1455	240		77.3	0.00
Hilleshog 7221Rz	508	273.6	5117	1.06	29.40	550	14.74	18.72	601	1441	218		81.1	0.00
Hilleshog 7223Rz	541	302.8	5037	0.92	35.99	600	16.06	16.58	275	1379	243		83.8	0.14
Holly 03HX317 Rzm	528	292.3	5809	0.95	33.61	669	15.56	19.84	315	1397	249		80.8	0.79
Holly 03HX323 Rzm	519	301.1	5944	0.96	35.60	699	16.01	19.82	337	1371	254		80.3	0.00
Holly 03HX324 Rzm	506	300.0	6232	0.95	35.35	733	15.95	20.82	274	1484	241		78.0	0.00
Holly 03HX364 Rzm	550	288.3	6054	1.02	32.72	691	15.44	20.88	318	1477	281		82.4	0.00
Holly 04HX448 Rzm	523	292.5	6673	0.99	33.66	767	15.62	22.84	315	1471	265		70.1	0.00
Holly 04HX449 Rzm	554	297.5	5649	0.94	34.80	661	15.82	18.96	229	1404	274		84.4	0.22
Seedex Prizm(SX0924 Aph & Rzm)	531	305.7	5498	0.93	36.62	662	16.21	17.89	299	1391	242		72.7	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	301.7	4973	0.98	35.73	585	16.06	16.57	320	1431	260		74.7	0.07
Seedex SX0831(Rzm)	510	305.0	5578	0.93	36.47	666	16.18	18.29	394	1254	239		71.3	0.00
Seedex SX0833(Rzm)	543	287.3	4988	1.14	32.50	568	15.51	17.25	464	1656	275		75.3	0.00
Van der Have H46177(Aph & Rzm)	509	302.6	5287	0.92	35.93	629	16.05	17.46	300	1385	234		74.8	0.00
Van der Have H46519(Rzm)	549	277.1	6735	1.03	30.20	736	14.89	24.21	415	1461	253		87.9	0.00
Van der Have H46530(Rzm)	537	286.9	6244	1.01	32.41	707	15.36	21.73	323	1465	272		84.4	0.07
Van der Have H46531(Rzm)	534	284.8	5869	1.03	31.93	659	15.27	20.56	428	1370	274		80.3	0.00
Van der Have H46532(Rzm)	501	290.9	6902	0.99	33.31	789	15.54	23.76	366	1369	271		71.1	0.00
Van der Have H46533(Rzm)	544	281.5	6475	1.07	31.18	720	15.14	22.95	459	1555	245		85.9	0.07
Van der Have H46733(Rzm 66733)	507	293.0	5662	0.97	33.78	651	15.62	19.38	352	1413	251		65.0	0.00
Van der Have H47150(Rzm)	520	282.5	5999	1.09	31.41	669	15.21	21.17	264	1576	328		75.9	0.00
Van der Have H47151(Rzm)	530	291.5	5669	1.00	33.43	653	15.57	19.37	296	1519	264		71.1	1.28
Susc 3N - Mod Aph	560	291.5	4573	1.08	33.44	526	15.66	15.62	492	1554	241		78.1	0.00
RZ Very Susc 2N - Aph Tol	561	257.2	2730	1.07	25.73	275	13.93	10.54	501	1576	224		76.5	0.00
Susc 3N - Aph Tol	562	288.4	5175	1.04	32.74	592	15.46	17.80	432	1515	243		68.3	0.00
Susc 2N - Mod Aph	563	290.6	4200	1.03	33.23	490	15.56	14.17	447	1305	284		76.0	0.00
Very Susc 2N - Aph Tol #2	564	264.2	2895	1.07	27.29	310	14.28	10.60	483	1647	213		73.0	0.00
Check Mean		290.1	5736	1.07	33.12	656	15.58	19.74	412	1518	275			
Coeff. of Var. (%)		4.2	9.8	7.9	8.3	12.5	3.6	8.6	23.7	6.8	12.9			
F Value		3.8	16.5	6.6	3.8	10.7	4.0	21.7	5.2	6.9	7.8		8.5	
Mean LSD (0.05)		14.8	677	0.10	3.32	99	0.68	2.03	117	124	42		7.6	
Mean LSD (0.01)		19.4	892	0.13	4.37	130	0.90	2.68	154	164	55		10.0	

* 2004 Data from Felton, MN. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048673

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 30

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Averill, MN - Severe Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	288.5	6025	1.24	32.77	684	15.66	20.92	294	1762	384		36.4	0.00
Beta 4797(BX1197 Rzm)	515	302.5	5564	1.01	35.91	661	16.14	18.37	241	1596	269		58.3	0.00
Beta 4818R(Aph & Rzm)	555	301.5	4394	0.98	35.69	522	16.06	14.49	262	1555	250		73.6	0.00
Beta BX1301(Rhc & Rzm)	524	286.8	6866	1.25	32.38	778	15.58	23.88	284	1821	381		72.2	0.00
Beta BX1303(Rzm)	538	286.3	5584	1.17	32.27	631	15.49	19.46	295	1784	325		58.3	0.00
Beta BX1451(Rzm)	505	288.1	6622	1.16	32.67	749	15.57	23.03	329	1687	333		55.8	0.00
Beta BX1452(Rzm)	552	297.0	6337	1.13	34.67	742	15.97	21.30	353	1616	318		71.5	0.09
Beta BX1453(Rzm)	514	294.7	6423	1.13	34.16	743	15.86	21.83	315	1720	305		58.2	0.00
Beta BX1454(Rzm)	547	309.2	5096	1.01	37.42	617	16.48	16.43	214	1607	281		64.3	0.00
Beta BX1455(Rzm)	502	288.1	5891	1.18	32.68	670	15.58	20.41	335	1635	354		66.1	0.00
Beta BX1456(Rzm)	540	309.0	5474	1.01	37.37	663	16.46	17.71	286	1569	264		72.1	0.00
Beta BX1457(Rzm)	556	294.7	6311	1.12	34.17	730	15.85	21.44	238	1759	311		70.9	0.00
Beta BX1458(Rzm)	527	310.2	5321	0.99	37.64	647	16.50	17.09	243	1544	267		57.7	0.00
Beta BX1459(Rzm)	517	306.7	5533	0.96	36.86	664	16.30	18.08	228	1492	265		66.7	0.00
Crystal R306	525	290.3	5073	1.05	33.16	580	15.56	17.47	276	1568	297		72.9	0.00
Crystal R308	539	301.2	4942	1.01	35.62	584	16.07	16.41	234	1570	282		72.6	0.00
Crystal R431	513	306.7	6035	1.07	36.86	726	16.42	19.63	199	1768	287		65.0	0.00
Crystal R432	553	283.0	5244	1.08	31.52	584	15.23	18.53	383	1673	253		70.7	0.00
Crystal R433	522	305.3	5275	1.13	36.54	631	16.40	17.28	261	1697	329		61.6	0.34
Crystal R434	535	283.2	6436	1.35	31.56	718	15.50	22.74	369	1856	420		60.8	0.00
Crystal R435	548	294.3	4746	1.08	34.07	550	15.79	16.11	286	1697	278		66.0	0.00
Crystal R436	511	291.0	5612	1.11	33.32	642	15.65	19.30	299	1732	290		60.0	0.00
Crystal R437	503	300.7	4885	0.94	35.52	573	15.97	16.37	232	1525	236		61.0	0.00
Crystal R438	545	313.4	5548	0.95	38.37	681	16.63	17.65	206	1530	257		57.1	0.00
Crystal R439	526	307.6	5392	0.96	37.06	649	16.34	17.55	238	1492	260		59.1	0.00
Crystal R826(Rzm)	516	318.6	5484	1.00	39.54	682	16.93	17.16	277	1566	260		69.1	0.00
Filler#6 (3N mod Tolerance)	518	313.3	1693	1.01	38.35	218	16.69	5.06	258	1664	246		89.8	0.00
Hilleshog 2411Rz	542	311.7	5009	1.08	37.99	605	16.67	16.22	279	1516	332		70.9	0.00
Hilleshog 2463Rz(7163)	529	287.5	5114	1.14	32.53	578	15.51	17.80	358	1667	308		74.8	0.00
Hilleshog 2467Rz(7167)	521	297.0	5766	1.11	34.68	671	15.95	19.47	321	1703	287		67.8	0.00
Hilleshog 2469Rz(7169 Aph)	551	282.4	4943	1.01	31.40	549	15.14	17.51	355	1667	213		68.0	0.00
Hilleshog 2480Rz(7180)	504	305.6	4759	1.15	36.60	568	16.42	15.66	335	1591	349		63.9	0.00
Hilleshog 2496Rz(7196)	533	307.9	5139	1.07	37.12	619	16.46	16.73	291	1564	305		70.5	0.17
Hilleshog 7172Rz	558	294.2	4993	1.10	34.05	577	15.81	17.03	372	1719	261		70.7	0.00
Hilleshog 7215Rz	512	282.8	5594	1.07	31.47	622	15.20	19.80	402	1608	254		77.8	0.00
Hilleshog 7217Rz	546	297.4	5455	1.08	34.77	638	15.95	18.34	297	1666	284		78.1	0.00
Hilleshog 7218Rz	532	305.3	4939	1.03	36.54	591	16.30	16.21	275	1626	270		59.2	0.00
Hilleshog 7220Rz	557	281.1	5588	1.07	31.11	618	15.13	19.91	379	1648	255		72.7	0.00
Hilleshog 7221Rz	508	288.9	5053	1.01	32.86	575	15.45	17.48	367	1551	234		83.8	0.00
Hilleshog 7223Rz	541	314.4	4579	0.88	38.60	567	16.61	14.44	172	1479	228		81.5	0.09
Holly 03HX317 Rzm	528	296.4	5355	0.99	34.53	624	15.80	18.08	249	1546	264		74.5	0.43
Holly 03HX323 Rzm	519	306.1	5885	0.97	36.72	706	16.28	19.19	251	1478	268		71.9	0.00
Holly 03HX324 Rzm	506	305.7	5476	0.96	36.64	658	16.24	17.89	216	1524	261		79.1	0.09
Holly 03HX364 Rzm	550	304.9	5873	0.96	36.45	703	16.21	19.24	173	1517	282		82.5	0.00
Holly 04HX448 Rzm	523	298.9	6360	0.99	35.09	750	15.93	21.20	161	1573	289		66.6	0.00
Holly 04HX449 Rzm	554	298.1	4994	1.02	34.93	581	15.92	16.86	207	1525	307		74.2	0.09
Seedex Prizm(SX0924 Aph & Rzm)	531	308.9	4563	0.91	37.34	550	16.36	14.82	186	1478	248		74.3	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	309.2	4803	0.90	37.43	576	16.35	15.71	222	1442	230		72.1	0.00
Seedex SX0831(Rzm)	510	315.9	5391	0.97	38.94	663	16.77	17.10	223	1489	278		65.7	0.00
Seedex SX0833(Rzm)	543	287.7	4751	1.16	32.57	538	15.55	16.51	326	1762	314		67.2	0.09
Van der Have H46177(Aph & Rzm)	509	313.8	4724	0.91	38.44	574	16.59	15.21	203	1497	230		68.0	0.00
Van der Have H46519(Rzm)	549	288.8	6748	1.04	32.83	766	15.48	23.40	284	1627	272		83.5	0.09
Van der Have H46530(Rzm)	537	286.2	5914	1.10	32.25	665	15.41	20.73	238	1708	315		69.4	0.09
Van der Have H46531(Rzm)	534	300.8	6081	0.95	35.53	719	16.00	20.17	231	1437	269		70.4	0.00
Van der Have H46532(Rzm)	501	292.9	6653	1.01	33.75	769	15.66	22.64	240	1514	294		67.0	0.00
Van der Have H46533(Rzm)	544	291.9	6544	1.05	33.52	752	15.63	22.44	279	1783	235		83.3	0.09
Van der Have H46733(Rzm 66733)	507	288.9	4925	1.06	32.86	558	15.50	17.12	261	1607	299		66.9	0.00
Van der Have H47150(Rzm)	520	289.4	6314	1.09	32.97	719	15.56	21.79	211	1691	322		76.7	0.00
Van der Have H47151(Rzm)	530	308.5	5259	0.91	37.26	633	16.33	17.09	171	1504	241		59.4	0.51
Susc 3N - Mod Aph	560	306.2	3071	1.01	36.74	367	16.31	10.10	302	1699	221		73.0	0.00
RZ Very Susc 2N - Aph Tol	561	275.1	1650	0.94	29.74	188	14.70	5.69	341	1527	198		73.5	0.00
Susc 3N - Aph Tol	562	292.3	3815	1.00	33.61	446	15.62	12.82	348	1559	230		61.3	0.00
Susc 2N - Mod Aph	563	289.2	2958	0.92	32.93	340	15.39	10.12	365	1295	235		73.0	0.00
Very Susc 2N - Aph Tol #2	564	274.5	2005	0.95	29.61	220	14.67	7.18	329	1578	197		77.9	0.00
Check Mean		297.8	5232	1.04	34.85	612	15.93	17.58	276	1607	279		69.0	
Coeff. of Var. (%)		3.6	9.7	7.9	6.9	11.3	3.0	9.1	20.1	5.6	13.2		11.6	
F Value		4.7	20.0	5.6	4.7	14.3	5.0	24.5	5.4	6.3	6.2		5.6	
Mean LSD (0.05)		13.9	669	0.11	3.13	91	0.63	2.12	73	119	49		10.1	
Mean LSD (0.01)		18.3	882	0.14	4.12	120	0.83	2.80	96	157	64		13.3	

* 2004 Data from Averill, MN. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048672

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 31

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

Scandia, MN - Severe Rzm - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Beta 1305 (BX1305 Rzm)	559	291.8	7375	1.17	33.51	845	15.76	25.33	233	1794	345		42.2	0.00
Beta 4797(BX1197 Rzm)	515	299.8	6384	0.98	35.30	751	15.97	21.34	226	1660	236		54.7	0.00
Beta 4818R(Aph & Rzm)	555	296.6	6137	1.00	34.58	715	15.82	20.75	245	1650	247		74.8	0.00
Beta BX1301(Rhc & Rzm)	524	284.1	7158	1.14	31.77	795	15.33	25.33	212	1883	308		69.9	0.00
Beta BX1303(Rzm)	538	300.1	7488	1.08	35.38	884	16.08	24.90	203	1809	279		66.2	0.14
Beta BX1451(Rzm)	505	279.9	7257	1.05	30.82	800	15.05	25.89	275	1719	260		61.3	0.00
Beta BX1452(Rzm)	552	300.6	7956	1.09	35.47	941	16.12	26.35	251	1840	264		73.6	0.00
Beta BX1453(Rzm)	514	300.0	7559	1.13	35.35	890	16.13	25.22	223	1895	293		61.8	0.14
Beta BX1454(Rzm)	547	294.8	6601	1.03	34.17	768	15.78	22.31	245	1732	253		63.1	0.00
Beta BX1455(Rzm)	502	299.7	6727	1.11	35.29	792	16.09	22.48	231	1790	299		71.2	0.00
Beta BX1456(Rzm)	540	306.5	6860	1.04	36.82	824	16.37	22.34	204	1828	244		64.7	0.00
Beta BX1457(Rzm)	556	292.5	6713	1.13	33.67	772	15.76	22.95	215	1885	301		70.2	0.00
Beta BX1458(Rzm)	527	304.7	6215	1.01	36.40	742	16.25	20.39	210	1746	245		65.8	0.00
Beta BX1459(Rzm)	517	292.2	6370	1.02	33.60	733	15.63	21.79	229	1737	249		71.8	0.00
Crystal R306	525	297.3	6278	1.00	34.74	735	15.87	21.11	228	1665	252		61.3	0.00
Crystal R308	539	299.6	6257	0.98	35.25	737	15.96	20.86	216	1709	227		68.5	0.00
Crystal R431	513	299.2	7354	1.15	35.17	862	16.10	24.63	201	1990	287		71.1	0.00
Crystal R432	553	295.6	8050	1.08	34.35	938	15.86	27.17	262	1819	258		74.3	0.00
Crystal R433	522	301.8	5914	1.15	35.76	701	16.24	19.58	224	1841	316		66.3	0.93
Crystal R434	535	285.4	7606	1.20	32.07	847	15.46	26.88	277	1854	336		59.6	0.00
Crystal R435	548	295.6	6469	1.04	34.37	753	15.83	21.87	235	1757	256		68.6	0.00
Crystal R436	511	291.9	7211	1.17	33.53	823	15.76	24.85	232	1971	297		62.4	0.00
Crystal R437	503	304.0	6936	0.94	36.24	828	16.14	22.78	198	1649	215		64.7	0.00
Crystal R438	545	302.5	6155	1.00	35.91	732	16.13	20.34	224	1684	247		58.8	0.00
Crystal R439	526	301.0	6498	1.01	35.58	768	16.06	21.61	231	1727	241		58.3	0.00
Crystal R826(Rzm)	516	302.0	5973	1.04	35.79	710	16.15	19.78	275	1771	237		63.8	0.00
Filler#6 (3N mod Tolerance)	518	291.7	2685	1.07	33.47	305	15.65	9.21	235	1923	230		33.2	0.00
Hilleshog 2411Rz	542	308.5	6756	1.02	37.25	816	16.45	21.93	214	1663	276		66.0	0.00
Hilleshog 2463Rz(7163)	529	303.4	6835	1.02	36.12	815	16.20	22.46	234	1803	228		67.4	0.00
Hilleshog 2467Rz(7167)	521	299.1	6949	1.07	35.14	815	16.02	23.24	260	1735	272		67.8	0.07
Hilleshog 2469Rz(7169 Aph)	551	293.3	6733	1.06	33.83	779	15.73	22.92	251	1856	240		64.6	0.00
Hilleshog 2480Rz(7180)	504	306.7	6752	1.03	36.85	809	16.36	22.09	232	1607	288		67.2	0.00
Hilleshog 2496Rz(7196)	533	295.2	6790	1.02	34.26	787	15.78	23.07	273	1593	270		62.1	0.00
Hilleshog 7172Rz	558	296.6	5599	1.01	34.59	651	15.84	18.95	269	1697	232		66.0	0.00
Hilleshog 7215Rz	512	298.0	7368	1.00	34.90	863	15.90	24.72	255	1664	238		74.5	0.00
Hilleshog 7217Rz	546	309.1	7159	1.04	37.39	862	16.49	23.34	197	1860	242		78.1	0.00
Hilleshog 7218Rz	532	299.1	6795	1.06	35.15	799	16.01	22.71	271	1713	265		68.7	0.00
Hilleshog 7220Rz	557	287.5	6555	1.05	32.54	741	15.43	22.85	283	1718	257		75.6	0.00
Hilleshog 7221Rz	508	297.6	7325	1.02	34.80	855	15.90	24.65	258	1782	223		73.0	0.00
Hilleshog 7223Rz	541	305.7	6008	0.99	36.62	720	16.27	19.63	194	1666	252		72.0	0.00
Holly 03HX317 Rzm	528	304.3	7039	0.97	36.32	840	16.19	23.05	171	1702	236		77.7	0.78
Holly 03HX323 Rzm	519	306.5	6134	0.96	36.81	737	16.29	20.06	199	1611	245		70.8	0.00
Holly 03HX324 Rzm	506	301.4	7291	0.95	35.67	863	16.02	24.19	178	1645	237		80.6	0.07
Holly 03HX364 Rzm	550	295.8	7247	0.99	34.40	845	15.78	24.39	178	1628	268		76.4	0.00
Holly 04HX448 Rzm	523	298.7	7294	0.97	35.05	855	15.90	24.39	191	1694	233		61.5	0.00
Holly 04HX449 Rzm	554	302.6	6890	0.95	35.94	818	16.08	22.79	168	1647	232		73.4	0.07
Seedex Prizm(SX0924 Aph & Rzm)	531	312.5	6391	0.91	38.15	781	16.54	20.49	168	1665	206		67.4	0.00
Seedex Rezult(SX0828 Aph & Rzm)	536	307.7	6236	0.95	37.08	752	16.33	20.24	177	1701	220		66.1	0.07
Seedex SX0831(Rzm)	510	316.6	5631	0.92	39.08	695	16.75	17.75	198	1562	227		72.3	0.00
Seedex SX0833(Rzm)	543	292.1	5893	1.12	33.58	678	15.73	20.17	254	1870	274		73.0	0.07
Van der Have H46177(Aph & Rzm)	509	307.1	6413	0.94	36.95	772	16.30	20.87	176	1712	209		68.2	0.00
Van der Have H46519(Rzm)	549	296.7	8656	0.98	34.60	1010	15.81	29.15	190	1702	235		79.5	0.00
Van der Have H46530(Rzm)	537	297.0	7812	1.01	34.67	916	15.87	26.27	197	1722	254		71.3	0.22
Van der Have H46531(Rzm)	534	305.5	7157	0.97	36.58	857	16.24	23.49	190	1660	240		71.4	0.00
Van der Have H46532(Rzm)	501	294.1	8130	0.97	34.02	937	15.67	27.75	200	1607	250		69.5	0.00
Van der Have H46533(Rzm)	544	289.3	8018	1.04	32.94	917	15.51	27.59	223	1864	233		78.9	0.14
Van der Have H46733(Rzm 66733)	507	301.0	6884	0.95	35.57	812	16.00	22.91	171	1672	234		65.7	0.07
Van der Have H47150(Rzm)	520	287.1	7066	1.05	32.46	800	15.41	24.55	195	1760	277		75.4	0.00
Van der Have H47151(Rzm)	530	300.1	7020	0.96	35.37	825	15.96	23.44	166	1699	232		67.5	1.08
Susc 3N - Mod Aph	560	289.3	3933	1.00	32.93	447	15.46	13.60	264	1724	220		67.2	0.00
RZ Very Susc 2N - Aph Tol	561	265.8	1907	1.02	27.65	197	14.32	7.26	268	1829	210		70.6	0.00
Susc 3N - Aph Tol	562	282.2	4087	1.00	31.34	453	15.10	14.50	278	1739	209		60.4	0.07
Susc 2N - Mod Aph	563	273.7	2485	0.99	29.43	268	14.67	9.01	298	1601	233		76.3	0.00
Very Susc 2N - Aph Tol #2	564	267.3	2081	0.99	27.99	217	14.36	7.77	264	1791	199		72.6	0.00
Check Mean		296.9	6492	1.03	34.66	759	15.87	21.82	225	1742	252		67.8	
Coeff. of Var. (%)		2.3	5.7	5.7	4.4	6.8	2.0	5.2	15.2	4.7	11.2		10.9	
F Value		10.7	75.0	6.8	10.7	55.1	11.5	85.6	5.6	7.3	6.5		6.7	
Mean LSD (0.05)		8.1	434	0.07	1.82	61	0.38	1.35	41	99	33		8.5	
Mean LSD (0.01)		10.6	572	0.09	2.39	80	0.50	1.77	54	131	44		11.2	

* 2004 Data from Averill, MN.

Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected.

Trial # = 048675

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 32

2004 Performance of Varieties - ACSC Rhizomania Specialty Coded Test

All Locations (6 Sites) - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Emerg. %	Bolter %
Van der Have H46531(Rzm)	534	303.2	6832	0.92	36.07	813	16.08	22.53	231	1529	222	2.4	73.2	0.00
Holly 03HX324 Rzm	506	305.5	6653	0.90	36.58	796	16.17	21.79	196	1556	210	2.4	76.9	0.04
Holly 04HX449 Rzm	554	304.9	6356	0.93	36.44	760	16.17	20.83	180	1564	236	2.5	76.3	0.14
Susc 3N - Aph Tol	562	299.1	5316	0.94	35.14	630	15.89	17.59	282	1579	204	3.0	63.1	0.01
Beta BX1301(Rhc & Rzm)	524	292.6	7353	1.10	33.68	845	15.73	25.19	232	1759	300	2.2	72.3	0.00
Beta BX1453(Rzm)	514	300.7	6771	1.07	35.52	798	16.11	22.56	276	1794	253	2.6	59.1	0.04
Van der Have H46533(Rzm)	544	294.0	7210	0.98	34.00	835	15.68	24.49	265	1735	205	2.1	80.9	0.09
Seedex Prizm(SX0924 Aph & Rzm)	531	314.5	5950	0.88	38.61	731	16.60	18.90	189	1536	203	2.8	67.1	0.00
Crystal R826(Rzm)	516	312.5	6150	1.00	38.16	751	16.62	19.69	296	1657	223	2.6	63.6	0.00
Beta BX1457(Rzm)	556	294.5	6577	1.07	34.10	763	15.80	22.30	240	1765	277	2.7	70.5	0.00
Beta BX1458(Rzm)	527	314.6	6002	0.96	38.64	737	16.69	19.08	230	1635	225	3.0	62.0	0.00
Hilleshog 2411Rz	542	310.8	5948	1.00	37.79	721	16.54	19.18	274	1538	264	2.8	69.7	0.00
Crystal R306	525	304.3	6196	0.98	36.31	741	16.19	20.31	260	1580	243	2.8	66.0	0.00
Beta BX1452(Rzm)	552	305.1	6952	1.02	36.49	832	16.27	22.77	286	1676	237	2.0	72.0	0.06
Crystal R437	503	307.1	6234	0.89	36.95	750	16.25	20.28	228	1535	201	2.7	64.1	0.00
Hilleshog 7217Rz	546	305.6	6328	1.02	36.60	758	16.29	20.71	262	1730	233	2.0	75.0	0.00
Beta 4797(BX1197 Rzm)	515	308.5	6360	0.96	37.27	770	16.39	20.56	243	1616	227	2.8	59.0	0.00
Beta BX1451(Rzm)	505	289.7	7086	1.03	33.02	807	15.51	24.48	288	1643	254	2.8	59.7	0.00
Crystal R431	513	305.9	6800	1.04	36.67	814	16.34	22.28	221	1799	249	2.7	68.5	0.00
Seedex SX0833(Rzm)	543	295.2	5702	1.07	34.27	664	15.84	19.26	304	1773	251	2.0	70.5	0.06
Beta 4818R(Aph & Rzm)	555	306.8	5971	0.94	36.88	719	16.28	19.42	263	1562	215	2.7	72.3	0.00
Susc 2N - Mod Aph	563	296.6	4555	0.95	34.58	540	15.78	15.09	294	1481	232	2.5	72.0	0.00
Susc 3N - Mod Aph	560	308.4	4980	0.97	37.24	605	16.39	16.04	289	1646	210	2.9	70.5	0.00
Hilleshog 7218Rz	532	304.9	6191	0.99	36.44	740	16.24	20.32	279	1625	238	2.9	67.8	0.00
Hilleshog 2480Rz(7180)	504	305.9	5893	1.00	36.68	707	16.29	19.25	302	1506	262	2.4	68.9	0.00
Crystal R439	526	308.1	6360	0.96	37.18	768	16.37	20.62	262	1593	228	2.7	59.7	0.00
RZ Very Susc 2N - Aph Tol	561	279.2	3433	0.94	30.66	386	14.90	12.02	291	1621	190	2.7	69.3	0.00
Crystal R433	522	308.3	5827	1.04	37.21	703	16.45	18.91	242	1688	269	2.7	65.2	0.57
Hilleshog 2496Rz(7196)	533	302.7	6206	0.99	35.96	737	16.12	20.51	297	1513	254	2.4	69.9	0.03
Hilleshog 7223Rz	541	310.1	5597	0.88	37.63	680	16.39	18.03	185	1549	205	2.7	76.3	0.08
Hilleshog 2469Rz(7169 Aph)	551	291.7	6053	0.98	33.47	696	15.57	20.70	308	1695	200	3.0	63.2	0.00
Seedex SX0831(Rzm)	510	319.8	6083	0.87	39.79	757	16.85	19.04	219	1441	208	2.8	69.9	0.00
Crystal R432	553	293.8	6807	0.99	33.96	792	15.68	23.02	342	1633	208	2.9	71.3	0.00
Crystal R434	535	295.7	7503	1.17	34.39	872	15.96	25.38	299	1773	329	2.8	62.4	0.00
Beta BX1459(Rzm)	517	308.0	6408	0.97	37.14	774	16.37	20.78	240	1609	237	2.3	71.2	0.01
Crystal R308	539	310.7	6391	0.94	37.76	779	16.48	20.51	218	1608	224	2.6	67.9	0.01
Van der Have H46733(Rzm 66733)	507	302.5	6298	0.93	35.90	749	16.05	20.79	219	1574	222	2.9	63.7	0.01
Hilleshog 7172Rz	558	295.7	5545	1.00	34.38	644	15.79	18.77	349	1629	218	2.8	68.8	0.00
Beta BX1456(Rzm)	540	309.5	6299	0.96	37.50	765	16.44	20.30	253	1619	220	2.6	69.0	0.01
Filler#6 (3N mod Tolerance)	518	309.0	2867	1.00	37.38	349	16.45	9.21	251	1776	214	5.1	48.9	0.00
Crystal R436	511	295.2	6529	1.08	34.27	758	15.84	22.10	277	1798	256	3.1	63.4	0.00
Van der Have H46532(Rzm)	501	299.0	7535	0.93	35.13	885	15.88	25.22	225	1525	235	2.3	69.5	0.00
Van der Have H46530(Rzm)	537	298.6	7109	0.95	35.04	835	15.88	23.77	206	1605	236	2.3	76.6	0.09
Very Susc 2N - Aph Tol #2	564	280.1	3544	0.93	30.86	398	14.93	12.42	292	1593	187	2.2	73.9	0.00
Holly 03HX317 Rzm	528	304.2	6549	0.91	36.30	783	16.12	21.47	205	1554	215	2.4	76.6	0.48
Van der Have H46519(Rzm)	549	292.5	7603	0.95	33.65	876	15.57	25.97	248	1615	218	2.2	82.5	0.05
Holly 04HX448 Rzm	523	300.4	7068	0.94	35.44	834	15.96	23.52	194	1588	233	2.6	66.5	0.01
Crystal R438	545	312.2	6607	0.96	38.08	806	16.57	21.16	243	1576	238	2.9	60.0	0.00
Crystal R435	548	301.7	6046	0.97	35.74	717	16.05	20.00	249	1618	228	2.9	64.6	0.02
Van der Have H47150(Rzm)	520	292.2	6798	1.00	33.58	782	15.60	23.24	187	1655	266	2.7	75.2	0.02
Hilleshog 2463Rz(7163)	529	298.2	6056	1.01	34.94	711	15.92	20.25	338	1637	227	2.9	67.2	0.00
Beta BX1303(Rzm)	538	300.6	6598	1.05	35.48	779	16.08	21.94	247	1730	262	3.0	63.8	0.05
Hilleshog 7215Rz	512	293.9	6643	0.99	33.97	768	15.69	22.60	374	1569	216	2.2	75.3	0.00
Hilleshog 7220Rz	557	291.4	6223	0.97	33.41	715	15.54	21.32	299	1607	217	2.2	76.2	0.00
Holly 03HX323 Rzm	519	309.9	6539	0.92	37.58	792	16.41	21.13	237	1514	224	2.2	74.8	0.01
Seedex Rezult(SX0828 Aph & Rzm)	536	312.8	5796	0.89	38.24	708	16.53	18.54	193	1548	209	2.9	67.9	0.02
Beta 1305 (BX1305 Rzm)	559	299.7	7154	1.13	35.28	842	16.12	23.88	249	1758	318	3.9	39.8	0.00
Van der Have H47151(Rzm)	530	304.5	6617	0.91	36.36	790	16.13	21.72	184	1593	213	2.8	65.4	0.98
Beta BX1454(Rzm)	547	310.8	6492	0.95	37.79	789	16.50	20.89	226	1613	228	2.8	64.5	0.01
Hilleshog 7221Rz	508	293.7	6337	0.97	33.92	733	15.65	21.54	336	1620	197	2.2	76.7	0.00
Beta BX1455(Rzm)	502	301.0	6658	1.07	35.57	787	16.12	22.11	281	1660	284	2.3	71.8	0.01
Van der Have H46177(Aph & Rzm)	509	311.9	5832	0.88	38.03	710	16.48	18.72	196	1545	202	3.0	67.8	0.01
Hilleshog 2467Rz(7167)	521	300.3	6414	1.01	35.42	757	16.03	21.34	309	1621	241	2.8	69.5	0.01
Holly 03HX364 Rzm	550	298.9	6756	0.92	35.10	794	15.87	22.60	192	1549	235	2.3	76.9	0.01
Check Mean		302.2	6243	0.98	35.84	741	16.08	20.64	256	1622	233	2.7	68.5	0.05
Coeff. of Var. (%)		2.9	8.6	6.5	5.6	9.8	2.6	8.1	21.5	5.3	12.0	15.3	11.7	
F Value		13.6	20.5	16.0	13.6	17.1	13.2	24.4	9.9	14.9	16.1	14.0	9.4	
Mean LSD (0.05)		6.1	538	0.04	1.37	69	0.30	1.69	40	61	20	0.3	6.3	
Mean LSD (0.01)		8.1	708	0.06	1.81	91	0.39	2.23	53	81	26	0.4	8.3	

* 2004 Data from Glyndon, Averill, Felton, Halstad, Scandia & Crookston. Created 11-01-04.

\+ Lower numbers indicate better seedling vigor. Trial # = 04ACrz

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 33

2004 Performance of Varieties - Rhizomania Specialty

Slight Rhizomania Symptoms - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1305 (BX1305 Rzm)	559	307.0	7354	1.01	36.92	884	16.36	23.98	207	1719	254	3.8	0.00	41.1
Beta 4797(BX1197 Rzm)	515	318.9	6792	0.89	39.59	844	16.83	21.28	186	1628	188	2.8	0.00	60.3
Beta 4818R(Aph & Rzm)	555	315.9	6620	0.87	38.92	815	16.66	20.98	207	1558	185	2.5	0.00	69.1
Beta BX1301(Rhc & Rzm)	524	298.4	7459	0.99	35.00	874	15.91	25.01	210	1691	239	2.2	0.00	71.5
Beta BX1303(Rzm)	538	308.3	6855	0.98	37.22	827	16.39	22.24	205	1745	220	3.0	0.05	63.0
Beta BX1451(Rzm)	505	295.3	7158	0.91	34.28	831	15.68	24.26	218	1618	200	2.7	0.00	60.4
Beta BX1452(Rzm)	552	316.3	7135	0.93	39.01	880	16.74	22.56	219	1696	192	2.0	0.03	72.6
Beta BX1453(Rzm)	514	309.4	6738	0.99	37.46	815	16.45	21.80	212	1811	206	2.5	0.03	57.2
Beta BX1454(Rzm)	547	320.5	7102	0.89	39.96	885	16.91	22.19	179	1626	191	2.7	0.03	65.7
Beta BX1455(Rzm)	502	308.2	6853	0.97	37.20	827	16.38	22.25	230	1638	233	2.2	0.03	71.6
Beta BX1456(Rzm)	540	317.9	6698	0.90	39.37	830	16.79	21.05	208	1602	193	2.7	0.00	68.0
Beta BX1457(Rzm)	556	301.2	6880	0.99	35.61	814	16.05	22.83	196	1757	228	2.5	0.00	70.9
Beta BX1458(Rzm)	527	321.6	6232	0.92	40.21	779	17.01	19.39	190	1693	198	3.0	0.00	61.9
Beta BX1459(Rzm)	517	317.2	6973	0.93	39.22	862	16.79	22.00	197	1642	211	2.3	0.03	71.1
Crystal R306	525	316.3	6864	0.91	39.02	847	16.73	21.71	218	1596	203	2.7	0.00	64.4
Crystal R308	539	320.9	6950	0.87	40.06	867	16.91	21.68	172	1599	185	2.5	0.00	65.6
Crystal R431	513	311.3	7024	0.97	37.88	853	16.53	22.63	188	1781	210	2.7	0.00	67.8
Crystal R432	553	304.9	7273	0.89	36.45	870	16.14	23.86	261	1615	168	2.8	0.00	70.6
Crystal R433	522	313.9	6012	0.96	38.47	737	16.65	19.17	203	1677	221	2.7	0.68	65.7
Crystal R434	535	307.7	7655	1.02	37.08	922	16.40	24.89	231	1703	254	2.7	0.00	63.4
Crystal R435	548	311.8	6711	0.89	38.00	818	16.48	21.54	194	1602	195	2.7	0.00	61.8
Crystal R436	511	303.0	6914	1.01	36.02	821	16.15	22.85	227	1807	217	3.2	0.00	62.0
Crystal R437	503	314.0	6797	0.85	38.50	833	16.55	21.66	195	1553	176	2.5	0.00	64.3
Crystal R438	545	318.0	7171	0.90	39.40	888	16.80	22.57	204	1580	206	3.0	0.00	60.8
Crystal R439	526	316.6	6815	0.91	39.09	841	16.74	21.53	225	1599	198	2.5	0.00	60.4
Crystal R826(Rzm)	516	319.2	6693	0.95	39.68	830	16.91	21.01	232	1698	199	2.5	0.00	60.7
Filler#6 (3N mod Tolerance)	518	314.9	3437	0.96	38.71	423	16.71	10.91	221	1794	188	5.0	0.00	34.8
Hilleshog 2411Rz	542	317.5	6101	0.91	39.30	754	16.79	19.24	230	1520	220	2.7	0.00	68.2
Hilleshog 2463Rz(7163)	529	307.7	6455	0.93	37.09	777	16.31	21.00	263	1625	191	2.8	0.00	63.5
Hilleshog 2467Rz(7167)	521	307.7	6593	0.91	37.09	795	16.30	21.40	238	1579	200	2.5	0.00	69.0
Hilleshog 2469Rz(7169 Aph)	551	299.9	6587	0.90	35.32	776	15.89	21.98	246	1663	167	3.0	0.00	61.8
Hilleshog 2480Rz(7180)	504	308.5	5974	0.91	37.27	722	16.33	19.36	256	1490	213	2.5	0.00	69.3
Hilleshog 2496Rz(7196)	533	308.6	6481	0.90	37.28	783	16.33	21.01	244	1489	213	2.2	0.00	70.1
Hilleshog 7172Rz	558	299.1	5855	0.92	35.16	687	15.88	19.59	283	1599	186	2.8	0.00	67.9
Hilleshog 7215Rz	512	303.6	6993	0.90	36.16	832	16.08	23.06	281	1570	181	2.2	0.00	73.0
Hilleshog 7217Rz	546	313.6	6520	0.96	38.41	798	16.64	20.81	213	1742	206	2.2	0.00	70.8
Hilleshog 7218Rz	532	309.5	6352	0.93	37.48	769	16.40	20.54	252	1606	202	3.0	0.00	68.3
Hilleshog 7220Rz	557	299.3	6734	0.91	35.18	791	15.87	22.53	254	1620	181	2.2	0.00	76.8
Hilleshog 7221Rz	508	301.9	6832	0.90	35.78	809	16.00	22.63	255	1656	168	2.2	0.00	74.4
Hilleshog 7223Rz	541	312.4	6042	0.84	38.14	738	16.46	19.35	159	1594	171	2.8	0.08	74.0
Holly 03HX317 Rzm	528	311.7	7074	0.84	37.99	862	16.42	22.70	163	1553	178	2.5	0.28	75.5
Holly 03HX323 Rzm	519	315.1	7125	0.88	38.75	874	16.63	22.66	212	1541	193	2.2	0.03	75.8
Holly 03HX324 Rzm	506	308.7	6986	0.84	37.32	844	16.27	22.64	166	1560	174	2.5	0.02	74.3
Holly 03HX364 Rzm	550	302.2	7212	0.85	35.85	854	15.97	23.92	160	1549	193	2.3	0.02	73.8
Holly 04HX448 Rzm	523	304.0	7359	0.89	36.24	877	16.09	24.21	169	1607	204	2.5	0.03	66.7
Holly 04HX449 Rzm	554	310.7	6751	0.89	37.75	820	16.42	21.74	160	1614	202	2.7	0.15	76.0
Seedex SX0831(Rzm)	510	327.3	6660	0.79	41.49	843	17.15	20.40	165	1447	168	2.8	0.00	69.8
Seedex SX0833(Rzm)	543	301.2	6174	1.01	35.63	731	16.07	20.48	254	1779	218	2.0	0.08	69.2
Seedex Prizm(SX0822 Aph)	531	320.5	6456	0.83	39.96	804	16.86	20.18	160	1562	174	2.8	0.00	62.9
Seedex Rezult(SX0828 Aph & Rzm)	536	319.4	6276	0.84	39.71	779	16.81	19.67	148	1568	180	2.9	0.00	66.0
Van der Have H46177(Aph & Rzm)	509	315.8	6202	0.84	38.90	763	16.63	19.67	167	1557	179	3.0	0.03	65.3
Van der Have H46519(Rzm)	549	297.6	7901	0.89	34.80	924	15.77	26.56	201	1644	184	2.3	0.07	81.8
Van der Have H46530(Rzm)	537	307.3	7576	0.87	36.99	911	16.23	24.67	158	1588	194	2.5	0.05	78.3
Van der Have H46531(Rzm)	534	309.3	7417	0.85	37.44	897	16.32	24.01	177	1569	181	2.5	0.00	72.5
Van der Have H46532(Rzm)	501	306.1	7883	0.87	36.72	945	16.17	25.78	175	1544	199	2.3	0.00	69.9
Van der Have H46533(Rzm)	544	301.4	7487	0.91	35.67	885	15.98	24.85	206	1725	171	2.0	0.08	80.0
Van der Have H46733(Rzm 66733)	507	310.5	6828	0.87	37.71	829	16.39	22.00	183	1593	183	3.0	0.00	61.8
Van der Have H47150(Rzm)	520	297.4	7201	0.93	34.77	841	15.80	24.22	153	1644	226	2.7	0.05	75.6
Van der Have H47151(Rzm)	530	308.7	7228	0.86	37.30	873	16.30	23.44	158	1619	184	2.8	0.96	64.9
Susc 3N - Mod Aph	560	321.1	6079	0.91	40.10	759	16.97	18.92	222	1643	192	2.8	0.00	68.4
RZ Very Susc 2N - Aph Tol	561	293.3	4779	0.86	33.84	554	15.53	16.20	209	1597	170	2.8	0.00	65.7
Susc 3N - Aph Tol	562	309.7	6260	0.87	37.54	761	16.36	20.15	218	1561	181	3.0	0.00	63.4
Susc 2N - Mod Aph	563	308.6	5927	0.91	37.28	717	16.34	19.17	221	1551	212	2.3	0.00	68.5
Very Susc 2N - Aph Tol #2	564	292.9	4794	0.84	33.74	553	15.48	16.36	221	1502	172	2.3	0.00	74.2
iCheck Mean		309.7	6693	0.91	37.52	810	16.39	21.64	207	1623	196	2.6	0.04	67.4
iCoeff. of Var. (%)		2.4	8.5	5.0	4.4	9.3	2.2	8.2	17.6	4.8	10.2	17.1		13.0
iF Value		10.6	14.4	10.3	10.6	11.5	10.4	18.4	8.7	9.9	8.7	5.9		3.8
iMean LSD (0.05)		6.7	531	0.04	1.51	72	0.33	1.60	32	73	19	0.5		10.4
iMean LSD (0.01)		8.9	702	0.06	2.00	95	0.44	2.11	42	96	25	0.7		13.7

* 2004 Data from Glyndon, Halstad, Crookston. Created 11-05-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 04ACrzS

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 34

2004 Performance of Varieties - Rhizomania Specialty

Moderate Rhizomania Symptoms - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1305 (BX1305 Rzm)	559	297.9	7447	1.30	34.87	873	16.20	24.94	348	1796	402		0.00	36.7
Beta 4797(BX1197 Rzm)	515	294.3	6145	1.11	34.07	714	15.82	20.81	425	1552	290		0.00	58.4
Beta 4818R(Aph & Rzm)	555	295.8	5486	1.03	34.41	639	15.82	18.51	443	1492	241		0.00	77.3
Beta BX1301(Rhc & Rzm)	524	291.8	7753	1.24	33.50	880	15.83	26.89	269	1784	392		0.00	77.4
Beta BX1303(Rzm)	538	288.7	5891	1.14	32.82	666	15.58	20.50	384	1587	317		0.00	70.7
Beta BX1451(Rzm)	505	287.3	7673	1.17	32.50	868	15.54	26.69	459	1578	322		0.00	60.7
Beta BX1452(Rzm)	552	285.4	6018	1.09	32.06	677	15.36	21.07	463	1542	269		0.07	72.0
Beta BX1453(Rzm)	514	281.9	6497	1.21	31.27	719	15.30	23.10	482	1703	307		0.00	65.5
Beta BX1454(Rzm)	547	297.5	6074	1.03	34.79	707	15.91	20.53	363	1497	272		0.00	61.8
Beta BX1455(Rzm)	502	292.6	6777	1.21	33.69	782	15.84	23.10	440	1629	342		0.00	77.3
Beta BX1456(Rzm)	540	290.8	5422	1.02	33.27	620	15.57	18.64	403	1524	240		0.07	73.8
Beta BX1457(Rzm)	556	280.4	5982	1.21	30.93	662	15.23	21.27	394	1682	349		0.00	71.9
Beta BX1458(Rzm)	527	309.3	5952	0.98	37.44	720	16.44	19.26	346	1469	244		0.00	64.0
Beta BX1459(Rzm)	517	299.0	5736	1.05	35.11	677	16.00	19.09	387	1494	278		0.00	77.3
Crystal R306	525	286.7	5431	1.08	32.36	614	15.42	18.93	414	1455	300		0.00	71.8
Crystal R308	539	299.4	6112	1.06	35.22	722	16.03	20.32	336	1576	278		0.07	71.5
Crystal R431	513	294.0	6584	1.15	34.01	765	15.85	22.30	362	1722	298		0.00	69.6
Crystal R432	553	273.7	6168	1.09	29.44	672	14.77	22.28	595	1489	230		0.00	71.3
Crystal R433	522	299.5	5642	1.11	35.23	665	16.08	18.80	365	1591	308		0.14	68.4
Crystal R434	535	287.6	8080	1.37	32.56	915	15.75	28.11	431	1781	429		0.00	65.7
Crystal R435	548	284.8	5004	1.03	31.92	557	15.27	17.70	403	1484	258		0.14	69.4
Crystal R436	511	281.2	5829	1.15	31.11	647	15.21	20.66	445	1641	289		0.00	71.7
Crystal R437	503	294.5	5416	0.94	34.11	627	15.67	18.36	366	1388	229		0.00	69.9
Crystal R438	545	306.8	6439	1.08	36.87	773	16.42	21.04	399	1484	299		0.00	62.1
Crystal R439	526	291.5	5818	1.09	33.43	667	15.67	19.94	435	1570	272		0.00	62.1
Crystal R826(Rzm)	516	299.8	5397	1.07	35.31	632	16.06	18.09	515	1489	244		0.00	69.5
Filler#6 (3N mod Tolerance)	518	303.1	2418	1.06	36.05	289	16.22	7.93	357	1681	243		0.00	
Hilleshog 2411Rz	542	295.4	5706	1.13	34.31	658	15.90	19.45	457	1482	317		0.00	79.7
Hilleshog 2463Rz(7163)	529	274.5	5068	1.15	29.62	547	14.88	18.45	642	1460	265		0.00	72.0
Hilleshog 2467Rz(7167)	521	284.0	6245	1.16	31.75	700	15.36	21.92	564	1543	283		0.00	74.6
Hilleshog 2469Rz(7169 Aph)	551	277.1	5009	1.12	30.20	544	14.98	18.13	506	1649	247		0.00	67.3
Hilleshog 2480Rz(7180)	504	299.5	5802	1.07	35.23	684	16.04	19.35	468	1379	291		0.00	75.0
Hilleshog 2496Rz(7196)	533	289.7	5823	1.10	33.02	665	15.58	20.06	467	1448	297		0.00	74.5
Hilleshog 7172Rz	558	284.9	5157	1.15	31.95	578	15.38	18.12	596	1576	252		0.00	74.0
Hilleshog 7215Rz	512	273.1	6079	1.16	29.29	649	14.82	22.35	726	1417	258		0.00	80.7
Hilleshog 7217Rz	546	282.1	5631	1.11	31.33	625	15.21	19.97	448	1638	260		0.00	79.9
Hilleshog 7218Rz	532	297.8	6220	1.09	34.86	730	15.97	20.85	378	1580	285		0.00	72.5
Hilleshog 7220Rz	557	282.8	5212	0.99	31.47	584	15.13	18.33	383	1455	240		0.00	77.3
Hilleshog 7221Rz	508	273.6	5117	1.06	29.40	550	14.74	18.72	601	1441	218		0.00	81.1
Hilleshog 7223Rz	541	302.8	5037	0.92	35.99	600	16.06	16.58	275	1379	243		0.14	83.8
Holly 03HX317 Rzm	528	292.3	5809	0.95	33.61	669	15.56	19.84	315	1397	249		0.79	80.8
Holly 03HX323 Rzm	519	301.1	5944	0.96	35.60	699	16.01	19.82	337	1371	254		0.00	80.3
Holly 03HX324 Rzm	506	300.0	6232	0.95	35.35	733	15.95	20.82	274	1484	241		0.00	78.0
Holly 03HX364 Rzm	550	288.3	6054	1.02	32.72	691	15.44	20.88	318	1477	281		0.00	82.4
Holly 04HX448 Rzm	523	292.5	6673	0.99	33.66	767	15.62	22.84	315	1471	265		0.00	70.1
Holly 04HX449 Rzm	554	297.5	5649	0.94	34.80	661	15.82	18.96	229	1404	274		0.22	84.4
Seedex SX0831(Rzm)	510	305.0	5578	0.93	36.47	666	16.18	18.29	394	1254	239		0.00	71.3
Seedex SX0833(Rzm)	543	287.3	4988	1.14	32.50	568	15.51	17.25	464	1656	275		0.00	75.3
Seedex Prizm(SX0822 Aph)	531	305.7	5498	0.93	36.62	662	16.21	17.89	299	1391	242		0.00	72.7
Seedex Rezult(SX0828 Aph & Rzm)	536	301.7	4973	0.98	35.73	585	16.06	16.57	320	1431	260		0.07	74.7
Van der Have H46177(Aph & Rzm)	509	302.6	5287	0.92	35.93	629	16.05	17.46	300	1385	234		0.00	74.8
Van der Have H46519(Rzm)	549	277.1	6735	1.03	30.20	736	14.89	24.21	415	1461	253		0.00	87.9
Van der Have H46530(Rzm)	537	286.9	6244	1.01	32.41	707	15.36	21.73	323	1465	272		0.07	84.4
Van der Have H46531(Rzm)	534	284.8	5869	1.03	31.93	659	15.27	20.56	428	1370	274		0.00	80.3
Van der Have H46532(Rzm)	501	290.9	6902	0.99	33.31	789	15.54	23.76	366	1369	271		0.00	71.1
Van der Have H46533(Rzm)	544	281.5	6475	1.07	31.18	720	15.14	22.95	459	1555	245		0.07	85.9
Van der Have H46733(Rzm 66733)	507	293.0	5662	0.97	33.78	651	15.62	19.38	352	1413	251		0.00	65.0
Van der Have H47150(Rzm)	520	282.5	5999	1.09	31.41	669	15.21	21.17	264	1576	328		0.00	75.9
Van der Have H47151(Rzm)	530	291.5	5669	1.00	33.43	653	15.57	19.37	296	1519	264		1.28	71.1
Susc 3N - Mod Aph	560	291.5	4573	1.08	33.44	526	15.66	15.62	492	1554	241		0.00	78.1
RZ Very Susc 2N - Aph Tol	561	257.2	2730	1.07	25.73	275	13.93	10.54	501	1576	224		0.00	76.5
Susc 3N - Aph Tol	562	288.4	5175	1.04	32.74	592	15.46	17.80	432	1515	243		0.00	68.3
Susc 2N - Mod Aph	563	290.6	4200	1.03	33.23	490	15.56	14.17	447	1305	284		0.00	76.0
Very Susc 2N - Aph Tol #2	564	264.2	2895	1.07	27.29	310	14.28	10.60	483	1647	213		0.00	73.0
Check Mean		290.1	5736	1.07	33.12	656	15.58	19.74	412	1518	275			
Coeff. of Var. (%)		4.2	9.8	7.9	8.3	12.5	3.6	8.6	23.7	6.8	12.9			
F Value		3.8	16.5	6.6	3.8	10.7	4.0	21.7	5.2	6.9	7.8			8.5
Mean LSD (0.05)		14.8	677	0.10	3.32	99	0.68	2.03	117	124	42			7.6
Mean LSD (0.01)		19.4	892	0.13	4.37	130	0.90	2.68	154	164	55			10.0

* 2004 Data from Felton, MN - Moderate Level Rzm. Created 11-05-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 048673

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 35

2004 Performance of Varieties - Rhizomania Specialty

Severe Rhizomania Symptoms - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1305 (BX1305 Rzm)	559	289.5	6720	1.22	32.99	765	15.69	23.24	264	1796	369	3.9	0.00	39.9
Beta 4797(BX1197 Rzm)	515	300.4	5799	1.00	35.45	684	16.02	19.31	238	1633	254	2.8	0.00	57.3
Beta 4818R(Aph & Rzm)	555	298.8	5246	0.99	35.08	616	15.93	17.56	252	1603	247	3.0	0.00	74.0
Beta BX1301(Rhc & Rzm)	524	284.3	7000	1.19	31.81	784	15.41	24.59	246	1846	344	2.2	0.00	71.0
Beta BX1303(Rzm)	538	295.0	6538	1.11	34.23	760	15.86	22.11	242	1784	296	3.0	0.07	61.9
Beta BX1451(Rzm)	505	282.4	6675	1.12	31.38	741	15.24	23.66	308	1712	299	3.0	0.00	58.1
Beta BX1452(Rzm)	552	298.6	7109	1.10	35.02	836	16.03	23.76	295	1715	288	1.9	0.11	71.6
Beta BX1453(Rzm)	514	297.5	6975	1.13	34.79	815	16.01	23.45	266	1817	296	2.8	0.07	58.8
Beta BX1454(Rzm)	547	303.6	5793	1.01	36.17	687	16.20	19.16	226	1656	263	2.8	0.00	64.0
Beta BX1455(Rzm)	502	294.0	6312	1.14	34.00	731	15.84	21.43	279	1708	329	2.4	0.00	69.6
Beta BX1456(Rzm)	540	306.9	6150	1.02	36.90	740	16.36	20.03	244	1691	250	2.5	0.00	68.4
Beta BX1457(Rzm)	556	291.5	6393	1.13	33.44	733	15.71	21.94	229	1813	312	2.9	0.00	69.4
Beta BX1458(Rzm)	527	306.6	5661	1.00	36.83	681	16.33	18.43	232	1640	255	2.9	0.00	61.4
Beta BX1459(Rzm)	517	298.8	5896	0.99	35.08	691	15.93	19.77	230	1616	257	2.3	0.00	68.4
Crystal R306	525	294.8	5567	1.03	34.17	646	15.76	18.86	248	1621	274	2.9	0.00	65.7
Crystal R308	539	301.2	5717	1.00	35.62	676	16.06	18.98	226	1639	256	2.6	0.00	69.6
Crystal R431	513	303.3	6547	1.10	36.10	777	16.27	21.63	201	1865	282	2.7	0.00	68.9
Crystal R432	553	287.4	6478	1.08	32.50	739	15.45	22.34	335	1730	255	3.0	0.00	72.2
Crystal R433	522	303.8	5565	1.13	36.20	662	16.31	18.36	241	1749	320	2.8	0.64	62.7
Crystal R434	535	282.3	6939	1.29	31.37	771	15.41	24.56	333	1865	385	2.9	0.00	59.0
Crystal R435	548	295.3	5563	1.04	34.29	647	15.81	18.82	255	1705	263	3.0	0.00	66.4
Crystal R436	511	290.3	6296	1.15	33.16	719	15.66	21.70	268	1859	296	3.0	0.00	61.2
Crystal R437	503	303.2	5837	0.93	36.08	692	16.10	19.31	211	1583	226	2.9	0.00	62.0
Crystal R438	545	305.9	5821	0.99	36.67	698	16.28	19.03	224	1621	255	2.8	0.00	57.6
Crystal R439	526	304.0	5917	0.98	36.25	704	16.18	19.51	234	1601	252	2.9	0.00	57.7
Crystal R826(Rzm)	516	308.9	5694	1.03	37.34	688	16.47	18.46	280	1687	250	2.7	0.00	64.4
Filler#6 (3N mod Tolerance)	518	302.4	2189	1.04	35.89	261	16.16	7.20	247	1800	239	5.1	0.00	60.8
Hilleshog 2411Rz	542	308.5	5836	1.05	37.26	702	16.48	19.00	250	1593	303	2.9	0.00	67.2
Hilleshog 2463Rz(7163)	529	296.0	5935	1.08	34.45	693	15.88	19.99	298	1743	263	3.0	0.00	70.8
Hilleshog 2467Rz(7167)	521	297.3	6234	1.09	34.74	729	15.95	20.96	288	1721	279	3.0	0.04	67.7
Hilleshog 2469Rz(7169 Aph)	551	286.9	5774	1.04	32.40	654	15.39	20.07	302	1765	228	2.9	0.00	63.9
Hilleshog 2480Rz(7180)	504	304.8	5778	1.10	36.44	690	16.34	18.98	287	1594	320	2.3	0.00	65.0
Hilleshog 2496Rz(7196)	533	299.8	5946	1.06	35.30	698	16.04	19.90	294	1579	291	2.7	0.07	67.3
Hilleshog 7172Rz	558	295.4	5264	1.05	34.31	611	15.82	17.84	322	1700	248	2.8	0.00	67.3
Hilleshog 7215Rz	512	290.2	6440	1.04	33.14	738	15.55	22.13	334	1647	249	2.3	0.00	75.9
Hilleshog 7217Rz	546	304.5	6344	1.06	36.36	757	16.28	20.83	243	1762	262	1.9	0.00	78.3
Hilleshog 7218Rz	532	301.2	5905	1.05	35.63	697	16.11	19.64	272	1678	268	2.9	0.00	64.9
Hilleshog 7220Rz	557	284.1	5952	1.06	31.77	666	15.26	20.95	326	1666	258	2.2	0.00	74.7
Hilleshog 7221Rz	508	291.4	6191	1.02	33.42	711	15.59	21.22	323	1662	232	2.3	0.00	77.7
Hilleshog 7223Rz	541	309.4	5193	0.94	37.46	630	16.41	16.75	183	1573	240	2.7	0.04	75.8
Holly 03HX317 Rzm	528	298.7	6098	0.99	35.06	718	15.92	20.35	215	1634	253	2.3	0.61	76.1
Holly 03HX323 Rzm	519	306.3	5949	0.96	36.78	714	16.28	19.41	225	1547	256	2.3	0.00	71.0
Holly 03HX324 Rzm	506	303.3	6368	0.96	36.10	757	16.13	21.01	202	1589	249	2.4	0.07	80.0
Holly 03HX364 Rzm	550	298.9	6430	0.98	35.11	755	15.93	21.51	179	1582	275	2.2	0.00	78.8
Holly 04HX448 Rzm	523	298.8	6865	0.97	35.08	807	15.91	22.94	174	1620	260	2.6	0.00	64.4
Holly 04HX449 Rzm	554	300.2	6139	0.98	35.40	723	15.99	20.47	188	1571	270	2.3	0.07	72.8
Seedex SX0831(Rzm)	510	316.0	5493	0.95	38.94	676	16.75	17.41	213	1526	252	2.7	0.00	69.3
Seedex SX0833(Rzm)	543	290.3	5345	1.14	33.16	610	15.65	18.45	296	1823	290	2.0	0.07	70.1
Seedex Prizm(SX0822 Aph)	531	310.0	5419	0.92	37.61	656	16.42	17.51	181	1577	229	2.7	0.00	70.5
Seedex Rezult(SX0828 Aph & Rzm)	536	308.4	5479	0.92	37.25	661	16.34	17.79	196	1578	225	2.9	0.04	67.2
Van der Have H46177(Aph & Rzm)	509	310.7	5503	0.92	37.76	666	16.46	17.81	188	1606	221	3.0	0.00	68.0
Van der Have H46519(Rzm)	549	292.4	7628	1.00	33.64	878	15.62	26.07	233	1647	252	2.0	0.04	81.0
Van der Have H46530(Rzm)	537	291.1	6831	1.05	33.35	785	15.61	23.41	220	1706	282	2.2	0.14	70.0
Van der Have H46531(Rzm)	534	302.7	6504	0.96	35.96	773	16.10	21.48	210	1560	256	2.3	0.00	70.4
Van der Have H46532(Rzm)	501	292.8	7344	1.00	33.72	845	15.64	25.10	228	1574	273	2.2	0.00	68.3
Van der Have H46533(Rzm)	544	289.3	7148	1.06	32.95	816	15.52	24.67	256	1839	237	2.1	0.11	79.6
Van der Have H46733(Rzm 66733)	507	295.3	5850	1.00	34.29	680	15.76	19.80	210	1626	265	2.8	0.04	66.1
Van der Have H47150(Rzm)	520	289.1	6607	1.06	32.91	752	15.52	22.86	198	1709	295	2.7	0.00	74.0
Van der Have H47151(Rzm)	530	304.6	6194	0.92	36.38	737	16.15	20.41	168	1592	230	2.8	0.86	63.3
Susc 3N - Mod Aph	560	297.8	3550	1.00	34.86	414	15.89	11.98	286	1695	220	3.0	0.00	70.1
RZ Very Susc 2N - Aph Tol	561	269.2	1762	0.98	28.41	188	14.44	6.48	309	1680	204	2.5	0.00	71.4
Susc 3N - Aph Tol	562	288.2	3963	0.99	32.69	452	15.40	13.66	304	1640	218	3.0	0.04	60.0
Susc 2N - Mod Aph	563	281.9	2697	0.96	31.29	302	15.06	9.46	325	1468	236	2.7	0.00	75.0
Very Susc 2N - Aph Tol #2	564	269.4	2018	0.98	28.46	214	14.45	7.48	304	1696	198	2.0	0.00	74.0
Check Mean		297.0	5818	1.03	34.67	680	15.88	19.58	251	1674	266	2.7	0.05	68.0
Coeff. of Var. (%)		3.0	8.0	6.9	5.7	9.3	2.5	7.5	18.2	5.3	12.1	13.6		11.3
F Value		4.7	13.7	6.3	4.7	10.7	4.9	17.5	4.7	5.4	7.7	9.5		2.8
Mean LSD (0.05)		12.1	895	0.08	2.72	118	0.56	2.70	60	112	37	0.4		11.8
Mean LSD (0.01)		16.1	1189	0.11	3.62	157	0.75	3.59	79	149	49	0.6		15.7

* 2004 Data from Averill, Scandia. Created 11-05-04.

\+ Lower numbers indicate better seedling vigor. Vigor not collected. Trial # = 04ACrzS

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 36

Performance of Varieties - ACS Semi-Commercial Coded Test

ALL ACSC Sites - All Characters (Commercial Status - 6 sites)

Description @	Code	Rec/T lbs.	Rec/A lbs.	Rev/T $ ++	Rev/T % Mean	Rev/A $ ++	Rev/A % Mean	Loss Mol %	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Bolter %	Emerg %	Cerc.** Rating	Aph ** Root
Beta 1305 (BX1305 Rzm)	135	298.6	7817	35.11	97	919	109	1.12	16.03	26.19	250	1684	326	0.00	76.5	4.98	4.70
Beta 6302 (BX1302)	116	319.5	6702	39.64	110	830	99	1.04	17.00	21.01	260	1714	250	0.00	53.7	4.55	4.87
Beta BX1301(Rhc & Rzm)	130	288.0	7463	32.85	91	850	101	1.16	15.54	25.92	261	1823	317	0.00	82.7	4.77	5.28
Beta BX1303(Rzm)	146	295.8	6965	34.52	96	813	97	1.12	15.90	23.53	270	1822	284	0.00	68.6	4.60	4.72
Filler #1	122	308.0	2992	37.15	103	362	43	1.06	16.45	9.68	235	1817	249	0.00	2.5	0.00	0.00
Beta BX1451(Rzm)	103	290.4	7619	33.35	93	876	104	1.08	15.58	26.21	283	1708	277	0.00	68.0	4.88	5.26
Beta BX1452(Rzm)	128	302.0	7603	35.86	100	902	107	1.12	16.20	25.21	313	1823	270	0.00	74.7	5.29	4.31
Beta BX1453(Rzm)	161	299.7	7166	35.36	98	846	101	1.15	16.12	23.91	279	1867	293	0.00	64.0	5.20	5.17
Beta BX1454(Rzm)	120	313.3	7506	38.29	106	917	109	1.01	16.67	24.00	217	1684	253	0.00	68.2	4.65	4.51
Beta BX1455(Rzm)	144	294.9	7142	34.33	95	832	99	1.16	15.89	24.21	294	1727	337	0.00	76.0	4.52	4.98
Beta BX1456(Rzm)	152	312.2	6713	38.06	106	819	98	1.03	16.63	21.49	246	1719	244	0.04	71.3	5.40	4.71
Beta BX1457(Rzm)	109	293.1	6874	33.94	94	796	95	1.16	15.79	23.46	262	1859	309	0.00	75.0	4.64	4.75
Beta BX1458(Rzm)	142	315.9	6692	38.87	108	824	98	1.04	16.82	21.16	235	1729	253	0.04	58.2	4.38	5.45
Beta BX1459(Rzm)	154	310.5	7029	37.70	105	853	102	1.08	16.59	22.63	243	1736	282	0.00	68.6	4.81	4.77
Crystal R306	110	304.6	7132	36.42	101	853	102	1.09	16.31	23.40	296	1707	281	0.00	69.9	4.88	4.71
Crystal R308	126	312.9	7292	38.21	106	890	106	1.01	16.66	23.33	223	1665	261	0.00	70.2	4.81	5.00
Crystal R431	151	303.2	7189	36.12	100	857	102	1.10	16.24	23.69	225	1859	269	0.00	75.5	5.04	4.61
Crystal R432	115	290.7	7690	33.42	93	884	105	1.09	15.61	26.45	387	1790	230	0.00	72.9	4.97	4.99
Crystal R433	136	305.1	6535	36.53	101	782	93	1.12	16.35	21.44	268	1777	297	0.64	69.1	4.85	5.01
Crystal R434	121	295.0	7662	34.35	95	891	106	1.20	15.92	26.01	294	1799	346	0.00	68.7	5.07	4.78
Crystal R435	101	295.5	6794	34.46	96	791	94	1.09	15.85	23.02	271	1756	276	0.00	71.0	5.00	5.23
Crystal R436	137	295.7	6965	34.49	96	814	97	1.12	15.88	23.50	273	1862	268	0.00	69.4	5.36	5.45
Crystal R437	145	306.1	7084	36.75	102	851	101	0.99	16.29	23.11	245	1632	241	0.00	74.5	4.75	4.84
Crystal R438	131	310.0	7247	37.58	104	877	104	1.09	16.57	23.41	251	1689	298	0.00	60.7	4.98	5.08
Crystal R439	149	311.0	7001	37.80	105	851	101	1.03	16.57	22.51	242	1703	248	0.04	59.7	4.60	5.04
Hilleshog 2480Rz(7180)	158	302.0	6893	35.87	100	817	97	1.04	16.13	22.86	280	1556	284	0.00	69.9	4.23	6.14
Hilleshog 2496Rz(7196)	139	299.7	7012	35.36	98	827	99	1.04	16.01	23.40	276	1613	275	0.00	70.2	4.44	6.11
Hilleshog 7209	129	311.8	7201	37.97	105	877	104	1.06	16.64	23.10	267	1734	262	0.00	79.5	4.79	5.50
Hilleshog 7212	102	306.3	6903	36.78	102	830	99	1.04	16.34	22.49	267	1700	251	0.00	76.8	5.07	4.49
Hilleshog 7215Rz	114	296.5	7336	34.67	96	859	102	1.01	15.84	24.71	318	1658	233	0.00	80.4	5.07	5.70
Hilleshog 7217Rz	162	304.9	7018	36.48	101	840	100	1.10	16.34	23.02	272	1818	270	0.00	75.9	4.84	5.77
Hilleshog 7218Rz	143	300.3	6766	35.50	99	800	95	1.04	16.04	22.53	273	1659	259	0.00	70.4	4.69	5.94
Hilleshog 7220Rz	112	292.2	7225	33.74	94	833	99	1.09	15.69	24.78	330	1757	259	0.00	76.8	5.13	4.97
Hilleshog 7222	153	307.8	7177	37.11	103	864	103	1.07	16.45	23.36	269	1726	269	0.00	68.7	4.89	5.45
Hilleshog 7223Rz	125	308.6	6735	37.27	103	814	97	0.95	16.37	21.81	199	1636	223	0.07	74.4	4.44	4.74
Hilleshog 7224	107	299.5	7478	35.31	98	882	105	1.10	16.06	24.97	355	1643	294	0.00	59.9	4.60	4.67
Hilleshog 7225	138	296.2	7792	34.60	96	910	108	1.06	15.86	26.31	324	1632	272	0.00	69.7	5.28	5.09
Holly 03HX317 Rzm	123	301.8	7333	35.81	99	872	104	0.97	16.06	24.25	221	1615	240	0.14	81.9	4.76	5.11
Holly 03HX331	118	313.7	7220	38.39	107	884	105	1.00	16.69	23.01	236	1636	257	0.00	77.9	4.98	6.10
Holly 03HX364 Rzm	105	298.1	7070	35.02	97	831	99	1.01	15.91	23.69	204	1671	264	0.07	78.4	4.61	5.22
Holly 04HX442	134	310.0	7218	37.58	104	875	104	1.05	16.54	23.28	288	1688	258	0.00	81.7	5.20	5.71
Holly 04HX443	156	314.6	7277	38.58	107	894	106	1.03	16.76	23.09	246	1665	262	0.00	83.3	5.16	5.73
Holly 04HX448 Rzm	147	300.3	7523	35.49	98	890	106	1.05	16.05	25.03	216	1694	277	0.00	71.8	5.18	5.41
Holly 04HX449 Rzm	124	301.7	6843	35.79	99	813	97	1.00	16.08	22.65	200	1670	255	0.18	73.3	4.60	5.26
Seedex SX0831(Rzm)	150	311.5	6752	37.91	105	822	98	0.94	16.52	21.66	220	1574	224	0.00	69.6	4.09	4.69
Seedex SX0832	159	307.9	7160	37.14	103	863	103	1.03	16.42	23.27	246	1690	256	0.07	73.8	4.59	5.80
Seedex SX0833(Rzm)	106	287.9	6769	32.80	91	772	92	1.22	15.58	23.51	336	1913	308	0.04	72.7	4.47	5.64
Van der Have H46530(Rzm)	117	300.6	7435	35.56	99	880	105	1.00	16.03	24.73	206	1693	252	0.11	85.0	4.86	5.19
Van der Have H46531(Rzm)	113	302.6	7603	35.98	100	904	108	0.99	16.12	25.12	230	1624	249	0.00	76.4	4.60	5.19
Van der Have H46532(Rzm)	160	298.6	8086	35.12	98	952	113	1.00	15.92	27.06	227	1605	263	0.00	71.4	4.93	5.40
Van der Have H46533(Rzm)	127	295.0	7992	34.35	95	932	111	1.07	15.80	27.05	269	1871	229	0.07	79.0	5.19	5.52
Van der Have H47150(Rzm)	140	289.7	7029	33.21	92	806	96	1.07	15.54	24.23	207	1740	285	0.04	82.3	4.58	4.81
Van der Have H47151(Rzm)	104	299.5	6976	35.31	98	823	98	0.98	15.95	23.30	201	1685	233	0.89	76.1	4.33	4.58
Van der Have H66852	148	309.2	7045	37.42	104	853	102	1.01	16.47	22.77	252	1692	243	0.00	77.9	4.85	5.44
Van der Have H66855	132	314.7	7064	38.60	107	866	103	1.00	16.74	22.45	254	1632	247	0.00	76.1	5.01	5.49
Van der Have H66856	155	307.3	7047	37.01	103	848	101	1.05	16.40	22.95	282	1734	247	0.04	73.8	4.87	5.37
Van der Have H66859	108	292.9	7887	33.90	94	914	109	1.00	15.65	26.90	202	1610	278	0.07	84.4	5.16	5.39
Beta 6225(Check)	141	304.5	6920	36.40	101	828	99	0.98	16.20	22.68	294	1580	235	0.00	72.7	NA	NA
Beta 6233(Check)	133	310.5	6904	37.69	105	838	100	1.01	16.54	22.25	240	1694	246	0.00	74.6	NA	NA
Crystal 999(Check)	157	307.7	7026	37.10	103	846	101	1.04	16.42	22.85	272	1652	267	0.00	72.5	NA	NA
Seedex Magnum(Check)	111	310.9	7143	37.78	105	869	103	1.01	16.56	22.94	237	1611	270	0.00	75.4	NA	NA
Van der Have H46177(Check)	119	307.6	6757	37.06	103	813	97	0.96	16.35	22.01	215	1652	227	0.00	67.1	NA	NA
Crystal 30 Std	163	288.7	5312	33.00	92	607	72	1.15	15.57	18.40	358	1891	264	0.04	73.2	NA	NA
RZ Very Susc 2N - Aph Tol	164	292.7	6132	33.85	94	709	84	1.03	15.65	20.95	251	1688	252	0.04	72.4	NA	NA
Check Mean		318.5	7759.5	39.5		961.9		1.0	16.9	24.4	211.1	1689.4	247.6	0.0	71.8		
Coeff. of Var. (%)		2.8	6.9	5.0		8.1		6.9	2.4	6.5	21.2	4.8	14.0		9.9		
F Value		16.4	23.6	16.4		18.1		11.5	15.9	31.4	10.4	17.2	7.8		6.5		
Mean LSD (0.05)		5.8	424.3	1.3		59.8		0.1	0.3	1.2	28.6	56.3	24.5		9.3		
Mean LSD (0.01)		7.6	558.9	1.7		78.7		0.1	0.4	1.6	37.7	74.2	32.3		12.4		

Emergence and vigor not collected.

Created 10-28-04.

**Lower numbers indicate better resistance (1 = Ex, 9 = poor). Cerc. data from Rosemount, MN. Aph data from Shakopee, MN.

Trial # = 04ACsc

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

++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.

Table 37
Performance of Varieties - ACS Biotech Coded Test
ALL ACSC Sites - All Characters (Commercial Status)

Description	Code	Rec/T Lbs/T	Rec/T % Mean	Rec/A Lbs/A	Rec/A % Mean	Rev/Ton $	Rev/Ton % Mean	Rev/Acre $	Rev/Acre % Mean	Loss to M %	Sugar %	Yield T/A	NA ppm	K ppm	Amino ppm	Bolter %
Beta 991RR	356	311.8	102	7120	101	38.09	104	870	103	1.08	16.68	22.79	296	1689	278	0.00
Beta 993RR(Rzm)	353	295.9	97	7049	100	34.22	93	813	96	1.11	15.92	23.89	286	1781	280	0.00
Crystal R309RR	355	309.0	101	6995	100	37.40	102	850	101	1.08	16.54	22.54	240	1780	274	0.00
Beta 6225(Check)	351	300.4	98	7246	103	35.32	96	853	101	1.01	16.02	24.12	312	1576	247	0.00
Crystal 999(Check)	354	310.2	101	6840	97	37.72	103	834	99	1.03	16.54	21.95	255	1634	266	0.00
Van der Have H46177(Check)	352	309.9	101	6882	98	37.63	102	833	99	0.95	16.43	22.26	221	1611	226	0.02
Mean		306.19	100	7021.81	100	36.73	100	842.06	100	1.04	16.36	22.93	268.5	1678.5	261.9	
CV%		2.81		5.20		5.69		6.99		4.84	2.45	4.79	12.60	4.18	8.49	
LSD .05		20.87	7	334.18	5	5.06	14	89.95	11	0.14	0.92	1.02	99.57	143.04	46.19	

% of Mean is relative to general mean of the trial.

Created 11-02-04.
Trial # = 04ACBi

@ Biotech varieties not approved for sale. Refer to approval list for approval status.
++ Revenue estimates are based on a $39.85 beet payment at 17.5 % sugar and 1.5 % loss to molasses. Revenue does not consider hauling costs.
No Aphanomyces present.

Table 38
Company Participation in 2004 Coded Trials
Number of Varieties

Seed Co.	American Crystal Comm	American Crystal Semi Comm Spec	American Crystal Bio-tech+	American Crystal Aph Spec++	American Crystal Rzm Spec	Minn-Dak Comm	Minn-Dak Semi Comm
ACH Seeds	-	-	-	3.5	-	10	-
Betaseed-KWS	9	14	2	7	15	13	2
Croplan Genetics	3	-	-	-	-	2	-
Crystal Beet Seed	9	11	1	3.5	12	-	-
Hilleshög-Syngenta	8	12	-	5	13	13	3
VdH/Holly	9	17	-	9	15	20	-
Seedex	5	3	-	4	4	6	1
Total	43	57	3	32	59	64	6

NOTE: Check varieties were included in the semi commercial and biotech trials as well as the commercial tests. A ratio of the check performance is used to adjust performance data of semi commercial and biotech varieties to obtain

+ Two Biotech trials were shared by ACSC and Minn-Dak.
++ Entries in common to ACSC and Minn-Dak submitted by different companies may make specialty hard to classify.

Table 39

Varieties Approved for Sale to Minn-Dak Growers for the 2005 Sugarbeet Crop

Established Varieties

	Beta 3800 (Aph)	Croplan CL314	VDH 46177 (Aph-Rzm)
	Beta 3861 (Aph)	ACH 820 (Aph)	VDH 66453
	Beta 4818R (Aph-Rzm)	ACH 999 (Aph)	VDH 66561
	Beta 6225	HM 7078	A VDH 66728
	Beta 6663	Holly 117	SDX Aspen
***	Beta BX1103	Holly 150	SDX Aurora (Aph)
			SDX Magnum (0922)

Conditionally Approved Varieties

CL 101	Holly 114	Holly 115

Specialty Varieties **

Beta 3800 (Aph)	ACH 820 (Aph)	VDH 46177 (Aph-Rzm)
Beta 3861 (Aph BX0961)	ACH R826 (Aph-Rzm)	SDX Aurora (Aph)
Beta 4818R (Aph-Rzm)	HM2463 (Aph)	SDX Prizm (0924 Aph-Rzm)
	HM2469 (Aph-Rzm)	

** Aphanomyces 3-year root rating of 4.90 or better must be obtained to be considered "Aphanomyces Special".
** "Rzm" indicates that the variety has some Rhizomania resistance.

Test Market Varieties Approved for Limited Sales

	Beta 1317 (Aph-Rzm)		HM 2467 (Rzm)		VDH 46519(Rzm)
	Beta 3900(Aph)		HM2497 (7197 Rzm)	***	VDH 66854
	ACH A300(Aph)	***	Holly 323(Aph-Rzm)	***	SDX Alpine(0931 Aph-Rzm)
***	ACH R357(Aph-Rzm)	***	Holly 324(Rzm)		

A Newly Approved for Full Market
* Last year of sales
*** NSA = No Seed Available
ACH varieties are labeled as Crystal in the data tables.

Table 40

Three Year Performance Summary of Minn-Dak Commercial Entries in 2004
Minn-Dak Factory Area(All Location)*

Description @	Years Comm Seed +	Rec. Sugar / Ton (pounds) 2004	3 Yr Mean	3 Yr % Mean	Rec. Sugar / Acre (pounds) 2004	3 Yr Mean	3 Yr % Mean	Loss to Molasses (%) 2004	3 Yr Mean	3 Yr % Mean	Cercospora Rating** (1-9) 2004	3 Yr Mean	Aphanomyces Root Rating 2004	3 Yr Mean
Previously Approved														
Beta 3800(Aph)	4	305.9	318.3	100.1	9514	8545	101.4	1.17	1.30	98.5	4.53	4.64	4.52	4.47
Beta 3861(Aph)	3	299.8	316.5	99.5	8836	8337	99.0	1.24	1.32	100.3	4.42	4.53	4.60	4.44
Beta 4818R(Aph & Rzm)	3	304.8	311.6	98.0	9101	8325	98.8	1.16	1.36	103.6	4.48	4.78	4.99	4.67
Beta 6225	3	309.2	320.5	100.8	9140	8547	101.4	1.15	1.26	96.0	4.85	4.65	5.24	5.15
Beta 6663	3	306.1	317.9	99.9	9865	8775	104.2	1.20	1.35	102.8	4.36	4.48	5.44	5.27
Croplan Genetics CL314	2	303.7	318.0	100.0	9331	8544	101.4	1.22	1.34	101.5	5.02	5.03	5.67	NA
Crystal 820	2	313.7	322.2	101.3	9109	8556	101.6	1.16	1.31	99.8	4.70	4.66	4.76	4.54
Crystal 999	5	308.1	320.8	100.9	9420	8529	101.2	1.20	1.33	100.8	4.68	4.51	5.22	4.91
Hilleshog 7078	5	305.2	316.1	99.4	9776	8776	104.2	1.19	1.35	102.6	4.49	4.73	5.84	6.00
Holly 117	2	301.2	317.4	99.8	9561	8718	103.5	1.30	1.36	103.1	5.02	4.99	5.66	5.93
Holly 150	1	300.7	316.6	99.5	9456	8613	102.2	1.23	1.34	101.6	5.35	4.92	5.84	NA
Seedex Aspen	2	295.8	317.3	99.8	8761	8137	96.6	1.26	1.33	101.1	4.49	4.53	5.54	5.26
Seedex Aurora(Aph)	2	307.8	319.3	100.4	9052	8443	100.2	1.11	1.26	95.5	4.13	4.16	4.83	4.74
Seedex Magnum	2	314.2	326.2	102.6	9462	8561	101.6	1.19	1.28	97.0	5.18	5.02	5.22	5.53
Van der Have H46177(Aph & Rzm)	4	306.2	321.8	101.2	8994	8131	96.5	1.13	1.23	93.2	4.49	4.16	4.85	4.58
Van der Have H66453	3	309.1	314.9	99.0	9863	8680	103.0	1.20	1.33	101.1	5.05	5.01	5.60	6.10
Van der Have H66561	2	309.2	318.7	100.2	9773	8823	104.7	1.21	1.34	101.6	4.99	5.06	5.68	5.76
Candidates for Full Approval														
Beta BX1103	NC	309.6	319.8	100.6	9121	8563	101.6	1.28	1.39	105.8	4.68	4.77	5.25	5.21
Croplan Genetics CL101	9	302.1	311.2	97.9	9339	8397	99.7	1.35	1.44	109.7	5.06	5.06	5.54	5.69
Crystal R826(Rzm)	2	310.1	323.7	101.8	8981	8049	95.5	1.36	1.44	109.4	4.78	4.61	4.70	4.45
Hilleshog 2463Rz(7163)	NC	292.9	312.0	98.1	8964	8185	97.1	1.28	1.36	103.6	4.83	4.74	5.43	4.36
Hilleshog 2469Rz(7169 Aph)	NC	283.9	302.7	95.2	8535	8078	95.9	1.27	1.41	106.9	4.98	4.87	4.92	4.34
Holly 114	6	295.9	305.3	96.0	9010	8400	99.7	1.30	1.41	106.9	4.08	4.31	5.52	5.39
Holly 115	6	299.6	311.8	98.0	9288	8511	101.0	1.29	1.40	106.6	4.97	4.97	5.68	5.44
Seedex Prizm(SX0924 Aph & Rzm)	1	310.0	318.9	100.3	9187	8158	96.8	1.10	1.22	92.7	4.48	4.03	5.07	4.78
Van der Have H66728	NC	303.5	319.4	100.4	9596	8879	105.4	1.18	1.28	97.2	5.00	4.99	5.56	NA
Test Market Candidates			2 Yr											
Beta 1317(BX1317 Aph & Rzm)	NC	293.5	303.7	96.6	8947	8961	101.2	1.38	1.45	110.4	5.03	4.96	5.12	4.66
Beta 3900 (BX1315 Aph)	NC	300.3	306.8	97.5	9384	9092	102.6	1.28	1.38	105.0	5.15	4.94	4.80	4.31
Crystal A300(Aph)	NC	316.6	327.6	104.2	9467	9048	102.2	1.18	1.32	100.4	4.42	4.45	5.22	4.68
Crystal R357(Rzm & Aph)	NC	294.1	306.3	97.4	9545	8948	101.0	1.30	1.45	110.4	4.77	4.80	4.64	4.42
Hilleshog 2467Rz(7167)	NC	296.2	312.5	99.4	8836	8637	97.5	1.31	1.39	106.2	4.88	4.86	5.82	6.01
Hilleshog 7197Rz(2497)	NC	289.5	302.0	96.0	10100	9456	106.8	1.20	1.34	102.4	5.03	5.20	5.28	5.10
Hilleshog 7206Rz	NC	292.2	307.0	97.6	9235	8972	101.3	1.32	1.38	105.4	5.81	5.62	5.73	5.92
Holly 03HX323 Rzm	NC	302.9	315.0	100.1	9534	8889	100.4	1.15	1.27	96.7	4.64	4.19	4.56	4.04
Holly 03HX324 Rzm	NC	305.0	314.0	99.8	9886	9026	101.9	1.12	1.23	94.0	4.77	4.69	5.48	5.44
Seedex SX0931(Alpine Aph & Rzm)	NC	314.3	323.0	102.7	9310	8725	98.5	1.06	1.20	91.3	4.32	3.98	4.74	4.11
Van der Have H46519(Rzm)	NC	291.1	299.0	95.1	11068	9789	110.5	1.18	1.37	104.7	4.94	5.15	5.57	4.94
Van der Have H66854	NC	300.1	315.9	100.4	9986	9022	101.9	1.21	1.28	97.5	5.08	5.01	5.82	5.53
First Year Varieties				**1 Yr**			**1 Yr**			**1 Yr**				
Beta BX1465(Rzm)	NC	298.5	NA	97.6	9723	NA	103.9	1.33	NA	111.3	5.11	NA	4.84	NA
Beta BX1466(Rzm)	NC	288.1	NA	94.2	10094	NA	107.9	1.43	NA	119.6	5.69	NA	4.63	NA
Beta BX1467(Rzm)	NC	286.1	NA	93.5	9529	NA	101.9	1.30	NA	108.8	4.92	NA	5.10	NA
Beta BX1470(Rhc)	NC	278.6	NA	91.1	9548	NA	102.1	1.37	NA	114.6	4.67	NA	4.99	NA
Crystal R466(Rzm)	NC	286.5	NA	93.7	9401	NA	100.5	1.28	NA	107.1	4.94	NA	4.89	NA
Crystal R467(Rzm)	NC	304.2	NA	99.4	9346	NA	99.9	1.28	NA	107.1	4.88	NA	5.07	NA
Crystal R468(Rzm)	NC	291.1	NA	95.2	9845	NA	105.2	1.42	NA	118.8	5.21	NA	4.35	NA
Crystal R469(Rzm)	NC	295.9	NA	96.7	9001	NA	96.2	1.34	NA	112.1	4.86	NA	4.99	NA
Crystal S465(Rhc)	NC	273.2	NA	89.3	8968	NA	95.9	1.23	NA	102.9	4.51	NA	5.57	NA
Hilleshog 7215Rz	NC	290.0	NA	94.8	9781	NA	104.6	1.28	NA	107.1	5.07	NA	5.70	NA
Hilleshog 7217Rz	NC	300.6	NA	98.2	9321	NA	99.7	1.22	NA	102.1	4.84	NA	5.77	NA
Hilleshog 7218Rz	NC	284.6	NA	93.0	8623	NA	92.2	1.31	NA	109.6	4.69	NA	5.94	NA
Hilleshog 7219Rz	NC	292.8	NA	95.7	9189	NA	98.2	1.29	NA	107.9	4.15	NA	5.76	NA
Hilleshog 7220Rz	NC	285.6	NA	93.4	9353	NA	100.0	1.28	NA	107.1	5.13	NA	4.97	NA
Hilleshog 7221Rz	NC	283.2	NA	92.6	9543	NA	102.0	1.29	NA	107.9	4.90	NA	4.89	NA
Hilleshog 7223Rz	NC	316.9	NA	103.6	9341	NA	99.9	1.06	NA	88.7	4.44	NA	4.74	NA
Holly 04HX448 Rzm	NC	297.6	NA	97.3	9900	NA	105.8	1.21	NA	101.2	5.18	NA	5.41	NA
Holly 04HX449 Rzm	NC	308.3	NA	100.8	9829	NA	105.1	1.11	NA	92.9	4.60	NA	5.26	NA
Holly 04HX450	NC	288.1	NA	94.2	9679	NA	103.5	1.17	NA	97.9	4.29	NA	4.96	NA
Holly 04HX451	NC	307.2	NA	100.4	9721	NA	103.9	1.18	NA	98.7	4.35	NA	5.85	NA
Seedex SX0934(Aph & Rzm)	NC	295.7	NA	96.6	8755	NA	93.6	1.30	NA	108.8	4.58	NA	5.94	NA
Van der Have H46530(Rzm)	NC	300.6	NA	98.3	9516	NA	101.7	1.16	NA	97.0	4.86	NA	5.19	NA
Van der Have H46531(Rzm)	NC	299.1	NA	97.8	10210	NA	109.2	1.15	NA	96.2	4.60	NA	5.19	NA
Van der Have H66857	NC	313.2	NA	102.4	10439	NA	111.6	1.18	NA	98.7	5.20	NA	5.15	NA
Van der Have H66858	NC	304.0	NA	99.4	9855	NA	105.4	1.21	NA	101.2	5.01	NA	5.80	NA
Comm Appr Mean		305.9	318.0	100.1	9354	8425	101.3	1.20	1.32	100	4.72	4.70	5.27	5.16

* 2002 Breckenridge & Colfax, 2003 Foxhome & Fairmount 2004 Breckenridge & Norcross. Created 11-3-03.

Lowere numbers indicate better Cercospora and Aphanomyces tolerance (1=Healthy, 9=Poor).

\+ Years Comm Seed indicates how long commercial seed has been planted in the official trials.

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

Table 41

Three Year Performance Summary of Minn-Dak Commercial Entries in 2004

Minn-Dak Factory Area(All Location)*

	Sugar Content (%)			Root Yield (Tons / Acre)			Seedling Vigor Rating** (1=Ex,5=Poor)			Field Emergence (%)	
Description @	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	3 Yr % Mean	2004	3 Yr Mean	Ploidy @	2004	3 Yr Mean
Previously Approved											
Beta 3800(Aph)	16.5	17.2	99.9	31.1	26.9	100.0	2.0	2.6	2N	72.5	79.2
Beta 3861(Aph)	16.2	17.1	99.4	29.4	26.4	98.0	2.9	3.1	2N	64.6	75.3
Beta 4818R(Aph & Rzm)	16.4	16.9	98.3	30.5	27.0	100.1	2.8	3.1	3N	65.9	67.9
Beta 6225	16.6	17.3	100.3	29.3	26.7	99.0	2.8	2.7	2N	68.0	79.6
Beta 6663	16.5	17.2	100.0	32.5	27.8	103.3	2.7	2.9	2N	71.8	80.6
Croplan Genetics CL314	16.4	17.2	100.0	31.1	27.1	100.5	3.2	NA	3N	57.3	NA
Crystal 820	16.9	17.4	101.1	28.8	26.6	98.6	2.9	2.6	3N	62.3	76.1
Crystal 999	16.6	17.4	100.7	30.9	26.9	99.7	2.9	2.8	3N	57.7	71.5
Hilleshog 7078	16.5	17.2	99.5	32.0	27.9	103.7	2.4	2.7	2N	68.5	79.0
Holly 117	16.4	17.2	99.9	31.8	27.6	102.5	3.3	3.0	3N	55.4	66.8
Holly 150	16.3	17.2	99.6	31.7	27.4	101.7	3.0	NA	3N	51.7	NA
Seedex Aspen	16.1	17.2	99.7	29.7	25.9	96.1	3.1	2.9	3N	58.2	70.1
Seedex Aurora(Aph)	16.5	17.2	99.9	29.8	26.6	98.8	2.7	3.0	3N	60.5	68.7
Seedex Magnum	16.9	17.6	102.0	30.2	26.4	98.0	2.9	NA	3N	57.7	NA
Van der Have H46177(Aph & Rzm)	16.4	17.3	100.4	29.5	25.4	94.3	3.1	3.1	2N	63.3	67.4
Van der Have H66453	16.7	17.1	99.1	31.7	27.6	102.4	2.8	2.9	3N	59.8	71.5
Van der Have H66561	16.7	17.3	100.2	31.9	27.9	103.4	3.1	2.8	3N	61.2	71.6
Candidates for Full Approval											
Beta BX1103	16.8	17.4	100.8	29.6	26.9	100.0	3.7	NA	3N	45.5	NA
Croplan Genetics CL101	16.5	17.0	98.6	30.8	27.0	100.2	3.0	2.9	3N	63.2	69.4
Crystal R826(Rzm)	16.9	17.6	102.2	29.6	25.2	93.4	2.5	2.5	3N	57.2	76.3
Hilleshog 2463Rz(7163)	15.9	17.0	98.4	31.0	26.5	98.3	2.9	2.8	2N	59.4	73.2
Hilleshog 2469Rz(7169 Aph)	15.5	16.5	96.0	29.7	26.7	99.0	3.9	3.2	2N	49.7	69.0
Holly 114	16.1	16.7	96.7	30.5	27.6	102.6	3.3	3.2	3N	59.9	66.9
Holly 115	16.3	17.0	98.6	31.1	27.4	101.8	3.7	3.2	3N	48.1	66.5
Seedex Prizm(SX0924 Aph & Rzm)	16.6	17.2	99.6	29.7	25.7	95.3	3.2	3.1	2N	53.0	67.0
Van der Have H66728	16.4	17.2	100.1	32.0	28.0	104.0	2.5	NA	3N	67.3	NA
Test Market Candidates											
Beta 1317(BX1317 Aph & Rzm)	16.1	16.6	97.4	30.6	29.6	104.2	4.1	3.3	2N	32.4	59.1
Beta 3900 (BX1315 Aph)	16.3	16.7	97.9	31.3	29.7	104.6	3.8	3.3	2N	51.2	71.5
Crystal A300(Aph)	17.0	17.7	103.6	30.3	27.9	98.1	2.6	2.6	3N	55.7	71.6
Crystal R357(Rzm & Aph)	16.0	16.8	98.2	33.0	29.7	104.5	3.0	3.0	3N	52.2	62.6
Hilleshog 2467Rz(7167)	16.1	17.0	99.6	29.8	27.7	97.6	3.6	2.9	2N	52.9	71.6
Hilleshog 7197Rz(2497)	15.7	16.4	96.3	34.8	31.4	110.5	2.6	2.6	2N	65.3	77.6
Hilleshog 7206Rz	15.9	16.7	98.0	31.5	29.3	103.0	3.3	3.3	2N	61.4	72.2
Holly 03HX323 Rzm	16.3	17.0	99.7	31.3	28.3	99.6	2.3	NA	2N	70.6	NA
Holly 03HX324 Rzm	16.4	16.9	99.2	32.4	28.9	101.7	2.5	NA	2N	73.6	NA
Seedex SX0931(Alpine Aph & Rzm)	16.8	17.4	101.6	29.6	27.1	95.2	3.0	3.0	2N	62.3	74.5
Van der Have H46519(Rzm)	15.7	16.3	95.6	37.3	32.6	114.7	1.9	2.2	2N	74.9	83.5
Van der Have H66854	16.2	17.1	100.0	33.3	28.8	101.4	2.2	NA	3N	69.9	NA
First Year Varieties			**1 Yr**			**1 Yr**					
Beta BX1465(Rzm)	16.3	NA	98.6	32.6	NA	106.2	2.1	NA	2N	61.5	NA
Beta BX1466(Rzm)	15.8	NA	96.0	34.7	NA	113.1	2.8	NA	2N	67.4	NA
Beta BX1467(Rzm)	15.6	NA	94.6	33.1	NA	107.9	3.0	NA	2N	50.7	NA
Beta BX1470(Rhc)	15.3	NA	92.8	34.2	NA	111.4	2.3	NA	2N	67.1	NA
Crystal R466(Rzm)	15.6	NA	94.6	32.7	NA	106.4	3.3	NA	2N	58.6	NA
Crystal R467(Rzm)	16.5	NA	100.0	30.9	NA	100.5	3.1	NA	3N	58.7	NA
Crystal R468(Rzm)	16.0	NA	96.9	33.7	NA	109.7	3.7	NA	2N	42.5	NA
Crystal R469(Rzm)	16.1	NA	97.8	30.4	NA	99.1	3.8	NA	3N	52.3	NA
Crystal S465(Rhc)	14.9	NA	90.3	33.0	NA	107.6	2.7	NA	2N	65.2	NA
Hilleshog 7215Rz	15.8	NA	95.7	33.7	NA	109.9	2.4	NA	2N	68.9	NA
Hilleshog 7217Rz	16.3	NA	98.5	31.1	NA	101.3	1.6	NA	2N	70.5	NA
Hilleshog 7218Rz	15.5	NA	94.2	30.3	NA	98.8	3.1	NA	2N	65.1	NA
Hilleshog 7219Rz	15.9	NA	96.5	31.5	NA	102.5	3.3	NA	2N	45.6	NA
Hilleshog 7220Rz	15.6	NA	94.3	32.7	NA	106.6	2.4	NA	2N	75.2	NA
Hilleshog 7221Rz	15.4	NA	93.6	33.6	NA	109.5	2.1	NA	2N	73.8	NA
Hilleshog 7223Rz	16.9	NA	102.4	29.6	NA	96.3	3.0	NA	2N	65.9	NA
Holly 04HX448 Rzm	16.1	NA	97.6	33.5	NA	109.2	3.0	NA	2N	59.0	NA
Holly 04HX449 Rzm	16.5	NA	100.3	31.6	NA	102.9	2.4	NA	2N	71.7	NA
Holly 04HX450	15.6	NA	94.5	33.4	NA	108.8	2.3	NA	3N	68.0	NA
Holly 04HX451	16.5	NA	100.2	31.8	NA	103.7	2.9	NA	3N	71.8	NA
Seedex SX0934(Aph & Rzm)	16.1	NA	97.5	29.6	NA	96.3	3.6	NA	3N	42.2	NA
Van der Have H46530(Rzm)	16.2	NA	98.2	31.8	NA	103.5	2.5	NA	2N	70.9	NA
Van der Have H46531(Rzm)	16.1	NA	97.7	34.2	NA	111.5	2.3	NA	2N	65.2	NA
Van der Have H66857	16.8	NA	102.1	33.3	NA	108.6	2.4	NA	3N	71.4	NA
Van der Have H66858	16.4	NA	99.4	32.7	NA	106.4	2.8	NA	3N	63.8	NA
2N	16.5	17.2	100	30.7	26.9	100	2.8	2.9		62.1	73.2

* 2002 Breckenridge & Colfax, 2003 Foxhome & Fairmount 2004 Breckenridge & Norcross. Created 11-17-04.

** Lower numbers indicate better seedling vigor (1=Ex,5=Poor).

@ Ploidy indicates number of chromosomes (2N = diploid, 3N=triploid). Diploids are generally somewhat smaller seedlings, while triploids are generally larger. Diploids can have higher emerge

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

Table 42

2004 Performance of Varieties - Minn-Dak Commercial Trial

Barnesville, Norcross - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1317(BX1317 Aph & Rzm)	234	293.5	8947	1.38			16.06	30.58	288	2141	399	4.1	0.00	32.4
Beta 3800(Aph)	206	305.9	9514	1.17			16.48	31.14	331	1912	281	2.0	0.00	72.5
Beta 3861(Aph)	254	299.8	8836	1.24			16.23	29.42	350	1980	306	2.9	0.00	64.6
Beta 3900 (BX1315 Aph)	262	300.3	9384	1.28			16.30	31.26	322	2158	299	3.8	0.00	51.2
Beta 4818R(Aph & Rzm)	224	304.8	9101	1.16			16.39	30.50	297	1983	262	2.8	0.00	65.9
Beta 6225	214	309.2	9140	1.15			16.63	29.26	287	1918	279	2.8	0.00	68.0
Beta 6663	244	306.1	9865	1.20			16.50	32.51	245	2014	306	2.7	0.00	71.8
Beta BX1103	231	309.6	9121	1.28			16.76	29.60	358	2106	306	3.7	0.00	45.5
Beta BX1465(Rzm)	216	298.5	9723	1.33			16.27	32.60	332	2211	326	2.1	0.05	61.5
Beta BX1466(Rzm)	256	288.1	10094	1.43			15.84	34.73	400	2183	386	2.8	0.00	67.4
Beta BX1467(Rzm)	227	286.1	9529	1.30			15.61	33.13	316	2103	332	3.0	0.00	50.7
Beta BX1470(Rhc)	242	278.6	9548	1.37			15.30	34.19	327	2178	363	2.3	0.00	67.1
Croplan Genetics CL101	225	302.1	9339	1.35			16.46	30.82	296	2193	355	3.0	0.00	63.2
Croplan Genetics CL314	252	303.7	9331	1.22			16.41	31.05	277	2075	293	3.2	0.00	57.3
Crystal 820	203	313.7	9109	1.16			16.85	28.84	283	1965	278	2.9	0.00	62.3
Crystal 999	246	308.1	9420	1.20			16.60	30.93	258	2044	294	2.9	0.00	57.7
Crystal A300(Aph)	215	316.6	9467	1.18			17.01	30.29	306	1948	287	2.6	0.00	55.7
Crystal R357(Rzm & Aph)	260	294.1	9545	1.30			16.00	33.02	318	2173	311	3.0	0.00	52.2
Crystal R466(Rzm)	243	286.5	9401	1.28			15.61	32.67	374	2205	269	3.3	0.00	58.6
Crystal R467(Rzm)	205	304.2	9346	1.28			16.50	30.86	289	2111	333	3.1	0.00	58.7
Crystal R468(Rzm)	255	291.1	9845	1.42			15.98	33.68	352	2191	395	3.7	0.00	42.5
Crystal R469(Rzm)	213	295.9	9001	1.34			16.14	30.42	358	2255	310	3.8	0.05	52.3
Crystal R826(Rzm)	263	310.1	8981	1.36			16.85	29.57	321	2216	349	2.5	0.00	57.2
Crystal S465(Rhc)	232	273.2	8968	1.23			14.89	33.03	332	2062	284	2.7	0.00	65.2
Filler #1	204	301.7	4778	1.21			16.29	16.49	291	2104	275	4.9	0.00	7.3
Hilleshog 2463Rz(7163)	226	292.9	8964	1.28			15.92	30.97	352	2148	291	2.9	0.00	59.4
Hilleshog 2467Rz(7167)	261	296.2	8836	1.31			16.11	29.75	368	2145	313	3.6	0.00	52.9
Hilleshog 2469Rz(7169 Aph)	222	283.9	8535	1.27			15.48	29.70	364	2263	251	3.9	0.00	49.7
Hilleshog 7078	233	305.2	9776	1.19			16.45	32.03	263	1926	314	2.4	0.00	68.5
Hilleshog 7197Rz(2497)	241	289.5	10100	1.20			15.68	34.77	329	2132	249	2.6	0.04	65.3
Hilleshog 7206Rz	251	292.2	9235	1.32			15.93	31.45	294	2311	306	3.3	0.00	61.4
Hilleshog 7215Rz	210	290.0	9781	1.28			15.78	33.74	416	2095	285	2.4	0.04	68.9
Hilleshog 7217Rz	253	300.6	9321	1.22			16.25	31.09	275	2132	284	1.6	0.00	70.5
Hilleshog 7218Rz	235	284.6	8623	1.31			15.54	30.32	381	2110	316	3.1	0.00	65.1
Hilleshog 7219Rz	217	292.8	9189	1.29			15.92	31.46	533	1972	278	3.3	0.00	45.6
Hilleshog 7220Rz	239	285.6	9353	1.28			15.56	32.74	316	2188	295	2.4	0.00	75.2
Hilleshog 7221Rz	207	283.2	9543	1.29			15.44	33.61	381	2216	271	2.1	0.00	73.8
Hilleshog 7223Rz	258	316.9	9341	1.06			16.89	29.57	174	1960	235	3.0	0.00	65.9
Holly 114	228	295.9	9010	1.30			16.09	30.48	295	2173	320	3.3	0.00	59.9
Holly 115	249	299.6	9288	1.29			16.28	31.06	303	2102	331	3.7	0.00	48.1
Holly 117	223	301.2	9561	1.30			16.37	31.82	331	2119	332	3.3	0.00	55.4
Holly 150	245	300.7	9456	1.23			16.27	31.70	275	2070	303	3.0	0.00	51.7
Holly 03HX323 Rzm	240	302.9	9534	1.15			16.31	31.27	251	1994	273	2.3	0.00	70.6
Holly 03HX324 Rzm	218	305.0	9886	1.12			16.38	32.42	202	1995	268	2.5	0.05	73.6
Holly 04HX448 Rzm	211	297.6	9900	1.21			16.10	33.54	224	2147	290	3.0	0.00	59.0
Holly 04HX449 Rzm	201	308.3	9829	1.11			16.54	31.58	194	1985	266	2.4	0.05	71.7
Holly 04HX450	237	288.1	9679	1.17			15.59	33.41	195	2112	273	2.3	0.00	68.0
Holly 04HX451	264	307.2	9721	1.18			16.53	31.83	253	2100	265	2.9	0.00	71.8
Seedex SX0931(Alpine Aph & Rzm)	212	314.3	9310	1.06			16.78	29.57	233	1875	241	3.0	0.00	62.3
Seedex SX0934(Aph & Rzm)	257	295.7	8755	1.30			16.09	29.57	301	2195	312	3.6	0.00	42.2
Seedex Aspen	248	295.8	8761	1.26			16.05	29.68	289	2177	294	3.1	0.00	58.2
Seedex Aurora(Aph)	220	307.8	9052	1.11			16.51	29.75	203	2078	241	2.7	0.00	60.5
Seedex Magnum	229	314.2	9462	1.19			16.90	30.22	236	2012	303	2.9	0.00	57.7
Seedex Prizm(SX0822 Aph)	238	310.0	9187	1.10			16.61	29.71	231	1972	247	3.2	0.00	53.0
Van der Have H46177(Aph & Rzm)	219	306.2	8994	1.13			16.44	29.48	211	2046	260	3.1	0.00	63.3
Van der Have H46519(Rzm)	236	291.1	11068	1.18			15.74	37.31	277	2048	273	1.9	0.10	74.9
Van der Have H46530(Rzm)	259	300.6	9516	1.16			16.19	31.77	208	2065	277	2.5	0.11	70.9
Van der Have H46531(Rzm)	230	299.1	10210	1.15			16.11	34.24	255	1973	279	2.3	0.00	65.2
Van der Have H66453	247	309.1	9863	1.20			16.66	31.70	260	1992	305	2.8	0.00	59.8
Van der Have H66561	208	309.2	9773	1.21			16.67	31.88	270	2016	307	3.1	0.05	61.2
Van der Have H66728	202	303.5	9596	1.18			16.36	31.95	262	2040	279	2.5	0.00	67.3
Van der Have H66854	221	300.1	9986	1.21			16.22	33.29	185	2083	323	2.2	0.05	69.9
Van der Have H66857	250	313.2	10439	1.18			16.84	33.34	261	2050	278	2.4	0.05	71.4
Van der Have H66858	209	304.0	9855	1.21			16.40	32.67	298	1997	296	2.8	0.00	63.8
Check Mean		299.6	9369	1.24			16.22	31.36	295	2085	297	2.9	0.01	60.4
Coeff. of Var. (%)		3.8	5.3	7.9			3.1	4.2	21.1	6.5	13.6	12.9		12.7
F Value		5.2	6.9	4.1			5.1	8.0	4.5	4.0	3.9	13.4		8.8
Mean LSD (0.05)		12.5	774	0.12			0.57	2.49	85	136	51	0.4		10.1
Mean LSD (0.01)		16.8	1032	0.16			0.76	3.32	113	179	68	0.6		13.5

* 2004 Data from Barnesville, Norcross. Created 11-04-04.

\+ Lower numbers indicate better seedling vigor. Trial # = 04MDcm

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

++ Revenue estimates were not determined for Minn-Dak area.

Table 43

2004 Performance of Varieties - Minn-Dak Commercial Trial

Barnesville, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1317(BX1317 Aph & Rzm)	234	303.9	8109	1.40			16.59	26.67	302	2034	435	4.1	0.00	27.0
Beta 3800(Aph)	206	315.7	8550	1.18			16.97	27.09	358	1804	305	2.0	0.00	73.7
Beta 3861(Aph)	254	311.2	8275	1.21			16.77	26.62	369	1804	321	2.9	0.00	65.3
Beta 3900 (BX1315 Aph)	262	315.7	9248	1.28			17.07	29.34	338	2026	331	3.8	0.00	50.5
Beta 4818R(Aph & Rzm)	224	325.4	8923	1.13			17.40	27.53	272	1846	287	2.8	0.00	68.2
Beta 6225	214	322.2	9007	1.17			17.28	27.94	311	1806	316	2.8	0.00	68.7
Beta 6663	244	324.1	9552	1.18			17.39	29.52	253	1840	334	2.7	0.00	68.2
Beta BX1103	231	322.6	9005	1.28			17.41	27.92	359	2012	327	3.7	0.00	40.5
Beta BX1465(Rzm)	216	313.0	9369	1.31			16.95	29.91	348	2073	339	2.1	0.00	56.3
Beta BX1466(Rzm)	256	299.8	10019	1.46			16.46	33.47	411	2056	438	2.8	0.00	65.6
Beta BX1467(Rzm)	227	296.0	9154	1.36			16.15	30.94	369	2032	375	3.0	0.00	48.7
Beta BX1470(Rhc)	242	293.3	9468	1.32			16.00	32.30	328	1984	382	2.3	0.00	64.0
Croplan Genetics CL101	225	316.4	9006	1.31			17.12	28.46	299	2040	363	3.0	0.00	62.3
Croplan Genetics CL314	252	322.9	9001	1.18			17.32	27.91	261	1934	309	3.2	0.00	55.0
Crystal 820	203	325.0	8743	1.17			17.42	26.84	290	1848	311	2.9	0.00	59.9
Crystal 999	246	323.4	8852	1.19			17.37	27.39	271	1908	318	2.9	0.00	60.8
Crystal A300(Aph)	215	333.0	8855	1.15			17.80	26.59	272	1807	314	2.6	0.00	54.8
Crystal R357(Rzm & Aph)	260	313.2	8863	1.28			16.94	28.29	335	1970	343	3.0	0.00	46.9
Crystal R466(Rzm)	243	299.2	9001	1.29			16.24	30.05	407	2062	298	3.3	0.00	55.5
Crystal R467(Rzm)	205	321.2	9097	1.25			17.31	28.28	242	1978	356	3.1	0.00	55.0
Crystal R468(Rzm)	255	300.6	9068	1.44			16.47	30.17	394	2117	411	3.7	0.00	37.8
Crystal R469(Rzm)	213	309.8	8695	1.35			16.84	28.06	391	2115	343	3.8	0.00	46.5
Crystal R826(Rzm)	263	331.4	8703	1.25			17.82	26.29	270	2021	330	2.5	0.00	58.5
Crystal S465(Rhc)	232	290.2	8767	1.28			15.79	30.16	340	2026	330	2.7	0.00	64.8
Filler #1	204	315.5	3979	1.23			17.00	12.58	316	1958	316	4.9	0.00	6.8
Hilleshog 2463Rz(7163)	226	311.7	8607	1.25			16.82	27.63	343	2036	303	2.9	0.00	60.9
Hilleshog 2467Rz(7167)	261	311.4	8819	1.29			16.86	28.32	349	2020	333	3.6	0.00	52.4
Hilleshog 2469Rz(7169 Aph)	222	293.4	8340	1.30			15.96	28.41	405	2167	281	3.9	0.00	45.3
Hilleshog 7078	233	318.6	9821	1.23			17.17	30.88	282	1833	364	2.4	0.00	73.1
Hilleshog 7197Rz(2497)	241	297.9	9431	1.23			16.12	31.61	340	2053	285	2.6	0.07	68.4
Hilleshog 7206Rz	251	302.7	9193	1.28			16.41	30.34	306	2139	316	3.3	0.00	57.9
Hilleshog 7215Rz	210	304.4	9479	1.24			16.46	31.16	404	1945	295	2.4	0.07	68.8
Hilleshog 7217Rz	253	315.5	9183	1.22			17.01	29.14	282	1983	321	1.6	0.00	74.4
Hilleshog 7218Rz	235	301.4	8375	1.27			16.34	27.74	363	1967	324	3.1	0.00	66.5
Hilleshog 7219Rz	217	304.4	8852	1.26			16.48	29.11	559	1812	287	3.3	0.00	42.5
Hilleshog 7220Rz	239	296.5	8877	1.32			16.14	29.91	354	2098	335	2.4	0.00	71.8
Hilleshog 7221Rz	207	295.4	9028	1.30			16.08	30.60	431	2080	301	2.1	0.00	74.6
Hilleshog 7223Rz	258	333.8	8659	1.05			17.74	25.94	174	1838	263	3.0	0.00	67.6
Holly 114	228	312.2	8802	1.23			16.84	28.17	281	2006	320	3.3	0.00	60.6
Holly 115	249	311.6	8818	1.30			16.89	28.33	332	1942	371	3.7	0.00	46.2
Holly 117	223	317.8	9344	1.25			17.14	29.44	283	2021	327	3.3	0.00	52.5
Holly 150	245	316.2	8948	1.26			17.07	28.29	307	1963	342	3.0	0.00	50.9
Holly 03HX323 Rzm	240	315.1	9039	1.16			16.91	28.68	281	1885	291	2.3	0.00	72.0
Holly 03HX324 Rzm	218	320.3	9506	1.13			17.14	29.65	205	1886	297	2.5	0.07	72.4
Holly 04HX448 Rzm	211	311.2	9651	1.20			16.76	31.07	223	2027	308	3.0	0.00	57.9
Holly 04HX449 Rzm	201	317.1	9291	1.13			16.98	29.28	206	1880	299	2.4	0.07	75.7
Holly 04HX450	237	300.7	9377	1.22			16.24	31.13	244	2010	318	2.3	0.00	72.8
Holly 04HX451	264	322.9	9386	1.15			17.30	29.07	238	1928	293	2.9	0.00	71.8
Seedex SX0931(Alpine Aph & Rzm)	212	325.1	8696	1.07			17.32	26.87	239	1768	268	3.0	0.00	61.4
Seedex SX0934(Aph & Rzm)	257	304.8	8460	1.33			16.57	27.74	343	2061	355	3.6	0.00	41.5
Seedex Aspen	248	309.2	8087	1.21			16.68	26.17	315	1973	301	3.1	0.00	58.5
Seedex Aurora(Aph)	220	323.3	8501	1.13			17.30	26.31	194	1999	276	2.7	0.00	58.1
Seedex Magnum	229	326.3	9012	1.17			17.48	27.66	246	1881	320	2.9	0.00	59.8
Seedex Prizm(SX0822 Aph)	238	325.2	8891	1.11			17.37	27.28	223	1873	280	3.2	0.00	60.4
Van der Have H46177(Aph & Rzm)	219	319.2	8540	1.11			17.08	26.74	217	1918	275	3.1	0.00	61.7
Van der Have H46519(Rzm)	236	305.6	10687	1.19			16.47	35.02	288	1929	305	1.9	0.07	74.7
Van der Have H46530(Rzm)	259	314.6	9343	1.17			16.90	29.73	219	1940	311	2.5	0.14	69.4
Van der Have H46531(Rzm)	230	315.0	9931	1.13			16.88	31.60	227	1872	293	2.3	0.00	64.4
Van der Have H66453	247	319.6	9179	1.21			17.20	28.73	280	1871	338	2.8	0.00	58.9
Van der Have H66561	208	326.6	9493	1.19			17.52	29.06	249	1893	327	3.1	0.07	60.5
Van der Have H66728	202	319.7	9058	1.21			17.19	28.35	268	1897	335	2.5	0.00	68.0
Van der Have H66854	221	312.9	9576	1.20			16.85	30.62	200	1970	334	2.2	0.07	69.8
Van der Have H66857	250	325.1	10241	1.16			17.42	31.56	272	1911	297	2.4	0.00	69.5
Van der Have H66858	209	321.5	9773	1.18			17.26	30.37	297	1838	316	2.8	0.00	62.1
Check Mean		313.6	8994	1.23			16.91	28.72	303	1957	322	2.9		59.6
Coeff. of Var. (%)		3.5	5.0	7.0			2.9	3.9	19.9	5.8	11.6	12.9		12.3
F Value		5.3	17.8	5.2			5.3	33.4	7.4	3.9	5.0	13.4		15.7
Mean LSD (0.05)		13.0	530	0.10			0.59	1.33	71	134	44	0.4		8.7
Mean LSD (0.01)		17.1	699	0.13			0.77	1.75	94	177	58	0.6		11.5

* 2004 Data from Barnesville, MN.

Created 11-09-04.

\+ Lower numbers indicate better seedling vigor.

Trial # = 046601

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

++ Revenue estimates were not determined for Minn-Dak trials.

Table 44
2004 Performance of Varieties - Minn-Dak Commercial Trial
Norcross, MN - All Characters

Description @	Code	Rec/T lbs.	Rec/A lbs.	Loss Mol %	Rev/T $ ++	Rev/A $ ++	Sugar %	Yield T/A	Na ppm	K ppm	AmN ppm	Vigor+ Rating	Bolter %	Emerg. %
Beta 1317(BX1317 Aph & Rzm)	234	284.8	9964	1.36			15.61	34.89	275	2250	358		0.00	40.8
Beta 3800(Aph)	206	300.2	10750	1.15			16.17	35.64	301	1965	257		0.00	70.6
Beta 3861(Aph)	254	298.5	9758	1.30			16.21	32.51	302	2225	304		0.00	62.3
Beta 3900 (BX1315 Aph)	262	283.4	9383	1.28			15.47	32.95	313	2299	266		0.00	52.1
Beta 4818R(Aph & Rzm)	224	270.7	8966	1.19			14.74	33.39	350	2132	230		0.00	61.4
Beta 6225	214	300.3	9038	1.09			16.12	29.65	233	2025	221		0.00	66.9
Beta 6663	244	285.0	10113	1.23			15.48	35.49	244	2210	275		0.00	75.8
Beta BX1103	231	294.9	9160	1.29			16.04	31.21	362	2173	293		0.00	52.6
Beta BX1465(Rzm)	216	287.1	10192	1.35			15.72	35.39	298	2350	315		0.14	70.7
Beta BX1466(Rzm)	256	277.6	9828	1.35			15.24	35.20	392	2280	296		0.00	70.4
Beta BX1467(Rzm)	227	281.4	9965	1.19			15.26	35.21	227	2118	276		0.00	53.4
Beta BX1470(Rhc)	242	262.4	9485	1.41			14.54	35.89	329	2380	342		0.00	70.9
Croplan Genetics CL101	225	291.3	9584	1.39			15.98	32.62	278	2364	348		0.00	64.4
Croplan Genetics CL314	252	281.9	9739	1.24			15.34	34.39	286	2224	266		0.00	61.4
Crystal 820	203	307.2	9509	1.15			16.50	30.61	279	2068	236		0.00	65.9
Crystal 999	246	288.3	10072	1.24			15.65	34.90	254	2215	280		0.00	51.4
Crystal A300(Aph)	215	294.5	10140	1.24			15.98	34.34	367	2139	260		0.00	56.9
Crystal R357(Rzm & Aph)	260	269.8	10334	1.33			14.83	38.31	290	2454	272		0.00	59.5
Crystal R466(Rzm)	243	277.5	9862	1.28			15.16	35.27	300	2449	235		0.00	64.4
Crystal R467(Rzm)	205	284.5	9560	1.35			15.58	33.46	392	2228	309		0.00	65.5
Crystal R468(Rzm)	255	288.2	10938	1.35			15.77	37.71	279	2124	381		0.00	51.2
Crystal R469(Rzm)	213	283.1	9309	1.31			15.46	32.74	285	2416	270		0.22	64.1
Crystal R826(Rzm)	263	276.4	9154	1.62			15.44	33.06	433	2579	414		0.00	54.7
Crystal S465(Rhc)	232	253.9	9154	1.18			13.88	36.01	326	2099	236		0.00	65.8
Filler #1	204	287.7	5956	1.22			15.60	21.18	245	2333	239		0.00	
Hilleshog 2463Rz(7163)	226	273.6	9476	1.31			14.99	34.68	357	2245	291		0.00	56.8
Hilleshog 2467Rz(7167)	261	279.4	8676	1.35			15.31	30.79	400	2282	292		0.00	53.3
Hilleshog 2469Rz(7169 Aph)	222	281.3	8753	1.23			15.30	30.69	305	2332	222		0.00	56.8
Hilleshog 7078	233	289.6	9453	1.14			15.63	32.80	254	2001	261		0.00	62.8
Hilleshog 7197Rz(2497)	241	283.5	10810	1.16			15.34	37.95	307	2211	201		0.00	61.4
Hilleshog 7206Rz	251	283.1	9201	1.42			15.58	32.31	290	2558	316		0.00	66.3
Hilleshog 7215Rz	210	276.5	10099	1.33			15.16	36.39	435	2243	275		0.00	69.1
Hilleshog 7217Rz	253	280.9	9163	1.21			15.26	32.57	281	2301	226		0.00	62.5
Hilleshog 7218Rz	235	266.9	8840	1.39			14.74	32.89	412	2289	321		0.00	63.1
Hilleshog 7219Rz	217	278.8	9396	1.39			15.33	33.79	487	2268	303		0.00	51.1
Hilleshog 7220Rz	239	278.6	9971	1.21			15.12	35.80	256	2224	250		0.00	80.1
Hilleshog 7221Rz	207	269.4	9999	1.28			14.75	36.68	316	2371	248		0.00	72.5
Hilleshog 7223Rz	258	299.0	10115	1.10			16.04	33.42	184	2111	222		0.00	64.2
Holly 114	228	277.1	9032	1.44			15.30	32.40	318	2466	348		0.00	58.8
Holly 115	249	286.9	9726	1.27			15.64	33.81	269	2284	282		0.00	51.3
Holly 117	223	283.3	9664	1.37			15.54	34.01	389	2175	339		0.00	59.5
Holly 150	245	282.7	10038	1.18			15.32	35.46	244	2154	256		0.00	52.8
Holly 03HX323 Rzm	240	302.9	10400	1.11			16.25	34.00	177	2064	247		0.00	67.8
Holly 03HX324 Rzm	218	291.6	10268	1.08			15.67	35.04	172	2076	227		0.00	76.2
Holly 04HX448 Rzm	211	284.4	10098	1.21			15.44	35.93	222	2263	258		0.00	60.4
Holly 04HX449 Rzm	201	305.1	10412	1.09			16.35	33.73	172	2081	227		0.00	66.2
Holly 04HX450	237	280.6	10045	1.06			15.09	35.67	81	2227	201		0.00	58.2
Holly 04HX451	264	286.3	9979	1.26			15.58	34.57	307	2365	239		0.00	71.6
Seedex SX0931(Alpine Aph & Rzm)	212	307.3	10045	1.05			16.40	32.27	242	1967	203		0.00	63.9
Seedex SX0934(Aph & Rzm)	257	287.1	9037	1.24			15.61	31.44	237	2325	258		0.00	43.8
Seedex Aspen	248	281.2	9394	1.33			15.40	33.19	249	2425	296		0.00	58.5
Seedex Aurora(Aph)	220	286.7	9719	1.08			15.44	33.74	233	2066	203		0.00	66.6
Seedex Magnum	229	305.5	9992	1.20			16.47	32.75	205	2148	282		0.00	54.3
Seedex Prizm(SX0822 Aph)	238	291.9	9390	1.07			15.68	32.06	245	2008	204		0.00	38.2
Van der Have H46177(Aph & Rzm)	219	291.6	9414	1.18			15.76	32.30	211	2181	257		0.00	65.3
Van der Have H46519(Rzm)	236	277.2	11316	1.20			15.06	39.04	263	2218	244		0.14	75.0
Van der Have H46530(Rzm)	259	282.5	9443	1.13			15.25	33.49	196	2164	234		0.00	73.6
Van der Have H46531(Rzm)	230	280.9	10262	1.17			15.24	36.51	311	1992	267		0.00	66.2
Van der Have H66453	247	307.5	10795	1.16			16.53	34.72	222	2085	267		0.00	61.1
Van der Have H66561	208	287.1	10134	1.26			15.62	35.15	318	2120	301		0.00	62.8
Van der Have H66728	202	286.8	10150	1.16			15.51	35.66	254	2192	222		0.00	66.7
Van der Have H66854	221	287.6	10403	1.22			15.60	36.01	158	2174	312		0.00	69.2
Van der Have H66857	250	299.7	10424	1.22			16.21	34.85	255	2181	269		0.22	74.7
Van der Have H66858	209	277.1	9751	1.28			15.15	35.11	316	2258	278		0.00	67.2
Check Mean		285.5	9737	1.24			15.52	34.00	284	2222	271			
Coeff. of Var. (%)		4.2	6.3	10.0			3.4	5.3	23.6	8.4	17.5			
F Value		2.0	2.7	1.8			2.3	3.9	2.7	1.2	2.1			2.4
Mean LSD (0.05)		23.3	1221	0.24			1.01	3.57	130	362	92			16.0
Mean LSD (0.01)		30.8	1618	0.32			1.34	4.73	172	480	122			21.2

* 2004 Data from Norcross, MN.

Created 11-09-04.

\+ Lower numbers indicate better seedling vigor.

Trial # = 046603

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

++ Revenue estimates were not determined for Minn-Dak area.

Approximately 35% of the plots were harvested. Wet soil conditions at harvest prevented harvest of additional plots.

Table 45
2004 Aphanomyces Readings for Coded Test Entries
Betaseed Nursery - Shakopee, MN

All Ratings Adjusted	2004 Ratings				2 Yr Mean				3 Yr Mean								
	Foliar*		Root Index**		Foliar*		Root Index**		Foliar*		Root Index**		2003	2003	2002	2002	Trial
Code Description	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%Dis++	Foliar*	Rt.Indx**	Foliar*	Rt.Indx**	Yrs $$
687 Beta 1305 (BX1305 Rzm)	2.90	84	4.70	96	2.78	77.2	4.46	91.0					2.66	4.21			2
662 Beta 1317(BX1317 Aph & Rzm)	3.20	93	5.12	105	2.85	79.2	4.66	95.1					2.50	4.20			2
715 Beta 3494 (BX1194 Aph)	3.90	113	5.73	117	3.41	94.7	5.39	110.1	3.25	93.4	5.29	101.7	2.92	5.06	2.92	5.08	3
646 Beta 3800(Aph)	2.48	72	4.52	92	2.57	71.5	4.49	91.7	2.61	75.2	4.47	85.9	2.67	4.47	2.70	4.42	7
730 Beta 3820(Aph)	3.44	100	4.84	99	2.92	81.0	4.64	94.8	2.97	85.4	4.62	88.9	2.39	4.45	3.07	4.59	6
689 Beta 3861(Aph)	2.67	77	4.60	94	3.05	84.6	4.45	90.8	2.86	82.1	4.44	85.4	3.43	4.30	2.47	4.42	5
668 Beta 3900 (BX1315 Aph)	2.89	84	4.80	98	2.54	70.6	4.31	88.0					2.19	3.82			2
608 Beta 4797(BX1197 Rzm)	3.54	102	5.02	102	3.34	92.8	4.81	98.2	3.18	91.4	4.74	91.1	3.14	4.61	2.85	4.59	3
615 Beta 4818R(Aph & Rzm)	3.44	100	4.99	102	3.59	99.7	4.71	96.1	3.34	96.2	4.67	89.8	3.74	4.43	2.85	4.59	6
724 Beta 6225	3.11	90	5.24	107	2.93	81.3	5.10	104.1	2.98	85.6	5.15	99.0	2.74	4.97	3.07	5.23	6
603 Beta 6233	3.30	96	5.08	104	3.04	84.4	4.98	101.7	3.00	86.3	4.96	95.4	2.77	4.88	2.92	4.91	5
624 Beta 6302 (BX1302)	3.27	95	4.87	99	3.47	96.3	4.90	100.0					3.67	4.93			2
666 Beta 6400(Aph)	3.32	96	5.22	107	2.98	82.6	4.73	96.5	2.96	85.1	4.73	91.0	2.63	4.23	2.92	4.74	5
700 Beta 6610	3.53	102	5.05	103	3.18	88.3	4.95	100.9	3.12	89.7	4.93	94.9	2.83	4.85	2.99	4.91	6
678 Beta 6663	3.23	94	5.44	111	3.27	90.9	5.28	107.8	3.31	95.1	5.27	101.3	3.31	5.13	3.37	5.23	5
735 Beta 991RR	3.49	101	5.28	108	3.59	99.8	5.27	107.5	3.37	96.9	5.26	101.1	3.70	5.26	2.92	5.23	5
709 Beta 993RR(Rzm)	3.75	108	5.14	105	3.52	97.7	5.05	103.1	3.37	96.9	5.06	97.3	3.28	4.97	3.07	5.08	3
644 Beta BX1103	3.49	101	5.25	107	3.57	99.2	5.36	109.4	3.45	99.3	5.21	100.2	3.65	5.47	3.22	4.91	3
607 Beta BX1301(Rhc & Rzm)	3.94	114	5.28	108	3.72	103.3	5.03	102.7					3.50	4.79			2
633 Beta BX1303(Rzm)	2.99	87	4.72	96	2.72	75.7	4.43	90.3					2.46	4.13			2
831 Beta BX1304(Rzm)	6.93	201	8.05	164	4.95	137.5	6.21	126.7					2.97	4.38			2
726 Beta BX1316(Rzm)	6.33	183	7.45	152	4.61	128.2	5.95	121.4					2.90	4.45			2
739 Beta BX1451(Rzm)	3.42	99	5.26	107													1
697 Beta BX1452(Rzm)	2.63	76	4.31	88													1
675 Beta BX1453(Rzm)	3.24	94	5.17	106													1
708 Beta BX1454(Rzm)	2.41	70	4.51	92													1
634 Beta BX1455(Rzm)	2.88	83	4.98	102													1
614 Beta BX1456(Rzm)	3.42	99	4.71	96													1
717 Beta BX1457(Rzm)	2.90	84	4.75	97													1
639 Beta BX1458(Rzm)	3.87	112	5.45	111													1
663 Beta BX1459(Rzm)	2.89	84	4.77	97													1
602 Beta BX1465(Rzm)	2.99	87	4.84	99													1
743 Beta BX1466(Rzm)	2.69	78	4.63	94													1
702 Beta BX1467(Rzm)	3.41	99	5.10	104													1
725 Beta BX1468	2.51	73	4.67	95													1
613 Beta BX1469	2.65	77	4.73	97													1
653 Beta BX1470(Rhc)	3.03	88	4.99	102													1
688 Croplan Genetics CL101	3.79	110	5.54	113	3.90	108.3	5.60	114.2	3.82	110.0	5.69	109.5	4.01	5.65	3.67	5.89	9
667 Croplan Genetics CL102	4.10	119	5.62	115	3.92	108.7	5.43	110.9	3.83	110.3	5.48	105.4	3.73	5.25	3.67	5.57	9
716 Croplan Genetics CL311	3.38	98	5.45	111	3.51	97.5	5.59	114.1					3.64	5.73			4
690 Croplan Genetics CL314	4.10	119	5.67	116	3.79	105.3	5.28	107.8					3.48	4.89			4
622 Crystal 204(CX204)	3.15	91	5.12	105	2.64	73.2	4.77	97.3					2.12	4.41			3
635 Crystal 723	3.46	100	5.43	111	3.23	89.7	5.01	102.2	3.23	92.8	5.03	96.7	3.00	4.59	3.22	5.08	5
733 Crystal 725	2.77	80	4.85	99	2.78	77.2	4.44	90.5	2.80	80.6	4.49	86.3	2.79	4.02	2.85	4.59	5
609 Crystal 727(CX206)	4.04	117	5.43	111	3.43	95.3	5.00	102.1					2.83	4.58			3
676 Crystal 817	4.34	126	6.05	123	4.46	123.9	6.27	127.9	4.30	123.6	6.25	120.2	4.58	6.49	3.97	6.22	7
664 Crystal 820	2.83	82	4.76	97	2.79	77.4	4.43	90.5	2.83	81.5	4.54	87.2	2.74	4.10	2.92	4.74	5
740 Crystal 822	2.61	75	4.59	94	2.51	69.8	4.52	92.3	2.55	73.3	4.54	87.4	2.42	4.46	2.62	4.59	5
632 Crystal 999	3.56	103	5.22	107	3.32	92.2	4.83	98.6	3.24	93.1	4.91	94.5	3.07	4.45	3.07	5.08	6
696 Crystal A300(Aph)	3.51	102	5.22	107	3.19	88.7	4.68	95.5					2.87	4.14			2
729 Crystal R306	2.73	79	4.71	96	2.97	82.5	4.59	93.7					3.21	4.47			2
651 Crystal R308	3.38	98	5.00	102	3.04	84.5	4.54	92.6					2.70	4.08			2
679 Crystal R309RR	3.97	115	5.98	122	3.89	107.9	5.86	119.6					3.80	5.74			2
722 Crystal R357(Rzm & Aph)	2.76	80	4.64	95	2.99	83.0	4.42	90.2					3.21	4.20			2
626 Crystal R431	2.76	80	4.61	94													1
734 Crystal R432	3.16	92	4.99	102													1
655 Crystal R433	3.15	91	5.01	102													1
710 Crystal R434	3.13	91	4.78	98													1
686 Crystal R435	3.74	108	5.23	107													1
623 Crystal R436	3.44	100	5.45	111													1
701 Crystal R437	3.11	90	4.84	99													1
698 Crystal R438	3.03	88	5.08	104													1
637 Crystal R439	3.15	91	5.04	103													1
745 Crystal R466(Rzm)	3.28	95	4.89	100													1
645 Crystal R467(Rzm)	3.09	89	5.07	103													1
606 Crystal R468(Rzm)	2.46	71	4.35	89													1
660 Crystal R469(Rzm)	3.29	95	4.99	102													1
712 Crystal R826(Rzm)	3.23	94	4.70	96	2.95	82.0	4.46	91.1	2.89	83.2	4.45	85.6	2.67	4.23	2.77	4.42	5
674 Crystal S465(Rhc)	4.04	117	5.57	114													1
707 Hilleshog 2093	4.30	124	5.99	122	5.08	141.0	6.76	137.9	4.61	132.5	6.69	128.6	5.86	7.52	3.67	6.55	6
643 Hilleshog 2129	2.62	76	4.82	98	2.97	82.4	5.29	107.9					3.31	5.76			4
727 Hilleshog 2162(7162)	3.05	88	5.39	110	3.09	85.8	5.43	110.8					3.13	5.47			3
652 Hilleshog 2411Rz	4.38	127	5.88	120	4.22	117.2	6.21	126.7	3.94	113.3	5.83	112.1	4.07	6.53	3.37	5.08	5
611 Hilleshog 2463Rz(7163)	3.61	104	5.43	111	2.97	82.5	4.66	95.2	2.80	80.7	4.36	83.9	2.33	3.90	2.47	3.76	3
665 Hilleshog 2467Rz(7167)	4.51	130	5.82	119	4.19	116.5	6.01	122.6	3.94	113.4	5.91	113.7	3.88	6.19	3.44	5.72	3
630 Hilleshog 2469Rz(7169 Aph)	3.52	102	4.92	100	2.91	80.9	4.29	87.6	2.82	81.0	4.34	83.4	2.30	3.67	2.62	4.42	3
636 Hilleshog 2480Rz(7180)	4.74	137	6.14	125	4.60	127.6	6.48	132.2					4.45	6.82			2

Table 45
2004 Aphanomyces Readings for Coded Test Entries
Betaseed Nursery - Shakopee, MN

All Ratings Adjusted		2004 Ratings				2 Yr Mean				3 Yr Mean								
		Foliar*		Root Index**		Foliar*		Root Index**		Foliar*		Root Index**		2003	2003	2002	2002	Trial
Code	Description	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%Dis++	Foliar*	Rt.Indx**	Foliar*	Rt.Indx**	Yrs $$
625	Hilleshog 2496Rz(7196)	4.53	131	6.11	125	4.04	112.1	6.07	123.8					3.54	6.03			2
694	Hilleshog 7078	4.01	116	5.84	119	3.73	103.5	5.81	118.6	3.71	106.6	6.00	115.4	3.44	5.78	3.67	6.38	9
649	Hilleshog 7172Rz	4.04	117	5.45	111	4.22	117.3	5.75	117.3	3.84	110.4	5.30	102.0	4.41	6.05	3.07	4.42	3
732	Hilleshog 7197Rz	3.53	102	5.28	108	3.56	99.0	5.10	104.1					3.60	4.92			2
681	Hilleshog 7206Rz	3.80	110	5.73	117	3.82	106.1	5.92	120.9					3.84	6.12			2
719	Hilleshog 7209	3.25	94	5.50	112													1
616	Hilleshog 7212	2.93	85	4.49	92													1
661	Hilleshog 7215Rz	3.86	112	5.70	116													1
713	Hilleshog 7217Rz	4.12	119	5.77	118													1
654	Hilleshog 7218Rz	4.27	124	5.94	121													1
685	Hilleshog 7219Rz	4.10	119	5.76	117													1
631	Hilleshog 7220Rz	3.22	93	4.97	101													1
677	Hilleshog 7221Rz	3.22	93	4.89	100													1
721	Hilleshog 7222	4.00	116	5.45	111													1
647	Hilleshog 7223Rz	2.95	85	4.74	97													1
612	Hilleshog 7224	2.85	82	4.67	95													1
741	Hilleshog 7225	3.38	98	5.09	104													1
650	Holly 114	3.75	108	5.52	113	4.09	113.5	5.72	116.7	3.87	111.4	5.39	103.7	4.42	5.91	3.44	4.74	9
604	Holly 115	3.96	115	5.68	116	3.93	109.3	5.55	113.2	3.75	107.8	5.44	104.7	3.91	5.41	3.37	5.23	9
691	Holly 117	4.35	126	5.66	115	4.31	119.6	5.87	119.7	4.02	115.6	5.93	114.0	4.27	6.07	3.44	6.06	5
669	Holly 150	3.90	113	5.84	119	3.53	98.1	5.63	114.9					3.17	5.41			4
695	Holly 250 (02HX250)	3.28	95	5.07	103	3.30	91.7	5.20	106.2					3.33	5.34			3
638	Holly 03HX317 Rzm	3.34	97	5.11	104	3.25	90.4	4.88	99.6					3.17	4.65			2
601	Holly 03HX323 Rzm	2.61	75	4.56	93	2.36	65.6	4.04	82.5					2.12	3.53			2
619	Holly 03HX324 Rzm	3.07	89	5.48	112	3.54	98.3	5.44	111.0					4.01	5.39			2
628	Holly 03HX331	4.77	138	6.10	124	4.34	120.5	5.82	118.8					3.91	5.54			2
684	Holly 03HX364 Rzm	3.31	96	5.22	107	3.52	97.7	5.27	107.6					3.73	5.32			2
610	Holly 04HX442	4.17	121	5.71	116													1
672	Holly 04HX443	3.56	103	5.73	117													1
723	Holly 04HX448 Rzm	3.82	110	5.41	110													1
657	Holly 04HX449 Rzm	3.36	97	5.26	107													1
648	Holly 04HX450	3.14	91	4.96	101													1
621	Holly 04HX451	4.53	131	5.85	119													1
718	Holly 956	4.04	117	5.81	118	3.91	108.6	6.09	124.3					3.78	6.38			4
605	Seedex SX0831(Rzm)	2.55	74	4.69	96	2.82	78.3	4.48	91.4					3.09	4.27			2
680	Seedex SX0832	4.38	127	5.80	118													1
659	Seedex SX0833(Rzm)	3.97	115	5.64	115													1
703	Seedex SX0931(Aph & Rzm)	2.48	72	4.74	97	2.16	60.0	4.11	83.8					1.85	3.47			2
641	Seedex SX0933	3.73	108	5.55	113													1
699	Seedex SX0934(Aph & Rzm)	4.46	129	5.94	121													1
629	Seedex Aspen	3.83	111	5.54	113	3.90	108.4	5.44	111.0	3.73	107.2	5.26	101.2	3.98	5.33	3.37	4.91	5
737	Seedex Aurora(Aph)	2.93	85	4.83	99	3.28	91.0	4.74	96.7	3.13	90.2	4.74	91.2	3.63	4.65	2.85	4.74	4
711	Seedex Magnum	3.60	104	5.22	107	3.82	106.1	5.35	109.1	3.69	106.2	5.53	106.3	4.04	5.47	3.44	5.89	5
742	Seedex Prizm(SX0924 Aph & Rzm)	3.21	93	5.07	104	2.83	78.7	4.87	99.4	2.86	82.4	4.78	91.9	2.46	4.67	2.92	4.59	4
618	Seedex Rezult(SX0828 Aph & Rzm)	3.07	89	4.79	98	3.04	84.5	4.92	100.4	3.02	87.0	5.19	99.8	3.01	5.05	2.99	5.72	3
705	Seedex Thunder	4.07	118	5.86	120	3.94	109.4	5.89	120.3	3.70	106.4	5.67	109.1	3.81	5.92	3.22	5.23	9
692	Van der Have H46177(Aph & Rzm)	3.01	87	4.85	99	2.98	82.6	4.74	96.8	2.91	83.6	4.58	88.1	2.94	4.64	2.77	4.25	5
658	Van der Have H46519(Rzm)	3.90	113	5.57	114	3.63	100.7	4.94	100.8					3.36	4.30			2
720	Van der Have H46530(Rzm)	3.35	97	5.19	106													1
673	Van der Have H46531(Rzm)	3.50	101	5.19	106													1
736	Van der Have H46532(Rzm)	3.62	105	5.40	110													1
656	Van der Have H46533(Rzm)	3.68	106	5.52	113													1
738	Van der Have H46733(Rzm 66733)	2.99	87	4.87	99	2.66	73.9	4.57	93.3					2.33	4.27			3
714	Van der Have H47150(Rzm)	2.56	74	4.81	98	2.90	80.6	4.74	96.8					3.24	4.67			2
706	Van der Have H47151(Rzm)	2.80	81	4.58	93	2.96	82.3	4.35	88.8					3.13	4.13			2
670	Van der Have H66453	3.58	104	5.60	114	4.17	115.7	6.21	126.7	4.00	115.1	6.10	117.4	4.75	6.82	3.67	5.89	6
744	Van der Have H66556	3.98	115	5.71	116	3.83	106.3	5.47	111.7	3.72	107.2	5.34	102.7	3.67	5.24	3.52	5.08	5
682	Van der Have H66561	4.67	135	5.68	116	4.45	123.5	5.78	117.9	4.14	119.1	5.76	110.7	4.22	5.87	3.52	5.72	5
627	Van der Have H66626	3.39	98	5.53	113	3.73	103.6	5.64	115.2					4.07	5.76			4
728	Van der Have H66725	3.25	94	5.10	104	3.35	93.1	5.46	111.4	3.21	92.3	5.44	104.6	3.46	5.81	2.92	5.40	3
640	Van der Have H66728	3.88	112	5.56	114	3.81	105.8	5.64	115.1					3.74	5.72			3
617	Van der Have H66852	4.02	116	5.44	111	3.94	109.5	5.67	115.6					3.87	5.90			2
693	Van der Have H66854	4.38	127	5.82	119	3.63	100.8	5.53	112.8					2.87	5.24			2
671	Van der Have H66855	3.98	115	5.49	112													1
642	Van der Have H66856	3.67	106	5.37	110													1
683	Van der Have H66857	3.68	106	5.15	105													1
704	Van der Have H66858	4.59	133	5.80	118													1
620	Van der Have H66859	3.68	106	5.39	110													1
746	SMITH CHK02 CRYS960	2.20	64	4.37	89	2.21	61.5	3.95	80.6	2.32	66.9	4.05	77.9	2.23	3.53	2.54	4.25	
747	SMITH CHK01 BETA3800	2.55	74	4.65	95	2.55	70.7	4.30	87.8	2.52	72.5	4.23	81.4	2.54	3.96	2.47	4.09	
748	SMITH CHK04 HILLRESIST	2.95	85	5.01	102	3.13	87.0	5.17	105.5	3.14	90.3	5.03	96.7	3.32	5.34	3.15	4.74	
749	SMITH CHK03 CRYS999	3.06	89	4.73	97	3.06	84.9	4.84	98.9	3.09	88.8	4.87	93.6	3.06	4.95	3.15	4.91	
750	SMITH CHK05 VAN46140	3.31	96	4.91	100	3.08	85.6	4.69	95.7	2.95	85.0	4.54	87.4	2.85	4.47	2.70	4.25	
751	SMITH CHK07 CRYS817	4.09	118	6.07	124	4.33	120.3	6.28	128.1	4.21	121.2	6.26	120.3	4.58	6.49	3.97	6.22	
752	SMITH CHK10 VAN66453	4.10	119	5.71	116	4.42	122.8	6.26	127.8	4.17	120.0	6.14	118.1	4.75	6.82	3.67	5.89	
753	SMITH CHK09 SEEDMONARCH	3.70	107	5.69	116	4.14	114.9	6.21	126.8	3.91	112.4	5.94	114.3	4.58	6.73	3.44	5.40	
754	SMITH CHK11 BETA6447	3.71	107	5.63	115	3.70	102.9	5.78	117.9	3.64	104.8	5.87	112.9	3.70	5.92	3.52	6.06	

Table 45
2004 Aphanomyces Readings for Coded Test Entries
Betaseed Nursery - Shakopee, MN

All Ratings Adjusted		2004 Ratings				2 Yr Mean				3 Yr Mean								
		Foliar*		Root Index**		Foliar*		Root Index**		Foliar*		Root Index**		2003	2003	2002	2002	Trial
Code	Description	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%App+	Rating	%Mean	Rating	%Dis++	Foliar*	Rt.Indx**	Foliar*	Rt.Indx**	Yrs $$
755 SMITH	CHK08 HILL2093	4.62	134	6.10	124	5.24	145.5	6.81	139.0	4.71	135.6	6.72	129.3	5.86	7.52	3.67	6.55	
756 SMITH	STD14 SEEDGLADIATOR	4.45	129	5.80	118	4.19	116.3	5.86	119.7	3.79	109.0	5.77	110.9	3.92	5.93	2.99	5.57	
757 SMITH	STD14 SEEDGLADIATOR	4.21	122	5.73	117	4.07	113.0	5.83	119.0	3.71	106.7	5.74	110.4	3.92	5.93	2.99	5.57	
758 SMITH	CHK10 VAN66453	3.74	108	5.60	114	4.24	117.9	6.21	126.7	4.05	116.6	6.10	117.4	4.75	6.82	3.67	5.89	
759 SMITH	CHK07 CRYS817	3.93	114	5.40	110	4.25	118.2	5.94	121.3	4.16	119.7	6.03	116.0	4.58	6.49	3.97	6.22	
760 SMITH	CHK03 CRYS999	3.02	88	4.75	97	3.04	84.5	4.85	99.1	3.08	88.5	4.87	93.7	3.06	4.95	3.15	4.91	
761 SMITH	CHK02 CRYS960	2.75	80	4.41	90	2.49	69.2	3.97	81.0	2.51	72.2	4.06	78.1	2.23	3.53	2.54	4.25	
762 SMITH	CHK04 HILLRESIST	2.97	86	5.00	102	3.15	87.4	5.17	105.4	3.15	90.5	5.03	96.6	3.32	5.34	3.15	4.74	
763 SMITH	CHK08 HILL2093	4.43	128	5.84	119	5.14	142.8	6.68	136.4	4.65	133.8	6.64	127.7	5.86	7.52	3.67	6.55	
764 SMITH	CHK05 VAN46140	2.72	79	4.61	94	2.79	77.4	4.54	92.6	2.76	79.3	4.44	85.4	2.85	4.47	2.70	4.25	
765 SMITH	STD12 SEEDTITAN	4.10	119	6.20	126	4.40	122.2	5.78	118.0	4.03	116.0	5.87	112.9	4.71	5.37	3.30	6.06	
766 SMITH	CHK09 SEEDMONARCH	4.86	141	6.38	130	4.72	131.1	6.56	133.8	4.29	123.5	6.17	118.7	4.58	6.73	3.44	5.40	
767 SMITH	STD13 CRYS955	4.03	117	5.64	115	3.71	102.9	5.50	112.3	3.79	109.2	5.74	110.4	3.38	5.37	3.97	6.22	
768 SMITH	STD13 CRYS955	3.93	114	5.66	115	3.66	101.6	5.51	112.5	3.76	108.2	5.75	110.5	3.38	5.37	3.97	6.22	
769 SMITH	CHK11 BETA6447	3.88	112	5.54	113	3.79	105.2	5.73	117.0	3.70	106.4	5.84	112.3	3.70	5.92	3.52	6.06	
770 SMITH	CHK1 BETA3800	2.51	73	4.70	96	2.52	70.1	4.33	88.4	2.51	72.1	4.25	81.8	2.54	3.96	2.47	4.09	
771 SMITH	STD12 SEEDTITAN	4.36	126	5.92	121	4.53	125.9	5.64	115.2	4.12	118.6	5.78	111.2	4.71	5.37	3.30	6.06	
772 SMITH	BETAAPHMODHYB	4.69	136	6.02	123	4.57	126.9	6.43	131.3	4.32	124.3	6.36	122.3	4.45	6.85	3.82	6.22	
773 SMITH	BETAAPHRESHYB	3.35	97	5.22	107	3.03	84.2	4.84	98.8	2.92	84.0	4.64	89.3	2.72	4.46	2.70	4.25	
774 SMITH	BETAAPHSUSHYB	5.98	173	7.27	148	5.90	163.9	7.83	159.8	5.33	153.4	7.78	149.7	5.82	8.40	4.20	7.69	
775 SMITH	BETAAPHRESINB	3.08	89	5.43	111	3.80	105.5	5.90	120.4	3.51	100.8	5.57	107.1	4.52	6.37	2.92	4.91	
776 SMITH	BETAAPHMODHYB2	3.12	90	5.15	105													
777 SMITH	BETAAPHMODHYB	4.64	134	6.48	132	4.54	126.2	6.66	136.0	4.30	123.8	6.51	125.3	4.45	6.85	3.82	6.22	
778 SMITH	BETAAPHRESHYB	2.88	83	4.99	102	2.80	77.7	4.72	96.4	2.76	79.5	4.57	87.8	2.72	4.46	2.70	4.25	
779 SMITH	BETAAPHSUSHYB	5.91	171	7.36	150	5.87	162.9	7.88	160.8	5.31	152.7	7.82	150.3	5.82	8.40	4.20	7.69	
780 SMITH	BETAAPHRESINB	3.18	92	4.93	101	3.85	106.9	5.65	115.3	3.54	101.8	5.40	103.9	4.52	6.37	2.92	4.91	
781 SMITH	BETAAPHMODHYB2	2.95	85	4.92	100													
782 SMITH	BETAAPHMODHYB	4.60	133	6.08	124	4.53	125.7	6.46	131.9	4.29	123.4	6.38	122.7	4.45	6.85	3.82	6.22	
783 SMITH	BETAAPHRESHYB	2.84	82	4.91	100	2.78	77.2	4.69	95.6	2.75	79.1	4.54	87.3	2.72	4.46	2.70	4.25	
784 SMITH	BETAAPHSUSHYB	6.14	178	7.29	149	5.98	166.2	7.84	160.0	5.39	155.0	7.79	149.8	5.82	8.40	4.20	7.69	
785 SMITH	BETAAPHRESINB	2.96	86	5.39	110	3.74	103.9	5.88	120.0	3.47	99.8	5.55	106.8	4.52	6.37	2.92	4.91	
786 SMITH	BETAAPHMODHYB2	3.77	109	5.22	107													
787 SMITH	BETAAPHMODHYB	4.17	121	6.22	127	4.31	119.7	6.54	133.4	4.15	119.3	6.43	123.6	4.45	6.85	3.82	6.22	
788 SMITH	BETAAPHRESHYB	3.08	89	4.94	101	2.90	80.4	4.70	95.9	2.83	81.4	4.55	87.5	2.72	4.46	2.70	4.25	
789 SMITH	BETAAPHSUSHYB	6.04	175	7.51	153	5.93	164.7	7.95	162.3	5.35	154.0	7.87	151.3	5.82	8.40	4.20	7.69	
790 SMITH	BETAAPHRESINB	3.25	94	5.22	107	3.88	107.9	5.79	118.3	3.56	102.5	5.50	105.8	4.52	6.37	2.92	4.91	
791 SMITH	BETAAPHMODHYB2	3.72	108	5.44	111													
792 SMITH	BETAAPHMODHYB	4.93	143	6.48	132	4.69	130.3	6.66	136.0	4.40	126.6	6.51	125.3	4.45	6.85	3.82	6.22	
793 SMITH	BETAAPHRESHYB	3.09	89	4.95	101	2.90	80.6	4.70	96.0	2.83	81.5	4.55	87.6	2.72	4.46	2.70	4.25	
794 SMITH	BETAAPHSUSHYB	6.09	176	7.35	150	5.96	165.5	7.88	160.7	5.37	154.5	7.81	150.3	5.82	8.40	4.20	7.69	
795 SMITH	BETAAPHRESINB	2.34	68	4.83	99	3.43	95.2	5.60	114.3	3.26	93.7	5.37	103.3	4.52	6.37	2.92	4.91	
796 SMITH	BETAAPHMODHYB2	3.22	93	4.96	101													
Coeff. of Var. (%)		16.57		8.51										11.97	11.19	19.89	15.80	
Mean LSD (0.05)		0.70		0.54										0.49	0.67	0.87	1.00	
Mean LSD (0.01)		0.92		0.70										0.64	0.88	1.15	1.31	
Check Mean		3.45		5.26		3.60		5.41		3.48		5.35		3.75	5.57	3.23	5.24	
Approval Criteria		NA		4.90		NA		4.90		NA		4.90		NA	4.90	NA	4.90	
Disapproval Criteria		NA		5.20		NA		5.20		NA		5.20		NA	5.20	NA	5.20	

+ Approval is based upon the three year root rating 4.90 or less.

++ Disapproval (continued approval) is based upon the three year root rating 5.20 or less (approval policy change 1-14-02).

2004 data adjusted based upon 10 check varieties. 2003 & 2002 data adjusted based upon 5 check varieties (Beta 3800, Crystal 960, Crystal 999, Hilleshog Resist & van der Have H46140).

* 2004 Foliar rating is the Aph Foliar mean rating (7/23 & 7/27) from the unidentified data. Adjusted by multiplying 2004 ratings by 0.8715, 2003 ratings by 1.4220, 2002 ratings by 0.8986.

** 2004 Root rating of Aph symptoms was done on 9/20 (1=healthy, 9=severe damage). Adjusted by multiplying 2004 by 0.9741, 2003 ratings by 1.1794, 2002 ratings by 0.9819.

$$ Trial years indicates how many years the entry has been in the official trials (not Aph Nursery years).

Table 46

2004 Cercospora Readings for Coded Test Entries

Betaseed Nursery - Rosemount, MN

		Average Rating at Each Date *							All Data Adjusted to '1982 Basis'					
Code	Description	7/26	7/29	8/2	8/5	8/9	8/12	8/17	2004 Mean	2 Yr Mean	3 Yr Mean	2003 Mean	2002 Mean	Years
901	Beta 1305 (BX1305 Rzm)	3.05	3.70	4.52	5.19	5.62	5.78	7.03	4.98	4.95		4.93		2
927	Beta 1317(BX1317 Aph & Rzm)	3.18	4.17	4.47	5.17	5.29	5.82	7.07	5.03	4.96		4.88		2
875	Beta 3494 (BX1194 Aph)	2.89	3.50	4.15	4.83	5.07	5.14	5.96	4.50	4.41	4.51	4.33	4.72	3
859	Beta 3800(Aph)	2.92	3.23	4.18	4.58	5.17	5.33	6.11	4.53	4.62	4.64	4.71	4.70	7
830	Beta 3820(Aph)	2.90	3.39	3.95	4.31	4.92	5.09	6.06	4.36	4.32	4.34	4.28	4.37	6
940	Beta 3861(Aph)	2.87	3.19	3.70	4.70	5.02	5.31	6.28	4.42	4.39	4.53	4.35	4.83	5
926	Beta 3900 (BX1315 Aph)	3.13	4.18	4.50	5.53	5.82	5.83	7.10	5.15	4.94		4.74		2
854	Beta 4797(BX1197 Rzm)	2.92	3.90	4.20	4.79	5.24	5.70	6.80	4.81	4.78	4.88	4.76	5.07	3
899	Beta 4818R(Aph & Rzm)	2.99	3.52	3.94	4.60	4.91	5.26	6.10	4.48	4.70	4.78	4.92	4.95	6
807	Beta 6225	3.10	3.73	4.52	4.97	5.36	5.69	6.64	4.85	4.64	4.65	4.44	4.67	6
903	Beta 6233	2.87	3.21	3.98	4.85	4.99	5.29	6.40	4.50	4.57	4.60	4.64	4.67	5
937	Beta 6302 (BX1302)	2.96	3.37	3.88	4.74	4.88	5.48	6.47	4.55	4.33		4.11		2
914	Beta 6400(Aph)	2.93	3.21	3.97	4.71	4.81	5.16	5.95	4.40	4.20	4.32	4.01	4.56	5
871	Beta 6610	2.96	3.72	4.15	4.77	4.84	5.32	6.46	4.61	4.71	4.73	4.81	4.76	6
938	Beta 6663	2.93	3.27	4.14	4.85	4.61	4.85	5.98	4.36	4.42	4.48	4.48	4.61	5
850	Beta 991RR	3.04	3.46	4.14	5.11	5.69	5.75	6.73	4.83	4.91	4.96	4.99	5.07	5
944	Beta 993RR(Rzm)	3.39	4.27	4.87	5.49	6.14	6.15	7.21	5.36	5.24	5.27	5.13	5.34	3
911	Beta BX1103	2.95	3.47	4.21	5.00	5.37	5.40	6.43	4.68	4.69	4.77	4.69	4.95	3
892	Beta BX1301(Rhc & Rzm)	2.91	3.83	4.25	4.86	5.53	5.58	6.71	4.77	4.59		4.41		2
802	Beta BX1303(Rzm)	2.90	3.34	4.23	4.80	4.99	5.47	6.43	4.60	4.70		4.81		2
823	Beta BX1304(Rzm)	2.92	3.42	4.32	4.53	4.99	4.90	5.96	4.45	4.68		4.91		2
851	Beta BX1316(Rzm)	2.65	3.26	3.80	4.13	4.78	4.74	5.65	4.16	4.61		5.06		2
866	Beta BX1451(Rzm)	3.03	3.82	4.34	4.91	5.55	5.75	6.74	4.88					1
837	Beta BX1452(Rzm)	3.25	4.31	4.81	5.51	6.06	6.13	6.94	5.29					1
872	Beta BX1453(Rzm)	3.17	4.04	4.87	5.46	5.83	5.94	7.08	5.20					1
919	Beta BX1454(Rzm)	2.94	3.59	4.23	4.56	5.33	5.43	6.56	4.65					1
891	Beta BX1455(Rzm)	2.94	3.21	4.09	4.88	4.84	5.30	6.29	4.52					1
839	Beta BX1456(Rzm)	3.05	3.84	4.83	5.75	6.41	6.60	7.25	5.40					1
930	Beta BX1457(Rzm)	3.01	2.98	4.23	5.07	5.15	5.57	6.59	4.64					1
904	Beta BX1458(Rzm)	2.92	3.37	3.99	4.57	4.63	5.17	6.11	4.38					1
824	Beta BX1459(Rzm)	3.05	4.05	4.20	4.68	5.30	5.61	6.73	4.81					1
888	Beta BX1465(Rzm)	3.12	3.72	4.72	5.47	5.89	5.92	6.82	5.11					1
881	Beta BX1466(Rzm)	3.50	4.47	4.71	5.74	6.71	6.88	7.75	5.69					1
834	Beta BX1467(Rzm)	3.02	4.00	4.59	4.96	5.54	5.58	6.76	4.92					1
811	Beta BX1468	3.02	4.01	4.71	5.34	5.95	5.80	6.80	5.08					1
941	Beta BX1469	2.88	3.70	4.12	4.94	5.42	5.55	6.56	4.74					1
921	Beta BX1470(Rhc)	2.93	3.25	4.07	4.86	5.37	5.50	6.60	4.67					1
868	Croplan Genetics CL101	3.39	4.04	4.43	5.14	5.70	5.93	6.90	5.06	5.18	5.06	5.30	4.81	9
841	Croplan Genetics CL102	3.21	4.00	4.69	5.48	5.95	5.93	6.77	5.15	5.05	4.98	4.96	4.83	9
860	Croplan Genetics CL311	3.45	3.87	4.80	5.43	5.79	5.96	6.89	5.17	5.07	5.01	4.97	4.88	4
945	Croplan Genetics CL314	3.22	3.84	4.46	5.14	5.75	5.95	6.76	5.02	5.15	5.03	5.28	4.79	4
853	Crystal 204(CX204)	3.03	3.37	4.45	4.86	4.76	5.04	6.08	4.50	4.45	4.55	4.41	4.74	3
808	Crystal 723	3.00	3.35	3.97	4.91	5.01	5.33	6.12	4.52	4.47	4.46	4.42	4.44	5
900	Crystal 725	2.82	3.40	4.19	4.96	4.81	5.07	5.94	4.47	4.43	4.44	4.38	4.47	5
862	Crystal 727(CX206)	2.92	3.09	3.93	4.64	5.08	5.31	6.31	4.47	4.39	4.49	4.32	4.67	3
887	Crystal 817	3.21	4.05	4.50	4.96	5.34	5.67	6.62	4.90	4.97	5.00	5.04	5.06	7
806	Crystal 820	2.93	3.42	4.24	4.86	5.50	5.50	6.43	4.70	4.59	4.66	4.48	4.79	5
852	Crystal 822	2.87	3.56	3.98	4.73	5.08	5.21	6.23	4.52	4.58	4.63	4.64	4.74	5
838	Crystal 999	2.85	3.58	4.20	4.95	4.97	5.64	6.44	4.68	4.49	4.51	4.31	4.53	6
912	Crystal A300(Aph)	2.89	3.19	4.32	4.71	4.80	5.10	6.07	4.42	4.45		4.48		2
819	Crystal R306	3.19	3.54	4.48	5.08	5.29	5.76	6.76	4.88	4.95		5.02		2
801	Crystal R308	3.18	3.84	4.39	5.00	5.46	5.48	6.56	4.81	4.63		4.45		2
902	Crystal R309RR	3.42	4.20	4.69	5.26	5.49	5.98	7.07	5.16	5.14		5.12		2
893	Crystal R357(Rzm & Aph)	3.05	3.68	4.34	4.76	5.22	5.49	6.79	4.77	4.80		4.84		2
931	Crystal R431	3.43	3.66	4.38	5.38	5.92	5.92	6.75	5.04					1
848	Crystal R432	2.94	3.56	4.45	5.17	5.81	6.14	6.78	4.97					1
877	Crystal R433	2.89	3.72	4.11	4.92	5.70	5.86	6.77	4.85					1
928	Crystal R434	3.17	3.86	4.59	5.23	5.84	5.81	6.90	5.07					1
867	Crystal R435	2.91	3.88	4.56	5.25	5.56	5.97	6.91	5.00					1
832	Crystal R436	3.21	4.20	4.75	5.98	6.20	6.06	7.06	5.36					1
821	Crystal R437	2.98	3.75	4.47	4.80	5.43	5.35	6.43	4.75					1
920	Crystal R438	3.41	3.84	4.36	5.21	5.46	5.77	6.94	4.98					1
809	Crystal R439	2.85	3.53	4.18	4.97	5.16	5.33	6.44	4.60					1
935	Crystal R466(Rzm)	2.86	3.53	4.17	5.15	5.75	6.06	7.05	4.94					1
910	Crystal R467(Rzm)	2.94	3.89	4.32	4.98	5.48	5.78	6.75	4.88					1
840	Crystal R468(Rzm)	3.05	3.70	4.64	5.64	6.13	6.18	7.11	5.21					1
943	Crystal R469(Rzm)	3.08	3.52	4.36	5.04	5.29	5.80	6.76	4.86					1
873	Crystal R826(Rzm)	3.22	3.50	4.31	5.01	5.53	5.44	6.43	4.78	4.65	4.61	4.53	4.51	5
913	Crystal S465(Rhc)	2.87	3.38	4.12	4.95	5.03	4.99	6.29	4.51					1
836	Hilleshog 2093	3.02	3.39	4.27	5.17	5.31	5.32	6.45	4.71	4.74	4.72	4.76	4.69	6
889	Hilleshog 2129	3.01	3.51	4.37	5.18	5.38	5.30	6.43	4.74	4.73	4.89	4.73	5.20	4
820	Hilleshog 2162(7162)	2.93	3.77	4.44	5.08	6.27	6.52	7.61	5.24	5.27	5.17	5.30	4.97	3
861	Hilleshog 2411Rz	2.91	3.22	4.21	4.56	4.77	5.00	5.96	4.39	4.49	4.45	4.58	4.37	5
908	Hilleshog 2463Rz(7163)	2.91	3.59	4.09	4.95	5.54	5.83	6.74	4.83	4.69	4.74	4.56	4.84	3
898	Hilleshog 2467Rz(7167)	2.93	3.90	4.44	4.77	5.66	5.79	6.75	4.88	4.86	4.88	4.83	4.92	3
864	Hilleshog 2469Rz(7169 Aph)	3.04	3.70	4.53	5.00	5.69	5.96	6.92	4.98	4.89	4.87	4.79	4.84	3

Table 46

2004 Cercospora Readings for Coded Test Entries

Betaseed Nursery - Rosemount, MN

		Average Rating at Each Date *							All Data Adjusted to '1982 Basis'					
Code	Description	7/26	7/29	8/2	8/5	8/9	8/12	8/17	2004 Mean	2 Yr Mean	3 Yr Mean	2003 Mean	2002 Mean	Years
	895 Hilleshog 2480Rz(7180)	3.09	3.25	3.89	4.18	4.65	4.84	5.79	4.23	4.06		3.88		2
	849 Hilleshog 2496Rz(7196)	2.87	3.34	4.06	4.63	4.62	5.27	6.43	4.44	4.39		4.34		2
	880 Hilleshog 7078	2.72	3.47	3.96	4.74	5.02	5.16	6.26	4.49	4.66	4.73	4.84	4.87	9
	828 Hilleshog 7172Rz	2.54	2.85	3.65	3.84	3.83	3.86	4.85	3.65	3.38	3.32	3.12	3.19	3
	917 Hilleshog 7197Rz(2497)	3.04	3.56	4.58	5.49	5.79	5.96	6.72	5.03	5.20		5.37		2
	883 Hilleshog 7206Rz	3.79	4.47	4.74	6.26	6.84	6.91	7.71	5.81	5.62		5.44		2
	939 Hilleshog 7209	3.06	3.53	4.37	4.90	5.15	5.78	6.78	4.79					1
	818 Hilleshog 7212	3.11	3.70	4.73	5.23	5.53	6.14	6.96	5.07					1
	825 Hilleshog 7215Rz	3.37	4.01	4.54	5.53	5.85	5.72	6.58	5.07					1
	876 Hilleshog 7217Rz	2.94	3.21	4.10	5.21	5.63	5.79	6.91	4.84					1
	843 Hilleshog 7218Rz	2.88	3.84	4.07	4.85	5.29	5.34	6.47	4.69					1
	855 Hilleshog 7219Rz	2.79	2.82	3.69	4.12	4.82	4.98	5.94	4.15					1
	831 Hilleshog 7220Rz	3.29	4.04	4.49	5.24	5.89	6.17	6.86	5.13					1
	933 Hilleshog 7221Rz	2.93	3.70	4.23	5.10	5.84	5.83	6.79	4.90					1
	907 Hilleshog 7222	3.39	4.07	4.23	5.02	5.39	5.53	6.63	4.89					1
	810 Hilleshog 7223Rz	2.84	3.18	4.16	4.25	4.67	5.37	6.58	4.44					1
	924 Hilleshog 7224	3.05	3.33	4.36	4.95	5.23	5.29	6.09	4.60					1
	905 Hilleshog 7225	3.36	4.14	4.76	5.53	6.06	6.05	7.06	5.28					1
	804 Holly 03HX317 Rzm	2.93	3.56	4.21	4.75	5.24	5.78	6.76	4.76	4.72		4.67		2
	822 Holly 03HX323 Rzm	2.88	3.50	4.14	4.65	5.27	5.62	6.43	4.64	4.19		3.74		2
	890 Holly 03HX324 Rzm	2.84	3.49	4.39	4.64	5.45	5.77	6.76	4.77	4.69		4.61		2
	869 Holly 03HX331	2.95	3.75	4.32	5.27	5.73	6.00	6.79	4.98	4.79		4.59		2
	894 Holly 03HX364 Rzm	2.90	3.56	4.05	4.60	5.15	5.44	6.58	4.61	4.83		5.05		2
	882 Holly 04HX442	3.50	4.17	4.75	5.45	5.65	5.95	6.90	5.20					1
	857 Holly 04HX443	3.60	3.89	4.69	5.47	5.87	5.86	6.76	5.16					1
	805 Holly 04HX448 Rzm	3.06	3.88	4.56	5.50	6.00	6.16	6.94	5.18					1
	865 Holly 04HX449 Rzm	2.93	3.37	4.21	4.74	5.03	5.47	6.56	4.60					1
	922 Holly 04HX450	2.91	3.09	4.07	4.36	4.87	4.82	5.97	4.29					1
	827 Holly 04HX451	2.79	3.11	4.03	4.42	4.89	5.10	6.17	4.35					1
	842 Holly 117	3.09	3.70	4.47	5.19	5.64	5.96	6.92	5.02	5.15	4.99	5.27	4.69	5
	909 Holly 250 (02HX250)	2.95	3.59	4.63	5.00	5.70	5.70	6.79	4.89	4.99	4.94	5.08	4.83	3
	879 Holly 956	3.22	3.86	4.46	5.44	5.53	5.84	6.81	5.02	5.10	4.95	5.18	4.64	4
	813 Holly 114	2.76	2.91	3.73	4.20	4.51	5.00	5.46	4.08	4.46	4.31	4.83	4.00	9
	846 Holly 115	3.07	3.89	4.24	5.30	5.82	5.79	6.76	4.97	5.02	4.97	5.06	4.88	9
	829 Holly 150	3.32	4.16	4.75	5.95	6.04	6.34	6.89	5.35	5.04	4.92	4.74	4.67	4
	815 Seedex Aspen	2.97	3.27	4.07	4.84	5.13	5.08	6.00	4.49	4.48	4.53	4.46	4.64	4
	885 Seedex Aurora(Aph)	2.87	3.21	3.93	4.16	4.33	4.79	5.76	4.13	4.19	4.16	4.25	4.10	4
	897 Seedex Magnum	3.36	3.74	4.37	5.38	5.89	6.31	7.12	5.18	5.16	5.02	5.14	4.74	4
	812 Seedex Prizm(SX0924 Aph & Rzm)	2.96	3.25	3.88	4.35	4.95	5.50	6.44	4.48	4.19	4.02	3.90	3.68	4
	936 Seedex Rezult(SX0828 Aph & Rzm)	2.58	2.86	3.68	4.19	4.94	5.45	6.58	4.33	4.77	4.91	5.20	5.18	3
	915 Seedex SX0831(Rzm)	2.76	3.01	3.71	4.00	4.45	4.83	5.96	4.09	3.96		3.83		2
	932 Seedex SX0832	2.88	3.36	3.93	4.66	5.22	5.46	6.60	4.59					1
	845 Seedex SX0833(Rzm)	3.10	3.25	3.86	4.89	4.75	4.89	6.32	4.47					1
	918 Seedex SX0931(Alpine Aph & Rzm)	2.74	2.90	4.09	4.49	4.76	5.20	6.12	4.32	3.98		3.64		4
	858 Seedex SX0933	3.30	4.05	4.41	5.24	5.98	6.15	7.39	5.25					4
	925 Seedex SX0934(Aph & Rzm)	3.04	3.36	4.31	4.82	5.12	5.14	6.13	4.58					4
	847 Seedex Thunder	3.30	3.94	4.57	5.27	5.75	6.08	6.96	5.15	5.10	4.98	5.05	4.74	9
	916 Van der Have H46177(Aph & Rzm)	2.91	3.23	3.91	4.30	5.03	5.34	6.60	4.49	4.19	4.16	3.90	4.09	5
	817 Van der Have H46519(Rzm)	3.11	3.53	4.35	5.17	5.82	5.80	6.76	4.94	5.15		5.35		2
	929 Van der Have H46530(Rzm)	2.85	3.41	4.34	5.12	5.62	5.68	6.93	4.86					1
	833 Van der Have H46531(Rzm)	2.87	2.92	3.94	4.53	5.48	5.60	6.72	4.60					1
	878 Van der Have H46532(Rzm)	3.00	3.59	4.31	5.28	5.63	5.95	6.77	4.93					1
	870 Van der Have H46533(Rzm)	2.97	3.67	4.29	5.42	6.39	6.43	7.21	5.19					1
	856 Van der Have H46733(Rzm 66733)	2.93	3.23	4.35	4.69	5.33	5.79	6.77	4.73	4.26	4.28	3.80	4.30	3
	816 Van der Have H47150(Rzm)	2.93	3.22	4.04	4.64	5.43	5.50	6.28	4.58	4.37		4.16		2
	934 Van der Have H47151(Rzm)	2.91	2.86	3.80	4.47	4.94	5.17	6.28	4.33	4.14		3.95		2
	826 Van der Have H66453	3.10	3.72	4.56	5.39	5.84	5.87	6.81	5.05	5.13	5.01	5.20	4.79	6
	874 Van der Have H66556	3.33	4.05	4.55	5.29	5.82	5.85	6.87	5.09	4.99	4.93	4.88	4.83	5
	923 Van der Have H66561	3.04	3.85	4.27	5.51	5.69	5.76	6.92	4.99	5.07	5.06	5.15	5.04	5
	803 Van der Have H66626	3.44	3.93	4.51	5.42	5.83	5.99	6.91	5.14	5.19	5.07	5.24	4.84	5
	844 Van der Have H66725	3.10	3.51	4.54	5.11	5.97	5.99	7.09	5.06	5.11	5.00	5.16	4.78	5
	906 Van der Have H66728	3.11	3.87	4.74	5.09	5.63	5.79	6.94	5.00	5.04	4.99	5.08	4.88	5
	886 Van der Have H66852	3.07	3.69	4.47	5.24	5.38	5.47	6.46	4.85	4.95		5.06		5
	896 Van der Have H66854	2.96	3.72	4.21	5.12	6.03	6.32	7.29	5.08	5.01		4.94		5
	863 Van der Have H66855	3.22	3.81	4.46	5.30	5.74	5.90	6.75	5.01					5
	942 Van der Have H66856	2.99	3.64	4.58	5.07	5.51	5.60	6.75	4.87					5
	835 Van der Have H66857	3.25	3.92	4.51	5.47	5.94	6.19	7.13	5.20					5
	884 Van der Have H66858	3.67	3.81	4.62	5.11	5.65	5.54	6.59	5.01					5
	814 Van der Have H66859	3.35	4.00	4.47	5.37	5.88	6.20	6.87	5.16					5
Chk	949 Beta 2084 Chk	2.96	3.53	4.66	5.04	5.74	5.69	6.70	4.87	4.86	4.87	4.86	4.88	
Chk	965 Beta 2084 Chk	3.18	3.72	4.07	5.05	5.47	5.65	6.74	4.82	4.84	4.85	4.86	4.88	
Chk	948 Beta 3843 Chk	3.10	3.57	4.54	4.94	5.69	5.70	6.64	4.89	4.92	4.94	4.95	4.98	
Chk	967 Beta 3843 Chk	2.92	3.67	4.14	4.94	5.54	5.56	6.72	4.79	4.87	4.90	4.95	4.98	
Chk	947 Hilleshog 8277 Chk	3.18	3.81	4.77	5.24	5.72	5.87	6.74	5.03	5.00	5.04	4.96	5.11	
Chk	964 Hilleshog 8277 Chk	3.08	3.72	4.22	5.14	5.66	5.85	6.80	4.91	4.94	5.00	4.96	5.11	

Table 46

2004 Cercospora Readings for Coded Test Entries

Betaseed Nursery - Rosemount, MN

			Average Rating at Each Date *							All Data Adjusted to '1982 Basis'				
	Code	Description	7/26	7/29	8/2	8/5	8/9	8/12	8/17	2004 Mean	2 Yr Mean	3 Yr Mean	2003 Mean	2002 Mean Years
Chk	946	Hilleshog Blazer Chk	2.89	3.36	4.13	5.21	5.49	5.85	6.79	4.84	4.69	4.80	4.54	5.01
Chk	966	Hilleshog Blazer Chk	2.98	3.38	4.02	5.02	5.73	5.82	7.04	4.85	4.69	4.80	4.54	5.01
Chk	950	Hilleshog Valley Chk	3.23	3.69	4.87	5.38	6.11	6.62	7.55	5.34	5.37	5.35	5.40	5.32
Chk	970	Hilleshog Valley Chk	3.14	3.98	4.85	5.48	6.11	6.56	7.57	5.39	5.40	5.37	5.40	5.32
Std	963	KW 3580 Chk	3.10	3.75	4.75	5.43	5.68	5.70	6.76	5.02	5.02	4.98	5.03	4.90
Std	951	KW 3580 Chk	3.16	3.84	4.50	5.26	5.41	5.88	6.75	4.94	4.99	4.96	5.03	4.90
Std	952	Seedex Gladiator Chk	3.33	3.70	4.49	5.03	5.64	5.99	6.76	4.97	4.99	4.90	5.02	4.70
Std	969	Seedex Gladiator Chk	3.03	3.80	4.43	4.93	5.36	5.67	6.73	4.83	4.92	4.85	5.02	4.70
Std	953	Seedex Monarch Chk	3.03	3.41	4.20	5.27	5.34	5.81	6.77	4.84	4.84	4.88	4.84	4.97
Std	971	Seedex Monarch Chk	3.25	3.57	4.32	5.02	5.32	5.53	6.31	4.75	4.79	4.85	4.84	4.97
Chk	968	Van der Have H66156 Chk	3.40	4.01	4.59	5.54	5.59	5.86	6.89	5.11	5.07	5.04	5.04	4.97
Chk	955	Van der Have H66156 Chk	3.52	4.04	4.36	5.04	5.63	5.77	6.74	5.01	5.02	5.01	5.04	4.97
Chk	962	Van der Have H66168 Chk	3.20	3.85	4.53	5.27	5.58	5.78	6.75	4.98	4.97	4.89	4.95	4.74
Chk	954	Van der Have H66168 Chk	3.21	3.66	4.49	5.12	5.62	5.96	6.91	5.00	4.98	4.90	4.95	4.74
Chk	956	Crystal 14 Std	2.30	2.73	3.44	3.70	3.98	4.07	5.10	3.61	3.36	3.33	3.11	3.26
Chk	961	Crystal 17 Std	3.00	3.17	4.08	4.24	4.70	4.90	5.76	4.26	4.00	3.95	3.74	3.87
Chk	957	Crystal 30 Std	3.15	3.31	3.89	4.59	4.90	5.06	5.93	4.38	4.29	4.31	4.21	4.35
Chk	960	Maribo Monova Std	3.24	3.88	4.57	5.17	5.64	5.77	6.91	5.01	5.10	5.04	5.19	4.90
Chk	958	Maribo Unica Std	3.24	3.91	4.40	5.34	5.70	5.84	6.79	5.04	5.12	5.05	5.19	4.92
Chk	959	Bush Johnson 19 Std	3.38	4.16	4.45	5.38	5.57	5.55	6.10	4.93				
StdB	972	CR CHECK MOD HYBRID	3.12	3.66	4.56	5.04	5.49	5.69	6.78	4.89	4.92	4.95	4.95	5.01
StdB	977	CR CHECK MOD HYBRID	3.07	3.57	4.40	4.95	5.34	5.69	6.63	4.84	4.89	4.93	4.95	5.01
StdB	982	CR CHECK MOD HYBRID	2.90	3.51	4.12	4.76	5.44	5.82	6.79	4.76	4.85	4.91	4.95	5.01
StdB	987	CR CHECK MOD HYBRID	2.90	3.71	4.18	5.20	5.53	5.57	6.74	4.82	4.88	4.93	4.95	5.01
StdB	992	CR CHECK MOD HYBRID	3.18	3.99	4.71	5.15	5.65	5.85	6.79	5.02	4.98	4.99	4.95	5.01
StdB	976	CR CHECK MOD HYBRID #2	2.93	3.56	4.33	4.69	5.15	5.62	6.76	4.70				
StdB	981	CR CHECK MOD HYBRID #2	3.20	3.54	4.18	4.92	5.50	5.67	6.59	4.80				
StdB	986	CR CHECK MOD HYBRID #2	3.23	3.53	4.39	4.85	5.16	5.56	6.49	4.74				
StdB	991	CR CHECK MOD HYBRID #2	3.06	3.36	4.26	4.94	5.16	5.42	6.42	4.66				
StdB	996	CR CHECK MOD HYBRID #2	2.85	3.50	4.08	4.65	4.84	5.08	6.28	4.46				
StdB	973	CR CHECK RES HYBRID	2.40	2.76	3.73	4.06	3.98	4.49	5.46	3.81	3.54	3.51	3.27	3.45
StdB	978	CR CHECK RES HYBRID	2.72	2.76	3.69	4.28	4.47	4.67	5.44	4.00	3.63	3.57	3.27	3.45
StdB	983	CR CHECK RES HYBRID	2.12	2.56	3.22	4.04	3.92	3.92	4.54	3.49	3.38	3.40	3.27	3.45
StdB	988	CR CHECK RES HYBRID	2.75	2.88	3.88	4.07	4.19	4.52	5.31	3.93	3.60	3.55	3.27	3.45
StdB	993	CR CHECK RES HYBRID	2.39	2.83	3.59	3.93	3.96	4.46	5.12	3.75	3.51	3.49	3.27	3.45
StdB	974	CR CHECK RES INBRED	1.12	1.94	2.70	2.70	3.05	3.37	3.70	2.65	2.47	2.50	2.30	2.54
StdB	979	CR CHECK RES INBRED	2.05	2.27	3.28	3.05	3.27	3.39	4.02	3.04	2.67	2.63	2.30	2.54
StdB	984	CR CHECK RES INBRED	1.42	1.79	2.61	2.77	3.05	3.21	3.82	2.67	2.49	2.50	2.30	2.54
StdB	989	CR CHECK RES INBRED	1.38	1.93	2.37	3.00	2.88	3.40	3.84	2.71	2.51	2.52	2.30	2.54
StdB	994	CR CHECK RES INBRED	1.59	1.90	2.67	2.83	2.89	3.18	3.86	2.69	2.50	2.51	2.30	2.54
StdB	975	CR CHECK SUS HYBRID #2	3.38	4.35	4.53	5.65	6.46	7.11	7.58	5.57				
StdB	980	CR CHECK SUS HYBRID #2	3.13	4.18	4.69	5.30	6.46	6.67	7.76	5.49				
StdB	985	CR CHECK SUS HYBRID #2	3.27	4.52	4.72	5.65	6.82	7.10	7.57	5.65				
StdB	990	CR CHECK SUS HYBRID #2	3.08	4.33	4.74	5.49	6.60	6.77	7.41	5.51				
StdB	995	CR CHECK SUS HYBRID #2	3.20	4.35	4.66	5.64	6.62	6.96	7.70	5.59				
	880	Seedex Aurora (SX925 MinnDak)	2.87	3.21	3.93	4.16	4.33	4.79	5.76	4.13	4.19	4.17	4.25	4.14
	825	Seedex Magnum (SX922 MinnDak)	3.36	3.74	4.37	5.38	5.89	6.31	7.12	5.18	5.16	5.07	5.14	4.90
		Check Mean	3.00	3.56	4.27	4.93	5.36	5.58	6.54	4.75				
		Coeff. of Var. (%)	11.74	12.97	9.60	9.39	8.78	7.77	6.18	5.84				
		F Value	5.17	5.65	5.36	7.74	11.09	12.26	15.77	18.43				
		Mean LSD (0.05)	0.41	0.53	0.47	0.54	0.55	0.50	0.46	0.32				
		Mean LSD (0.01)	0.54	0.70	0.63	0.71	0.71	0.67	0.61	0.42				

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

* Ratings adjusted to 1982 basis (Checks * 1.092 = 5.5). All 2003 ratings were multiplied by 0.9654.

Ratings adjusted on the basis of 10 checks (Beta2084, Beta3843, KW3580, Hill8277, Hill Blazer, Hill Valley, Seedex Gladiator, Seedex Monarch, vdH 66156, vdH 66168).

Std = varieties entered for comparison purposes. StdB = Standards from Betaseed.

Chk = varieties used to adjust CR readings to 1982 basis.

Table 47
Soil Test, Previous Crop and Disease Levels for 2004 ACSC Official Trial Sites *

Location	District / Trial Type	Cooperator	Planting Date	Harvest Date	Soil Test ++	Preceding Crop	N (lbs/acre) 0-2'	N (lbs/acre) 2-4'	P ppm	K ppm	pH	OM (%)	Soil Type	Diseases Present @ Aph	Rzm	Maggot**
Casselton	Mhd/Hlb	Howe Seed Farm	4/21	9/18	C	Barley	29	14	9	430	NA	NA	Medium Light	N-S	-	50
Borup	Mhd/Hlb	Ray Johnson	4/25	10/10	C	Wheat	57	10	5	95	8.2	4.0	Medium	N	-	-
Ada	Mhd/Hlb	Curt & Corey Jacobson	4/23	10/6	C	Wheat	33	9	11	149	8.3	NA	Medium Light	N	-	3
Climax	Crk/EGF	Evenson Farms	4/28	10/12	Z	Pinto Beans	28	5	10	201	NA	NA	Medium	N	-	-
Grand Forks	Crk/EGF	Staveteig Farms	4/30	9/29	C	Wheat	37	8	15	201	7.9	4.5	Medium	N-M	-	-
Alvarado	Crk/EGF	J. Wendell Sands	4/29	10/3	C	Wheat	19	2	10	154	8.0	NA	Moderate Heavy	N	-	-
St. Thomas	DTN	Baldwin Farms Inc.	4/28	Abandon	C	Edible Beans	45	13	19	126	8.1	NA	Light	S	-	100
Stephen	DTN	John & Tom Peterson	4/27	Abandon	C	Wheat	13	4	16	403	7.8	6.9	Heavy	N-M	-	-
Grafton	DTN	Paul Thompson	4/29	Abandon	C	Wheat	24	48	9	140	8.0	3.1	Light	-	-	-
Perley Aph	Specialty Aph	Mark Hoff	5/28	Abandon	C	Wheat	24	5	24	308	7.4	NA	Medium	N-M	-	-
Kindred Aph	Specialty Aph	Craig Hertsgaard	5/4	10/19	NA	Corn	NA	NA	NA	NA	NA	NA	Medium	S	-	-
Glyndon Rzm	Specialty Rzm	SREBMN	5/1	10/20	C	Wheat	34	36	4	60	NA	NA	Light	S-V	-	-
Averill Rzm	Specialty Rzm	Vernon Sunde & Sons	4/21	10/13	C	Wheat	52	12	9	169	8	NA	Light	S-M	V	-
Felton Rzm	Specialty Rzm	David Kragnes	4/22	10/17	C	Wheat	37	NA	9	210	8.2	4.4	Medium	N-S	M	-
Crookston Rzm	Specialty Rzm	Bruce Erdmann	4/22	10/7	Z	Wheat	18	15	9	200	NA	NA	Medium	N-S	M	-
Scandia Rzm	Specialty Rzm	Don Andringa	4/30	10/10	Z	Wheat	24	5	7	NA	NA	NA	Medium Light	N	V	-
Halstad Rzm	Specialty Rzm	Elliot Viker	5/6	10/22	C	Wheat	21	NA	9	314	8	4.3	Heavy	S-M	S	-
Barnesville	Minn-Dak	Maier Farms	4/23	10/15	C	Wheat	33	10	5	370	NA	NA	Light	N	-	-
Norcross	Minn-Dak	Jerry & Chadd Berger	4/16	10/27	C	Wheat	14	6	7	170	7.5	2.6	Medium	M-V	-	-
Fairmount	Minn-Dak	Wayne Miller	4/27	Abandon	C	Wheat	15	NA	11	215	7.9	NA	Medium	-	-	-

NA = not available from grower.

Edited 12-29-04

* All soil sample data obtained from cooperators. Fertilizer applied in accordance to ACSC recommendations.

++ C = conventional soil test, Z = zone based on imagery, G = grid tested.

@ Disease notes were based upon visual evaluations (N=none, S=slight, V=severe, - not observed)

** % roots with maggot scars

Table 48
2004 Herbicides Applied to ACS & Minn-Dak Official Trials.

AREA	LOCATION	SPRAY DATES	HERBICIDE & RATE(prod)/ACRE	WATER USED/METHOD
ACSC	**CASSELTON**	5/22 6/4,14	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/24	B/S/S/U/Q7/MSO[2]	"
	(Biotech)	5/26, 6/3,17	RR[5] (Biotech)	17 GAL. (GROUND)
ACSC	**BORUP**	5/18 6/10	Air[3]	(Air)
		6/17	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/26	B/S/S/U/Q7/MSO[2]	"
ACSC	**ADA**	5/23 6/4,14,23	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Biotech)	6/3,9,22	RR[5] (Biotech)	17 GAL. (GROUND)
ACSC	**CLIMAX**	5/23 6/8,16	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/25	B/S/S/U/Q7/MSO[2]	"
ACSC	**GRAND FORKS**	5/27 6/4,16	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/25	B/S/S/U/Q7/MSO[2]	"
ACSC	**ALVARADO**	5/27 6/8,13,25	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
ACSC	**ST. THOMAS**	5/27 6/3,12	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/21	B/S/S/U/Q7/MSO[6]	"
ACSC	**STEPHEN**	5/27 6/8,13,25	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
ACSC	**GRAFTON**	5/27 6/3,14,25	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/21	B/S/S/U/Q7/MSO[7]	"
ACSC	**PERLEY**	6/8,16,26	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Aphanomyces Trial)			
ACSC	**KINDRED**	5/28 6/7,12,22	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Aphanomyces Trial)	7/31	B/S/S/U/Q7/MSO[4]	"
ACSC	**GLYNDON**	5/28 6/9,17,26	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Rhizomania Trial)			
ACSC	**AVERILL**	5/21 6/7,14,23	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Rhizomania Trial)			
ACSC	**FELTON**	5/18,28 6/6,22	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Rhizomania Trial)			
ACSC	**CROOKSTON**	5/17 6/4	Air[3]	(Air)
	(Rhizomania Trial)	5/28 6/15	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
ACSC	**SCANDIA**	5/27 6/8,16,25	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Rhizomania Trial)			
ACSC	**HALSTAD**	5/26 6/7,12,22	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
	(Rhizomania Trial)	7/31	B/S/S/U/Q7/MSO[4]	"
MDAK	**BARNESVILLE**	5/21 6/8,17	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/26	B/S/S/U/Q7/MSO[2]	"
MDAK	**NORCROSS**	5/10,20 6/17	B/S/S/U/Q7/MSO[1]	10 GAL. (GROUND)
		6/3	Air[3]	(Air)

Conventional herbicide applications made with ground sprayer by beet seed personnel from Crystal Technical Services Center, RR applications made with ground sprayer by KayJay Ag Services, Inc.

[1] Betamix	8 fl.oz./acre
Stinger	1.3 fl.oz./acre
Select	2 fl.oz./acre
Upbeet	0.125 fl.oz./acre
Quad 7	1% v/v
MSO / Scoil	1% v/v

[2]Applied micro-rate less Stinger
[3]Applied by air due to wet conditions
[4]Applied Select only at 8 fl. Oz./acre
[5]Roundup UltraMax @ 26 fl. Oz./acre
[6]Applied micro-rate + Lorsban 4E
[7]Lorsban 4E only

Table 49
2004 Leafspot Fungicides Applied to ACS & Minn-Dak Official Trials.

AREA	LOCATION	SPRAY DATES	FUNGICIDE	RATE(prod)/ACRE	WATER USED/METHOD
ACSC	**CASSELTON**	7/17	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/23	EMINENT	13.0 OZ. (Liq.)	"
		8/12	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		8/27	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**BORUP**	7/18	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/26	EMINENT	13.0 OZ. (Liq.)	"
		8/16	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/4	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**ADA**	7/14	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/23	EMINENT	13.0 OZ. (Liq.)	"
		8/13	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/3	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**CLIMAX**	7/14	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/23	EMINENT	13.0 OZ. (Liq.)	"
		8/13	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/3	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**GRAND FORKS**	7/12	EMINENT	Air	Air
		7/14	QUADRIS	13.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/30	SUPERTIN / TOPSIN	Air	Air
		8/13	HEADLINE	Air	Air
		8/28	EMINENT	Air	Air
ACSC	**ALVARADO**	7/15	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/28	EMINENT	13.0 OZ. (Liq.)	"
		8/16	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/12	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**ST. THOMAS**	7/13	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/27	EMINENT	13.0 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
ACSC	**STEPHEN**	7/13	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/28	EMINENT / SELECT	13.0 OZ. (Liq.) / 8 OZ. (Liq.)	"
		8/16	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/12	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**GRAFTON**	7/13	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
ACSC	**PERLEY**	7/16	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Aphanomyces Trial)	7/29	EMINENT / SELECT	13.0 OZ. (Liq.) / 8 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
ACSC	**KINDRED**	7/16	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Aphanomyces Trial)	7/26	EMINENT	13.0 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		8/27	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**GLYNDON**	7/16	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/26	EMINENT	13.0 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/4	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**AVERILL**	7/18	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/26	EMINENT	13.0 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/1	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**FELTON**	7/18	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/26	EMINENT	13.0 OZ. (Liq.)	"
		8/13	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/4	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**CROOKSTON**	7/15	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/24	EMINENT	13.0 OZ. (Liq.)	"
		8/12	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/3	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**SCANDIA**	7/15	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/24	EMINENT	13.0 OZ. (Liq.)	"
		8/12	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/3	EMINENT	13.0 OZ. (Liq.)	"
ACSC	**HALSTAD**	7/16	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
	(Rhizomania Trial)	7/24	EMINENT	13.0 OZ. (Liq.)	"
		8/14	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
MDAK	**BARNESVILLE**	7/1	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/19	EMINENT	13.0 OZ. (Liq.)	"
		8/13	AGRI TIN / TOPSIN	3.75 OZ. (Liq.) / 7.5 OZ. (Liq.)	"
		9/1	EMINENT	13.0 OZ. (Liq.)	"
MDAK	**NORCROSS**	7/1	QUADRIS	15.0 OZ. (Liq.)	20 GAL. (GROUND)
		7/21	EMINENT	Air	Air
		8/12	HEADLINE	Air	Air

All applications made with ground sprayer by beet seed personnel from Crystal Technical Services

Table 50

Calculation for Full Market Approval of Sugarbeet Varieties for ACSC for 2005

Previously Approved Varieties	Approval Status	Rec. Sugar/Ton 2002	2003	2004	3 Yr Mean	3 Yr % Appr.	> 98.5% Appr.	Rec. Sugar/Acre 2002	2003	2004	3 Yr Mean	3 Yr % Appr.	Rec/T + Rec/A % 3 Yr % Appr.	> 195% Total	Cercospora Ratings 2002	2003	2004	3 Yr Mean	< 5.40 *
Beta 3820(Aph)	Approved	313.3	335.8	311.9	320.3	100.4	Yes	7503	8239	6763	7501	99.8	200.2	Yes	4.37	4.28	4.36	4.34	Yes
Beta 6225	NO	303.9	326.5	303.8	311.4	97.6	NO	7703	8123	7285	7704	102.5	200.1	Yes	4.67	4.44	4.85	4.65	Yes
Beta 6233	Approved	312.3	336.7	313.5	320.8	100.5	Yes	7566	8058	6906	7510	99.9	200.4	Yes	4.67	4.64	4.50	4.60	Yes
Beta 6400(Aph)	Approved	321.6	338.5	318.4	326.2	102.2	Yes	7109	7812	6576	7166	95.3	197.5	Yes	4.56	4.01	4.40	4.32	Yes
Beta 6610	Approved	305.1	332.4	309.0	315.5	98.9	Yes	7367	8022	6961	7450	99.1	198.0	Yes	4.76	4.81	4.61	4.73	Yes
Croplan Genetics CL311	Approved	315.5	333.8	305.9	318.4	99.8	Yes	7636	7985	6952	7525	100.1	199.9	Yes	4.88	4.97	5.17	5.01	Yes
Crystal 723	Approved	319.5	337.6	315.7	324.3	101.6	Yes	7603	7946	6723	7424	98.8	200.4	Yes	4.44	4.42	4.52	4.46	Yes
Crystal 725	Approved	313.0	331.4	311.3	318.6	99.8	Yes	7691	8166	6965	7607	101.2	201.0	Yes	4.47	4.38	4.47	4.44	Yes
Crystal 817	Approved	316.2	335.0	308.5	319.9	100.2	Yes	7474	7918	6699	7364	98.0	198.2	Yes	5.06	5.04	4.90	5.00	Yes
Crystal 820	Approved	313.7	330.1	310.7	318.2	99.7	Yes	7945	8246	6829	7673	102.1	201.8	Yes	4.79	4.48	4.70	4.66	Yes
Crystal 822	Approved	320.4	336.6	314.4	323.8	101.5	Yes	7584	8020	6753	7452	99.1	200.6	Yes	4.74	4.64	4.52	4.63	Yes
Crystal 999	Approved	311.0	333.6	306.6	317.1	99.4	Yes	7517	8143	6842	7501	99.8	199.2	Yes	4.53	4.31	4.68	4.51	Yes
Hilleshog 2129	NO	316.3	332.6	308.6	319.2	100.0	Yes	7597	7346	6420	7121	94.7	194.7	NO	5.20	4.73	4.74	4.89	Yes
Holly 956	Approved	316.6	336.8	307.8	320.4	100.4	Yes	7715	8324	7044	7694	102.4	202.8	Yes	4.64	5.18	5.02	4.95	Yes
Seedex Magnum	Approved	317.5	335.6	307.2	320.1	100.3	Yes	7934	8506	6877	7772	103.4	203.7	Yes	4.74	5.14	5.18	5.02	Yes
Van der Have H46177(Aph & Rzm)	Approved	311.1	330.7	310.1	317.3	99.4	Yes	7364	7943	6840	7382	98.2	197.6	Yes	4.09	3.90	4.49	4.16	Yes
Van der Have H66561	NO	304.6	329.0	308.1	313.9	98.4	NO	7798	8484	7241	7841	104.3	202.7	Yes	5.04	5.15	4.99	5.06	Yes
Van der Have H66626	Approved	311.3	334.7	309.5	318.5	99.8	Yes	7776	8301	6739	7605	101.2	201.0	Yes	4.84	5.24	5.14	5.07	Yes
Mean of 18 varieties approved in 2003		313.5	333.7	310.1	319.1			7604.5	8087.9	6856.4	7516.3		200.0					4.69	
Candidates for Approval	Approval Status						> 100% Appr.							> 195% Total					< 5.20 * Cerc.
Beta 3494 (BX1194 Aph)	Approved	315.1	334.6	311.4	320.4	100.4	Yes	8085	8079	5795	7320	97.4	197.8	Yes	4.72	4.33	4.50	4.51	Yes
Beta 3800(Aph)	NO	305.5	325.0	305.6	312.1	97.8	NO	7627	8025	6979	7544	100.4	198.2	Yes	4.70	4.71	4.53	4.64	Yes
Beta 4797(BX1197 Rzm)	NO	312.1	331.4	310.2	317.9	99.6	NO	7968	8244	7267	7826	104.1	203.7	Yes	5.07	4.76	4.81	4.88	Yes
Beta 4818R(Aph & Rzm)	NO	300.8	330.1	306.4	312.4	97.9	NO	7327	8026	6836	7397	98.4	196.3	Yes	4.95	4.92	4.48	4.78	Yes
Crystal 204(CX204)	Approved	311.9	337.0	311.3	320.1	100.3	Yes	7882	8145	6762	7596	101.1	201.4	Yes	4.74	4.41	4.50	4.55	Yes
Crystal 727(CX206)	Approved	314.9	335.9	317.1	322.6	101.1	Yes	7820	8214	7026	7687	102.3	203.4	Yes	4.67	4.32	4.47	4.49	Yes
Hilleshog 2162(7162)	Approved	323.6	340.6	312.5	325.6	102.0	Yes	7411	7816	6691	7306	97.2	199.2	Yes	4.97	5.30	5.24	5.17	Yes
Hilleshog 2411Rz	NO	304.1	327.4	307.1	312.9	98.0	NO	7232	7767	6519	7173	95.4	193.4	NO	4.37	4.58	4.39	4.45	Yes
Hilleshog 2463Rz(7163)	NO	296.6	320.9	297.2	304.9	95.5	NO	7513	8163	6586	7420	98.7	194.2	NO	4.84	4.56	4.83	4.74	Yes
Hilleshog 2467Rz(7167)	NO	301.9	325.7	300.5	309.4	97.0	NO	7437	7864	6983	7428	98.8	195.8	Yes	4.92	4.83	4.88	4.88	Yes
Hilleshog 2469Rz(7169 Aph)	NO	287.5	314.7	291.2	297.8	93.3	NO	7587	8115	6525	7409	98.6	191.9	NO	4.84	4.79	4.98	4.87	Yes
Hilleshog 7172Rz	NO	292.6	318.9	292.8	301.4	94.5	NO	6551	7455	6192	6733	89.6	184.1	NO	3.19	3.12	3.65	3.32	Yes
Holly 250 (02HX250)	Approved	315.3	337.5	308.8	320.6	100.5	Yes	7792	8219	7139	7717	102.7	203.2	Yes	4.83	5.08	4.89	4.94	Yes
Seedex Aurora(Aph)	NO	308.8	331.2	302.7	314.3	98.5	NO	7773	7992	6356	7374	98.1	196.6	Yes	4.10	4.25	4.13	4.16	Yes
Seedex Prizm(SX0924 Aph & Rzm)	NO	301.5	334.3	309.9	315.3	98.8	NO	7474	7976	6950	7467	99.3	198.1	Yes	3.61	3.96	4.48	4.02	Yes
Seedex Rezult(SX0828 Aph & Rzm)	Approved	317.2	331.0	310.3	319.5	100.1	Yes	7733	7730	6824	7429	98.8	198.9	Yes	5.18	5.20	4.33	4.91	Yes
Van der Have H46733(Rzm 66733)	NO	310.5	332.0	303.9	315.5	98.9	NO	7670	7969	7136	7592	101.0	199.9	Yes	4.30	3.80	4.73	4.28	Yes
Van der Have H66725	Approved	324.7	342.0	310.1	325.6	102.0	Yes	7718	7908	6839	7488	99.6	201.6	Yes	4.78	5.16	5.06	5.00	Yes
Mean of 22 varieties approved for 2005		315.48	335.36	311.00	320.61			7646.54	8079.05	6797.44	7507.7								

* All Cercospora readings 2002-2004 were adjusted to 1982 basis.

Created 11-3-04.

Varieties that were not included in the mean of the approved varieties, but may continue to be sold in unlimited quantities include:

Croplan 101, Croplan 102, Crystal R826, Hilleshog 2093, Seedex Thunder & Van der Have H66556.

Table 51

Approval Calculations for Crystal Test Market in 2005 (7,500 Units Maximum Sales)

Description	Test Market Status	Recoverable Sugar/Ton**					Rec. Sugar/Acre**				Rec/T+Rec/A %		Cercospora			
		2003	2004	2 Yr Mean	2 Yr % Appr.	>100%	2003	2004	2 Yr Mean	2 Yr % Appr.	2 Yr % Appr.	Total >195%	2003	2004	2 Yr Mean	<=5.20*
Beta 1305 (BX1305 Rzm)	NO	314.5	298.6	306.5	94.8	NO	8158	7817	7988	107.4	202.2	Yes	4.93	4.98	4.95	Yes
Beta 6302 (BX1302)	Test Market	344.6	319.5	332.0	102.7	Yes	8039	6702	7371	99.1	201.8	Yes	4.11	4.55	4.33	Yes
Beta BX1301(Rhc & Rzm)	NO	303.4	288.0	295.7	91.5	NO	8149	7463	7806	104.9	196.4	Yes	4.41	4.77	4.59	Yes
Beta BX1303(Rzm)	NO	318.4	295.8	307.1	95.0	NO	7911	6965	7438	100.0	195.0	Yes	4.81	4.60	4.70	Yes
Crystal R306	NO	324.6	304.6	314.6	97.3	NO	8160	7132	7646	102.8	200.1	Yes	5.02	4.88	4.95	Yes
Crystal R308	Test Market	334.2	312.9	323.6	100.1	Yes	8290	7292	7791	104.7	204.9	Yes	4.45	4.81	4.63	Yes
Hilleshog 2480Rz(7180)	NO	324.5	302.0	313.2	96.9	NO	8125	6893	7509	101.0	197.9	Yes	3.88	4.23	4.06	Yes
Hilleshog 2496Rz(7196)	NO	322.1	299.7	310.9	96.2	NO	8314	7012	7663	103.0	199.2	Yes	4.34	4.44	4.39	Yes
Holly 03HX317 Rzm	NO	322.2	301.8	312.0	96.5	NO	8362	7333	7848	105.5	202.1	Yes	4.67	4.76	4.72	Yes
Holly 03HX331	NO	325.5	313.7	319.6	98.9	NO	8085	7220	7653	102.9	201.8	Yes	4.59	4.98	4.79	Yes
Holly 03HX364 Rzm	NO	331.6	298.1	314.9	97.4	NO	7935	7070	7502	100.9	198.3	Yes	5.05	4.61	4.83	Yes
Seedex SX0831(Rzm)	NO	330.3	311.5	320.9	99.3	NO	7525	6752	7138	96.0	195.3	Yes	3.83	4.09	3.96	Yes
Van der Have H46519(Rzm)	NO	312.8	292.8	302.8	93.7	NO	8180	7921	8050	108.2	201.9	Yes	5.35	4.94	5.15	Yes
Van der Have H47150(Rzm)	NO	321.1	289.7	305.4	94.5	NO	8073	7029	7551	101.5	196.0	Yes	4.16	4.58	4.37	Yes
Van der Have H47151(Rzm)	NO	334.1	299.5	316.8	98.0	NO	7611	6976	7294	98.1	196.1	Yes	3.95	4.33	4.14	Yes
Van der Have H66852	NO	334.2	309.2	321.7	99.5	NO	8539	7045	7792	104.8	204.3	Yes	5.06	4.85	4.95	Yes
Mean of 22 varieties approved for 2005 (including new full market)		335.4	311.0	323.18			8079.1	6797.4	7438.2							

** Data for all varieties adjusted to commercial status on basis of common check entries.

* All Cercospora readings were adjusted to 1982 basis.

Created 11-3-04.

Table 52

Calculation for Approval of Sugarbeet Varieties for ACSC Aphanomyces Specialty Market for 2005

Chk	Description	Approval Status	Root Aph. Rating 2002	2003	2004	2 Yr Mean	3 Yr Mean	Cercospora Rating ** 2002	2003	2004	2 Yr Mean	3 Yr Mean
	Previously Approved (3 Yrs)						**<=5.20**					**<=5.40**
	Beta 3494 (BX1194 Aph)	NO	5.08	5.06	5.73	5.39	5.29	4.72	4.33	4.50	4.41	4.51
	Beta 3800(Aph)	Approved	4.42	4.47	4.52	4.49	4.47	4.70	4.71	4.53	4.62	4.64
	Beta 3820(Aph)	Approved	4.59	4.45	4.84	4.64	4.62	4.37	4.28	4.36	4.32	4.34
	Beta 4818R(Aph & Rzm)	Approved	4.59	4.43	4.99	4.71	4.67	4.95	4.92	4.48	4.70	4.78
	Beta 6400(Aph)	Approved	4.74	4.23	5.22	4.73	4.73	4.56	4.01	4.40	4.20	4.32
	Crystal 820	Approved	4.74	4.10	4.76	4.43	4.54	4.79	4.48	4.70	4.59	4.66
	Crystal 822	Approved	4.59	4.46	4.59	4.52	4.54	4.74	4.64	4.52	4.58	4.63
	Hilleshog 2469Rz(7169 Aph)	Approved	4.42	3.67	4.92	4.29	4.34	4.84	4.79	4.98	4.89	4.87
	Seedex Aurora(Aph)	Approved	4.74	4.65	4.83	4.74	4.74	4.10	4.25	4.13	4.19	4.16
	Seedex Prizm(SX0822 Aph)	Approved	4.25	4.35	5.07	4.71	4.56	3.61	3.96	4.48	4.22	4.02
	Seedex Rezult(SX0828 Aph & Rzm)	Approved	5.72	5.05	4.79	4.92	5.19	5.18	5.20	4.33	4.77	4.91
	Van der Have H46177(Aph & Rzm)	Approved	4.25	4.64	4.85	4.74	4.58	4.09	3.90	4.49	4.19	4.16
	Candidates for Approval						**<=4.90**					**<=5.20**
	Beta 1305 (BX1305 Rzm)	< 3 Yrs			4.70				4.93	4.98	4.95	
	Beta 1317(BX1317 Aph & Rzm)	< 3 Yrs			5.12				4.88	5.03	4.96	
	Crystal 204(CX204)	< 3 Yrs			5.12			4.74	4.41	4.50	4.45	4.55
	Crystal 725	< 3 Yrs		4.02	4.85	4.44		4.47	4.38	4.47	4.43	4.44
	Hilleshog 2463Rz(7163)	< 3 Yrs		3.90	5.43	4.66		4.84	4.56	4.83	4.69	4.74
	Hilleshog 7212	< 3 Yrs			4.49					5.07	< 2 Yrs	
	Hilleshog 7225	< 3 Yrs			5.09					5.28	< 2 Yrs	
	Holly 03HX317 Rzm	< 3 Yrs		4.65	5.11	4.88			4.67	4.76	4.72	
	Holly 03HX323 Rzm	< 3 Yrs			4.56				3.74	4.64	4.19	
	Holly 03HX324 Rzm	< 3 Yrs			5.48				4.61	4.77	4.69	
	Holly 04HX449 Rzm	< 3 Yrs			5.26					4.60	< 2 Yrs	
	Seedex SX0831(Rzm)	< 3 Yrs		4.27	4.69	4.48			3.83	4.09	3.96	
	Van der Have H46519(Rzm)	< 3 Yrs			5.57				5.35	4.94	5.15	
	Van der Have H46733(Rzm 66733)	< 3 Yrs		4.27	4.87	4.57		4.30	3.80	4.73	4.26	4.28
	Van der Have H47151(Rzm)	< 3 Yrs		4.13	4.58	4.35			3.95	4.33	4.14	
	Check Varieties											
1	Beta 3800(Aph Chk)		4.09	3.96	4.68	4.32	4.24					
1	Beta 6447(Aph Chk)		6.06	5.92	5.59	5.75	5.86					
1	Crystal 817(Aph Chk)		6.22	6.49	5.73	6.11	6.14					
1	Crystal 960(Aph Chk)		4.25	3.53	4.39	3.96	4.06					
1	Crystal 999(Aph Chk)		4.91	4.95	4.74	4.85	4.87					
1	Hilleshog 2093(Aph Chk)		6.55	7.52	5.97	6.75	6.68					
1	Hilleshog Resist(Aph Chk)		4.74	5.34	5.00	5.17	5.03					
1	Seedex Monarch(Aph Chk)		5.40	6.73	6.03	6.38	6.06					
1	Van der Have H46140(Aph Chk)		4.25	4.47	4.76	4.61	4.49					
1	Van der Have H66453		5.89	6.82	5.65	6.24	6.12					
10	Check Mean		5.24	5.57	5.26	5.41	5.35					
	Approval Criteria (for new varieties)						4.90					5.20
	(for continued approval)						5.20					5.40

** All Cercospora readings 2002-2004 were adjusted to 1982 basis.

Aphanomyces new variety approval criteria: 3 years of official trial data, Aphanomyces rating must not exceed 4.90 and CR rating must not exceed 5.20.

Aphanomyces continued approval criteria: 3 years of official trial data, Aphanomyces rating must not exceed 5.20 and CR rating must not exceed 5.40.

Aphanomyces and Cercospora data adjusted for variation in nursery infection level.

Table 53

Calculation for Approval of Sugarbeet Varieties for ACSC Rhizomania Specialty Market for 2005

Description	Approval Status	Cercospora Rating + 2002	2003	2004	2 Yr Mean	3 Yr Mean
Previously Approved (3 Years)						<=5.40
Beta 4797(BX1197 Rzm)	Approved	5.07	4.76	4.81		4.88
Beta 4818R(Aph & Rzm)	Approved	4.95	4.92	4.48		4.78
Crystal R826(Rzm)	Approved	4.51	4.53	4.78		4.61
Hilleshog 2411Rz	Approved	4.37	4.58	4.39		4.45
Hilleshog 2463Rz(7163)	Approved	4.84	4.56	4.83		4.74
Hilleshog 2467Rz(7167)	Approved	4.92	4.83	4.88		4.88
Hilleshog 2469Rz(7169 Aph)	Approved	4.84	4.79	4.98		4.87
Hilleshog 7172Rz	Approved	3.19	3.12	3.65		3.32
Seedex Rezult(SX0828 Aph & Rzm)	Approved	5.18	5.20	4.33		4.91
Van der Have H46177(Aph & Rzm)	Approved	4.09	3.90	4.49		4.16
Candidates for Approval (2 Yrs)					<=5.20	
Beta 1305 (BX1305 Rzm)	Approved		4.93	4.98	4.95	
Beta BX1301(Rhc & Rzm)	Approved		4.41	4.77	4.59	
Beta BX1303(Rzm)	Approved		4.81	4.60	4.70	
Crystal R306	Approved		5.02	4.88	4.95	
Crystal R308	Approved		4.45	4.81	4.63	
Hilleshog 2480Rz(7180)	Approved		3.88	4.23	4.06	
Hilleshog 2496Rz(7196)	Approved		4.34	4.44	4.39	
Holly 03HX317 Rzm	Approved		4.67	4.76	4.72	
Holly 03HX364 Rzm	Approved		5.05	4.61	4.83	
Seedex SX0831(Rzm)	Approved		3.83	4.09	3.96	
Seedex Prizm(SX0924 Aph & Rzm)	Approved		3.96	4.48	4.22	
Van der Have H46519(Rzm)	Approved		5.35	4.94	5.15	
Van der Have H46733(Rzm 66733)	Approved		3.80	4.73	4.26	
Van der Have H47150(Rzm)	Approved		4.16	4.58	4.37	
Van der Have H47151(Rzm)	Approved		3.95	4.33	4.14	
Approval Criteria					5.20	5.40

+ All Cercospora readings 2002-2004 were adjusted to 1982 basis. Created 11-5-04.

Rhizomania approval criteria include: 2 years of Rzm official trial data, Cercospora rating must not exceed 5.20 (1982 adjusted data).

Rhizomania disapproval criteria include: 3 years of Rzm official trial data, Cercospora rating must not exceed 5.40 (1982 adjusted data).

Future approval criteria are likely to include revenue or sugar production per ton and per acre under disease and non-disease conditions.

Table 54

Calculation for Approval of Sugarbeet Varieties for ACSC Rhizoctonia Specialty Market for 2005

Description	Approval Status	Code	Disease Index + 2003	2004	2 Yr Mean	Cercospora Rating ** 2003	2004	2 Yr Mean
Candidates for Approval (2 Yrs)								
Beta BX1301(Rhc & Rzm)	Approved	1004	5.0	3.4	4.2	4.41	4.77	4.59
Beta BX1470(Rhc)	<2 Yrs	1001		3.2			4.67	
Hilleshog 7172Rz	Approved	1002	3.9	2.9	3.4	3.12	3.65	3.38
Approval Criteria (Susceptible Hybrid)++			5.7	3.9	4.8			5.20

Created 11-3-04.

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

++ Candidates must have better tolerance than susceptible hybrid. Susceptible hybrid pedigree was: FC901/C817

** All Cercospora readings 2003-2004 were adjusted to 1982 basis.

Table 55
Varieties in ACSC Biotech Trials vs. Varieties Approved for Unlimited Sale for 2005 @

		Rec. Sugar/T *						Rec. Sugar/A *						Rec/T+Rec/A		Cercospora *				
	Approval				2 Yr	3 Yr	3 Yr				2 Yr	3 Yr	%	% Appr.					2 Yr	3 Yr
Description	Status	2002	2003	2004	Mean	Mean	% Appr.	2002	2003	2004	Mean	Mean	Appr.	2 Yr	3 Yr	2002	2003	2004	Mean	Mean
Beta 991RR	Approved in 2002	309.1	319.6	311.8	315.7	313.5	97.8	7862	8675	7120	7897	7885	105.0	203.9	202.8	5.07	4.99	4.83	4.91	4.96
Beta 993RR(Rzm)	CR too High	289.0	320.0	295.9	307.9	301.6	94.1	7524	8774	7049	7912	7782	103.7	201.7	197.8	5.34	5.13	5.36	5.24	5.27
Crystal R309RR	Only 1 Yr		325.1	309.0	317.0				8518	6995	7756			202.4			5.12	5.16	5.14	
22 Full Market Var. appr'd for 2005		315.5	335.4	311.0	323.2	320.6		7646.5	8079.1	6797.4	7438.2	7507.7								

*Recoverable sugar/ton and recoverable sugar/acre adjusted to commercial status on basis of check varieties common to commercial and semi comm.tests. Created 11-05-04.

@ Approval after 3 years is more probable if varieties exceed 100% Rec/T, 195% Rec/T+Rec/A, and are less than 5.20 for Cercospora.

Biotech seed is NOT APPROVED for sale to ACS growers for the 2005 crop.

Table 56
Performance of Varieties - Minn-Dak Semi-Commercial Coded Test
ALL Minn-Dak Sites - All Characters (Commercial Status - 2 sites)

		Rec/T		Rec/A		Rev/Ton		Rev/Acre		Loss to Mol.		Sugar		Yield		Na	K	Amino	Bolter
			%		%		%		%		%		%		%				
Description	Code	Lbs/T	Mean	Lbs/A	Mean	$	Mean	$	Mean	%	Mean	%	Mean	T/A	Mean	ppm	ppm	ppm	%
Beta 6225(Check)	307	309.4	101.0	9473	103					1.18	97	16.65	101	30.78	102	325	1981	270	0.00
Beta BX1468	306	303.7	99.0	8654	94					1.17	96	16.35	99	28.70	95	270	2037	268	0.00
Beta BX1469	302	318.8	104.0	9434	103					1.20	99	17.13	104	29.68	98	256	2022	300	0.00
Crystal 999(Check)	304	311.8	102.0	9469	103					1.17	96	16.76	102	30.12	100	224	2005	297	0.00
Hilleshog 7209	305	317.9	104.0	9489	103					1.19	98	17.08	104	29.90	99	258	2094	274	0.00
Hilleshog 7212	308	294.8	97.0	9016	98					1.30	107	16.01	97	30.50	101	275	2153	331	0.00
Hilleshog 7225	303	295.6	97.0	9857	107					1.30	107	16.05	97	33.85	112	306	2157	320	0.00
RZ Very Susc 2N - Aph Tol	311	286.7	94.0	8120	88					1.27	104	15.57	95	28.55	94	265	2104	328	0.00
Seedex Magnum(Check)	309	306	100.0	9044	98					1.20	99	16.50	100	29.91	99	243	2037	306	0.00
Seedex SX0933	310	311.9	102.0	10138	110					1.20	99	16.78	102	32.33	107	248	2126	276	0.00
Van der Have H46177(Check)	301	310.5	102.0	9030	98					1.12	92	16.66	101	29.08	96	200	1998	263	0.00
Van der Have H66156(Filler)	312	297.1	97.0	8570	93					1.31	107	16.14	98	29.16	97	286	2284	305	0.00
Mean		305.3	99.9	9191	99.8					1.22	100.1	16.47	100	30.21	100	263	2083	295	
CV%		2.84		5.3						7.6		2.4		6.40		15.29	6.17	14.59	
LSD .05		10.76	3.5	772	8.40					0.12	10	0	3.0	2.26	7.5	68.4	187.8	54.4	

% of Mean is relative to general mean of the trial. Created 10-28-04.
Trial # = 04MDsc

@ Some varieties not approved for sale. Refer to approval list for approval status.
++ Revenue estimates were not determined for Minn-Dak area.

Table 57
2004 Rhizoctonia Ratings for Coded Test Entries (Exp 8R)
USDA Station - Ft Collins CO

		2004 Disease Evaluation +					2003
Description	Entry	DI *	Hlthy %	0 - 3 %	Hlthy Z% @	0 - 3 Z%	DI *
Beta BX1301 (Rhc & Rzm)	1004	3.4	6	51	13	46	5.0
Beta BX1470 (Rhc)	1001	3.2	10	60	16	51	-
Crystal S465	1003	3.0	18	63	22	53	-
Hilleshog 7172 RZ	1002	2.9	21	67	26	56	3.9
Susceptible Check (FC901/USDA line C817)		3.9	10	38	14	38	
Highly Resistant Check (FC705/1)		2.3	31	87	33	61	
Resistant Check (FC703)		2.4	36	76	37	64	
LSD .05		0.66			14.28	16.17	0.78

* Disease Index is based on a scale of 0 (=healthy) to 7 (= plant dead).
+ Percent of healthy roots (DI 0-1 combined), likely to be processed (DI 0-3 combined)
@ Percentages transformed to arcsine-square roots to nomral the data for analyzes.
Note, the given Mean and LSD values are for the entire plot which included additional entries.