

VARIETY TRIAL RESULTS

GROWING THE BEST SUGARBEETS

2013



MICHIGAN SUGARBEET
REACH
Research & Education Advisory Council

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CEO of Michigan Sugar Company	Mark Flegenheimer

2013 Variety Trials

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MISSION STATEMENT:

The mission of the *Michigan Sugarbeet Research Education Advisory Council* is to be the central trusted source of agronomic information for the sugarbeet industry.

The council will provide direction for the Michigan-Ontario sugarbeet researchers and assemble and distribute research/agronomy information.

Cooperative educational efforts will be conducted with the goal of improving productivity and profitability for all stakeholders.



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Approval of Seed Varieties for the 2014 Crop

Fully Approved Varieties	
Unlimited Quantities	
HM-27RR	HM-133RR
SX-1291RR	HM-173RR
HM-131RR	SX-1281RR
HM-28RR	B-10RR34
C-RR059	SX-1212RR
C-RR074NT	

Limited Approved Varieties	
Quantities limited to 5% of acres	
C-RR202	B-12RR2N
C-RR288	SX-1226RR
SX-1229RR	SX-1228RR

Specialty Approved Varieties		
Variety	Specialty	Quantity
B-18RR4N*	Nematode	Unlimited
B-19RR1N*	Nematode	Unlimited
SX-1211N RR*	Nematode	5,000 Units
HM-NT425RR*	Nematode	5,000 Units

* Approved to sell through 2015

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Summary of Data





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MICHIGAN SUGAR**

Approved Varieties for 2014

2012 - 2013 Data

Variety	Approval Status	\$/A	RWSA	RWST	T/A	% Sugar	% C-JP	Emerge	Cerc	Root Aphid	Rhizoc	Aph
B-12RR2N	Limited Approval	\$2,100	9785	276	35.3	18.3	95.8	Good	Fair-	Poor	Fair	Good+
B-19RR1N	Special Approval	\$2,078	9665	271	35.6	18.1	95.7	Good	Poor	Fair	Poor	Good+
B-18RR4N	Special Approval	\$2,054	9557	276	34.6	18.4	95.5	Good	Fair	Good	Fair-	Good+
C-RR059	Full Approval	\$2,047	9536	280	34.0	18.8	95.3	Good+	Fair+	Good+	Good-	Fair+
C-RR202	Limited Approval	\$2,027	9384	281	33.2	18.7	95.6	Fair	Good	Good+	Good	Fair-
C-RR074NT	Full Approval	\$2,011	9336	271	34.4	18.3	95.0	Good	Poor	Good	Poor	Fair+
SX-1212RR	Full Approval	\$1,962	9145	270	33.6	18.0	95.7	Fair+	Fair	Poor	Fair-	Fair
SX-1228RR	Limited Approval	\$1,950	9038	272	33.1	18.1	95.8	Fair+	Fair	Poor	Poor+	Fair
C-RR288	Limited Approval	\$1,894	8802	273	32.1	18.2	95.6	Good	Good+	Good	Fair+	Fair
SX-1229RR	Limited Approval	\$1,870	8683	272	31.8	18.1	95.7	Fair	Fair-	Fair	Poor+	Fair-
HM-28RR	Full Approval	\$1,865	8674	264	32.7	17.7	95.4	Fair+	Good-	Poor	Fair	Poor
SX-1211N RR	Special Approval	\$1,859	8639	268	32.3	17.9	95.4	Good+	Good-	Poor	Fair	Good
HM-173RR	Full Approval	\$1,852	8604	264	32.5	17.8	95.0	Fair+	Good	Fair	Good	Fair-
SX-1291RR	Full Approval	\$1,848	8550	267	31.9	18.0	95.2	Fair+	Good	Good	Good-	Fair+
SX-1226RR	Limited Approval	\$1,816	8423	271	30.9	18.1	95.7	Fair	Fair+	Poor	Fair+	Fair
HM-131RR	Full Approval	\$1,812	8423	278	30.2	18.7	95.0	Poor	Good+	Good+	Good-	Poor
B-10RR34	Full Approval	\$1,758	8168	273	29.8	18.2	95.5	Fair+	Good	Good	Good	Good
HM-NT425RR	Special Approval	\$1,737	8046	273	29.5	18.5	94.7	Fair	Good	Good+	Good	Good
Average		\$1,919	8914	272	32.6	18.2	95.4					
LSD 5%		93.1	431.7	6.1	1.7	0.4	0.2					
CV %		2.4	2.4	1.1	2.5	1.0	0.1					

\$/A: Gross dollars per acre assuming \$50 payment.



Approved Varieties for 2014

2012 - 2013 Data

Variety	Approval Status	\$/A	All Values are % of Check						Comments
			RWSA	RWST	Cerc	Rhizoc	Root* Aphid	APH	
B-12RR2N	Limited Approval	\$2,100	114.6	103.6	113.8	99.6	140.8	43.7	Good Tons/Suc, Fair disease tolerance
B-19RR1N	Special Approval	\$2,078	113.2	101.6	121.3	105.0	105.1	45.2	Good Tons, Fair disease tolerance
B-18RR4N	Special Approval	\$2,054	111.9	103.5	106.6	101.7	74.6	54.6	Good Tons/Suc, Fair disease tolerance
C-RR059	Full Approval	\$2,047	111.6	105.1	105.6	86.1	52.8	81.6	Good Tons/Suc, Good Rhizoc
C-RR202	Limited Approval	\$2,027	109.2	105.5	93.2	84.4	41.8	100.5	Good Tons/Suc, Good Rhizoc
C-RR074NT	Full Approval	\$2,011	109.2	101.5	122.2	110.4	76.1	77.2	Good Tons, Poor Rhizoc
SX-1212RR	Full Approval	\$1,962	106.7	101.4	108.5	102.2	130.2	95.4	Good Tons, Fair disease tolerance
SX-1228RR	Limited Approval	\$1,950	105.4	102.1	105.0	104.4	125.3	94.0	Fair+ Tons, Poor Rhizoc
C-RR288	Limited Approval	\$1,894	102.6	102.4	69.6	91.8	78.1	93.3	Fair+ Tons, Good disease tolerance
SX-1229RR	Limited Approval	\$1,870	101.3	102.0	111.7	104.4	117.1	100.5	Fair+ Tons, Fair- disease tolerance
HM-28RR	Full Approval	\$1,865	101.3	99.0	97.2	98.8	135.2	110.0	Fair+ Tons, Fair+ disease tolerance
SX-1211N RR	Special Approval	\$1,859	101.2	100.3	98.7	95.4	126.0	65.6	Fair+ Tons, Fair+ disease tolerance
HM-173RR	Full Approval	\$1,852	100.5	99.0	92.0	82.4	114.7	103.5	Fair+ Tons, Fair+ disease tolerance
SX-1291RR	Full Approval	\$1,848	99.5	99.9	86.2	87.8	75.2	76.6	Fair+ Tons, Good disease tolerance
SX-1226RR	Limited Approval	\$1,816	98.1	101.7	102.2	87.1	149.0	92.5	Fair Tons, Fair+ disease tolerance
HM-131RR	Full Approval	\$1,812	98.4	104.2	77.7	87.9	59.5	115.8	Fair Tons/Good Suc, Good disease tolerance
B-10RR34	Full Approval	\$1,758	95.2	102.2	88.2	81.1	76.7	67.0	Fair Tons, Good Rhizoc
HM-NT425RR	Special Approval	\$1,737	94.0	102.4	84.6	83.9	46.7	70.7	Fair Tons/Good Suc, Good disease tolerance

A lower value is better for Cercospora, Rhizoctonia, Root Aphid and Aphanomyces.

* 2012 Data for Root Aphid

\$/A: Gross dollars per acre assuming \$50 Payment



Rhizoctonia & Cercospora

Varieties for 2014 - Average of 2 Years

Rhizoctonia

Variety	All Values are % of Check				Comments
	Rhizoc	RWSA	RWST	Cerc	
B-10RR34	81.1	95.2	102.2	88.2	Below average production with good traits
HM-173RR	82.4	100.5	99.0	92.0	Fairly good production with good traits
C-RR202	83.4	109.2	105.5	93.2	Good production with good traits except marginal Aphanomyces
HM-NT425RR	83.9	94.0	102.4	84.6	Below average production with good traits
C-RR059	86.1	111.6	105.1	105.6	Good production with good traits
SX-1291RR	87.8	99.5	99.9	86.2	Average production with good traits
HM-131RR	87.9	98.4	104.2	77.7	Below average production with good traits except marginal Aphanomyces
SX-1226RR	88.1	98.1	101.7	102.2	Below average production with good traits

Cercospora

Variety	All Values are % of Check				Comments
	Cerc	RWSA	RWST	Rhizoc	
C-RR288	69.6	102.6	102.4	91.8	Fairly good production and good traits
HM-131RR	77.7	98.4	104.2	87.9	Below average production with good traits except marginal Aphanomyces
HM-NT425RR	84.6	94.0	102.4	83.9	Below average production with good traits
SX-1291RR	86.2	99.5	99.9	87.8	Fairly good production with good traits
B-10RR34	88.2	95.2	102.2	81.1	Below average production with good traits

Note: A lower value is better for Cercospora and Rhizoctonia



High Sugar & Cyst Nematode

Varieties for 2014 - Average of 2 Years

High Sugar

Varieties	All Values are % of Check				Comments
	RWSA	RWST	Rhizoc	Cerc	
B-12RR2N	114.6	103.6	99.6	113.8	High production, fair to poor traits except good on Aphanomyces
B-18RR4N	111.9	103.5	101.7	106.6	High production, fair traits except marginal on Rhizoctonia
C-RR059	111.6	105.1	86.1	105.6	Good production and good traits
C-RR202	109.2	105.5	83.4	93.2	Good production and good traits except marginal on Aphanomyces
C-RR288	102.6	102.4	91.8	69.6	Fairly good production and good traits
SX-1229RR	101.3	102.0	104.4	111.7	Fairly good production and fair traits except marginal on Rhizoctonia and Cercospora
HM-131RR	98.4	104.2	87.9	77.7	Below average production with good traits except marginal on Aphanomyces
B-10RR34	95.2	102.2	81.1	88.2	Below average production with good traits
HM-NT425RR	94.0	102.4	83.9	84.6	Below average production with good traits

Cyst Nematodes

Varieties	All Values are % of Check					Comments
	Nem	RWSA	RWST	Rhizoc	Cerc	
C-RR074NT	69	109.2	101.5	110.3	122.2	Good production, fair traits except marginal on Rhizoctonia and Cercospora
B-19RR1N	71	113.2	101.6	105.3	121.3	High production, fair traits except marginal on Rhizoctonia and Cercospora
B-18RR4N	76	111.9	103.5	101.6	106.6	High production, fair traits except marginal on Rhizoctonia
B-12RR2N	80	114.6	103.6	99.5	113.8	High production, fair to poor traits except good on Aphanomyces
SX-1211N RR	87	101.2	100.3	95.2	98.7	Fairly good production and fairly good traits
HM-NT425RR	89	94.0	102.4	83.9	84.6	Below average production with good traits

Note: Lower is better for Nematode, Cercospora and Rhizoctonia



Variety Approval “Points” System

A Variety Evaluation Tool - 2 Year Average

The Point System summary page is a great variety evaluation tool. On one page, varieties can be compared, and all factors can be viewed. For all factors, a larger number is better. Just look for the larger numbers to find the best varieties for a certain trait. The good and poor qualities of each variety can also be found. Varieties accumulate points based on RWSA, RWST, Cercospora, Rhizoctonia, Root Aphid, Rhizomania and Emergence levels.

Variety	RWSA	RWST Actual	3X RWST Variance	Higher Points are Better					Total Points	Points % Check
				Cerc	Rhizoc	R Aph	Rzm	Emerg		
C-RR059	111.6	105.1	15.4	2.0	7.5	5.0	2.5	2.0	146.0	135.1
C-RR202	109.2	105.5	16.5	4.5	8.0	5.0	2.5	0.0	145.7	134.7
B-18RR4N	111.9	103.5	10.4	1.5	4.3	4.0	1.8	1.0	134.8	124.7
B-12RR2N	114.6	103.6	10.7	-1.0	4.8	2.0	1.3	0.0	132.4	122.4
C-RR288	102.6	102.4	7.2	9.0	6.3	3.0	3.0	0.0	131.1	121.2
HM-131RR	98.4	104.2	12.6	8.0	7.3	5.0	2.3	-3.5	130.0	120.2
SX-1228RR	105.4	102.1	6.3	1.5	3.5	3.0	2.8	0.0	122.4	113.2
HM-NT425RR	94.0	102.4	7.1	6.0	8.3	5.0	1.8	0.0	122.1	112.9
B-10RR34	95.2	102.2	6.7	5.0	8.5	4.0	2.0	0.5	121.9	112.7
SX-1212RR	106.7	101.4	4.2	1.0	4.3	1.0	3.0	1.0	121.2	112.1
SX-1291RR	99.5	99.9	-0.2	5.5	7.3	4.0	2.5	0.5	119.0	110.0
SX-1211N RR	101.2	100.3	1.0	3.5	5.5	3.0	2.0	2.5	118.7	109.8
SX-1226RR	98.1	101.7	5.2	2.5	7.3	2.0	2.0	0.0	117.1	108.2
B-19RR1N	113.2	101.6	4.9	-11.0	3.3	2.0	2.3	2.0	116.6	107.9
SX-1229RR	101.3	102.0	5.9	-1.5	3.5	3.0	2.5	0.0	114.6	106.0
HM-173RR	100.5	99.0	-3.0	4.5	8.5	2.0	2.0	0.0	114.5	106.0
HM-28RR	101.3	99.0	-3.1	3.5	4.8	2.0	2.8	1.0	112.1	103.7
C-RR074NT	109.2	101.5	4.4	-13.0	2.5	3.0	2.0	2.0	110.1	101.9

Note: % check (B-32, HM-28, SX-1260, HM-50) = 100 X 99.19 (approval Level)



Official Variety Trial

Average of 6 Locations - 2013

Planted:	May 2 to June 6	Locations:	Breckenridge, Ruth, Pigeon, Sandusky, Quanicassee, Breckenridge	Rhizoc Control:	Good Control Quadris T-band and 6-8 leaf
Harvested:	October 8 to October 24			Cerc Control:	Good Control 4 Applications
Plot Size:	2 rows X 38 ft, 8 reps				
Row Spacing:	22 inch				
Seeding Rate:	2" thinned to 175 beets/100 ft				

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
B-12RR2N	\$1,772	9058	265	4	34.1	2	17.6	5	95.9	1
B-19RR1N	\$1,737	8890	259	10	34.3	1	17.3	12	95.7	7
B-18RR4N	\$1,718	8801	266	3	33.2	4	17.8	4	95.5	10
C-RR059	\$1,700	8718	270	1	32.4	5	18.1	1	95.4	14
C-RR074NT	\$1,662	8511	256	14	33.3	3	17.4	9	95.0	17
SX-1212RR	\$1,588	8131	259	9	31.3	7	17.3	11	95.7	4
C-RR202	\$1,585	8153	269	2	30.2	11	18.0	2	95.6	8
SX-1211N RR	\$1,571	8017	253	16	31.7	6	17.0	16	95.4	12
SX-1228RR	\$1,559	7977	262	6	30.5	9	17.4	7	95.9	2
C-RR288	\$1,520	7789	260	7	30.0	12	17.3	10	95.7	5
HM-28RR	\$1,516	7767	250	17	31.0	8	16.9	17	95.5	11
HM-173RR	\$1,510	7741	255	15	30.3	10	17.2	14	95.2	15
SX-1229RR	\$1,502	7691	259	11	29.7	14	17.3	13	95.8	3
HM-131RR	\$1,482	7612	264	5	28.8	15	17.8	3	95.2	16
SX-1291RR	\$1,455	7436	248	18	30.0	13	17.7	18	95.4	13
SX-1226RR	\$1,439	7357	257	13	28.7	16	17.2	15	95.7	6
HM-NT425RR	\$1,416	7552	257	12	28.3	17	17.6	6	94.6	18
B-10RR34	\$1,398	7177	259	8	27.6	18	17.4	8	95.6	9
Average	\$1,563	8021	259		30.8		17.5		95.5	
LSD 5%	138.5	725.4	9.7		2.3		0.6		0.4	
CV %	8.0	8.2	3.3		6.6		3.1		0.3	

Comments: These trials are planted thick and thinned because of poor quality seed in experimental varieties. Emergence was good enough at all but one location to leave 175 beets/100 ft. The other was about 150 beets. Six of the eight locations planted gave good results to use for variety approval.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



2013 Variety Trial Averages

Average of Five Locations

Farms: Chris & Angie Guza (Ubly) Weburg Farms (Ithaca)
 Wadsworth Farms (Sandusky) Yoder Farms (Pigeon)
 Wasmiller Farms (Saginaw)

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP
B-19RR1N	\$1,566	8582	282	30.5	18.4	96.5
B-18RR4N	\$1,553	8504	284	30.0	18.6	96.4
C-RR074NT	\$1,524	8360	279	30.0	18.5	95.8
C-RR059	\$1,495	8200	279	29.4	18.5	95.9
SX-1212RR	\$1,471	8076	277	29.2	18.1	96.8
HM-173RR	\$1,405	7710	268	28.8	17.8	95.9
B-10RR34	\$1,400	7683	275	27.9	18.1	96.4
HM-131RR	\$1,392	7625	282	27.1	18.7	95.9
SX-1211N RR	\$1,382	7605	268	28.3	17.6	96.7
HM-28RR	\$1,380	7548	265	28.6	17.4	96.5
SX-1291RR	\$1,343	7357	260	28.3	17.2	96.4
Average	\$1,446	7932	274	28.9	18.1	96.3
LSD 5%	—	633	9	1.7	0.6	0.3
CV %	—	6	3	4.6	2.5	0.3

Comments: These results are the combined data of the five most reliable Sugarbeet Advancement variety trials. The Shaffner trial (Freeland) was not included due to field variation and the Fox trial in Canada was abandoned due to heavy water damage. These trials experienced a variation of environmental conditions and disease pressure. Individual trial data will give the best indication of how a variety will perform given specific environmental, disease and pest issues. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx. Variety selection and field placement should be based on past history of field issues and growers ability to manage them. Varieties vary greatly in disease resistance, tonnage and quality. This year was a relatively low inoculum year when looking at Cercospora leaf spot and Rhizoctonia. All trials had good leaf spot control. All of the trials received at least one application of Quadris, and half of the trials received two applications (in-furrow and 6-8 leaf stage). Because of excess rain in the early season, there were increased incidences of Aphanomyces death/scarring observed in many trials. Sugar beet cyst nematode was also found in about 50% of the variety trials. Use this data in conjunction with Michigan Sugar variety/nursery trial and seed company information.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.



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Plant to Stand Trial

Average of 3 Locations - 2013

Plot Size: 6 rows X 38 ft, 6 reps **Locations:** Breckenridge, Rhizoc Control: Good Control
Row Spacing: 22 inch Ruth and Sandusky Quadris T-Band and 6-8 If
Seeding Rate: 4.4 inch spacing **Cerc Control:** Good Control
 4 Applications

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP		Beets/100 ft	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank	Actual	Rank
B-18RR4N	\$1,625	8056	261	1	30.9	3	17.5	1	95.5	1	166.9	9
C-RR074NT	\$1,583	7854	251	6	31.2	1	17.1	5	94.7	9	178.9	4
B-19RR1N	\$1,560	7735	249	7	31.0	2	16.8	7	95.3	3	179.6	3
C-RR059	\$1,493	7413	254	4	29.2	4	17.3	3	94.8	7	168.1	7
SX-1212RR	\$1,426	7084	256	2	27.6	6	17.2	4	95.4	2	188.4	1
HM-173RR	\$1,336	6639	245	9	27.0	8	16.8	9	94.5	11	168.0	8
SX-1211N RR	\$1,332	6615	249	8	26.4	9	16.8	8	95.2	4	184.6	2
HM-28RR	\$1,317	6544	239	10	27.4	7	16.3	10	95.0	6	175.0	6
HM-131RR	\$1,286	6392	254	3	25.1	10	17.3	2	94.7	8	156.7	11
SX-1291RR	\$1,283	9370	230	11	27.7	5	15.8	11	94.6	10	177.3	5
B-10RR34	\$1,261	6270	251	5	24.8	11	17.0	6	95.2	5	159.8	10
Average	\$1,409	7270	249		28.0		16.9		95.0		173.0	
LSD 5%	141.5	681.3	14.3		2.3		0.8		0.6		15.8	
CV %	6.1	5.9	3.4		5.1		2.8		0.4		5.4	

Comments: There is no thinning in this trial. Seed is planted at a 4.4 inch spacing. Emergence was good at all locations. The trials gave good results.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



OVT Emergence

Average of 2 Years, 2012 - 2013

Locations: Total of 4 Locations
Plot Size: 2 rows X 38 ft, 8 reps
Seeding Rate: 75 seeds planted per row

Variety	% Emerge
SX-1211N RR	56.7
C-RR059	56.4
B-19RR1N	55.1
C-RR074NT	54.1
B-12RR2N	53.3
B-18RR4N	52.5
C-RR288	52.2
HM-28RR	50.6
HM-173RR	48.8
SX-1291RR	48.6
B-10RR34	48.0
SX-1228RR	47.2
SX-1212RR	46.7
C-RR202	45.8
SX-1226RR	45.3
SX-1229RR	44.1
HM-NT425RR	43.3
HM-131RR	35.9
SX-1260RR	32.3
Average	48.3
LSD 5%	11.0
CV %	10.9

Comments: Emergence is extremely important to establishing a good crop. To get the most accurate results we plant a counted 75 seeds per 38 foot row and all seeds are planted. The plots are 2 rows.

2013 Variety Trials

Emergence Summary

Early Counts

<i>Trial</i>	Guza	Shaffner	Wadsworth	Wasmiller	Weburg	Yoder	Average
<i>Plant Date</i>	5/9/2013	5/7/2013	5/7/2013	5/5/2013	5/6/2013	5/3/2013	
<i>Count Days</i>	11	13	13	11	11	11	
SX-1211N RR	55	188	188	94	69	36	105
SX-1212RR	45	191	161	95	83	32	101
HM-131RR	53	144	148	67	74	45	89
C-RR074NT	37	173	134	59	62	18	81
B-10RR34	53	150	136	62	59	10	78
HM-28RR	32	158	114	54	66	36	77
SX-1291RR	28	153	117	53	65	27	74
B-18RR4N	40	141	131	48	48	20	71
C-RR059	58	102	139	60	50	7	70
HM-173RR	30	157	89	58	58	22	69
B-19RR1N	37	154	93	42	32	19	63
Average	42	156	132	63	61	25	80
LSD 5%	20	45	43	38	29	28	17
CV %	28	17	19	36	28	66	18

Late Counts

<i>Trial</i>	Guza	Shaffner	Wadsworth	Wasmiller	Weburg	Yoder	Average
<i>Count Days</i>	29	30	31	32	29	34	
SX-1211N RR	206	220	211	254	206	196	215
HM-28RR	203	213	144	250	191	171	196
SX-1291RR	203	198	157	251	183	179	195
SX-1212RR	189	217	180	227	186	168	195
C-RR074NT	170	219	176	239	185	163	192
B-19RR1N	184	204	177	234	193	150	190
B-18RR4N	181	187	187	220	157	150	180
B-10RR34	179	187	164	219	162	153	178
HM-173RR	200	186	117	246	145	166	177
C-RR059	175	156	175	225	167	149	175
HM-131RR	181	162	140	226	141	159	168
Average	188	195	166	236	174	164	187
LSD 5%	20	32	37	28	19	24	17
CV %	6	10	13	7	6	9	8

Comments: All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx. The counts are the number of beets per 100 foot of row.

Bold: Results are not statistically different from top-ranking variety in each column.

2013 Variety Trials

Rhizoctonia Dead Beet Counts

August Counts of Dead Beets in 1200 Foot of Row

	Guza	Shaffner	Wadsworth	Wasmiller	Weburg	Yoder	Average
HM-173RR	0	0	5	2	2	1	2
SX-1291RR	0	1	4	2	7	2	3
C-RR059	0	0	3	7	3	7	3
HM-131RR	0	0	2	19	4	1	4
B-10RR34	0	0	7	14	12	3	6
HM-28RR	1	0	5	21	15	13	9
SX-1211N RR	1	0	12	29	44	14	17
SX-1212RR	0	0	12	43	35	20	19
B-18RR4N	4	0	19	29	69	19	23
B-19RR1N	1	0	49	34	41	22	25
C-RR074NT	3	1	55	71	43	18	32
Average	1	0	16	25	25	11	13
LSD (5%)	NS	NS	23	48	18	15	13
CV (%)	—	—	82	114	42	81	90

Average of the 3 Trials with the Highest Levels of Rhizoctonia

	Wadsworth	Wasmiller	Weburg	Average
HM-173RR	5	2	2	3
SX-1291RR	4	2	7	4
C-RR059	3	7	3	4
HM-131RR	2	19	4	9
B-10RR34	7	14	12	11
HM-28RR	5	21	15	14
SX-1211N RR	12	29	44	28
SX-1212RR	12	43	35	30
B-18RR4N	19	29	69	39
B-19RR1N	49	34	41	41
C-RR074NT	55	71	43	56
Average	16	25	25	22
LSD (5%)	23	48	18	20
CV (%)	82	114	42	53

Comments: All of the trials received at least one application of Quadris/Headline and Wadsworth, Yoder, and Guza received two (in furrow and 6-8 leaf foliar).

Bold: Results are not statistically different from top-ranking variety in each column.

East District Trials





Official Variety Trial

Wadsworth, Sandusky - 2013

Trial Quality: Good	Soil Info: Loam	Rhizoc Control: Good Control
Planted: May 13	5.5% OM, 7.3 pH	Quadris T-band and 6-8 leaf
Harvested: October 14	Above Opt Levels: P, K	
Plot Size: 2 rows X 38 ft, 6 reps	High: Mn, High: B	Cerc Control: Good Control
Row Spacing: 22 inch	Added N: 138 lbs	4 Applications
Seeding Rate: 2" thinned to 175 beets/100 ft	Prev Crop: White Kidney Beans	Other Pests: Low level Cyst Nematodes
	Rainfall: 17.3 inches	

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
C-RR074NT	\$1,930	9464	253	3	37.5	1	17.4	2	94.3	17
B-12RR2N	\$1,893	9281	265	1	35.0	4	17.8	1	95.5	5
B-19RR1N	\$1,877	9203	249	8	36.9	2	16.9	8	95.1	11
B-18RR4N	\$1,792	8787	245	13	35.9	3	16.7	11	94.9	14
SX-1211N RR	\$1,651	8095	250	6	32.4	5	16.9	7	95.2	10
C-RR059	\$1,536	7532	252	4	29.9	6	17.0	5	95.3	8
SX-1212RR	\$1,452	7119	246	11	28.8	8	16.6	12	95.4	6
SX-1228RR	\$1,423	6980	241	16	29.0	7	16.3	16	95.5	4
HM-28RR	\$1,419	6960	243	15	28.6	10	16.5	14	95.1	13
C-RR288	\$1,404	6887	248	9	27.8	11	16.8	10	95.3	9
SX-1291RR	\$1,382	6779	237	17	28.7	9	16.1	17	95.1	12
HM-NT425RR	\$1,379	6764	249	7	27.2	12	17.2	3	94.2	18
C-RR202	\$1,379	6763	252	5	26.8	13	17.0	6	95.4	7
SX-1229RR	\$1,348	6610	256	2	25.8	16	17.1	4	95.7	1
SX-1226RR	\$1,322	6483	247	10	26.2	15	16.6	13	95.7	3
HM-131RR	\$1,257	6164	246	12	25.0	17	16.9	9	94.6	15
HM-173RR	\$1,244	6100	232	18	26.3	14	16.0	18	94.3	16
BTS-10RR34	\$1,228	6022	244	14	24.6	18	16.4	15	95.7	2
Average	\$1,495	7333	248		29.6		16.8		95.1	
LSD 5%	129.3	634.1	9.3		2.4		0.5		0.6	
CV %	7.6	7.6	3.3		7.0		2.5		0.6	

Comments: Good trial. Emergence was good. This location had the highest rainfall in our trials this year giving good yield. This field had higher % Organic Matter of 5.5, probably a factor in a little lower RWST. A low level of Cyst Nematodes was present.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Official Variety Trial

Roggenbuck, Ruth - 2013

Trial Quality: Fair - Good	Soil Info: Loam	Rhizoc Control: Good Control
Planted: June 4	3.1% OM, 7.6 pH	Quadris T-band and 6-8 leaf
Harvested: October 15	Above Opt Levels: P, K	
Plot Size: 2 rows X 38 ft, 8 reps	High: Mn, Low: B	Cerc Control: Good Control
Row Spacing: 22 inch	Added N: Manure + 60 lbs	4 Applications
Seeding Rate: 2" thinned to 175 beets/100 ft	Prev Crop: Dry Beans	Other Pests: None
	Rainfall: 11.9 inches	

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
C-RR059	\$1,659	8144	261	2	31.3	2	17.5	1	95.5	16
B-18RR4N	\$1,605	7877	259	3	30.4	3	17.2	3	96.0	8
B-19RR1N	\$1,587	7792	245	13	31.7	1	16.3	13	96.2	7
B-12RR2N	\$1,494	7332	246	10	29.7	4	16.3	12	96.4	2
C-RR202	\$1,481	7270	254	4	28.6	7	16.9	4	95.9	12
HM-173RR	\$1,439	7065	253	5	27.9	8	16.8	5	96.0	9
SX-1212RR	\$1,438	7061	246	11	28.7	6	16.3	11	96.2	6
C-RR074NT	\$1,415	6946	239	15	29.1	5	16.2	14	95.5	15
C-RR288	\$1,387	6806	247	9	27.6	10	16.5	8	95.9	13
SX-1229RR	\$1,324	6501	241	14	26.9	12	16.0	15	96.4	3
SX-1211N RR	\$1,323	6497	233	18	27.9	9	15.8	16	95.3	18
HM-131RR	\$1,314	6451	261	1	24.8	17	17.3	2	96.0	10
HM-NT425RR	\$1,314	6451	249	7	25.9	14	16.8	6	95.4	17
HM-28RR	\$1,301	6386	238	16	26.9	13	15.8	17	96.3	4
B-10RR34	\$1,297	6368	245	12	25.9	15	16.4	10	95.9	11
SX-1291RR	\$1,287	6318	234	17	27.0	11	15.7	18	95.8	14
SX-1228RR	\$1,275	6261	251	6	24.9	16	16.6	7	96.5	1
SX-1226RR	\$1,218	5981	248	8	24.1	18	16.4	9	96.3	5
Average	\$1,398	6862	247		27.7		16.5		96.0	
LSD 5%	117.7	577.7	9.0		2.1		0.5		0.5	
CV %	8.8	8.8	3.7		7.8		3.1		0.5	

Comments: The yield and RWST were good considering the late planting of June 4. Soil moisture was very good at planting and then rainfall was low. There was some water stress from a larger rain in July.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



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MICHIGAN SUGAR

Plant to Stand Trial

Roggenbuck, Ruth - 2013

Trial Quality: Good
Planted: June 4
Harvested: October 16
Plot Size: 6 rows X 38 ft, 6 reps
Row Spacing: 22 inch
Seeding Rate: 4.4 inch seed spacing

Soil Info: Loam
 3.1% OM, 7.6 pH
 Above Opt. Levels: P, K
 High: Mn, Low: B
 Added N: Manure + 60 lbs
 Prev Crop: Dry Beans

Rhizoc Control: Good Control
 Quadris, T-Band and 6-8 lf
Cerc Control: Good Control
 4 Applications
Other Pests: None
Rainfall: 11.4 Inches

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP		Beets/100 ft	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank	Actual	Rank
C-RR059	\$1,490	7378	264	1	27.9	3	17.6	1	95.7	8	176.5	9
B-18RR4N	\$1,463	7241	260	2	27.8	4	17.3	3	96.2	3	175.2	10
C-RR074NT	\$1,452	7186	248	6	29.0	1	16.6	6	95.7	9	187.7	5
B-19RR1N	\$1,401	6936	248	7	28.0	2	16.4	8	96.3	1	180.0	7
HM-28RR	\$1,241	6143	242	9	25.4	5	16.1	9	96.2	4	188.2	4
HM-131RR	\$1,240	6138	260	3	23.6	10	17.4	2	95.7	7	176.5	8
SX-1212RR	\$1,235	6114	250	5	24.5	7	16.6	7	96.2	2	195.9	2
B-10RR34	\$1,231	6095	251	4	24.3	9	16.8	4	95.7	10	171.4	11
HM-173RR	\$1,215	6014	247	8	24.3	8	16.6	5	95.5	11	182.2	6
SX-1291RR	\$1,165	5768	232	10	24.9	6	15.6	10	95.9	5	193.9	3
SX-1211N RR	\$1,074	5315	232	11	22.9	11	15.6	11	95.9	6	196.8	1
Average	\$1,292	6393	249		25.7		16.6		95.9		184.0	
LSD 5%	108.9	539	9.9		1.9		0.6		0.5		14.2	
CV %	7.5	7.5	3.5		6.6		3.1		0.4		6.6	

Comments: Emergence was good. There was some excess rain stress in July but the results are good. There were no significant problems. Yield was good for June 4 planting, but RWST was reduced some.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Plant to Stand Trial

Wadsworth, Sandusky - 2013

Trial Quality: Good
Planted: May 13
Harvested: October 14
Plot Size: 6 rows X 38 ft, 6 reps
Row Spacing: 22 inch
Seeding Rate: 4.4 inch seed spacing

Soil Info: Loam
 5.5% OM, 7.3 pH
 Above Opt Levels: P, K
 High: Mn, High: B

Added N: 138 lbs
Prev Crop: White Kidney Beans

Rhizoc Control: Good Control
 Quadris, T-Band and 6-8 lf

Cerc Control: Good Control
 4 Applications

Other Pests: Low level Cyst Nematodes
Rainfall: 17.2 inches

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP		Beets/100 ft	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank	Actual	Rank
B-18RR4N	\$1,706	8238	256	1	32.3	1	17.4	1	94.9	2	169.2	5
B19RR1N	\$1,650	7969	251	3	31.7	3	17.2	3	94.4	4	175.1	1
C-RR074NT	\$1,618	7812	243	5	32.1	2	17.0	5	93.7	10	170.6	4
C-RR059	\$1,377	6652	250	4	26.6	5	17.2	4	94.4	5	163.1	6
SX-1212RR	\$1,360	6567	253	2	25.8	6	17.2	2	94.9	1	171.6	2
SX-1211N RR	\$1,331	6428	238	7	27.0	4	16.5	7	94.3	6	170.8	3
SX-1291RR	\$1,239	5983	234	10	25.6	7	16.3	10	94.0	8	154.5	9
HM-173RR	\$1,237	5974	235	9	25.4	9	16.3	8	94.0	7	162.9	7
HM-28RR	\$1,220	5891	231	11	25.5	8	16.1	11	94.0	9	158.7	8
HM-131RR	\$1,162	5609	239	6	23.4	10	16.7	6	93.6	11	141.1	11
B-10RR34	\$1,092	5273	237	8	22.3	11	16.3	9	94.5	3	149.7	10
Average	\$1,363	6581	242		27.1		16.7		94.2		162.5	
LSD 5%	116.3	562	9.5		1.8		0.5		0.6		31.6	
CV %	7.5	7.5	3.4		6.0		2.5		0.6		17.0	

Comments: A good trial with good yield. The higher % organic matter of 5.5 contributed to a lower RWST. There was average emergence and a low level of Cyst Nematodes was present.

\$/A: Gross dollars per acre assuming a \$65 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Variety Trial

Wadsworth Farms Inc., Sandusky - 2013

Trial Quality: Very Good	Soil Info: Loam	Rhizoc Control: Good Control: Quadris in-furrow & 6-8 leaf
Planted: May 7	Fertilizer: 2x2: 240# 14-19-3 + micro, Broadcast: 120# N by ESN & urea	Cerc Control: Good Control: 1. Pro-line, 2. Gem + EBDC, 3. Inspire XT
Harv/Samp: Nov 9 / Oct 17	Prev Crop: Dry Beans	Other Pests: Sugarbeet Cyst Nematode (low)
Plot Size: 3 reps	Weather: Good	
Row Spacing: 27.56 inch		
Seeding Rate: 57,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							13 Day	31 Day	
B-18RR4N	\$1,952	10572	281	37.6	18.4	96.6	131	187	19
C-RR059	\$1,886	10211	279	36.6	18.5	95.9	139	175	3
B-19RR1N	\$1,874	10144	280	36.2	18.4	96.5	93	177	49
SX-1212RR	\$1,845	9985	274	36.4	18.0	96.5	161	180	12
C-RR074NT	\$1,836	9959	271	36.6	18.1	95.7	134	176	55
B-10RR34	\$1,821	9868	276	35.7	18.2	96.2	136	164	7
SX-1211N RR	\$1,776	9622	274	35.0	18.0	96.6	188	211	12
HM-131RR	\$1,721	9318	278	33.5	18.6	95.6	148	140	2
HM-28RR	\$1,654	8953	257	34.9	17.0	96.2	114	144	5
SX-1291RR	\$1,594	8629	251	34.4	16.7	96.1	117	157	4
HM-173RR	\$1,564	8461	255	33.2	17.2	95.4	89	117	5
Average	\$1,775	9611	271	35.5	17.9	96.1	132	166	16
LSD 5%	—	623	13	1.1	0.8	0.5	43	37	23
CV %	—	4	3	1.9	2.5	0.3	19	13	82

Comments: Trial has some level of Sugarbeet cyst nematode and Rhizoctonia but did not appear excessive. Late harvest in a high yielding environment. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.



Variety Trial

Chris & Angie Guza, Ubly - 2013

Trial Quality: Very Good	Soil Info: Loam	Rhizoc Control: Excellent Control: Headline in furrow, Quadris 6-8 leaf
Planted: May 9	Fertilizer: 2x2: 40-17-0 w/ 12S & micros, Sidedress: 28%-55 lbs N/acre	Cerc Control: Excellent Control: 1. Inspire XT + EBDC, 2. Tin + EBDC, 3. Proline + EBDC, 4. Tin + EBDC
Harv/Samp: Nov 16 / Oct 17	Prev Crop: Corn	Other Pests: None
Plot Size: 3 reps	Weather: Good seasonal rainfall	
Row Spacing: 22 inch		
Seeding Rate: 62,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							11 Day	29 Day	
B-19RR1N	\$1,536	8043	269	29.9	17.5	96.9	37	184	1
C-RR059	\$1,515	7932	271	29.3	17.9	96.0	58	175	0
B-18RR4N	\$1,473	7708	267	28.9	17.5	96.7	40	181	4
SX-1212RR	\$1,439	7535	260	29.0	16.9	97.2	45	189	0
C-RR074NT	\$1,409	7377	267	27.6	17.6	96.2	37	170	3
HM-131RR	\$1,407	7365	270	27.3	17.9	96.0	53	181	0
B-10RR34	\$1,388	7271	267	27.2	17.6	96.5	53	179	0
HM-28RR	\$1,378	7217	254	28.4	16.7	96.9	32	203	1
HM-173RR	\$1,377	7206	258	28.0	17.0	96.3	30	200	0
SX-1291RR	\$1,345	7044	248	28.4	16.3	96.7	28	203	0
SX-1211N RR	\$1,199	6274	250	25.1	16.4	96.9	55	206	1
Average	\$1,406	7361	262	28.1	17.2	96.6	42	188	1
LSD 5%	—	507	13	1.5	0.7	0.6	20	20	NS
CV %	—	4	3	3.1	2.4	0.3	28	6	—

Comments: Trial emergence was excellent and located in an area that had comparatively good rainfall all season. Incidence of all diseases was very low including Rhizoctonia, Aphanomyces and Cercospora. No sugarbeet cyst nematode found. Late harvested trial on November 16. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hilleleshog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.

Central District Trials





Official Variety Trial

Trost, Pigeon - 2013

Trial Quality: Good	Soil Info: Clay Loam	Rhizoc Control: Good Control
Planted: June 6	3.5% OM, 7.3 pH	Quadris T-band and 6-8 leaf
Harvested: October 8	Above Opt Levels: P, K	Cerc Control: Good Control
Plot Size: 2 rows X 38 ft, 7 reps	High: Mn, Medium: B	4 Applications
Row Spacing: 22 inch	Added N: 105 lbs	Other Pests: None
Seeding Rate: 2" thinned to 175 beets/100 ft	Prev Crop: Wheat	
	Rainfall: 11.2 inches	

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
B-12RR2N	\$1,783	8955	267	1	33.5	1	18.0	1	95.3	1
C-RR059	\$1,687	8473	261	3	32.6	3	17.7	2	94.7	11
SX-1211N RR	\$1,620	8134	248	16	32.7	2	17.0	16	94.6	15
SX-1228RRR	\$1,573	7901	262	2	30.2	9	17.6	3	95.3	2
B-19RR1N	\$1,569	7883	251	12	31.4	4	17.1	13	94.7	12
HM-28RR	\$1,543	7748	253	10	30.6	8	17.2	11	95.0	4
SX-1212RR	\$1,527	7668	248	15	30.9	5	17.0	15	94.6	14
C-RR074NT	\$1,520	7633	247	17	30.9	6	17.2	12	93.9	18
HM-131RR	\$1,501	7541	254	9	29.7	11	17.4	4	94.4	16
B-18RR4N	\$1,499	7531	255	7	29.6	12	17.3	9	94.9	7
HM-173RR	\$1,490	7481	250	13	29.9	10	17.1	14	94.6	13
SX-1291RR	\$1,489	7478	244	18	30.6	7	16.7	18	94.8	8
SX-1226RR	\$1,487	7470	255	5	29.3	13	17.4	7	94.8	9
C-RR202	\$1,453	7299	255	6	28.6	15	17.3	10	94.9	5
SX-1229RR	\$1,434	7202	250	14	28.8	14	17.0	17	95.0	3
C-RR288	\$1,414	7100	255	8	27.9	16	17.4	8	94.8	10
B-10RR34	\$1,362	6841	256	4	26.7	18	17.4	5	94.9	6
HM-NT425RR	\$1,360	6832	251	11	27.2	17	17.4	6	94.1	17
Average	\$1,517	7621	253		30.1		17.3		94.7	
LSD 5%	106.3	533.8	9.7		2.0		0.5		0.7	
CV %	6.8	6.8	3.7		6.4		2.7		0.8	

Comments: This was planted late on June 6 but had a very good yield and good RWST for early October harvest. Soil moisture was very good at planting and adequate rainfall during the growing season. There were no significant problems.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Official Variety Trial

Sylvester, Quanicassee - 2013

Trial Quality: Fair - Good	Soil Info: Sandy Clay Loam	Rhizoc Control: Good Control
Planted: May 2	3.6% OM, 7.9 pH	Quadris T-band and 6-8 leaf
Harvested: October 19	Above Opt Levels: P, K	
Plot Size: 2 rows X 38 ft, 8 reps	High: Mn, Medium: B	Cerc Control: Good Control
Row Spacing: 22 inch	Added N: 120 lbs	4 Applications
Seeding Rate: 2" thinned to 175 beets/100 ft	Prev Crop: Cucumber	Other Pests: None
	Rainfall: 14.1 inches	

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
C-RR202	\$1,800	10095	315	2	32.1	1	20.5	2	96.6	15
C-RR059	\$1,689	9473	318	1	29.9	4	20.7	1	96.4	16
B-18RR4N	\$1,628	9128	307	3	29.8	6	19.9	3	96.6	13
C-RR074NT	\$1,573	8820	288	7	30.6	2	18.8	7	96.7	12
HM-131RR	\$1,568	8794	299	4	29.5	7	19.6	4	96.3	17
B-19RR1N	\$1,540	8634	289	6	29.9	3	18.7	8	97.0	9
B-12RR2N	\$1,449	8126	272	15	29.8	5	17.7	15	96.9	10
B-10RR34	\$1,430	8017	288	8	27.8	11	18.8	6	96.6	14
HM-173RR	\$1,416	7940	274	13	28.9	8	17.9	12	96.7	11
HM-28RR	\$1,399	7845	272	16	28.8	9	17.7	16	97.0	8
C-RR288	\$1,390	7797	280	10	27.9	10	18.1	10	97.2	1
SX-1212RR	\$1,367	7668	278	11	27.5	12	18.1	11	97.1	4
HM-NT425RR	\$1,316	7382	294	5	25.1	15	19.4	5	95.9	18
SX-1229RR	\$1,264	7090	274	14	25.9	13	17.8	14	97.0	6
SX-1228RR	\$1,257	7049	284	9	24.8	16	18.4	9	97.1	3
SX-1291RR	\$1,230	6896	267	18	25.8	14	17.4	18	97.0	7
SX-1211N RR	\$1,144	6416	271	17	23.7	17	17.6	17	97.1	5
SX-1226RR	\$1,107	6207	275	12	22.5	18	17.8	13	97.1	2
Average	\$1,420	7965	286		27.8		18.6		96.8	
LSD 5%	119.3	668.9	11.1		2.0		0.7		0.4	
CV %	8.9	8.9	4.0		7.9		3.7		0.4	

Comments: This was our first planted trial but still not until May 2. RWST was very good. Yield was reduced by a dry time in August and September to the point of losing leaves.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Variety Trial

Yoder Farms Inc., Pigeon - 2013

Trial Quality: Good	Soil Info: Clay Loam	Rhizoc Control: Good Control: Quadris in-furrow & 6-8 leaf
Planted: May 3	Fertilizer: PPI: 70# of N plus zinc & Solubor, Side-dressed: 70# of N	Cerc Control: Good Control: 1. Eminent, 2. Headline + Koverall, 3. Proline
Harv/Samp: Oct 14 / Oct 10	Prev Crop: Wheat / Clover	
Plot Size: 3 reps	Weather: Extremely dry late season	Other Pests: Sugarbeet Cyst Nematode, Root Aphid
Row Spacing: 20 inch		
Seeding Rate: 60,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							11 Day	34 Day	
C-RR074NT	\$1,587	8383	312	26.9	20.5	95.8	18	163	18
B-19RR1N	\$1,532	8088	303	26.7	19.9	96.0	19	150	22
B-18RR4N	\$1,488	7855	310	25.4	20.4	95.9	20	150	19
SX-1211N RR	\$1,239	6551	271	24.1	17.7	96.8	36	196	14
HM-173RR	\$1,211	6400	281	22.8	18.5	96.3	22	166	1
C-RR059	\$1,211	6410	291	22.0	19.2	96.0	7	149	7
HM-131RR	\$1,182	6243	298	20.9	19.6	96.1	45	159	1
SX-1212RR	\$1,163	6168	281	21.8	18.3	97.0	32	168	20
HM-28RR	\$1,129	5973	283	21.1	18.3	97.0	36	171	13
B-10RR34	\$1,122	5930	286	20.7	18.5	97.1	10	153	3
SX-1291RR	\$1,089	5785	273	21.1	17.8	96.8	27	179	2
Average	\$1,269	6708	290	23.0	19.0	96.4	25	164	11
LSD 5%	—	794	15	2.0	1.0	0.6	28	24	15
CV %	—	7	3	5.1	3.0	0.4	66	9	81

Comments: Trial experienced a late summer drought. Significant root aphid and sugarbeet cyst nematodes were identified. Low levels of Rhizoctonia present. Nematode tolerant varieties with good root aphid resistance performed best. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.

West District Trials





Official Variety Trial

Bebow, Breckenridge - 2013

Trial Quality: Good	Soil Info: Sandy Loam	Rhizoc Control: Good Control
Planted: June 5	2.7% OM, 6.7 pH	Quadris T-band and 6-8 leaf
Harvested: October 22	Above Opt Levels: P	
Plot Size: 2 rows X 38 ft, 8 reps	Opt Levels: K	Cerc Control: Good Control
Row Spacing: 22 inch	High: M, Medium: B	4 Applications
Seeding Rate: 2" thinned to 175 beets/100 ft	Added N: 120 lbs	Other Pests: None
	Prev Crop: Dry Beans	Rainfall: 10.3 inches

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
B-12RR2N	\$1,846	9360	258	7	36.3	1	17.3	13	95.6	3
SX-1228RR	\$1,819	9222	265	1	34.9	3	17.9	1	95.2	12
SX-1211N RR	\$1,788	9068	264	3	34.4	4	17.7	4	95.4	7
B-19RR1N	\$1,752	8884	250	16	35.5	2	16.9	17	95.4	6
SX-1212RR	\$1,716	8700	265	2	32.9	10	17.7	2	95.6	2
C-RR059	\$1,709	8666	258	11	33.7	6	17.4	8	95.1	13
B-18RR4N	\$1,700	8621	254	14	33.9	5	17.1	15	95.3	10
C-RR074NT	\$1,679	8514	254	15	33.6	8	17.4	11	94.6	16
SX-1226RR	\$1,676	8496	258	10	33.0	9	17.3	12	95.5	4
SX-1229RR	\$1,650	8365	258	9	32.5	11	17.4	10	95.4	5
HM-173RR	\$1,646	8345	261	5	31.9	13	17.7	3	95.0	14
SX-1291RR	\$1,622	8224	255	13	32.2	12	17.2	14	95.3	9
HM-28RR	\$1,615	8188	244	18	33.7	7	16.8	18	94.4	17
C-RR288	\$1,610	8164	263	4	31.0	15	17.6	5	95.8	1
C-RR202	\$1,583	8024	260	6	30.9	16	17.5	7	95.3	8
HM-131RR	\$1,560	7908	257	12	30.8	17	17.6	6	94.7	15
HM-NT425RR	\$1,522	7715	248	17	31.3	14	17.1	16	94.1	18
B-10RR34	\$1,449	7345	258	8	28.4	18	17.4	9	95.2	11
Average	\$1,663	8434	257		32.8		17.4		95.2	
LSD 5%	108.0	547.8	10.5		2.2		0.5		0.6	
CV %	6.7	6.7	4.2		6.7		3.1		0.7	

Comments: This trial had exceptional yield and good RWST for being planted June 5. Soil moisture was very good at planting but was dry in September. There were no significant problems.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Official Variety Trial

English, Breckenridge - 2013

Trial Quality: Good	Soil Info: Sandy Loam	Rhizoc Control: Good Control
Planted: May 7	3.0% OM, 6.9 pH	Quadris T-band and 6-8 leaf
Harvested: October 24	Above Opt. Levels: P, K	
Plot Size: 2 rows X 38 ft, 8 reps	High: Mn, Low: B	Cerc Control: Good Control
Row Spacing: 22 inch	Added N: Manure + 45 lbs	4 Applications
Seeding Rate: 2" thinned to 150 beets/100 ft	Prev Crop: Wheat	Other Pests: Low level Cyst Nematodes
	Rainfall: 14.7 inches	

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank
B-12RR2N	\$2,166	11294	282	1	40.1	2	18.7	1	95.9	1
B-19RR1N	\$2,098	10942	270	7	40.5	1	18.0	8	95.7	2
B-18RR4N	\$2,083	10861	274	3	39.7	3	18.3	3	95.5	7
SX-1212RR	\$2,027	10569	271	6	38.9	6	18.2	7	95.5	6
SX-1228RR	\$2,004	10450	266	9	39.4	4	17.8	10	95.5	4
SX-1229RR	\$1,990	10378	273	4	38.1	7	18.3	4	95.4	8
C-RR059	\$1,922	10021	272	5	36.9	13	18.3	5	95.2	10
C-RR288	\$1,914	9982	265	11	37.8	9	17.8	11	95.5	5
SX-1211N RR	\$1,897	9892	252	18	39.3	5	17.1	18	95.1	11
C-RR074NT	\$1,858	9689	256	14	37.9	8	17.4	15	95.0	14
HM-173RR	\$1,825	9515	258	12	36.9	12	17.6	12	94.6	16
SX-1226RR	\$1,823	9507	257	13	37.0	11	17.4	14	95.0	15
HM-28RR	\$1,817	9476	253	16	37.5	10	17.2	17	95.0	13
C-RR202	\$1,816	9469	278	2	34.1	15	18.6	2	95.6	3
SX-1291RR	\$1,711	8922	252	17	35.5	14	17.3	16	94.6	17
HM-131RR	\$1,690	8813	270	8	32.8	17	18.2	6	95.0	12
B-10RR34	\$1,625	8471	265	10	32.0	18	17.8	9	95.3	9
HM-NT425RR	\$1,605	8369	253	15	33.1	16	17.5	13	94.2	18
Average	\$1,882	9812	265		37.1		17.9		95.2	
LSD 5%	123.8	645.5	10.5		2.3		0.6		0.5	
CV %	6.9	6.9	4.1		6.4		3.3		0.6	

Comments: Emergence was fair and a few plots were too thin to use but results were good. Yield was very good and a good RWST. A low level of Cyst Nematodes were present.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



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Plant to Stand Trial

Bebow, Breckenridge - 2013

Trial Quality:	Fair - Good	Soil Info:	Sandy Loam	Rhizoc Control:	Good Control
Planted:	June 5		2.7% OM, 6.7 pH		Quadris T-Band and 6-8 lf
Harvested:	October 24		Above Opt Levels: P	Cerc Control:	Good Control
Plot Size:	6 rows X 38 ft, 6 reps		Opt Levels: K		4 Applications
Row Spacing:	22 inch		High: Mn, Medium: B	Other Pests:	None
Seeding Rate:	4.4 inch seed spacing	Added N:	120 lbs	Rainfall:	11.4 inches
		Prev Crop:	Dry Beans		

Variety	\$/A	RWSA	RWST		Yield		Sugar		CJP		Beets/100 ft	
			Actual	Rank	T/A	Rank	%	Rank	%	Rank	Actual	Rank
B-18RR4N	\$1,705	8689	267	2	32.5	6	17.8	5	95.4	2	156.2	10
SX-1212RR	\$1,682	8572	264	4	32.5	5	17.8	4	95.1	5	197.5	1
C-RR074NT	\$1,680	8563	261	6	32.7	3	17.6	6	94.6	8	178.6	5
B-19RR1N	\$1,629	8300	248	9	33.4	1	16.8	9	95.1	4	183.9	3
C-RR059	\$1,611	8208	249	8	32.9	2	17.1	8	94.2	9	164.6	7
SX-1211N RR	\$1,590	8101	276	1	29.3	9	18.4	1	95.5	1	186.2	2
HM-173RR	\$1,556	7930	252	7	31.3	7	17.3	7	93.9	11	159.1	8
HM-28RR	\$1,491	7599	244	10	31.3	8	16.7	10	94.8	7	178.2	6
B-10RR34	\$1,461	7443	266	3	27.9	11	17.9	2	95.3	3	158.2	9
HM-131RR	\$1,458	7428	264	5	28.2	10	17.9	3	94.8	6	152.4	11
SX-1291RR	\$1,444	7361	225	11	32.7	4	15.6	11	94.0	10	183.5	4
Average	\$1,573	8018	256		31.4		17.4		94.8		172.6	
LSD 5%	161.6	823.5	16.8		2.8		0.9		0.8		23.6	
CV %	9.0	9.0	5.7		7.8		4.4		0.7		11.9	

Comments: This was a Fair - Good trial because of excess rain stress in August. The yield was very good for a June 5 planting, but RWST was reduced some. Emergence was good.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top-ranking variety in each column.



Variety Trial

Wasmiller Farms, Saginaw - 2013

Trial Quality: Excellent	Soil Info: Clay (prairie)	Rhizoc Control: Fair/Good: Quadris 6-8 leaf
Planted: May 5	Fertilizer: 2x2: 40-14-0 plus micros, Sidedress: 95# of N per acre	Cerc Control: Good Control: 1. Proline, 2. Eminent, 3. Enable + Dithane, 4. Eminent
Harv/Samp: Oct 22 / Oct 16	Prev Crop: Soybeans	Other Pests: Sugarbeet Cyst Nematode, Root Aphid
Plot Size: 3 reps	Weather: Dry late season.	
Row Spacing: 30 inch		
Seeding Rate: 54,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							11 Day	32 Day	
HM-173RR	\$1,723	9728	287	33.9	19.1	95.7	58	246	2
C-RR074NT	\$1,635	9228	289	31.9	19.2	95.6	59	239	71
C-RR059	\$1,628	9195	283	32.5	19.0	95.2	60	225	7
SX-1212RR	\$1,623	9171	294	31.2	19.3	96.1	95	227	43
B-18RR4N	\$1,583	8944	286	31.3	18.9	96.0	48	220	29
B-19RR1N	\$1,567	8849	287	30.9	18.8	96.3	42	234	34
HM-131RR	\$1,559	8804	288	30.6	19.2	95.6	67	226	19
B-10RR34	\$1,558	8788	281	31.3	18.6	95.9	62	219	14
SX-1291RR	\$1,530	8652	268	32.2	17.8	96.1	53	251	2
HM-28RR	\$1,515	8559	271	31.6	18.0	95.9	54	250	21
SX-1211N RR	\$1,510	8525	274	31.2	18.1	96.2	94	254	29
Average	\$1,585	8949	282	31.7	18.7	95.9	63	236	25
LSD 5%	—	674	12	2.0	0.8	0.5	38	28	48
CV %	—	4	2	3.7	2.4	0.3	36	7	114

Comments: Trial had excellent emergence with an average of 236 beets in 100 foot of row. Sugarbeet cyst nematodes were present but did not appear to be at high levels. Rhizoctonia counts were fairly low in August, but a late season increase in levels may have affected yield. No in-furrow Quadris at planting but a single 6-8 leaf foliar was applied. Trial was heavily damaged by hail at about the 8-10 leaf stage. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.



Variety Trial

Shaffner Farms, Freeland - 2013

Trial Quality: Poor	Soil Info: Clay Loam	Rhizoc Control: Excellent Control: Quadris in furrow (9 oz, 4" band)
Planted: May 7	Fertilizer: 2x2: 25 gal. of 15-18-1-.5S-.1Zn-.1Mn-.1B, Broadcast: 200 lbs of Urea/ESN	Cerc Control: Good Control: 1. Inspire XT, 2. Super Tin, 3. Eminent
Harv/Samp: Nov 10 / Oct 15	Prev Crop: Corn	Other Pests: Aphanomyces
Plot Size: 2 best yielding strips	Weather: Excessive rainfall and hail in spring	
Row Spacing: 30 inch		
Seeding Rate: 52,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							13 Day	30 Day	
B-19RR1N	\$1,870	10732	294	36.5	19.2	96.5	154	204	0
B-18RR4N	\$1,828	10493	294	35.7	19.2	96.5	141	187	0
SX-1211N RR	\$1,729	9920	277	35.8	18.1	96.8	188	220	0
C-RR059	\$1,701	9777	298	32.8	19.6	96.0	102	156	0
SX-1212RR	\$1,697	9750	284	34.3	18.3	97.3	191	217	0
B-10RR34	\$1,660	9523	298	32.0	19.6	96.1	150	187	0
C-RR074NT	\$1,635	9327	293	32.0	19.4	95.9	173	219	1
SX-1291RR	\$1,560	8995	274	32.7	18.1	96.2	153	198	1
HM-28RR	\$1,497	8581	285	30.1	18.7	96.4	158	213	0
HM-131RR	\$1,436	8241	291	28.4	19.4	95.5	144	162	0
HM-173RR	\$1,408	8078	269	30.0	17.9	95.8	157	186	0
Average	\$1,638	9401	287	32.8	18.9	96.3	156	195	0
LSD 5%	—	1764	24	6.5	1.4	0.9	45	32	NS
CV %	—	8	4	9.0	3.4	0.4	17	10	—

Comments: USE TRIAL WITH CAUTION. Trial planted with tile lines which will cause increased variability. Data was based on the two highest yielding strips in a 3 replication trial due to trial variability. Trial had heavy rainfall that caused field variability and defoliation from hail at about the 8 leaf stage. There was excellent emergence and very little Rhizoctonia in trial. Aphanomyces scarring was evident on some beet roots at harvest. No sugarbeet cyst nematodes were found. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.



Variety Trial

Weburg Farms Inc., Ithaca - 2013

Trial Quality: Good	Soil Info: Parkhill Loam	Rhizoc Control: Fair/Good Control: 4-6 Leaf
Planted: May 5	Fertilizer: 2x2: 15-40-0-.5Mn-.5B, PPI: 148 lbs N from 28%	Cerc Control: Good Control: 1. Inspire XT, 2. Headline, 3. Eminent
Harv/Samp: Oct 25 / Oct 15	Prev Crop: Wheat	Other Pests: Aphanomyces, Root Aphid
Plot Size: 3 reps	Weather: Excess spring moisture	
Row Spacing: 30 inch		
Seeding Rate: 53,000		

Variety	\$/A	RWSA	RWST	T/A	% Sugar	% CJP	Populations 100 Ft. of Row		Dead Beets / 1200 Ft
							11 Day	29 Day	
B-19RR1N	\$1,456	7786	269	28.9	17.6	96.9	32	193	41
SX-1212RR	\$1,406	7519	275	27.3	17.9	97.1	83	186	35
B-18RR4N	\$1,391	7441	275	27.0	18.0	96.7	48	157	69
C-RR059	\$1,355	7253	272	26.6	17.9	96.5	50	167	3
SX-1211N RR	\$1,319	7052	273	25.9	17.8	96.9	69	206	44
HM-28RR	\$1,314	7038	261	26.9	17.1	96.6	66	191	15
C-RR074NT	\$1,282	6855	254	26.9	17.0	95.9	62	185	43
HM-173RR	\$1,262	6753	258	26.1	17.2	95.9	58	145	2
SX-1291RR	\$1,247	6676	262	25.5	17.2	96.6	65	183	7
B-10RR34	\$1,224	6559	267	24.5	17.5	96.5	59	162	12
HM-131RR	\$1,196	6392	274	23.3	18.1	96.2	74	141	4
Average	\$1,314	7030	267	26.3	17.6	96.5	61	174	25
LSD 5%	—	593	12	1.5	0.7	0.4	29	19	18
CV %	—	5	3	3.3	2.2	0.2	28	6	42

Comments: Trial experienced heavy rain at emergence which did cause some reduction in stand from seedling disease. Cool wet conditions persisted causing seedlings to struggle to recover. Aphanomyces seedling disease and mature root scaring was evident. Root aphid was seen on some varieties. A fair amount of late season Rhizoctonia evident in field. All varieties except for HM-131RR and HM-173RR had Tach 20. All three Hillehog varieties (HM-28RR, HM-131RR, HM-173RR) had Cruiser Maxx.

\$/A: Gross dollars per acre assuming a \$50 payment.

Bold: Results are not statistically different from top ranking variety in each column.



Official Variety Trial

Severe Seedling Disease

Knoerr, Bay City - 2013

Trial Quality: Poor	Soil Info: Sandy Clay Loam	Rhizoc Control: Good Control
Planted: May 9	2.8% OM, 7.0 pH	Quadris T-band
Harvested: Sept 12	Above Opt Levels: P, K	and 6-8 leaf
Plot Size: 2 rows X 38 ft, 8 reps	High: Mn, Low: B	Cerc Control: Good Control
Row Spacing: 22 inch	Added N: 150 lbs	4 Applications
Seeding Rate: 2" thinned to 175 beets/100ft	Prev Crop: Wheat/Radish	Other Pests: Severe Seedling Disease
	Rainfall: 10.9 inches	

Variety	RWSA	RWST		Yield		Sugar		CJP	
		Actual	Rank	T/A	Rank	%	Rank	%	Rank
B-12RR2N	4200	220	2	18.9	1	15.5	3	93.7	2
B-18RR4N	4015	219	3	18.1	2	15.4	4	93.7	1
C-RR074NT	3475	200	16	17.0	3	14.4	16	92.9	12
SX-1211N RR	3427	207	8	16.4	4	14.8	9	93.1	7
B-19RR1N	3368	207	7	15.8	5	14.7	11	93.3	4
SX-1229RR	3360	220	1	14.9	7	15.7	1	93.0	8
SX-1212RR	3239	211	6	15.0	6	15.3	5	92.3	18
SX-1226RR	3179	219	4	14.2	9	15.6	2	93.2	6
SX-1228RR	3051	206	10	14.4	8	14.9	7	92.4	16
HM-173RR	2800	202	13	13.5	10	14.6	13	92.7	14
C-RR288	2635	206	11	12.1	13	14.7	10	93.0	9
C-RR059	2594	200	14	12.4	12	14.4	17	93.0	10
SX-1291RR	2564	199	17	12.4	11	14.4	15	92.6	15
B-10RR34	2259	214	5	10.3	16	15.2	6	93.4	3
HM-28RR	2247	198	18	10.8	14	14.3	18	92.9	11
HM-NT9425RR	2207	207	9	10.5	15	14.9	8	92.8	13
C-RR202	2109	205	12	9.8	17	14.6	12	93.2	5
HM-131RR	2015	200	15	9.7	18	14.6	14	92.4	17
Average	2930	208		13.7		14.9		93.0	
LSD 5%	670.4	17.7		2.8		0.9		0.9	
CV %	23.9	8.8		21.0		6.4		1.0	

Comments: This trial had severe stunting from seedling disease. We know there was Aphanomyces and probably a few more early diseases. Beet growth was normal at the time of thinning on June 12. Due to unusual high level of disease and the high CV % we are not using this for variety approval.

Bold: Results are not statistically different from top-ranking variety in each column.



Plant to Stand Trial Severe Seedling Disease Knoerr, Bay City - 2013

Trial Quality: Poor
Planted: May 9
Harvested: Sept 12
Plot Size: 6 rows X 38 ft, 6 reps
Row Spacing: 22 inch
Seeding Rate: 4.4 inch seed spacing

Soil Info: Sandy Clay Loam
 2.8% OM, 7.0 pH
 Above Opt Levels: P, K
 High: Mn, Low B
 Added N: 150 lbs
 Prev Crop: Wheat/Radish

Rhizoc Control: Good Control
 Quadris T-Band and 6-8 lf
Cerc Control: Good Control
 4 Applications
Other Pests: Severe Seedling Disease
Rainfall: 10.9 inches

Variety	RWSA		RWST		T/A		% Sugar		% C-JP		Beets/100 ft	
	Actual	Rank	Actual	Rank	Actual	Rank	Actual	Rank	Actual	Rank	Actual	Rank
B-18RR4N	3973	3	227	3	17.0	1	16.0	3	93.5	6	156.0	5
B-19RR1N	3537	5	216	5	15.9	2	15.2	5	93.7	4	160.6	4
C-RR074NT	3443	4	216	4	15.7	3	15.2	4	93.6	5	170.9	3
SX-1212RR	3352	2	232	2	13.8	4	16.2	2	93.8	2	171.8	2
SX-1211N RR	2996	1	237	1	12.1	6	16.4	1	94.0	1	194.7	1
HM-28RR	2656	8	203	8	12.4	5	14.4	10	93.7	3	155.9	6
C-RR059	2490	10	201	10	11.6	8	14.3	11	93.2	7	152.3	8
HM-173RR	2479	6	205	6	11.7	7	14.7	6	93.0	8	144.2	10
SX-1291RR	2425	9	202	9	11.4	9	14.5	8	92.9	10	152.5	7
HM-131RR	2235	11	200	11	10.7	10	14.5	9	92.7	11	144.9	9
B-10RR34	1794	7	203	7	8.7	11	14.6	7	92.9	9	143.4	11
Average	2853	213			12.8		15.1		93.4		158.8	
LSD 5%	716	20.4			2.7		1.1		1.1		18.2	
CV %	22.8	8.5			18.8		6.6		1.0		10.1	

Comments: This trial had severe stunting from seedling disease. We know there was Aphanomyces and probably a few more early diseases. Beet growth was normal on June 12.

Bold: Results are not statistically different from top-ranking variety in each column.

Nursery Data





Rhizoctonia Nursery

Michigan Sugar Company

Average of 2 years, 2012-2013

Location: 2012 - Blumfield, Richville and USDA, Ft. Collins, CO, 2013 - Blumfield
Plot Size: 2 rows X 25 ft, 6 reps
Inoculation: Trials are inoculated

Variety	Root Rating
B-10RR34	3.1
HM-173RR	3.2
HM-NT425RR	3.2
C-RR202	3.2
C-059RR	3.3
SX-1291RR	3.4
SX-1226RR	3.4
HM-131RR	3.4
C-RR288	3.5
SX-1211N RR	3.7
HM-28RR	3.8
B-12RR2N	3.8
B-18RR4N	3.9
SX-1212RR	3.9
SX-1229RR	4.0
SX-1228RR	4.0
B-19RR1N	4.0
C-RR074NT	4.2
Susceptible Check	4.9
Average	3.7
LSD 5%	0.6
CV %	8.4

Disease Index 0-7 Rating scale: 0 = no disease, 1 = very minor, 2 = minor (<5% rot), 3 = 6 to 25% rot, 4 = 26 to 50% rot, 5 = 51 to 75% rot, 6 = 75 to 95% rot and 7 = root completely rotted.



Cercospora Nursery

Michigan Sugar Company

Average of 2 years, 2012 - 2013

Trial Quality: Good
Locations: 2013 - Blumfield, 2012 - Blumfield and SVRF
Plot Size: 2 rows X 17.5 ft, 5 reps
Inoculation: Trials are inoculated

Variety	Avg of 2 Years CLS Rate 0-9	2012 CLS Rate 0-9	2013 CLS Rate 0-9
C-288RR	2.7	2.7	2.7
HM-131RR	3.0	2.8	3.3
HM-NT425RR	3.3	3.0	3.6
SX-1291RR	3.4	2.9	3.9
B-10RR34	3.4	3.4	3.4
HM-173RR	3.6	3.6	3.5
C-202RR	3.6	3.5	3.7
HM-28RR	3.8	3.7	3.9
SX-1211N RR	3.9	3.5	4.3
SX-1226RR	4.0	3.6	4.5
C-059RR	4.1	4.1	4.1
SX-1228RR	4.1	3.5	4.7
B-18RR4N	4.2	3.9	4.4
SX-1212RR	4.3	3.7	4.8
SX-1229RR	4.4	3.8	5.0
B-12RR2N	4.5	4.0	4.9
B-19RR1N	4.7	4.4	5.1
C-RR074NT	4.8	4.4	5.1
Average	3.9	3.6	4.2

Cercospora 0-9 Rating Scale: 0 = no spots, 1 = very few spots, 2 = up to 10 spots/leaf, 2.5 = up to 50 spots/leaf, 3 = 100 to 200 spots/leaf (approx 3% leaf desiccation), 4 = up to 10% leaf desiccation, 5 = up to 25% desiccated, 6 = up to 50% desiccated, 7 = up to 75% desiccated, 8 = up to 90% desiccated, 9 = leaves completely dead.



Cyst Nematode Nursery

Vader Farm, Unionville

Average of 2 Years, 2012 - 2013

Trial Quality: Good	Rhizoc Control: Good Control
Planted: May 16	Quadris T-band and
Evaluated: September 11	6-8 If
Soil Type: Sandy Loam	Cerc Control: Good Control
Plot Size: 2 rows X 25 ft, 6 reps	4 Applications
	Rainfall: 14.1 inches

Variety	Nem Rating 0-5	Nem Counts Egg + Juv's 100 cc Soil	T/A
C-RR074NT	2.5	4527	17.7
Tolerant Check	2.6	4730	18.2
B-19RR1N	2.6	5953	19.1
B-18RR4N	2.7	6937	18.9
B-12RR2N	2.9	12454	20.6
HM-NT425RR	3.2	7830	15.3
HM-50RR	3.2	12223	12.0
HM-28RR	3.3	14752	14.3
B-17RR32	3.3	16558	15.6
SX-1211N RR	3.1	19910	16.2
SX-1260RR	3.5	22075	13.2
Average	3.0	11632	16.5
LSD 5%	0.5	14091	3.0
CV%	7.6	56.6	8.1

Bold = Nematode tolerant variety

Nematode Rating 0-5: 0 = no cysts/root, 1 = 1 or 2 cysts, 2 = up to 5 cysts, 3 = up to 10 cysts, 4 = up to 20 cysts and 5 = over 20 cysts/root
20 roots per plot were rated

Nematode Counts: Soil from the rated roots was collected and sent to MSU for nematode counts (number per 100 cc soil)



Root Aphid Nursery

Syngenta, Longmont, CO - 2012**

Variety	*Root Aphid % Infested
Tolerant Check	1.7
Tolerant Check	4.2
HM-131RR	7.6
C-RR202	8.1
C-RR059	10.1
HM-NT425RR	10.4
SX-1291RR	19.0
B-18RR4N	23.0
B-10RR34	23.9
SX-1228RR	33.1
C-RR074NT	33.4
C-RR288	34.1

Variety	*Root Aphid % Infested
Moderately Tolerant	38.2
SX-1229RR	43.5
SX-1211N RR	44.6
HM-173RR	46.0
B-19RR1N	47.0
SX-1226RR	58.6
HM-28RR	58.7
B-12RR2N	59.9
SX-1212RR	65.4
Susceptible Check	93.6
Average	33.4
LSD 5%	16.7
CV %	29.7

* Lower number is better

** There was a failure in the Longmont nursery in 2013 because of excess rain.

% Infested: Varieties below 20% are considered resistant, varieties between 20% and 60% are considered to be segregating or moderately tolerant and varieties over 60% are considered to be susceptible.



Aphanomyces Nursery

Betaseed, Shakopee, MN
Average of 2 years, 2012 - 2013

Variety	Root Rating 1 - 9 Scale	Canopy Rating 1 - 9 Scale	Stand Loss 1 - 5 Scale
B-12RR2N	3.0	2.2	1.4
B-19RR1N	3.1	2.6	1.4
B-18RR4N	3.8	3.1	1.2
SX-1211N RR	4.5	4.2	2.2
B-10RR34	4.6	3.9	1.3
Tolerant Check	4.7	4.2	1.8
HM-NT425RR	4.9	4.0	1.5
SX-1291RR	5.1	4.6	1.6
C-RR074NT	5.3	4.8	2.4
C-059RR	5.6	5.1	2.5
SX-1226RR	6.4	5.7	2.4
C-RR288	6.4	5.0	1.7
SX-1228RR	6.5	5.9	2.3
SX-1212RR	6.6	5.9	2.3
C-RR202	6.9	5.9	1.9
SX-1229RR	6.9	6.2	2.7
HM-173RR	7.1	6.7	2.9
HM-28RR	7.6	6.8	2.8
HM-131RR	8.0	7.6	3.7
Susceptible Check	8.1	7.3	2.2
Average	5.7	5.1	2.1

Root and Canopy Ratings (1 to 9 scale): 1 = very little damage, 2 = up to 20% damage, 4 = up to 60% damage, 6 = up to 75% damage and 8 = up to 90% damage

Stand Rating (1 to 5 scale): 1 = up to 20% loss, 2 = up to 40% loss, 3 = up to 60% loss, 4 = up to 80% loss and 5 = up to 100% loss



Rhizomania Nursery

USDA, Kimberly, Idaho
Average of 2 Years, 2012 & 2013

Location: Kimberly, Idaho
Plot Size: 2 rows X 24 ft, 6 reps

Variety*	RWSA	% Sugar	T/A	Root Rating 0-9	Foliar Rating 0-100
SX-1212RR	11678	16.6	40.7	2.2	0.4
SX-1228RR	11678	16.7	40.4	2.2	0.3
C-059RR	11481	16.9	39.7	2.2	0.0
C-RR288	10966	16.4	39.0	2.1	0.1
C-RR202	11384	16.8	39.7	2.2	0.0
HM-28RR	10772	16.0	39.4	2.2	0.1
SX-1291RR	10940	16.3	39.5	2.2	0.0
SX-1229RR	10869	16.7	37.6	2.3	0.1
B-19RR1N	10740	16.4	38.4	2.4	0.6
B-12RR2N	11327	17.5	37.6	2.5	0.0
B-10RR34	10416	16.8	36.1	2.4	0.0
C-RR074NT	10271	16.8	35.8	2.4	0.2
SX-1226RR	10146	15.9	37.5	2.4	0.3
HM-131RR	9979	16.8	34.9	2.4	0.3
B-18RR4N	10623	16.9	36.3	2.5	0.3
HM-173RR	9960	16.0	37.0	2.4	0.0
SX-1211N RR	9887	16.0	36.1	2.4	0.2
HM-NT425RR	8593	16.5	30.9	2.4	0.0
Susceptible Check	5371	14.5	21.6	3.6	96.5
Average	10372	16.4	36.7	2.4	5.2
LSD 5%	1550.7	0.6	5.2	0.2	2.0
CV %	7.3	1.8	6.8	5.1	0.9

* All of our varieties appear to have good tolerance to Rhizomania.

Root and Foliar Rating: Lower numbers are better.



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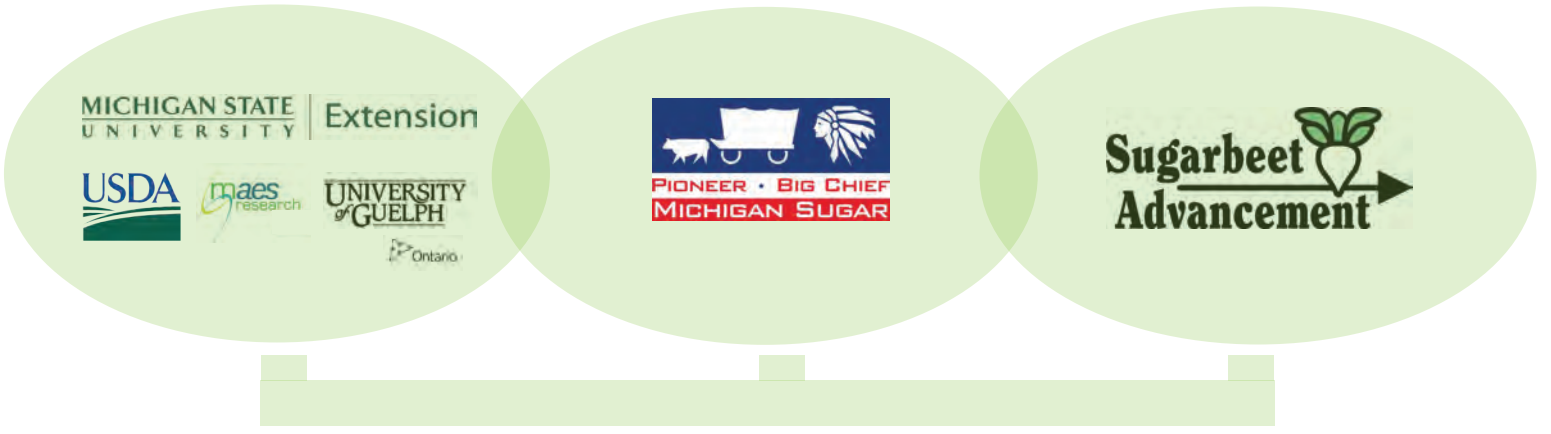
Official Variety Trials

Location Information, 2013

	Quanicasee	Ruth	Sandusky	Pigeon	Breckenridge	Breckenridge
Grower	Sylvester	Roggenbuck	Wadsworth	Trost	English	Bebow
Trial Quality	Fair - Good	Fair - Good	Good	Good	Good	Good
Planted	May 2	June 4	May 13	June 6	May 7	June 5
Harvested	October 19	October 15	October 14	October 8	October 24	October 22
Soil Type	Sandy Clay Loam	Loam	Loam	Clay Loam	Sandy Loam	Sandy Loam
Soil pH	7.9	7.6	7.3	7.3	6.9	6.7
Soil %OM	3.6	3.1	5.5	3.5	3.0	2.7
Phosphorus	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum
Potassium	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Optimum
Magnesium	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum	Abv. Optimum
Manganese	High	High	High	High	High	High
Boron	Medium	Low	High	Medium	Low	Low
Zinc	Low	Medium	High	Medium	High	High
Nitrogen Added	120	Manure + 60	138	105	Manure + 45	120
Seasonal Rainfall*						
April						
May	3.97		3.00		4.29	
June	1.34	1.58	5.50	1.33	2.64	2.53
July	2.85	3.60	3.00	3.66	1.09	1.09
August	1.93	1.94	2.81	1.92	3.91	3.91
September	1.68	2.97	1.54	2.80	0.78	0.78
October	2.28	1.81	1.42	1.51	1.97	1.97
Total	14.05	11.90	17.27	11.22	14.68	10.28

*Rainfall amounts included from month of planting to the date of harvest at each location.

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