

# SUGARBEET ADVANCEMENT

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## ACKNOWLEDGEMENTS

*Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness*

## ON-FARM RESEARCH AND DEMONSTRATION

The *Sugarbeet Advancement* Committee is pleased to provide you with the seventh "On-Farm Sugar Beet Research and Demonstration Report". This type of research could not be conducted without the financial support of Michigan and Monitor Sugar Companies and their Growers. Research priorities are determined by the *Sugarbeet Advancement* Committee and based on critical issues that effect sugar beet profitability. Grower cooperation in on-farm trials is critical for the programs success. Approximately thirty on-farm trials were conducted this year. Producers should use this report as one more tool to make sound agronomic decisions.

The Great Lakes Sugar Industry produced an excellent crop with approximately 18.8 percent sugar and 19.6 tons per acre yield. A larger crop was in the making until late season drought greatly limited yield. However, another mile stone was achieved with the best beet stands on record. Ideal stands are in the foundation to high/profitable yields. Stand establishment has been a research priority with *Sugarbeet Advancement* since 1998. We believe major progress has been made because of our/your efforts. Overall, better sugar beet management is improving Growers bottom line and increasing recoverable sugar per acre.

As you study this research report, pay close attention to the comments that indicate what constraints are effecting each trial. No two sites are identical when it comes to weather, pests, etc. If multi year/location data is available it should be considered more reliable than single year/location data. Also, pay particular attention in each trials least significant difference (LSD). This will give you an indication of how much difference is required between treatments. To give you a high level of confidence, their actually is a real difference. Wrong conclusions can be drawn if you ignore the LSD. Differences sometimes can exist because of soil variation, not treatments.

Establishing, maintaining and harvesting 30 Research/Demonstration Trials is a monumental task. Over 1200 sugar samples were taken and analyzed. This could not happen without the support of Cooperators, Agriculturists and Seed Companies. A special thanks again to Randy Hemb from GTG for all of his extra effort. Doug Ruppel from Hilleshog was instrumental in establishing and maintaining excellent research in the Rhizoctonia Trials. Other contributors include: Andy Bernia, Crystal Seed; Harold Rouget, Seedex; Rob Gerstenberger, Beta Seed; Lee Hubbel and Ralph Fogg from Monitor Sugar Company, along with Jim Stewart and Cory Guza from Michigan Sugar Company.

Sugarbeet Advancement is always looking for Grower input. We encourage you to contact any committee member with production concerns of the industry.

Sincerely,



Kevin J. Hecht  
Sugarbeet Advancement Chair



Steven S. Poindexter  
Sugar Beet Extension Agent

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### **SPECIAL THANKS TO SUGARBEET ADVANCEMENT PARTNERS:**

#### ***Producer Cooperators***

***Michigan Sugar Agriculturists and Company***

***Monitor Sugar Agriculturists and Company***

#### ***MSU Extension Agents***

#### ***MSU Ag Experiment Station***

***Bean and Beet Research Farm – Paul Horny and Dennis Fleishman***

***Beta Seed – Rob Gerstenberger***

***Crystal Beet Seed – Andy Bernia***

***Hillehog Seeds – Doug Ruppel***

***GTG – Randy Hemb***

***Seedex – Harold Rouget***

***J & D Implement, Inc.***

***Reggie VanSickle – Research Technician – Sugarbeet Advancement***

***Sugarbeet Advancement Committee***

# SUGARBEET ADVANCEMENT

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*Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness*

## COMMITTEE LIST

**Robert Boehm**  
Michigan Farm Bureau  
P.O. Box 30960  
Lansing, MI 48909  
(517) 323-7000

**Robert Braem**  
Michigan Sugar Company  
725 Almer Street  
Caro, MI 48723  
(989) 673-2138

**Ron Cousino**  
8032 Crabb Road  
Temperance, MI 48182  
(734) 847-7884

**Roger Elston**  
Michigan Sugar Company  
P.O. Box 626  
Sebewaing, MI 48759  
(989) 883-3203

**Ralph Fogg**  
Monitor Sugar Company  
2600 S. Euclid Avenue  
P.O. Box 917  
Bay City, MI 48706  
(989) 686-1549 Ext. 218

**Dr. Ian Gray**  
MSU Ag Experiment Station  
109 Agriculture Hall  
East Lansing, MI 48824-1039  
(517) 355-0123

**Cory Guza**  
Michigan Sugar Company  
P.O. Box 107  
Caro, MI 48723  
(989) 673-2138

**Dean Hadaway**  
Michigan Sugar Beet Growers  
6231 Gilford Road  
Fairgrove, MI 48733  
(989) 693-6613

**Dr. Timothy Harrigan**  
MSU Ag Engineering Dept.  
220 Farrall Hall  
East Lansing, MI 48824-1323

**Kevin Hecht**  
Monitor Sugar Beet Growers  
9149 Frankenmuth Road  
Vassar, MI 48768  
(989) 652-0346

**Mark Helmreich**  
Monitor Sugar Beet Growers  
723 Delta Road  
Freeland, MI 48623  
(989) 686-8999

**Randy Hemb**  
Germain's Technology Group  
160 W. Aspen Court Unit 8  
Oak Creek, WI 53154-4450  
(517) 297-9170 (Cellular)

**Robert Henne**  
Michigan Sugar Beet Growers  
8165 Richmond Road  
Bay Port, MI 48722  
(989) 453-3541

**Lee Hubbell**  
Monitor Sugar Company  
2600 S. Euclid Avenue  
Bay City, MI 48706-3497  
(989) 686-0161

**Glenn Jack**  
Michigan Sugar Beet Growers  
RR #8 Chatham, Ont.  
Canada, N7M 5J8  
(519) 354-7598

# SUGARBEET ADVANCEMENT

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*Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness*

## COMMITTEE LIST

**Dr. Carrie Laboski**  
MSU Crop & Soil Science Dept.  
584C Plant & Soil Science Bldg.  
East Lansing, MI 48824-1325  
(517) 353-4594

**Gary Lemme**  
MSU Ag Experiment Station  
109 Agriculture Hall  
East Lansing, MI 48824-1039  
(517) 355-0123

**Marty Lewis**  
MI Sugar Co-Op Board  
5082 North Road  
North Street, MI 48049  
(810) 385-4888

**Richard List**  
Monitor Sugar Company  
P.O. Box 39  
Bay City, MI 48707  
(989) 686-0965

**Dr. Mitch McGrath**  
USDA – ARS – MWA  
494D Plant & Soil Science Bldg.  
East Lansing, MI 48824-1325  
(517) 432-2355

**Paul Pfenninger**  
Monitor Sugar Company  
2600 S. Euclid Avenue  
Bay City, MI 48706  
(989) 686-0161

**Steve Poindexter**  
Michigan State Univ. Extension  
One Tuscola Street Suite 100  
Saginaw, MI 48607-1287  
(989) 758-2500 Ext. 208

**Harold Rouget**  
Seedex, Inc.  
4715 Arndt Court  
Auburn, MI 48611  
(989) 662-6155

**John Schultz**  
Cooperative Elevator Co.  
969 Pine Street  
Sebewaing, MI 48759  
(989) 883-3030

**Mark Seamon**  
Michigan State Univ. Extension  
One Tuscola Street Suite 100  
Saginaw, MI 48607-1287  
(989) 758-2500 Ext. 207

**Alan Sherwood**  
Monitor Sugar Beet Growers  
3346 East Monroe Road  
St. Louis, MI 48880-9238  
(989) 681-4192

**James Stewart**  
Michigan Sugar Company  
320 Sugar Street  
Carrollton, MI 48724  
(989) 752-8232

**Richard Sylvester**  
Monitor Sugar Beet Growers  
3486 Quanicasse Road  
Fairgrove, MI 48733  
(989) 693-6046

## 2003 Executive Committee:

**Chairman - Kevin Hecht**  
**Vice Chairman - Marty Lewis**  
**Treasurer - Mark Helmreich**  
**Secretary - Bob Braem**  
**Fifth Member - Paul Pfenninger**

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## PREFACE

The Data in the 2003 Sugarbeet Advancement Research and Demonstration Book can be a valuable tool for making production decisions on your farm. Producers must understand the terminology to draw correct conclusions. Most of the research demonstration trials are replicated three or four times, either in a randomized format or complete randomized block. These trials have a statistical analysis run on them. Trials, which were not randomized and/or replicated, are considered as demonstrations with no statistical analysis run. The following comments should be helpful in your understanding of the results.

Quality analysis was provided by Hilleshog and may be somewhat lower than analysis from Michigan or Monitor Sugar Companies analysis because of different laboratory procedures. Relative differences between treatments should be the same.

**TREATMENT NAME** -- Identify different named treatments in the trial.

**RWSA** -- Recoverable White Sugar Per Acre. This number is calculated by multiplying recoverable white sugar per ton by actual yield per acre. All reported numbers are rounded to the nearest pound.

**ACTUAL YIELD T/A** -- Tonnage calculated on per acre basis. Reported number is rounded to one-hundredth decimal point. Gross tons (no tare off).

**RWST** -- Recoverable White Sugar Per Ton incorporating sugar and clear juice purity. Reported number is rounded to the nearest pound. This is based on a 120-day slice (not fresh basis).

**% SUGAR** -- Percentage Sugar Content of Beet; rounded to the one-tenth decimal point.

**% CJP** -- Percentage Clear Juice Purity; rounded to the one-tenth decimal point.

**RHIZOCTONIA BEETS** -- Average number of dead or dieing beets from Rhizoctonia Crown Rot per indicated length of row.

**POPULATION** -- In monitoring trials, approximately 10- 20- and 30-day plant counts were taken to monitor emergence of each treatment. Results are reported on beets per 100 foot of row.

**HARVEST POPULATION** -- Beet population was taken after beet defoliation. All crowns were counted, including small beets, which may not be picked up by harvesters.

**AVERAGES** -- Use averages to compare treatments which are better or worse than average of trial.

**LSD 5%** -- Least Significant Difference at the 95% confidence level in which one treatment compared to another is actually different. This calculation is used to take into account soil variation and other factors. NS indicates differences between treatments are *Not Significant*.

**C.V. %** -- Coefficient of variation is an indicator of how much variation is in the trial. If C.V.'s are 5% or less, it is considered an excellent trial; 10% or less is a good trial; 15% is fair, and etc. The less variation the more reliable the results are.

\* **1X - 2X - 3X** -- Indicates how many times a practice was done.

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## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>SCHINDLER FARMS</b>	<b>Tillage:</b>	Fall-Plowed Spring – 1X Danish Cultivate
<b>Location:</b>	Bay County (Bay City)	<b>Harvest Date:</b>	10/24/2003
<b>Planting Date:</b>	4/26/2003	<b>Type of Harvester:</b>	Artsway
<b>Previous Crop:</b>	Corn	<b>Herbicides:</b>	Microrates 4X
<b>Soil Type:</b>	Silty Clay	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	22 Inches	<b># of Rows Harvested:</b>	8
		<b># Defoliated:</b>	8
<b>Fertilizer:</b>	Starter – 20 Gal of 10-25-0 + 6S 156 # of N O.M.: 2.5%    CEC: 13.9	<b>Fungicide:</b>	7/23 Headline 8/14 Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
H-135	6223	20.97	296	19.9	94.8	46	231	229	164	14
RH-5	6187	21.70	285	19.7	94.0	141	242	238	201	3
B-5451	6045	20.96	288	20.0	94.2	98	241	232	173	4
C-963	5910	19.83	298	20.0	94.6	77	243	236	174	7
B-5310	5872	20.18	291	19.9	94.2	55	253	251	177	8
2761-RZ	5623	19.30	291	19.7	94.5	39	263	243	179	13
PROMPT	5578	19.58	285	19.6	94.1	75	261	252	226	4
B-5374	5573	18.93	294	20.2	94.5	76	240	237	184	5
C-913	5538	19.54	283	19.4	94.2	29	231	219	173	2
B-5736	5465	19.46	281	19.6	93.5	32	216	200	155	7
E-33	5327	18.15	294	20.1	94.5	60	261	246	189	4
E-17	5263	18.18	290	19.7	94.5	96	259	253	207	9
<b>AVERAGE</b>	<b>5717</b>	<b>19.73</b>	<b>290</b>	<b>19.8</b>	<b>94.3</b>	<b>69</b>	<b>245</b>	<b>236</b>	<b>183</b>	<b>7</b>
<b>LSD (5%)</b>	<b>337</b>	<b>1</b>	<b>11</b>	<b>.5</b>	<b>.6</b>	<b>39</b>	<b>17</b>	<b>17</b>	<b>38</b>	<b>-</b>
<b>C.V. (%)</b>	<b>3</b>	<b>2.9</b>	<b>2</b>	<b>1.5</b>	<b>.4</b>	<b>33</b>	<b>4</b>	<b>4</b>	<b>12</b>	<b>-</b>

**Comments:** Trial planted under good field conditions. Excellent emergence. Rhizoctonia Crown Rot levels were moderate. Leaf Spot Control was good. Root Aphid was detected in the field. Late season drought effected yield. Harvest population averaged 44,000 plants/acre. All seed was PAT pellets. (GTG)

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Bill Hartley - Monitor Sugar Company

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## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>SHERWOOD FARMS</b>	<b>Tillage:</b>	Fall-Chisel Spring – 1X Field Cultivate
<b>Location:</b>	Gratiot County (Breckenridge)	<b>Harvest Date:</b>	9/30/2003
<b>Planting Date:</b>	4/23/2003	<b>Type of Harvester:</b>	Red River
<b>Previous Crop:</b>	Dry Beans	<b>Herbicides:</b>	Micro Rated 2x
<b>Soil Type:</b>	Parkhill Loam	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	30 Inches	<b># of Rows Harvested:</b>	6
		<b># Defoliated:</b>	6
<b>Fertilizer:</b>	225# of 11-11-11+ 3Mn+ .5Cu + .5B 105# of N O.M.: 2.8% CEC: 11.8	<b>Fungicide:</b>	7/27 Headline 8/28 Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
<b>RH-5</b>	<b>5415</b>	<b>20.32</b>	<b>267</b>	<b>16.8</b>	<b>94.9</b>	<b>132</b>	<b>241</b>	<b>219</b>	<b>189</b>	<b>12</b>
PROMPT	5301	19.69	270	17.7	94.1	78	237	213	171	13
<b>B-5310</b>	<b>5151</b>	<b>19.56</b>	<b>266</b>	<b>17.6</b>	<b>94.9</b>	<b>69</b>	<b>220</b>	<b>204</b>	<b>155</b>	<b>25</b>
B-5451	5145	19.05	269	17.9	94.6	75	216	190	147	31
<b>C-913</b>	<b>4988</b>	<b>20.16</b>	<b>248</b>	<b>16.4</b>	<b>94.8</b>	<b>17</b>	<b>188</b>	<b>159</b>	<b>130</b>	<b>8</b>
C-963	4958	18.59	267	17.6	94.7	71	202	184	144	33
<b>B-5736</b>	<b>4844</b>	<b>18.04</b>	<b>268</b>	<b>17.4</b>	<b>94.2</b>	<b>20</b>	<b>188</b>	<b>165</b>	<b>130</b>	<b>20</b>
2761-RZ	4634	17.58	263	17.6	94.8	29	226	209	144	48
<b>E-33</b>	<b>4625</b>	<b>18.12</b>	<b>255</b>	<b>16.9</b>	<b>95.5</b>	<b>33</b>	<b>206</b>	<b>188</b>	<b>154</b>	<b>17</b>
E-17	4595	16.41	280	18.0	95.1	76	219	199	147	60
<b>B-5374</b>	<b>4375</b>	<b>17.19</b>	<b>248</b>	<b>17.2</b>	<b>95.5</b>	<b>50</b>	<b>225</b>	<b>203</b>	<b>140</b>	<b>44</b>
H-135	3517	13.66	258	16	94.8	32	195	179	110	64
<b>AVERAGE</b>	<b>4796</b>	<b>18.20</b>	<b>263</b>	<b>17.3</b>	<b>94.8</b>	<b>57</b>	<b>214</b>	<b>193</b>	<b>147</b>	<b>31</b>
<b>LSD (5%)</b>	<b>759</b>	<b>2.27</b>	<b>16</b>	<b>.9</b>	<b>.7</b>	<b>28</b>	<b>19</b>	<b>17</b>	<b>25</b>	<b>-</b>
<b>C.V. (%)</b>	<b>9</b>	<b>7.4</b>	<b>4</b>	<b>3.2</b>	<b>.4</b>	<b>29</b>	<b>5</b>	<b>8</b>	<b>10</b>	<b>-</b>

**Comments:** Trial was planted under good field conditions with excellent emergence. There were severe levels of Rhizoctonia Crown Rot. Moderate levels of Root aphid and suspected Aphanomyces were noted. Leaf Spot Control was good. Field was under drought stress in late season. Harvest population averaged 26,000. All seed was PAT pellets. (GTG)

**Trial Reliability:** Fair

**Cooperating Agriculturist(s):** Dave Bailey - Michigan Sugar Company  
Wayne Davis - Monitor Sugar Company



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## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>STURM FARMS</b>	<b>Tillage:</b>	Fall-Plow Spring – Danish Cultivated
<b>Location:</b>	Huron County (Pigeon)	<b>Harvest Date:</b>	10/10/2003
<b>Planting Date:</b>	4/24/2003	<b>Type of Harvester:</b>	Red River
<b>Previous Crop:</b>	Soybeans	<b>Herbicides:</b>	Pyramin – pre-plant; 1X – Betamix, Stinger and Upbeet-post
<b>Soil Type:</b>	Chandler Clay Loam	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	28 Inches	<b># of Rows Harvested:</b>	4
<b>Fertilizer:</b>	Fall – 403# 4-18-41 Spring – 28% at planting O.M.: 2.6% CEC: 13.7	<b># Defoliated:</b>	4
		<b>Fungicide:</b>	7/19 Quadris 8/08 Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
<b>B-5451</b>	<b>6299</b>	<b>21.81</b>	<b>289</b>	<b>19.7</b>	<b>94.5</b>	<b>18</b>	<b>210</b>	<b>227</b>	<b>184</b>	<b>6</b>
C-963	6281	21.35	294	19.8	94.5	5	214	243	215	4
<b>B-5310</b>	<b>6253</b>	<b>21.05</b>	<b>297</b>	<b>20.2</b>	<b>94.1</b>	<b>8</b>	<b>200</b>	<b>236</b>	<b>207</b>	<b>1</b>
RH-5	5888	21.98	268	18.4	95.3	61	251	259	244	1
<b>B-5736</b>	<b>5871</b>	<b>19.89</b>	<b>295</b>	<b>19.9</b>	<b>94.2</b>	<b>2</b>	<b>143</b>	<b>185</b>	<b>177</b>	<b>1</b>
2761-RZ	5853	19.75	297	19.9	94.7	4	215	252	241	1
<b>B-5374</b>	<b>5829</b>	<b>20.43</b>	<b>286</b>	<b>19.3</b>	<b>94.8</b>	<b>16</b>	<b>226</b>	<b>251</b>	<b>225</b>	<b>5</b>
C-913	5726	20.38	281	19.1	94.8	2	171	190	176	0
<b>PROMPT</b>	<b>5533</b>	<b>20.82</b>	<b>264</b>	<b>18.7</b>	<b>95.7</b>	<b>22</b>	<b>208</b>	<b>227</b>	<b>204</b>	<b>2</b>
E-17	5530	19.44	284	19.4	94.8	20	235	250	230	12
<b>H-135</b>	<b>5207</b>	<b>19.94</b>	<b>262</b>	<b>18.6</b>	<b>95.8</b>	<b>6</b>	<b>203</b>	<b>226</b>	<b>221</b>	<b>4</b>
E-33	5120	18.10	283	19.6	95.5	3	215	253	246	4
<b>AVERAGE</b>	<b>5783</b>	<b>20.41</b>	<b>283</b>	<b>19.4</b>	<b>94.9</b>	<b>14</b>	<b>208</b>	<b>233</b>	<b>214</b>	<b>3</b>
<b>LSD (5%)</b>	789	1.9	24	1.1	1	12	51	25	42	
<b>C.V. (%)</b>	8	5	5	3	.6	52	15	10	12	

**Comments:** Trial was planted under good field conditions. Excellent emergence. Leaf Spot Control was good. Rhizoctonia Crown Rot was generally low with some areas of moderate infection. Root Aphid and Sugar Beet Cyst Nematode were detected at low levels. Late season drought effected yields. Harvest population was 38,000 plants/acre. All seed was PAT pellets (GTG).

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>CEDAR POND FARMS</b>	<b>Tillage:</b>	Fall-Plowed Spring – 1X Field Cultivate
<b>Location:</b>	Huron County (Ruth)	<b>Harvest Date:</b>	10/23/2003
<b>Planting Date:</b>	4/25/2003	<b>Type of Harvester:</b>	Artsway
<b>Previous Crop:</b>	Corn	<b>Herbicides:</b>	Microrates 5x + Dual
<b>Soil Type:</b>	Loamy Sand	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	30 Inches	<b># of Rows Harvested:</b>	4
		<b># Defoliated:</b>	4
<b>Fertilizer:</b>	110# of N + 25 # S + ¼ # B + 1.5# Mn and 90# of N Side Dress O.M.: 2.2% CEC: 10.4	<b>Fungicide:</b>	7/24 Headline 8/21 Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
<b>E-17</b>	<b>6332</b>	<b>24.87</b>	<b>254</b>	<b>17.4</b>	<b>94.7</b>	<b>0</b>	<b>249</b>	<b>268</b>	<b>242</b>	<b>0</b>
B-5451	6258	24.40	257	17.6	94.6	1	225	235	185	0
<b>B-5310</b>	<b>6110</b>	<b>23.41</b>	<b>260</b>	<b>17.8</b>	<b>94.4</b>	<b>1</b>	<b>190</b>	<b>223</b>	<b>186</b>	<b>1</b>
C-963	6078	24.04	253	17.2	94.7	0	242	257	193	0
<b>RH-5</b>	<b>6050</b>	<b>24.49</b>	<b>247</b>	<b>16.7</b>	<b>94.9</b>	<b>6</b>	<b>236</b>	<b>250</b>	<b>225</b>	<b>0</b>
B-5374	6040	24.41	247	17.0	94.5	6	243	264	225	0
<b>C-913</b>	<b>5855</b>	<b>23.72</b>	<b>246</b>	<b>16.7</b>	<b>94.6</b>	<b>0</b>	<b>203</b>	<b>239</b>	<b>198</b>	<b>0</b>
H-135	5831	24.23	240	16.2	95.0	0	236	244	213	0
<b>B-5736</b>	<b>5679</b>	<b>22.17</b>	<b>256</b>	<b>17.5</b>	<b>94.3</b>	<b>0</b>	<b>115</b>	<b>153</b>	<b>136</b>	<b>0</b>
2761-RZ	5665	23.37	242	16.8	94.7	0	220	239	216	0
<b>PROMPT</b>	<b>5649</b>	<b>22.99</b>	<b>243</b>	<b>16.9</b>	<b>94.3</b>	<b>2</b>	<b>240</b>	<b>258</b>	<b>237</b>	<b>0</b>
E-33	5597	22.78	245	16.7	94.8	0	231	267	240	0
<b>AVERAGE</b>	<b>5929</b>	<b>23.74</b>	<b>249</b>	<b>17.0</b>	<b>94.6</b>	<b>1</b>	<b>219</b>	<b>241</b>	<b>208</b>	<b>0</b>
<b>LSD (5%)</b>	461	1.6	11	.5	.3	N.S.	50	35	32	-
<b>C.V. (%)</b>	5	3.9	3	2	.2	-	13	9	9	-

**Comments:** Trial planted under good field conditions. Excellent emergence. Excellent Leaf Spot Control. Very low levels of Rhizoctonia Crown Rot and Root Aphids. Some late season moisture stress but not as severe as other variety plots. Harvest population average of 35,000 plants/acre. All seed was PAT pellets. (GTG)

**Trial Reliability: Very Good**

**Cooperating Agriculturist(s):** Bob Corrigan - Michigan Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>GERSTENBERGER FARMS, INC.</b>	<b>Tillage:</b>	Fall-Chisel Spring – 1X Field Cultivate
<b>Location:</b>	Sanilac County (Sandusky)	<b>Harvest Date:</b>	10/23/2003
<b>Planting Date:</b>	4/27/2003	<b>Type of Harvester:</b>	Artsway
<b>Previous Crop:</b>	Soybeans	<b>Herbicides:</b>	Microrates 4x
<b>Soil Type:</b>	Parkhill Loam	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	28 Inches	<b># of Rows Harvested:</b>	6
		<b># Defoliated:</b>	6
<b>Fertilizer:</b>	175# of 15-29—10 + 5S + .33B 100# of N & Variable Rate 0-0-60 O.M.: 2.8% CEC: 9.8	<b>Fungicide:</b>	7/24 Headline

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
<b>C-963</b>	<b>6772</b>	<b>24.32</b>	<b>279</b>	<b>18.5</b>	<b>94.4</b>	<b>15</b>	<b>277</b>	<b>274</b>	<b>171</b>	<b>21</b>
B-5310	6529	23.68	275	18.6	94.5	20	286	287	226	19
<b>B-5451</b>	<b>6460</b>	<b>24.12</b>	<b>272</b>	<b>18.4</b>	<b>94.7</b>	<b>28</b>	<b>273</b>	<b>271</b>	<b>196</b>	<b>20</b>
2761-RZ	6086	23.72	257	17.6	94.4	11	294	294	256	26
<b>RH-5</b>	<b>5959</b>	<b>24.77</b>	<b>240</b>	<b>17.0</b>	<b>94.9</b>	<b>36</b>	<b>289</b>	<b>288</b>	<b>268</b>	<b>3</b>
B-5736	5927	22.44	264	18.2	94.3	4	237	240	207	14
<b>E-33</b>	<b>5534</b>	<b>21.30</b>	<b>259</b>	<b>17.6</b>	<b>94.9</b>	<b>17</b>	<b>280</b>	<b>288</b>	<b>268</b>	<b>13</b>
C-913	5436	22.33	243	17.0	94.6	6	260	264	230	5
<b>B-5374</b>	<b>5422</b>	<b>20.77</b>	<b>261</b>	<b>17.5</b>	<b>94.9</b>	<b>31</b>	<b>280</b>	<b>279</b>	<b>196</b>	<b>25</b>
PROMPT	5409	22.69	239	16.3	94.5	23	272	282	249	8
<b>E-17</b>	<b>5349</b>	<b>20.38</b>	<b>261</b>	<b>17.6</b>	<b>94.9</b>	<b>31</b>	<b>297</b>	<b>295</b>	<b>197</b>	<b>63</b>
H-135	5055	21.56	235	16.5	95.2	3	248	256	202	29
<b>AVERAGE</b>	<b>5828</b>	<b>22.67</b>	<b>257</b>	<b>17.6</b>	<b>94.7</b>	<b>19</b>	<b>274</b>	<b>277</b>	<b>222</b>	<b>20</b>
<b>LSD (5%)</b>	<b>1161</b>	<b>3.5</b>	<b>20</b>	<b>1</b>	<b>.5</b>	<b>19</b>	<b>19</b>	<b>14</b>	<b>50</b>	<b>-</b>
<b>C.V. (%)</b>	<b>12</b>	<b>9</b>	<b>5</b>	<b>3.5</b>	<b>.3</b>	<b>61</b>	<b>4</b>	<b>3</b>	<b>13</b>	<b>-</b>

**Comments:** Trial was planted under good soil conditions. Excellent emergence. Leaf spot Control was very good. Rhizoctonia Crown Rot level was moderate to high. Root Aphid was noted in susceptible varieties. Late season drought effected yields. Harvest population was approximately 40,000 plants/acre. All seed was PAT pellets. (GTG)

**Trial Reliability:** Fair

**Cooperating Agriculturist(s):** Tim Muz - Michigan Sugar Company  
Paul Wheeler - Monitor Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>LAKKE-EWALD FARMS</b>	<b>Tillage:</b>	Fall-Chisel Spring – 1X Field Cultivate
<b>Location:</b>	Tuscola County (Unionville)	<b>Harvest Date:</b>	10/2/2003
<b>Planting Date:</b>	4/24/2003	<b>Type of Harvester:</b>	Artsway
<b>Previous Crop:</b>	Dry Beans	<b>Herbicides:</b>	Micro Rated 4x
<b>Soil Type:</b>	Tappan-Londo Loam	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	22 Inches	<b># of Rows Harvested:</b>	8
		<b># Defoliated:</b>	8
<b>Fertilizer:</b>	160# of N & 200# of 0-0-60 O.M.: 2.1%    CEC: 10.9	<b>Fungicide:</b>	5/30 - Quadris for Rhiz. Crown Rot Control 7/08 – Headline 8/06 – Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ
<b>C-963</b>	<b>6661</b>	<b>23.83</b>	<b>280</b>	<b>19.0</b>	<b>94.4</b>	<b>123</b>	<b>207</b>	<b>197</b>	<b>183</b>	<b>2</b>
B-5310	6561	24.03	273	18.7	93.8	130	225	217	204	4
<b>B-5451</b>	<b>6542</b>	<b>23.89</b>	<b>274</b>	<b>18.3</b>	<b>94.3</b>	<b>147</b>	<b>232</b>	<b>231</b>	<b>213</b>	<b>2</b>
H-135	6467	24.49	264	18.3	94.7	74	176	170	159	7
<b>RH-5</b>	<b>6375</b>	<b>25.28</b>	<b>252</b>	<b>17.7</b>	<b>94.2</b>	<b>175</b>	<b>232</b>	<b>229</b>	<b>227</b>	<b>0</b>
E-17	6218	22.60	275	18.4	94.4	148	238	234	229	3
<b>B-5736</b>	<b>6145</b>	<b>23.11</b>	<b>266</b>	<b>18.8</b>	<b>93.8</b>	<b>83</b>	<b>184</b>	<b>182</b>	<b>181</b>	<b>2</b>
2761-RZ	6142	23.08	266	18.7	93.6	87	210	204	196	1
<b>B-5374</b>	<b>6049</b>	<b>22.61</b>	<b>267</b>	<b>18.6</b>	<b>93.7</b>	<b>149</b>	<b>220</b>	<b>220</b>	<b>198</b>	<b>2</b>
PROMPT	5903	22.70	260	18.1	94.4	148	238	235	220	1
<b>E-33</b>	<b>5672</b>	<b>21.34</b>	<b>266</b>	<b>18.5</b>	<b>94.5</b>	<b>120</b>	<b>221</b>	<b>217</b>	<b>206</b>	<b>1</b>
C-913	5307	22.07	240	17.1	94.5	81	191	190	170	2
<b>AVERAGE</b>	<b>6170</b>	<b>23.25</b>	<b>265</b>	<b>18.4</b>	<b>94.2</b>	<b>122</b>	<b>215</b>	<b>210</b>	<b>199</b>	<b>2</b>
<b>LSD (5%)</b>	759	1.81	19	1	.7	33	26	27	37	-
<b>C.V. (%)</b>	7	4.6	4	3.1	.4	16	7	7	11	-

**Comments:** Trial planted under good soil conditions. Excellent emergence. Low levels of Rhizoctonia Crown Rot and Leaf Spot. Low levels of Root Aphid and Sugar Beet Cyst Nematode noted in the field. Late season drought effected yields. Harvest population was 47,000 plants/acre. All seed was PAT pellets. (GTG)

**Trial Reliability: Very Good**

**Cooperating Agriculturist(s):** Craig Rieman - Michigan Sugar Company  
Steve Bohn - Monitor Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## AVERAGE OF 6 VARIETY TRIALS

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** SIX LOCATIONS AVERAGED  
**Location:** Bay, Gratiot, Huron (Pigeon and Ruth), Sanilac & Tuscola  
**Planting Date:** 2003  
**Row Spacing:** Various  
**Previous Crop:** Various  
**Replicated:** 3X - Various Locations

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW					% STAND LOSS
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ	
B-5451	6125*	22.37*	275*	18.7*	94.5	61*	233*	231	183	11	20.8
C-963	6110*	21.99*	279*	18.7*	94.6	49*	231	232*	180	12	22.4
B-5310	6079*	21.99*	277*	18.8*	94.3	47*	229	236*	193	10	18.2
RH-5	5979*	23.09*	260	17.7	94.7	92*	249*	247*	226*	3	8.5
2761-RZ	5667	21.13	269	18.4*	94.5	28	238*	240*	205*	15	14.6
B-5736	5655	20.85	272*	18.6*	94.1	24	181	188	164	7	12.8
PROMPT	5562	21.41	260	17.9	94.5	58*	243*	245*	218*	5	11.0
B-5374	5548	20.72	267	18.3	94.7	55*	239*	242*	195	14	19.4
E-17	5548	20.31	274*	18.4*	94.7	62*	250*	250*	209*	24	16.4
C-913	5475	21.37	257	17.6	94.6	23	207	210	180	3	14.3
H-135	5383	20.81	259	17.6	95.1*	27	215	217	178	20	18.0
E-33	5313	19.97	267	18.2	95.0*	39	236*	243*	217*	6	10.7
<b>AVERAGE</b>	<b>5704</b>	<b>21.33</b>	<b>268</b>	<b>18.2</b>	<b>94.6</b>	<b>47</b>	<b>229</b>	<b>232</b>	<b>196</b>	<b>11</b>	<b>15.6</b>
<b>L S D (5%)</b>	374	1.16	9	.4	.3	18	18	15	21	-	-
<b>C.V. (%)</b>	6	4.7	3	2.1	.3	33	7	6	9	-	-

**\*DENOTES NO SIGNIFICANT DIFFERENCE**

**Comments:** All trials were planted and maintained by cooperating Growers. Six sugar samples per variety were taken at each location. A variety may perform differently under different environmental conditions, such as disease, insects, moisture and plant population. Always refer to individual trials and comments at each location. Rhizoctonia counts are dead or dying beets per 100 foot row found in August/September. Percent Stand Loss is 30-day Stand Count, compared to Harvest Stand. Trial results reliability ranged from fair to excellent.

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## RANKINGS OF VARIETY TRIAL AVERAGES FROM 6 SITES

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** SIX LOCATIONS AVERAGED  
**Location:** Bay, Gratiot, Huron (Pigeon and Ruth), Sanilac & Tuscola  
**Planting Date:** 2003  
**Row Spacing:** Various  
**Previous Crop:** Various  
**Replicated:** 3X - Various Locations

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW					STAND LOSS RANK
						10 DAY	20 DAY	30 DAY	HARVEST	RHIZ	
B-5451	1*	2*	3*	2*	5	3*	7*	9	8	6	11
C-963	2*	3*	1*	2*	4	6*	8	8*	9	7	12
B-5310	3*	4*	2*	1*	6	7*	9	7*	7	5	9
RH-5	4*	1*	10	10	3*	1*	2*	2*	1*	1	1
2761-RZ	5	7	6*	5*	5	9	5*	6*	5*	9	6
B-5736	6	8	5*	4*	7	11	12	12	12	4	4
PROMPT	7	5	9	9	5	4*	3*	3*	2*	2	3
B-5374	8	10	7	7	3*	5*	4*	5*	6	8	10
E-17	9	11	4*	5*	3*	2*	1*	1*	4*	11	7
C-913	10	6	12	12	4	12	11	11	10	1	5
H-135	11	9	11	12	1*	10	10	10	11	10	8
E-33	12	12	7	8	2*	8	6*	4*	3*	3	2

**“\*” DENOTES NO SIGNIFICANT DIFFERENCE FROM THE TOP VARIETY**

**Comments:** These rankings are by category and ranked “1” through “12” with identical numbers having equal ranking; “1” is the highest and “12” being the lowest except for Rhizoctonia and stand loss where “1” is the lowest amount of disease or stand loss and “12” is the highest. All six variety trials are averaged and the relative differences between some rankings may be very small or not significant. Use this information as a reference of how a variety may perform given several different environmental conditions. Refer to individual trials and comments sections for more information. When determining which varieties to plant, also consider Emergence, Leaf Spot, Root Aphid, and Rhizoctonia tolerances and other factors pertinent to your farm. Variety specific information can be obtained from seed companies and /or Michigan and Monitor Sugar Companies.

**Cooperating Agriculturist(s):** Michigan and Monitor Sugar Companies

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusines

## VARIETY TRIAL TWO YEAR AVERAGE

### ON-FARM RESEARCH AND DEMONSTRATION

Planting Date: 2002 and 2003

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR
<b>B 5451</b>	<b>5876</b>	<b>21.48</b>	<b>272</b>	<b>18.6</b>
C 963	5771	21.08	273	18.6
<b>RH 5</b>	<b>5761</b>	<b>22.24</b>	<b>260</b>	<b>18.0</b>
PROMPT	5442	21.01	259	18.1
<b>B 5736</b>	<b>5364</b>	<b>20.14</b>	<b>265</b>	<b>18.6</b>
E 17	5326	19.67	272	18.5
<b>E 33</b>	<b>5301</b>	<b>19.55</b>	<b>271</b>	<b>18.6</b>
C 913	5274	20.77	254	17.7

## VARIETY TRIAL THREE YEAR AVERAGE

### ON-FARM RESEARCH AND DEMONSTRATION

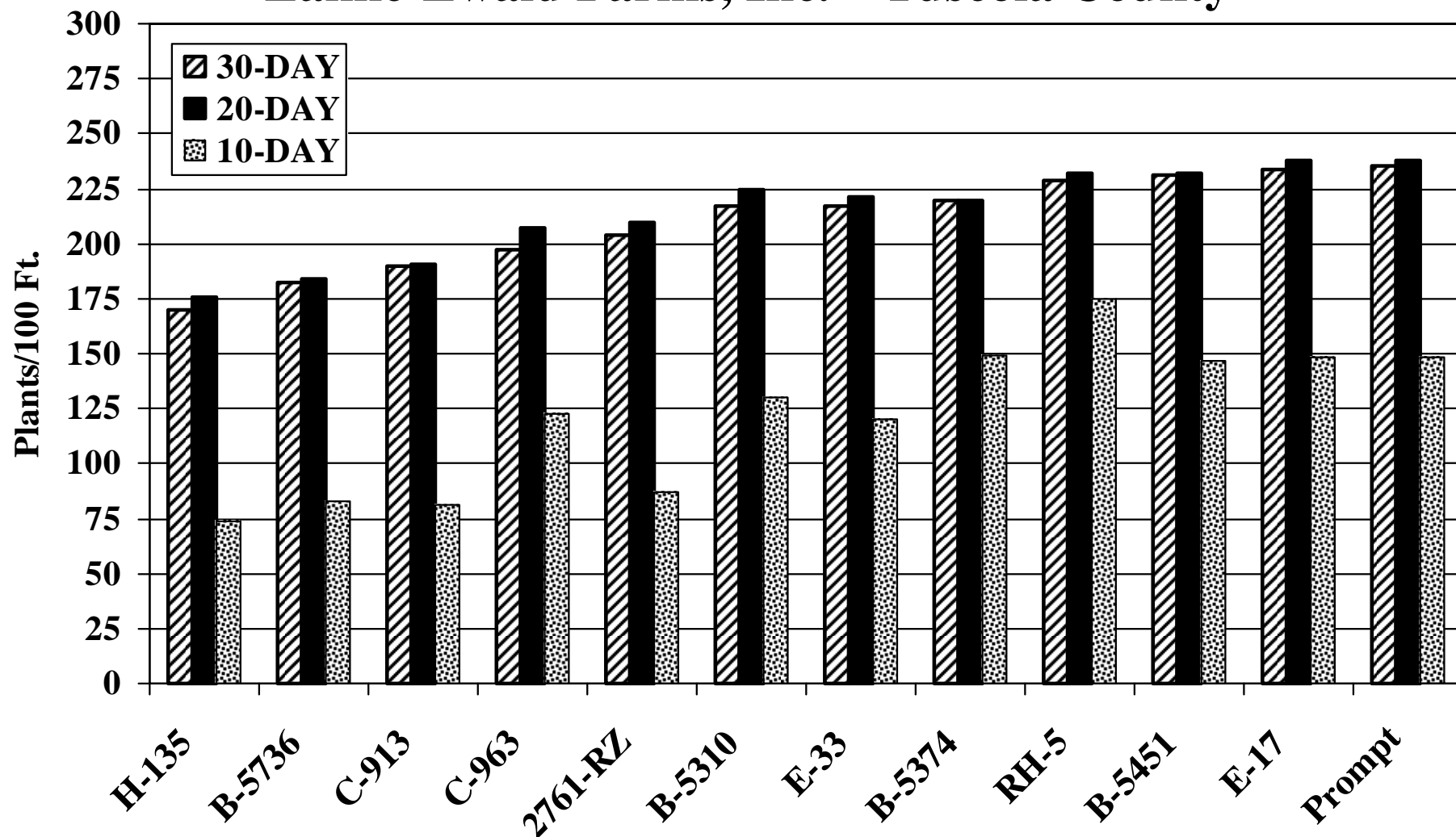
Planting Date: 2001 – 2002 and 2003

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR
<b>B 5451</b>	<b>6004</b>	<b>23.01</b>	<b>262</b>	<b>18.0</b>
RH 5	5655	22.78	250	17.4
<b>PROMPT</b>	<b>5597</b>	<b>22.58</b>	<b>249</b>	<b>17.5</b>
B 5736	5436	21.62	254	17.9
<b>E 33</b>	<b>5243</b>	<b>20.40</b>	<b>258</b>	<b>17.9</b>

# Variety Trial

## 10- 20- and 30-Day Emergence

### Lakke-Ewald Farms, Inc. – Tuscola County



Planted 4/29/03 – Seed Spacing 4 Inches – 22 Inch Rows

*Sugarbeet Advancement - 2003*

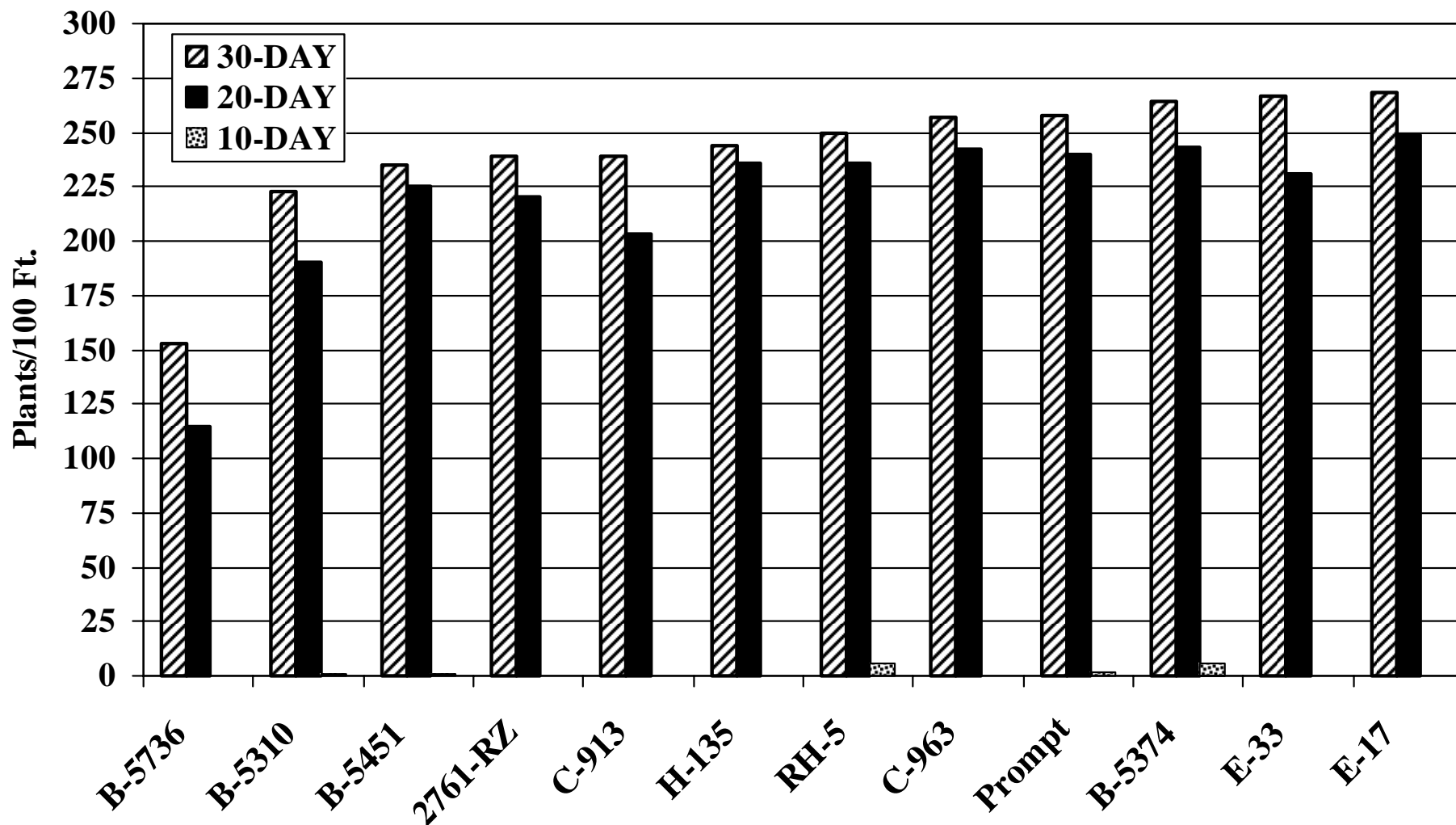
*All treatments PAT Pellet*



# Variety Trial

## 10- 20- and 30-Day Emergence

### Roggenbuck Farms, Inc. – Huron County



**Planted 4/25/03 – Seed Spacing 4 Inches – 30 Inch Rows**

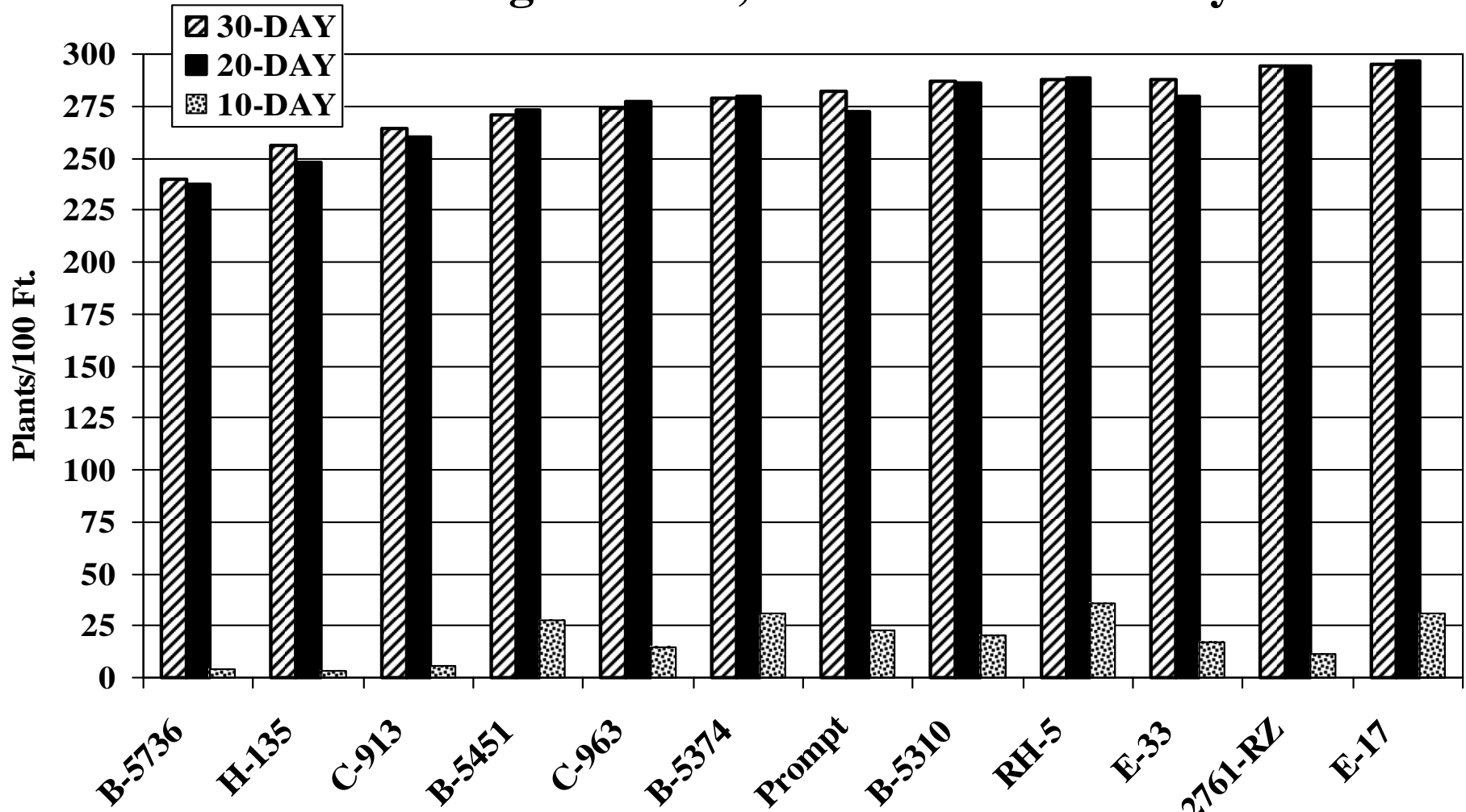
*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Variety Trial

## 10- 20- and 30-Day Emergence

### Gerstenberger Farms, Inc. – Sanilac County



Planted 4/27/03 – Seed Spacing 3.7 Inches – 28 Inch Rows

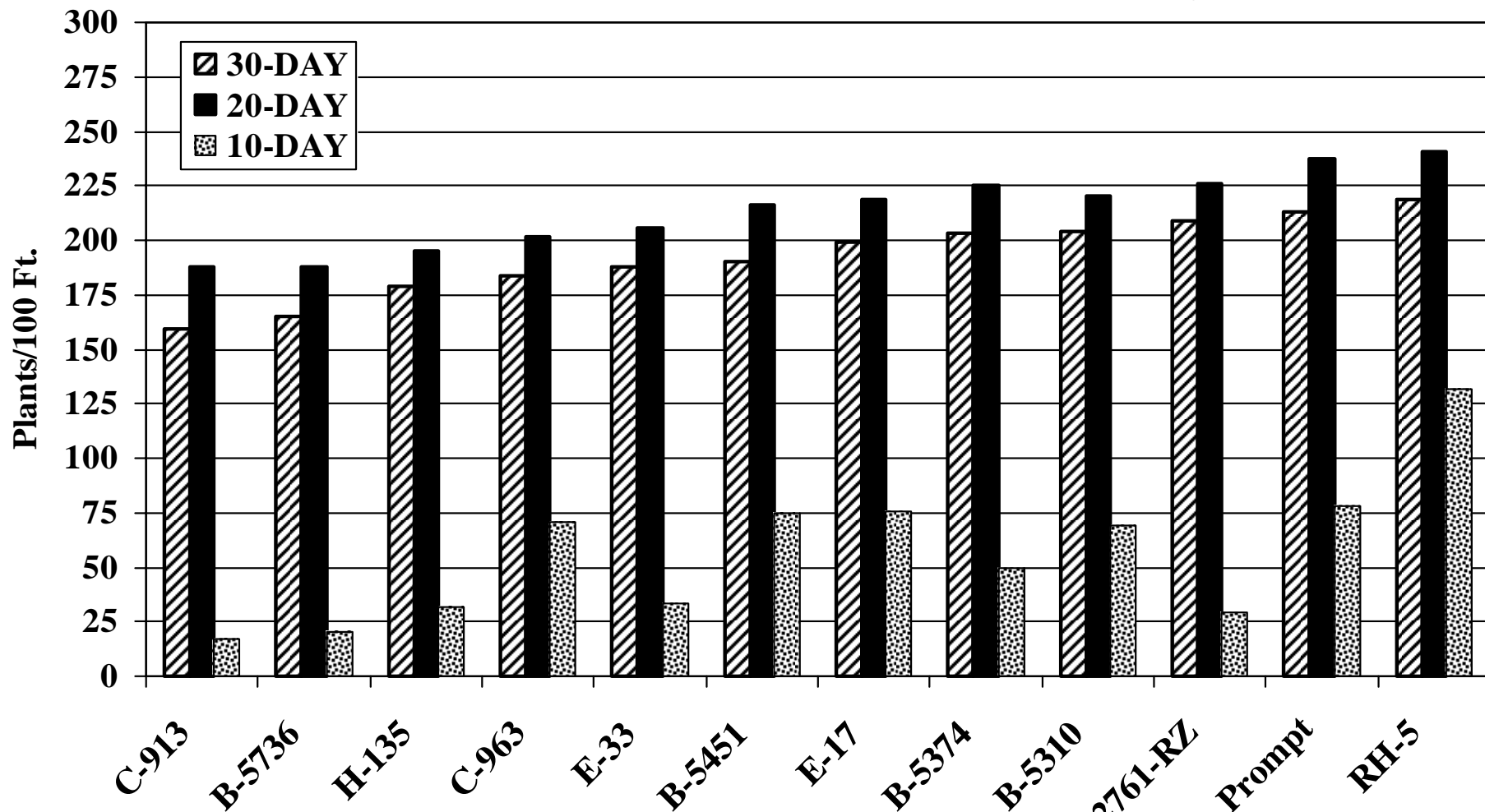
*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Variety Trial

## 10- 20- and 30-Day Emergence

### Sherwood Farms, Inc. – Gratiot County



Planted 4/23/03 – Seed Spacing 4 Inches – 30 Inch Rows

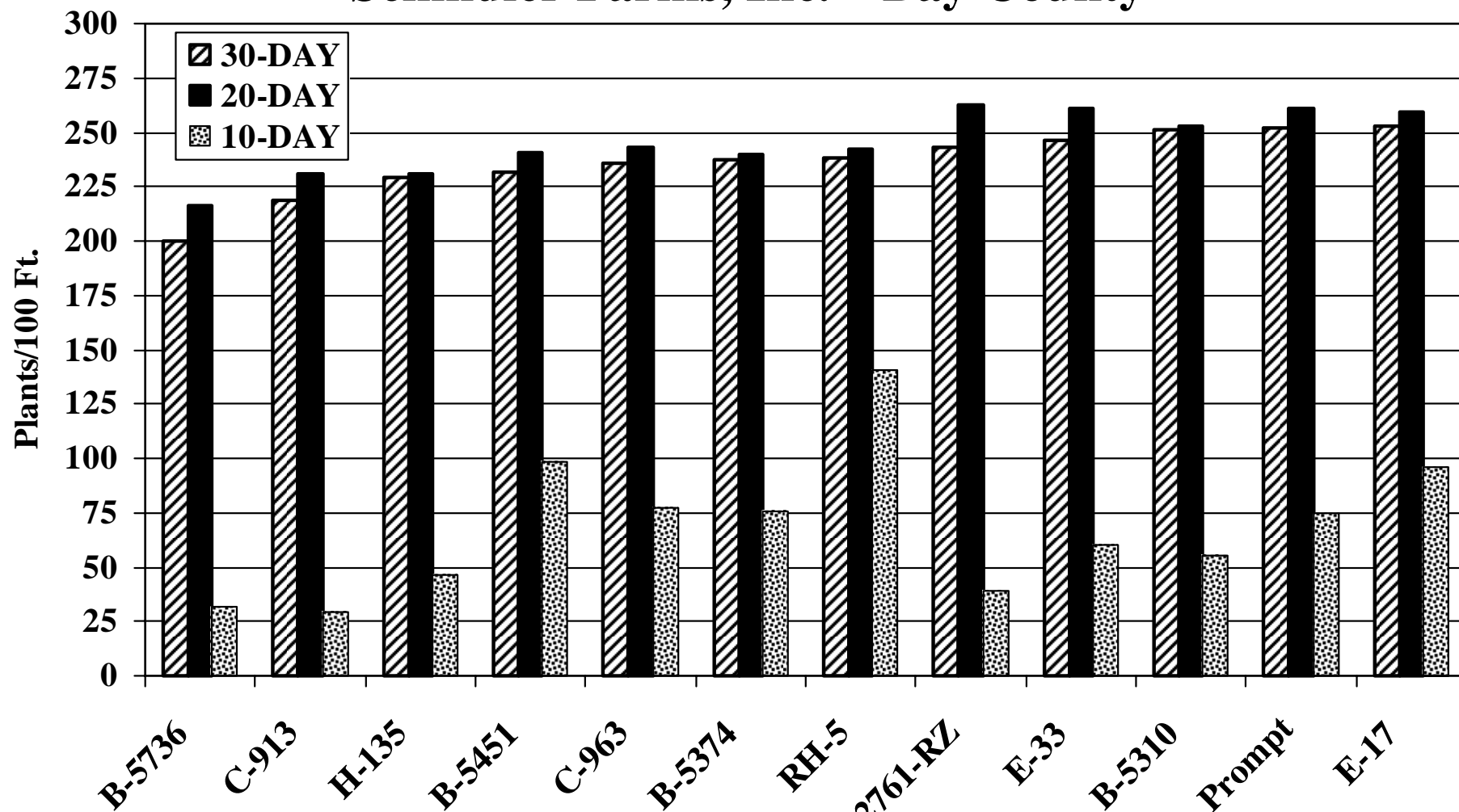
*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Variety Trial

## 10- 20- and 30-Day Emergence

### Schindler Farms, Inc. – Bay County



Planted 4/22/03 – Seed Spacing 4 Inches – 22 Inch Rows

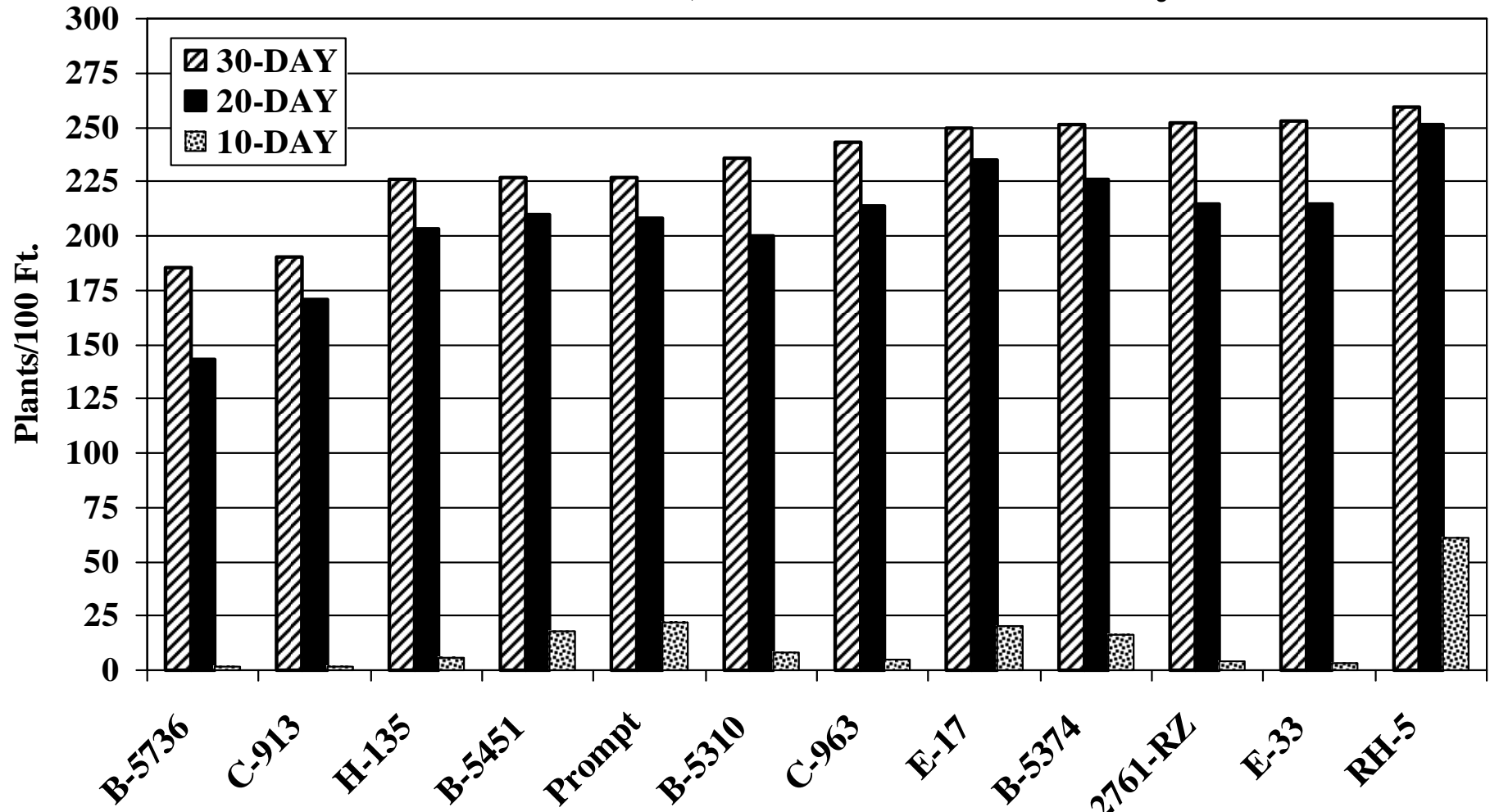
*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Variety Trial

## 10- 20- and 30-Day Emergence

### Sturm Farms, Inc. – Huron County



Planted 4/24/03 – Seed Spacing 4 Inches – 28 Inch Rows

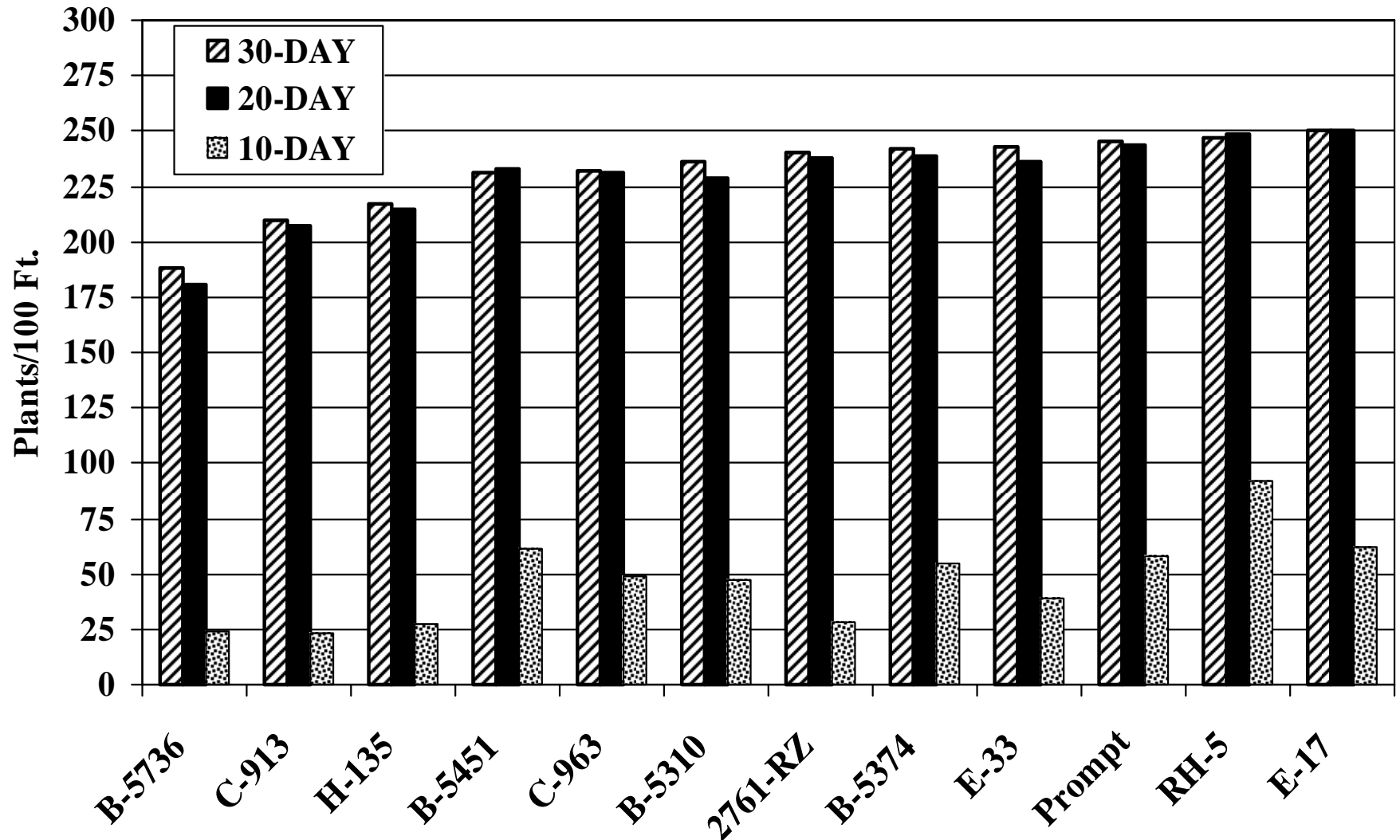
*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Variety Trial Averages

## 10- 20- and 30-Day Emergence

### Bay – Gratiot – Huron – Sanilac and Tuscola Counties



*Sugarbeet Advancement - 2003*

*All treatments PAT Pellet*

# Seed Spacing Chart

## Variety Emergence Rating

Field Emergence Conditions	Poor Emerging Variety	Average Emerging Variety	Excellent Emerging Variety
<b>Ideal</b> – Average 70 to 80% Emergence	4.5 Inches	4.75 Inches	5.0 Inches
<b>Fair</b> – Average 40 to 60% Emergence	3.5 Inches	4.0 Inches	4.2 Inches
<b>Poor</b> – Average 20 to 30% Emergence	3.0 Inches	3.0 Inches	3.0 Inches

Producers need to adjust seed spacing based on variety and seedbed conditions to achieve the recommended harvest stand of 150-170 beets per 100 feet of row for both 30 and 22-inch rows. Growers will need to adjust seed spacing as much as 25% above or below our normal 4-inch seed spacing to achieve the desired stand. Use the above table to help determine approximate seed spacing based on field condition and variety. Remember, on average you lose 10% of stand from 30-days after emergence to harvest.

Your judgment is required to determine field emergence conditions.

***The financial penalty for thin stands far outweigh any penalty for too thick of stand.***

# SUGARBEET ADVANCEMENT

Partnership  
of:



**VARIETY TRIAL \*  
RAINFALL DATA –  
NEAREST LOCATION**

*Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness*

**ON-FARM RESEARCH AND DEMONSTRATION**

LOCATION COOPERATOR	YEAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	TOTAL RAINFALL
Unionville Lakke - Ewald	2003	2.22	2.87	2.30	4.76	.60	2.02	1.53	16.30
	2002	3.32	5.24	4.22	3.31	2.55	.25	2.00	20.89
	2001	1.53	1.84	2.85	.42	2.17	4.27	5.50	18.58
Ruth Scott Roggenbuck	2003	2.60	4.15	3.05	2.65	.65	3.70	2.58	19.38
	2002	3.65	3.68	3.35	4.45	3.10	.60	2.50	21.33
	2001	1.80	2.02	3.51	.35	1.98	5.10	5.47	20.23
Breckenridge Sherwood Farms	2003	2.67	3.21	2.47	3.99	1.10	2.05	1.31	16.80
	2002	2.68	4.26	3.05	4.52	7.27	.86	2.60	25.24
	2001	2.20	5.87	1.74	.40	3.8	5.24	5.80	25.05
Pigeon Randal Sturm	2003	2.23	3.56	2.80	4.01	1.73	2.20	1.78	18.31
	2002	4.09	3.28	3.15	5.95	3.41	.66	2.16	22.70
	2001	1.45	2.58	2.53	.67	3.03	6.59	5.34	22.19
Sandusky Rick Gerstenberger	2003	2.83	3.60	2.92	2.55	1.32	4.22	2.06	19.50
	2002	3.44	4.05	4.41	4.39	1.81	.60	2.45	21.15
	2001	2.10	4.13	5.05	.71	1.82	5.34	8.13	27.28
Bay City Schindler Farms	2003	1.86	4.63	2.83	3.82	2.20	1.42	1.30	18.06
	2002	3.22	4.21	3.46	4.36	3.03	.68	2.48	21.44
	2001	2.2	3.25	3.6	1.05	2.2	4.35	4.85	21.50

\* Rainfall data is at the nearest monitoring point to field. This data was not taken at the field, so some difference may occur at the actual location.



# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## VARIETY TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>BRIAN FOX</b>	<b>Tillage:</b>	Fall-Plow Spring – Field Cultivated
<b>Location:</b>	Kent County (Wallaceburg)	<b>Harvest Date:</b>	11/07/2003
<b>Planting Date:</b>	4/19/2003	<b>Type of Harvester:</b>	
<b>Soil Type:</b>		<b>Replicated:</b>	
<b>Previous Crop:</b>	Corn	<b>Herbicides:</b>	1 <sup>st</sup> Application – Standard Microrate plus Dual, banded 2 <sup>nd</sup> , 3 <sup>rd</sup> and 4 <sup>th</sup> Application – Standard Microrate, Banded
<b>Row Spacing:</b>	22 Inches	<b># of Rows Harvested:</b>	
<b>Fertilizer:</b>	Fall – 200# 0-0-60 Spring – 150# of 0-0-60 Side Dressed: 100 lbs. of acN	<b># Defoliated:</b>	
		<b>Fungicide:</b>	1 <sup>st</sup> Application – 55 DSV's - Headline 2 <sup>nd</sup> Application at 110 DSV's - Senator

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 DAY	20 DAY	30 DAY	HARVEST
<b>C-963</b>	<b>10307</b>	<b>34.87</b>	<b>294.2</b>	<b>19.81</b>	<b>94.79</b>	–	–	<b>236</b>	<b>202</b>
B-5310	10196	35.52	287	19.51	94.50	–	–	264	212
<b>B-5451</b>	<b>9981</b>	<b>35.70</b>	<b>278</b>	<b>18.72</b>	<b>94.94</b>	–	–	<b>249</b>	<b>211</b>
B-5736	9893	34.07	288	19.55	94.49	–	–	248	204
<b>E-17</b>	<b>9460</b>	<b>34.11</b>	<b>277</b>	<b>18.70</b>	<b>95.01</b>	–	–	<b>262</b>	<b>230</b>
Prompt	9087	33.71	276	18.77	94.76	–	–	267	233
						–	–		
<b>AVERAGE</b>	<b>9821</b>	<b>34.66</b>	<b>284</b>	<b>19.18</b>	<b>94.75</b>	–	–	<b>254</b>	<b>215</b>
<b>LSD (5%)</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	–	–	<b>10.9</b>	<b>14.4</b>
<b>C.V. (%)</b>	<b>7.2</b>	<b>2.8</b>	<b>5.8</b>	<b>4.5</b>	<b>.6</b>	–	–	<b>2.4</b>	<b>3.7</b>

#### Comments:

#### Cooperating Agriculturist(s):

Wayne Martin – Michigan Sugar Company  
Janice LeBoeuf – Ridgetown College

**Michigan Sugar Company**  
 Sugarbeet Varieties Approved for the 2004 Planting  
 Data From Official Variety Trials in 2001, 2002 and 2003

Fully Approved Varieties	RWSA	Tons/Acre	RWST	% SUC	% CJP	% Emer	Cerc	LS	RA	RHIZ	APH	RZM
<b>B-5451</b>	6723	25.37	265.0	18.4	93.5	56	94	G	E	F	E	
<b>C-963</b>	6691	25.27	264.8	18.4	93.6	55	107	F	E	F	E	
<b>B-5310</b>	6656	25.30	263.1	18.3	93.6	57	85	E	E	F	E	
<b>HM-2761 Rz</b>	6543	25.50	256.6	18.0	93.4	61	103	F	G	F	E	E
<b>B-5736</b>	6336	23.97	264.0	18.6	93.2	51	86	E	E	G	P	
<b>HM E-17</b>	6313	23.77	265.6	18.5	93.7	63	113	P	G	P	G	
<b>SX Prompt</b>	6148	23.67	259.4	18.2	93.2	63	104	F	E	F	E	
<b>C-648*</b>	6160	23.37	263.6	18.4	93.5	55	94	G	P	P	G	
<b>C-319*</b>	6173	23.47	263.0	18.3	93.2	56	92	G	P	P	P	
<b>B-5823*</b>	6040	23.17	260.7	18.1	93.3	50	101	F	P	P	P	

Specialty Varieties	RWSA	Tons/Acre	RWST	% SUC	% CJP	% Emer	Cerc	LS	RA	RHIZ	APH	RZM
<b>HM-7172 Rz Rzm</b>	6288	24.60	255.6	18.2	93.2	58	85	E	P	G	?	E
<b>HM RH-5 Rhiz</b>	6264	23.77	263.5	18.3	93.7	59	107	F	P	G	P	
<b>HM E-33* Rhiz</b>	5964	22.27	267.8	18.6	93.7	61	101	F	P	F	P	
<b>HM E4* RA</b>	5726	23.20	246.8	17.3	93.0	61	90	G	E	P	P	
<b>C-1353 Rhiz/RA</b>	5485	21.80	251.6	17.7	93.3	56	85	E	E	E	F-G	

Limited Approval Varieties	RWSA	Tons/Acre	RWST	% SUC	% CJP	% Emer	Cerc	LS	RA	RHIZ	APH	RZM
<b>C-271</b>	6460	24.77	260.8	18.2	93.4	60	96	G	G	?	?	
<b>HM2763 Rz</b>	6355	24.33	261.2	18.1	93.8	61	105	F	G	?	?	G-E
<b>B BK-1165</b>	6455	24.80	260.3	18.4	93.0	57	97	G	G	G	?	
<b>HM-2767</b>	6359	23.87	266.4	18.4	93.8	62	103	F	P	?	?	
<b>B BK-1166</b>	6291	23.83	264.0	18.4	92.9	49	65	E	P	G	?	

\* Last Year to Plant is 2005

**Rhiz = Rhizoctonia, RA = Root Aphid, APH = Aphanomyces, RZM = Rhizomania**

**Michigan Sugar Company**  
**Plant To Stand Trials**  
**Average of Four Locations – 2003**

Variety	RWSA	Tons/ Acre	RWST	% Suc	% CJP	% Emer.
Beta 5451	6986	24.53	284.8	19.48	94.2	75.2
Beta 5310	6909	24.04	287.4	19.71	94.1	80.8
Crystal 963	6857	24.00	285.7	19.61	94.1	77.4
HM-2761 Rz.	6682	23.88	279.8	19.39	93.6	76.6
HM RH-5	6539	22.92	285.3	19.62	94.0	80.3
Beta 5736	6514	22.58	288.5	19.82	94.0	74.2
HM E-17	6413	22.26	288.1	19.73	94.1	79.8
SX Prompt	6253	22.69	275.6	19.14	93.6	80.9
HM E-33	5947	20.62	288.4	19.71	94.2	76.0
Crystal 1353	5349	19.68	271.8	18.88	93.6	72.3
<b>LSD (P = .05)</b>	<b>345</b>	<b>1.1</b>	<b>4.9</b>	<b>0.31</b>	<b>0.3</b>	<b>4.3</b>
<b>CV</b>	<b>3.7</b>	<b>3.2</b>	<b>1.2</b>	<b>1.1</b>	<b>0.2</b>	<b>3.9</b>
<b>Grand Mean</b>	<b>6441</b>	<b>22.72</b>	<b>283.5</b>	<b>19.51</b>	<b>93.9</b>	<b>77.3</b>
<b>Treatment Prob (F)</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0008</b>	<b>0.0023</b>

**Plot Size:**            **2 Rows x 35 Feet**        **Reps: 6**

**Dave Russell:**    Planted April 23<sup>rd</sup>, Harvested November 8<sup>th</sup>,  
 Trial Quality was **EXCELLENT**.

**Don Stecker:**     Planted April 25<sup>th</sup>, Harvested October 10<sup>th</sup>,  
 Trial Quality was **FAIR to GOOD**.

**Joel Weber:**        Planted April 30<sup>th</sup>, Harvested October 22<sup>nd</sup>,  
 Trial Quality was **VERY GOOD**.

**Brent Maust:**      Planted April 27<sup>th</sup>, Harvested October 13<sup>th</sup>,  
 Trial Quality was **GOOD**.

**2003**  
**Monitor Sugar Company**  
**Official Variety Trial**  
**Average of Three Years**  
**Sorted by RWSA**

Variety	RWSA	% Sugar	RWST	Tons / Acre	% Purity	Beets/ 100'at Harvest	% (1) Emer.	Leaf Spot*
Crystal 963	6306	17.99	256.2	24.70	93.26	129.0	51.0	3.1
Beta 5451	6257	17.84	254.0	24.73	93.24	129.9	52.0	2.8
Beta 5374	6218	17.89	254.2	24.58	93.20	131.1	52.3	3.3
Beta 5310	6178	17.78	252.1	24.61	93.11	128.8	52.5	2.4
Holly HH-135	6153	18.08	260.6	23.62	93.79	136.2	52.3	3.9
HM 2761 Rz	6080	17.39	244.7	24.98	92.82	134.8	57.3	3.0
Beta 5736	5961	18.11	255.3	23.48	92.77	126.2	48.6	2.5
HM RH-5	5838	17.78	252.9	23.16	93.24	132.4	55.7	3.0
HM E-17	5836	17.94	255.5	22.91	93.26	132.2	58.1	3.2
SX 1225	5830	18.00	254.2	23.00	92.89	129.9	54.2	3.4
HM E-38	5816	17.88	254.0	22.94	93.16	133.4	59.4	3.3
SX Prompt	5604	17.57	246.5	22.83	92.63	132.9	58.6	3.0
Crystal 913	5542	17.33	241.9	23.08	92.45	125.7	49.3	3.1
HM E-33	5540	18.07	258.2	21.53	93.40	131.3	56.3	2.8
SX Spartan	5472	17.81	253.1	21.70	93.17	126.4	54.6	3.1
Crystal 1353	5017	17.02	238.3	21.18	92.66	125.5	53.7	2.4
<b>Mean</b>	<b>5853</b>	<b>17.78</b>	<b>252.0</b>	<b>23.31</b>	<b>93.07</b>	<b>130.4</b>	<b>54.1</b>	<b>3.0</b>

\* Lower Number Means More Resistant.

# 2003

## Monitor Sugar Company

### Space Plant

#### Average of Two Years

Treatment	RWSA	% Sugar	RWST	Tons / Acre	% Purity	Beets/ 100'at Harvest	% Emer.	Leaf Spot*
Crystal 963	5463	17.3	243.3	22.4	92.72	127.8	67.3	3.5
Beta 5451	5272	17.1	238.9	22.0	92.55	119.3	63.5	3.3
HM RH-5	5112	16.9	235.7	21.6	92.63	132.1	66.7	3.5
SX Prompt	5045	17.1	236.6	21.4	92.20	146.2	74.9	3.3
HM E-17	5042	17.4	244.7	20.6	92.86	134.7	70.1	3.7
HM E-38	4995	17.2	239.6	20.9	92.55	138.8	71.5	3.8
Beta 5736	4990	17.5	243.2	20.5	92.20	107.0	57.6	3.1
HM E-33	4983	17.6	248.8	20.1	93.10	136.3	68.6	3.2
Crystal 913	4832	16.5	228.0	21.2	92.22	122.4	67.8	3.5
SX Spartan	4501	17.2	240.9	18.7	92.74	116.8	67.7	3.6
Crystal 1353	4386	16.3	225.0	19.5	92.10	116.4	61.7	2.9
<b>Means</b>	<b>4965</b>	<b>17.1</b>	<b>238.6</b>	<b>20.8</b>	<b>92.53</b>	<b>127.1</b>	<b>67.0</b>	<b>3.4</b>

**Quadris applied for Rhizoctonia Control**  
**2002 - (6-10 Leaf)**  
**2003 - (4-8 Leaf)**

\* Lower numbers means more resistant.

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## NITROGEN TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>JOEL GREMEL</b>	<b>Soil Type:</b>	Clay Loam
<b>Location:</b>	Huron County	<b>Row Spacing:</b>	28 Inches
<b>Planting Date:</b>	4/27/2003	<b>Row Length:</b>	915 to 1,125 Ft. Varied
<b>Harvest Date:</b>	10/17/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	1/3 RH-5 and 2/3 E-17 Blend	<b>Herbicides:</b>	Pyramin Pre-plant
<b>Previous Crop:</b>	Wheat	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Plow    Spring – Field Cultivated	<b># of Rows Harvested:</b>	6
<b>Fertilizer:</b>	Fall – Variable Rate: Potash 620# average and MAP 288# average.	<b># Defoliated:</b>	6
	Pre-Side Dress Nitrate Test: NITRATE CREDIT = 59#	<b>Fungicide:</b>	Headline and Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>220 lbs.</b>	<b>7006</b>	<b>25.32</b>	<b>277</b>	<b>18.39</b>	<b>94.9</b>
170 lbs.	6625	25.00	265	17.54	94.7
<b>70 lbs.</b>	<b>6375</b>	<b>24.21</b>	<b>263</b>	<b>17.97</b>	<b>95.2</b>
120 lbs.	6232	24.02	259	17.66	95.0
<b>20lbs. (Ave. Var. Rate)</b>	<b>6163</b>	<b>22.53</b>	<b>274</b>	<b>18.21</b>	<b>95.1</b>
<b>AVERAGE</b>	<b>6480</b>	<b>24.22</b>	<b>268</b>	<b>17.95</b>	<b>95.0</b>
<b>LSD (5%)</b>	<b>615</b>	<b>1.09</b>	<b>27 N.S.</b>	<b>1.36 N.S.</b>	<b>0.6 N.S.</b>
<b>C.V. (%)</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>1</b>

**Comments:** Nitrogen Rate is Variable Rate of MAP (Averaged 20 lbs. of N + Side Dress Applications). Trial was conducted to look at the effect of Nitrogen on yield and quality of sugar beets. This field had no recent history of sugar beets. Base Rate + 200# treatment had the highest RWSA. Sugar beet quality did decrease as the Nitrogen Rate increased except for the very high rate which was contrary to the trend.

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Jeff Elston - Michigan Sugar Company

# MICHIGAN SUGAR COMPANY

## NITROGEN TRIALS

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>D &amp; B KARG FARMS</b>	<b>Tillage:</b>	Fall- Plow Spring – 1X Field Cultivate
<b>Location:</b>	Huron County (Harbor Beach)	<b>Harvest Date:</b>	11/06/2003
<b>Variety:</b>	B-5736	<b>Type of Harvester:</b>	Artsway
<b>Planting Date:</b>	4/25/2003	<b>Herbicides:</b>	Microrates 2x & 3 pt. of Betamix Broadcast
<b>Previous Crops:</b>	Wheat and Corn	<b>Replicated:</b>	2x
<b>Soil Type:</b>	Loam	<b># of Rows Harvested:</b>	6
<b>Row Spacing:</b>	30 Inches	<b># Defoliated:</b>	6
<b>Row Length:</b>	1144 Feet (Corn) 1130 Feet (Wheat)	<b>Fungicide:</b>	7/23 - Quadris 8/13 - Eminent
<b>Fertilizer:</b>	500# of 0-0-60 Starter – 240 lbs. of 7-32-9 In Furrow = 3 gal. of Alpine		

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>CORN</b>					
100# Actual N	7370	26.71	276	19.24	93.4
125# Actual N	6646	25.23	263	18.32	93.6
150# Actual N	7290	26.44	276	19.46	92.9
175# Actual N	6753	26.25	257	18.49	92.2
<b>Average</b>	<b>7015</b>	<b>26.16</b>	<b>268</b>	<b>18.88</b>	<b>93.0</b>
<b>LSD (5%)</b>	<b>NS 1430</b>	<b>NS 2.08</b>	<b>NS 42</b>	<b>NS 1.77</b>	<b>NS 2.5</b>
<b>C.V. (%)</b>	<b>6</b>	<b>2.5</b>	<b>5</b>	<b>3</b>	<b>.9</b>
<b>WHEAT</b>					
100# Actual N	6787	24.39	278	19.40	93.4
125# Actual N	6388	23.68	270	19.16	92.6
150# Actual N	6859	24.17	284	19.73	93.5
175# Actual N	6614	24.00	276	19.34	93.1
<b>Average</b>	<b>6662</b>	<b>24.06</b>	<b>277</b>	<b>19.41</b>	<b>93.2</b>
<b>LSD (5%)</b>	<b>NS 941</b>	<b>NS .56</b>	<b>NS 42</b>	<b>NS 2.13</b>	<b>NS 1.7</b>
<b>C.V. (%)</b>	<b>4.4</b>	<b>.7</b>	<b>4.8</b>	<b>3.4</b>	<b>.57</b>

#### Comments:

#### Cooperating Agriculturist(s):

Lewis Parks - Michigan Sugar Company  
Corey Guza, Chief Agronomist – Michigan Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
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Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
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## NITROGEN TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>YODER FARMS</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County (Bay Port)	<b>Row Spacing:</b>	20 Inches
<b>Planting Date:</b>	4/26/2003	<b>Row Length:</b>	860 Feet
<b>Harvest Date:</b>	10/31/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Prompt	<b>Herbicides:</b>	Microrates 4x Broadcast 2x Banded 2x + DUAL
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	60# N Pre-plant = BASE RATE	<b># Defoliated:</b>	8
	Pre-Side Dress Nitrate Test: NITRATE CREDIT = 65#	<b>Fungicide:</b>	07/14 – Eminent 08/09 – Topsin + EDBC 09/01 - Headline

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>60 lbs.</b>	<b>6038</b>	<b>22.29</b>	<b>271</b>	<b>18.8</b>	<b>95.1</b>
110 lbs.	6020	22.54	268	18.7	94.5
<b>210 lbs.</b>	<b>5888</b>	<b>23.13</b>	<b>255</b>	<b>17.8</b>	<b>93.8</b>
160 lbs.	5840	22.57	258	18.1	94.2
<b>AVERAGE</b>	<b>5947</b>	<b>22.63</b>	<b>263</b>	<b>18.3</b>	<b>94.4</b>
<b>LSD (5%)</b>	NS 1184	NS 1.56	32 N.S.	1.1 N.S.	1.6 N.S.
<b>C.V. (%)</b>	<b>10</b>	<b>3</b>	<b>6</b>	<b>3</b>	<b>1</b>

**Comments:** Trial was conducted to look at the impact of Nitrogen on yield and quality of sugar beets. Nitrogen Rate is 60# pre-plant plus side dress applications. No manure applied. Base Rate of Nitrogen provided the most economical return. Results show a trend for improved beet quality with lower Nitrogen rates.

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company



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## NITROGEN TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>STEVE HOARD</b>	<b>Soil Type:</b>	Poseyville & Londo Loams
<b>Location:</b>	Midland County (Wheeler)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	5/15/2003	<b>Row Length:</b>	1,200 Feet
<b>Harvest Date:</b>	10/26/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Beta 5310	<b>Herbicides:</b>	Nortron-pre Microrates 4x – Post
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	6
<b>Fertilizer:</b>	22 Gal. of 8-18-5 and 250# of 0-0-60	<b># Defoliated:</b>	6
	Pre-Side Dress Nitrate Test: NITRATE CREDIT = 49#	<b>Fungicide:</b>	8/14 - Headline

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>20 lbs.</b>	<b>3901</b>	<b>13.87</b>	<b>281</b>	<b>19.45</b>	<b>93.7</b>
70 lbs.	3524	12.81	275	18.90	93.5
<b>120 lbs.</b>	<b>3464</b>	<b>12.55</b>	<b>276</b>	<b>18.92</b>	<b>93.6</b>
220 lbs.	3323	12.82	259	18.40	92.7
<b>170 lbs.</b>	<b>3284</b>	<b>12.67</b>	<b>259</b>	<b>18.28</b>	<b>92.8</b>
<b>AVERAGE</b>	<b>3499</b>	<b>12.94</b>	<b>270</b>	<b>18.79</b>	<b>93.3</b>
<b>LSD (5%)</b>	<b>310</b>	<b>.82</b>	<b>14</b>	<b>.81</b>	<b>.7</b>
<b>C.V. (%)</b>	<b>5</b>	<b>3.4</b>	<b>3</b>	<b>2</b>	<b>.4</b>

**Comments:** Nitrogen Rate is Starter Nitrogen plus Side Dress Applications. Trial was conducted to look at the impact of Nitrogen on yield and quality of sugar beets. No manure was applied. Nitrogen Base Rate was approximately 20 lbs. from the Starter Fertilizer. A severe infection of Rhizoctonia Crown Rot reduced the number of plants per acre. The Base Rate treatment provided the most economical return under this high disease scenario.

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Dave Bailey - Michigan Sugar Company

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## NITROGEN TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** MICHAEL HOUGHTAILING  
**Location:** Tuscola County (Reese)  
**Planting Date:** 4/15/2003  
**Harvest Date:** 11/10/2003  
**Variety:** C-963  
  
**Previous Crop:** Corn  
**Tillage:** Fall – Chisel  
Spring – Field Cultivated  
**Fertilizer:** Fall – N-60# = BASE RATE  
0-0-60 Variable Rate

**Soil Type:** Loam  
**Row Spacing:** 28 Inches  
**Row Length:** 2500 Feet  
**Type of Harvester:** Parma  
**Herbicides:** Microrates 4x + Dual  
Magnum @ 1.33 pt/acre  
**Replicated:** 3x  
**# of Rows Harvested:** 6  
**# Defoliated:** 6  
**Fungicide:** 07/10 – Headline  
08/12 - Eminent

Pre-Side Dress Nitrate Test:  
NITRATE CREDIT = 65#

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>210 lbs.</b>	<b>5987</b>	<b>21.51</b>	<b>278</b>	<b>19.18</b>	<b>94.1</b>
160 lbs.	5951	20.71	287	19.63	94.4
<b>110 lbs.</b>	<b>5923</b>	<b>20.70</b>	<b>286</b>	<b>20.01</b>	<b>94.3</b>
60 lbs. (Fall)	5839	19.59	298	20.19	94.4
<b>260 lbs.</b>	<b>5825</b>	<b>20.77</b>	<b>280</b>	<b>19.33</b>	<b>94</b>
<b>AVERAGE</b>	<b>5905</b>	<b>20.66</b>	<b>286</b>	<b>19.67</b>	<b>94.2</b>
<b>LSD (5%)</b>	<b>NS 401</b>	<b>.97</b>	<b>13</b>	<b>.58</b>	<b>NS 0.6</b>
<b>C.V. (%)</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>

**Comments:** Nitrogen Rate is Fall applied (N + Side Dress Applications). Trial was conducted to look at the impact of nitrogen on yield and quality of sugar beets after corn. The nitrogen BASE RATE was 60# fall applied to high residue corn stalks. The BASE RATE tonnage was significantly less than the other treatments. The RWSA did not vary significantly in any treatment. The quality of sugar beets tends to increase as the rate of nitrogen decreases.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Jeff Karst - Michigan Sugar Company

# Michigan State University Extension

## Sugar Beet Nitrogen Trials – 2003

County	Treatment	Nitrogen Rate	RWSA	Actual Yield	RWST	% Sugar	Income Less N Cost
<b>Saginaw</b> (Riverside Farms)	High	160	5847	21.4	274	18.49	702.57
	Low	110	5382	19.6	274	18.34	656.01
<b>Midland</b> (Shaffner Farms)	High	160	6216	23.2	268	18.44	749.43
	Low	100	5975	22.2	269	18.73	733.83
<b>Tuscola</b> (Schiefer Farms) *****	High	200	6617	27.7	240	17.04	790.36
	Low	150	7234	27.8	260	17.87	881.22
<b>Tuscola</b> (Russell Farms)	High	150	7313	24.7	296	20.68	891.25
	Low	100	7687	24.7	311	21.36	951.25
<b>Sanilac</b> (Decker Farms)	High	174	7115	27.6	258	17.70	860.11
	Low	150	7260	27.5	265	18.13	884.52
<b>Huron</b> (K & D Acres) *****	High	162	6109	24.9	246	17.20	735.34
	Low	112	5934	25.0	237	16.65	725.62
<b>Ontario</b> (Ross Farms)	High	150	8440	30.9	273	18.97	1034.38
	Low	95	8576	31.6	272	18.94	1065.40
<b>Ontario</b> (Ross Farms)	High	200	8245	31.7	273	18.3	997.12
	Low	150	8440	30.9	260	18.97	1034.38
<b>AVERAGE</b>	<b>High</b>	<b>170</b>	<b>6988</b>	<b>26.51</b>	<b>266</b>	<b>18.35</b>	<b>845.07</b>
	<b>Low</b>	<b>121</b>	<b>7067</b>	<b>26.16</b>	<b>269</b>	<b>18.62</b>	<b>866.53</b>

\*\*\*\*\* = Manure Was Applied In the Fall, Previous To This Beet Crop.

Income = (RWSA x \$0.127) – (lbs. N x \$ 0.25)

**Comments:** Strip trials were established in multiple locations to look at the impact of yield and quality of beets by reducing Nitrogen by approximately 50 lbs. per acre. Most rates were reduced from what an individual grower would consider their normal rate. The Sanilac County trial reduced Nitrogen by 24 lbs. per acre. This trial indicates that growers may be able to reduce Nitrogen from an average of 170 lbs. per acre to an average of 121 lbs. per acre (49 lbs.), without significantly effecting yield. Increased Revenue by reducing Nitrogen and increasing Sugar per acre would be \$21.50.

**Cooperators:** Trial was conducted under the direction of Mark Seamon, Saginaw County Agricultural Extension Agent and in cooperation with Huron and Tuscola County Extension Agents, Agriculturists and Ontario Ministry of Agriculture, Janice LeBeouf, Vegetable Crop Specialist.

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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>BUSHEY FARMS</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County (Filion Road)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/26/03	<b>Row Length:</b>	1150 Feet
<b>Harvest Date:</b>	10/21/2003	<b>Type of Harvester:</b>	Red River
<b>Variety:</b>	E-4	<b>Herbicides:</b>	Microrates 3x
<b>Previous Crop:</b>	Corn Silage	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	Fall – 750# of Gypsum = 9000 gal of manure. 25 gal of 28% N – Side dress	<b># Defoliated:</b>	8
<b>Soil Test:</b>	P ppm = 67 K ppm = 182 (2.9%) Ca ppm = 2437 (76.4%) Mg ppm = 395 (20.6%) O.M.: 3.0      CEC: 15.9      pH: 7.7	<b>Fungicide:</b>	7/23 – Headline 8/19 - Eminent

### Ag Spectrum Starter-12.8oz of Grozyme+ 3 gal of Clean Start (8-19-3)+4# of Kickoff

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
CHECK	5522	21.46	257	17.89	94.9	42	148	163	-
Ag Spectrum	5476	22.05	248	17.24	94.4	29	142	157	-
<b>AVERAGE</b>	5499	21.75	253	17.46	94.7	36	145	160	-
LSD (5%)	N.S. 253	.56	NS 10	.63	.4	7	NS 24	NS 15	-
C.V. (%)	2	1	2	1.6	.2	8	7	4	-

**Comments:** Trial was conducted to look at the affect of Starter Fertilizer on emergence and yield. Ag Spectrum was applied In Furrow at 3 gallons per acre. Starter appeared to delay emergence at the 10 day stand count. A slight yield advantage appears with Starter but is not significant when comparing RWSA.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>BUSHEY FARMS</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County (Kinde Road)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/27/2003	<b>Row Length:</b>	1150 Feet
<b>Harvest Date:</b>	10/21/2003	<b>Type of Harvester:</b>	Red River
<b>Variety:</b>	RH-5	<b>Herbicides:</b>	Honcho pre-emergence
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x Spring – Stale Seed Bed	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	Fall – 750# of Gypsum 8 gal of 28% N – Side dress	<b># Defoliated:</b>	8
<b>Soil Test:</b>	P ppm = 41 K ppm = 172 (3.1%) Ca ppm = 2264 (79%) Mg ppm = 308 (17.9%) O.M.: 2.1      CEC: 14.3      pH: 8.1	<b>Fungicide:</b>	7/23 – Headline 8/19 - Eminent

**Ag Spectrum Starter – 12.8 oz. of Grozyme + 3 Gallons of Clean Start (8-19-3) + 4 lbs. of Kickoff.**

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWS T	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	16 Day	30 Day	Harvest
AG SPECTRUM+28% N	4454	17.80	250	16.56	95.4	0	109	-	-
AG SPECTRUM	4141	16.17	257	17.04	95.7	0	112	-	-
CHECK	3877	15.43	251	16.59	95.8	0	117	-	-
28% NITROGEN	3802	16.45	231	15.74	95.9	0	111	-	-
<b>AVERAGE</b>	<b>4068</b>	<b>16.46</b>	<b>247</b>	<b>16.48</b>	<b>95.7</b>	<b>0</b>	<b>112</b>	<b>-</b>	<b>-</b>
LSD (5%)	636	2.02	15	.81	.4	0	NS 41	-	-
C.V. (%)	10	7.7	4	3	.3	0	23	-	-

**Comments:** Trial was conducted to look at the affect of Starter Fertilizer and/or additional Nitrogen on emergence, yield and quality of sugar beets. Ag Spectrum (8-19-3) was applied In Furrow at 3 gallons per acre. 28% Nitrogen was applied in a 2 X 2 band at 25 gallons per acre during planting. The Ag Spectrum + 28% N combination did give a significant yield advantage in tonnage over the Check strips. The difference in RWSA between Ag Spectrum + 28%N and the Check strips was not significant.

**Trial Reliability: Fair**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** BUSHEY FARMS  
**Location:** Huron County (Limerick Road)  
**Planting Date:** 4/26/2003  
**Harvest Date:** 10/01/2003  
**Variety:** E-17  
**Previous Crop:** Dry Beans  
**Tillage:** Fall – Chisel Spring – Field Cultivated 1x  
**Fertilizer:** Fall – 750# of Gypsum

**Soil Type:** Loam  
**Row Spacing:** 22 Inches  
**Row Length:** 1160 Feet  
**Type of Harvester:** Red River  
**Herbicides:** Microrates 4x  
**Replicated:** 4x  
**# of Rows Harvested:** 8  
**# Defoliated:** 8  
**Fungicide:** 7/23 – Headline  
 8/14 - Eminent

**Ag Spectrum Starter-12.8oz of Grozyme+ 3 gal of Clean Start (8-19-3)+4# of Kickoff**

TREATMENT NAME	RWS A	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
AG SPECTRUM + 28%	6086	22.98	265	18.06	94.6	31	175	-	-
AG SPECTRUM	5793	22.01	263	18.05	95.0	31	182	-	-
28%	5695	21.51	265	17.92	94.6	44	166	-	-
CHECK	5542	21.09	263	18.28	94.8	37	167	-	-
<b>AVERAGE</b>	<b>5779</b>	<b>21.89</b>	<b>264</b>	<b>18.08</b>	<b>94.7</b>	<b>36</b>	<b>173</b>	<b>-</b>	<b>-</b>
<b>LSD (5%)</b>	NS 603	1.18	NS 19	NS 1.13	NS .9	NS 22	NS 41	-	-
<b>C.V. (%)</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>.6</b>	<b>38</b>	<b>15</b>	-	-

**Comments:** Trial was conducted to look at the affect of Starter Fertilizer and/or additional Nitrogen on emergence, yield and quality of sugar beets. Ag Spectrum (8-19-3) was applied at 3 gallons per acre In Furrow. The 28% Nitrogen was applied at 25 gallons per acre in a 2 X 2 placement at planting. The Ag Spectrum + 28% N combination gave a higher tonnage than the Check but the difference in RWSA was not significant.

**Trial Reliability: Very good**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>BUSHEY FARMS</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County (Pinnebog Road)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/25/2003	<b>Row Length:</b>	1200 Feet
<b>Harvest Date:</b>	10/18/2003	<b>Type of Harvester:</b>	Red River
<b>Variety:</b>	E-4	<b>Herbicides:</b>	Honcho pre-emergence Microrates 3x
<b>Previous Crop:</b>	Corn Silage	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	Fall – 750# of Gypsum & 9000 Gal. of Manure Starter: 10 Gal. of 28% N Side Dress: 30 gal. of 28% N	<b># Defoliated:</b>	8
		<b>Fungicide:</b>	7/23 – Headline 8/19 - Eminent

**Ag Spectrum Starter-12.8 oz of Grozyme+3 gal of Clean Start (8-19-3)+4# of Kickoff**

TREATMENT NAME	RWS A	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
Ag Spectrum	6603	25.90	255	17.21	95.2	37	123	141	-
CHECK	6312	25.28	250	17.19	94.8	39	121	132	-
<b>AVERAGE</b>	<b>6457</b>	<b>25.59</b>	<b>252</b>	<b>17.20</b>	<b>95.0</b>	<b>38</b>	<b>122</b>	<b>136</b>	<b>-</b>
<b>LSD (5%)</b>	NS	NS	NS	NS	NS	NS	NS	NS	-
	983	2.51	38	1.22	1.6	31	22	44	
<b>C.V. (%)</b>	<b>7</b>	<b>4</b>	<b>7</b>	<b>3</b>	<b>.7</b>	<b>36</b>	<b>8</b>	<b>14</b>	<b>-</b>

**Comments:** Trial was conducted to look at the affect of Starter Fertilizer on emergence and yield. Ag Spectrum was applied In Furrow at 3 gallons per acre. No significant differences occurred between any treatments.

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>MAURER FARMS, INC.</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County – Harbor Beach	<b>Row Spacing:</b>	28 Inches
<b>Planting Date:</b>	4/25/2003	<b>Row Length:</b>	2155 Feet
<b>Harvest Date:</b>	10/20/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Prompt	<b>Herbicides:</b>	Microrates 2x
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Vee Ripped Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	6
<b>Fertilizer:</b>	P ppm = 76	<b># Defoliated:</b>	6
<b>Soil Test:</b>	K ppm = 100 (2.6%) Ca ppm = 1498 (75.1%) Mg ppm = 267 (22.3%) O.M.: 2.6      CEC: 10.0      pH: 7.7	<b>Fungicide:</b>	6/24 – Quadris 8/09 - Eminent

**Fertilizer:** 180# OF 0-0-60 variable rated 200# of 11-4-9 + micros 2X2 180# of N side dressed  
**In furrow: 3 gal of 10-34-0**

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
CHECK	5611	23.35	241	16.63	94.1	162	178	175	-
10-34-0	5342	23.41	229	16.02	94.1	134	154	154	-
<b>AVERAGE</b>	<b>5476</b>	<b>23.38</b>	<b>235</b>	<b>16.33</b>	<b>94.1</b>	<b>148</b>	<b>166</b>	<b>165</b>	<b>-</b>
LSD (5%)	NS 573	NS 1.67	NS 17	NS 1.28	NS .6	NS 47	NS 65	NS 67	-
C.V. (%)	5	3	3	3.5	.3	14	18	18	-

**Comments:** This trial was conducted to look at the affect of Starter Fertilizer on emergence and yield. Three gallons of 10-34-0 was applied In Furrow at planting. No significant differences occurred in any comparisons. Trend does occur in slowed emergence.

**Trial Reliability: Very Good**

**Cooperating Agriculturist(s):** Bob Corrigan - Michigan Sugar Company



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## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>JACK AND TERRY STURM</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County – (Pigeon)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/24/2003	<b>Row Length:</b>	1095 Feet
<b>Harvest Date:</b>	10/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	E-17 and RH-5 Blend	<b>Herbicides:</b>	2# Pyramin-pre Microrates 3x
<b>Previous Crop:</b>	Corn	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	Broadcast - 703# of 22-4-21 Alpine – 3 Gal. of 6-24-6 In Furrow KTonic – also In Furrow	<b># Defoliated:</b>	8
<b>Soil Test:</b>	P ppm = 74 K ppm = 149 (2.7%) Ca ppm = 2168 (75.6%) Mg ppm = 373 (21.7%) O.M.: 2.8    CEC: 14.3    pH: 7.4	<b>Fungicide:</b>	7/09 – Headline 8/08 - Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	CJP %	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
<b>ALPINE +KTONIC</b>	<b>6666</b>	<b>24.40</b>	<b>273</b>	<b>18.45</b>	<b>94.1</b>	<b>18</b>	<b>145</b>	<b>150</b>	<b>-</b>
ALPINE	6550	23.31	281	18.75	94.3	21	129	127	-
CHECK	<b>6287</b>	<b>23.24</b>	<b>271</b>	<b>18.35</b>	<b>94.3</b>	<b>22</b>	<b>116</b>	<b>119</b>	<b>-</b>
<b>AVERAGE</b>	<b>6501</b>	<b>23.65</b>	<b>275</b>	<b>18.52</b>	<b>94.2</b>	<b>20</b>	<b>130</b>	<b>132</b>	<b>-</b>
<b>LSD (5%)</b>	NS 435	1.03	NS 12	NS 1.02	NS .4	NS 36	NS	NS	-
<b>C.V. (%)</b>	<b>4</b>	<b>2.7</b>	<b>3</b>	<b>3.4</b>	<b>.3</b>	<b>41</b>	-	-	-

**Comments:** Trial was conducted to look at the effect of Starter Fertilizer on emergence, quality and yield of sugar beets. Field had some crusting and difficulty in emergence. No significant differences were noted in RWSA between treatments. The actual tonnage yield per acre may be significantly different with the Alpine + KTonic Treatment.

**Trial Reliability: Good**

**Cooperating Agriculturist(s):** Roger Elston - Michigan Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>HUMPERT (R &amp; R Farms)</b>	<b>Soil Type:</b>	-
<b>Location:</b>	Tuscola County – (Fairgrove)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/24/2003	<b>Row Length:</b>	825 Feet
<b>Harvest Date:</b>	10/24/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Prompt	<b>Herbicides:</b>	Microrates 3x
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	6x
<b>Tillage:</b>	Fall – Chisel    Spring – Secondary Tillage 1x	<b># of Rows Harvested:</b>	8
<b>Soil Test:</b>	P ppm = 33 K ppm = 115 (1.5%) Ca ppm = 2935 (77.1%) Mg ppm = 489 (21.4%) O.M.: 3.9      CEC: 19.0      pH: 7.7	<b># Defoliated:</b>	8
		<b>Fungicide:</b>	Quadris at 4-6 leaves for Rhizoctonia Control 7/18 – Eminent 8/13 - Headline

**Starter:** In-furrow = 4 gal of Alpine 6-24-6 + Alpine micros + 1 qt of Stoller Extra Power plus 17 gal 2 X 2 = 5 gal Alpine Custom Premium Blend + 12 gal of 28% N

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	13 Day	20Day	30 Day
CHECK	6027	20.93	288	19.23	93.9	72	194	216	222
STARTER	5570	21.18	263	18.45	94.1	49	171	212	221
<b>AVERAGE</b>	<b>5799</b>	<b>21.06</b>	<b>275</b>	<b>18.84</b>	<b>94.0</b>	<b>61</b>	<b>183</b>	<b>214</b>	<b>222</b>
LSD (5%)	285	NS .73	14	.40	NS .6	10	14	NS 13	NS 11
C.V. (%)	3	2.3	3	1.4	.4	11	5	4	3

**Comments:** Trial was conducted to look at the effect of Starter Fertilizer on emergence, yield and quality of sugar beets. Starter Fertilizer strips received 4 gallons of Alpine 6-24-6 plus additives In Furrow and a 2 X 2 application of 12 gallons of 28% Nitrogen blended with 5 gallons of Alpine Custom Premium Blend. Check strips received neither. Early season growth was visually enhanced by the Starter and Nitrogen 2x2. Emergence in the Starter strips was delayed by a day or two compared to Check strips. The Starter improved tonnage slightly but reduced Recoverable Sugar per acre by more than \$58.00. The additional 40# of Nitrogen in 2 X 2 Starter is probably responsible for reducing RWSA.

**Trial Reliability: Excellent**

**Cooperating Agriculturalist(s):** Jeff Karst - Michigan Sugar Company

# SUGARBEET ADVANCEMENT

## STARTER FERTILIZER TRIAL

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** LAKKE EWALD FARMS  
**Location:** Tuscola County – Unionville  
**Planting Date:** 4/24/2003  
**Harvest Date:** 10/02/2003  
**Variety:** E-17 and RH-5 Blend  
**Previous Crop:** Dry Beans  
**Tillage:** Fall – Chisel  
 Spring – Field Cultivated 1x  
**Fertilizer:** 160# of N and 200# of 0-0-60  
**Soil Test:** P ppm = 124  
 K ppm = 154 (3.6%)  
 Ca ppm = 1793 (82.2%)  
 Mg ppm = 185 (14.1%)  
 O.M.: 2.1      CEC: 10.9      pH: 8.0

**Soil Type:** Loam  
**Row Spacing:** 22 Inches  
**Row Length:** 640 Feet  
**Type of Harvester:** Artsway  
**Herbicides:** Microrates 4x  
**Replicated:** 3x  
**# of Rows Harvested:** 8  
**# Defoliated:** 8  
**Fungicide:** 5/30 – Quadris for Rhiz.  
 Crown Rot Control  
 07/08 – Headline  
 08/06 - Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						12 Day	13. Day	20 Day	30 Day
CHECK	6908	23.84	290	19.47	94.0	169	207	233	241
ALPINE	6586	23.78	277	19.23	94.3	115	161	219	222
<b>AVERAGE</b>	<b>6747</b>	<b>23.81</b>	<b>283</b>	<b>19.35</b>	<b>94.2</b>	<b>142</b>	<b>184</b>	<b>226</b>	<b>232</b>
<b>LSD (5%)</b>	<b>NS</b>	<b>NS</b>	<b>10</b>	<b>NS</b>	<b>NS</b>	<b>48</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
	<b>530</b>	<b>1.04</b>		<b>.97</b>	<b>.7</b>		<b>60</b>	<b>25</b>	<b>29</b>
<b>C.V. (%)</b>	<b>2</b>	<b>1.2</b>	<b>1</b>	<b>1.4</b>	<b>2</b>	<b>10</b>	<b>9</b>	<b>3</b>	<b>4</b>

**Comments:** The purpose of the trial was to evaluate the effects of In Furrow Fertilizers (Alpine and 10-34-0) on emergence and yield. Three gallons was applied compared to nothing in the Checks. The In Furrow Fertilizer seemed to delay emergence by approximately one day. Other visual observations were not apparent. Soil test levels were very high. There were no significant differences in yield or RWSA.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Craig Reiman - Michigan Sugar Company  
 Steve Bohn – Monitor Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	LAKKE EWALD FARMS	<b>Soil Type:</b>	Loam
<b>Location:</b>	Tuscola County - Unionville	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/24/2003	<b>Row Length:</b>	640 Feet
<b>Harvest Date:</b>	10/02/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	E-17 and RH-5 Blend	<b>Herbicides:</b>	Microrates 4x
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Chisel    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	160# of N and 200# of 0-0-60	<b># Defoliated:</b>	8
<b>Soil Test:</b>	P ppm = 124 K ppm = 154 (3.6%) Ca ppm = 1793 (82.2%) Mg ppm = 185 (14.1%) O.M.: 2.1%    CEC: 10.9    pH: 8.0	<b>Fungicide:</b>	05/30 – Quadris for Rhiz. Crown Rot Control 07/08 – Headline 08/06 - Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						12 Day	13 Day	20 Day	30 Day
10-34-0	6498	23.53	277	19.02	94.2	130	165	220	221
CHECK	6458	23.67	273	18.63	94.2	155	184	215	221
<b>AVERAGE</b>	<b>6478</b>	<b>23.60</b>	<b>275</b>	<b>18.82</b>	<b>94.2</b>	<b>143</b>	<b>174</b>	<b>218</b>	<b>221</b>
<b>LSD (5%)</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>
	693	.97	21	.95	1.4	107	71	47	57
<b>C.V. (%)</b>	<b>3</b>	<b>1.2</b>	<b>2</b>	<b>1.4</b>	<b>.4</b>	<b>21</b>	<b>12</b>	<b>6</b>	<b>7</b>

Comments: **SEE PREVIOUS LAKKE-EWALD TRIAL**

Cooperating Agriculturist(s): Craig Reiman - Michigan Sugar Company  
Steve Bohn - Monitor Sugar Company

### SUGAR BEET STARTER TRIALS (AVERAGE OF 8 TRIALS) - 2003

TREATMENT NAME	RWSA		YIELD T/A		% SUGAR	
	IN FURROW	CHECK	IN FURROW	CHECK	IN FURROW	CHECK
ALPINE (Ewald)	6586	6908	23.78	23.84	19.23	19.47
10-34-0 (Ewald)	6498	6458	23.53	23.67	19.02	18.63
AG SPECTRUM (Bushey)	5476	5522	22.05	21.46	17.24	17.89
ALPINE (Sturm)	6550	6287	23.31	23.24	18.75	18.35
10-34-0 (Maurer)	5342	5611	23.41	23.35	16.02	16.63
AG SPECTRUM (Bushey)	4141	3877	16.17	15.43	17.04	16.59
AG SPECTRUM (Bushey)	6603	6312	25.90	25.28	17.21	17.19
AG SPECTRUM (Bushey)	5793	5542	22.01	21.09	18.05	18.28
<b>AVERAGE</b>	<b>5873</b>	<b>5815</b>	<b>22.52</b>	<b>22.17</b>	<b>17.82</b>	<b>17.89</b>

### SUGAR BEET STARTER TRIALS (AVERAGE OF 9 TRIALS) - 2003

TREATMENT NAME	10-DAY		20-DAY	
	IN FURROW	CHECK	IN FURROW	CHECK
ALPINE (Ewald)	115	169	219	233
10-34-0 (Ewald)	130	155	220	215
AG SPECTRUM (Bushey)	29	42	142	148
ALPINE (Sturm)	21	22	129	116
10-34-0 (Maurer)	134	162	154	178
AG SPECTRUM (Bushey)	0	0	112	117
AG SPECTRUM (Bushey)	37	39	123	121
AG SPECTRUM (Bushey)	31	37	182	167
ALPINE + 28% 2x2 (Humpert)	49	72	212	216
<b>AVERAGE</b>	<b>61</b>	<b>78</b>	<b>165</b>	<b>168</b>

# MICHIGAN SUGAR COMPANY

## STARTER FERTILIZER TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>D &amp; B KARG FARMS</b>	<b>Tillage:</b>	Fall- Vee Chisel Spring – 1X Field Cultivate
<b>Location:</b>	Huron County (Harbor Beach)	<b>Harvest Date:</b>	10/27/2003
<b>Variety:</b>	B-5736	<b>Type of Harvester:</b>	Artsway
<b>Planting Date:</b>	4/26/2003	<b>Herbicides:</b>	Microrates 3x
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	4x
<b>Soil Type:</b>	Loam	<b># of Rows Harvested:</b>	6
<b>Row Spacing:</b>	30 Inches	<b># Defoliated:</b>	6
<b>Row Length:</b>	725 Feet	<b>Fungicide:</b>	7/23 - Quadris 8/13 - Eminent
<b>Fertilizer:</b>	250# of 0-0-60 Starter – 240 lbs. of 7-32-9 Alpine – 3 gal. of 6-24-6 In Furrow		

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
CHECK	6780	23.45	289	19.93	93.8
ALPINE	6529	24.36	268	18.84	93.2
<b>AVERAGE</b>	<b>6655</b>	<b>23.91</b>	<b>279</b>	<b>19.39</b>	<b>93.5</b>
<b>LSD (5%)</b>	<b>NS 459</b>	<b>NS 1.94</b>	<b>NS 18</b>	<b>NS 1.43</b>	<b>NS 1.4</b>
<b>C.V. (%)</b>	<b>3</b>	<b>3.6</b>	<b>3</b>	<b>3.27</b>	<b>.7</b>

Comments:

**Cooperating Agriculturist(s):** Lewis Parks - Michigan Sugar Company  
Corey Guza, Chief Agronomist – Michigan Sugar Company

# MICHIGAN SUGAR COMPANY

## BEETCAST CERCOSPORA CONTROL TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

Treatments	Applic. Dates/DSV's								0-9 CLS Rating		
	July		August				Sept.		Avg.	Pro.	5451
	9	19	5	13	23	28	5	17			
55 / 35 / 35	56		39		30				1.11	0.94	1.27
55 / 55 / 55	56			54				41	1.32	1.10	1.54
1 <sup>st</sup> Spot – 18 Days		69	26				38		1.43	1.31	1.54
70 / 35 / 35		69		41				27	1.49	1.29	1.69
55 / 55	56			54					1.50	1.33	1.67
70 / 55		69				56			1.84	1.54	2.13
55 / 70	56					69			2.02	1.69	2.35
70 / 70		69					64		2.34	2.21	2.46
1 <sup>st</sup> Spot (Late)		69					64		2.39	2.29	2.48
Untreated									4.36	4.04	4.67
LSD (5 %)									0.22	0.32	0.32
% CV									11.1	11.1	11.1
Mean									1.98	1.78	2.18

Treatments	Tons / Acre			% Sucrose			RWSA		
	Avg.	Pro.	5451	Ave.	Pro.	5451	Ave.	Pro.	5451
55 / 35 / 35	26.4	25.1	27.6	19.1	18.7	19.5	7260	6804	7715
55 / 55 / 55	24.3	23.1	25.5	19.2	18.7	19.6	6359	5869	6849
1 <sup>st</sup> Spot – 18 Days	24.0	22.8	25.2	19.0	18.5	19.4	6357	5934	6779
70 / 35 / 35	24.0	22.9	25.0	18.8	18.7	19.0	6440	5991	6889
55 / 55	25.2	24.4	25.9	18.9	18.8	19.1	6818	6510	7126
70 / 55	24.0	23.1	24.9	18.8	18.5	19.0	6184	5677	6690
55 / 70	25.3	24.1	26.5	18.6	18.3	19.0	6514	5979	7049
70 / 70	24.0	22.4	25.5	18.9	18.5	19.3	6166	5613	6718
1 <sup>st</sup> Spot (Late)	23.7	22.8	24.6	18.8	18.7	18.8	6238	5767	6709
Untreated	21.6	21.0	22.2	18.1	17.5	18.6	5481	5392	5569
LSD (5 %)									
1.81    2.56    2.56    0.53    0.75    0.75    570    746    746									
% CV									
6.7    6.7    6.7    2.3    2.3    2.3    8.1    8.1    8.1									
Mean									
24.26    23.22    25.3    18.83    18.53    19.12    6382    5954    6809									

**Comments:** Trial was conducted on Rich Sylvester Farm in Tuscola County (Gilford). Trial was planted on April 15, 2003 and harvested on October 16, 2003. Fungicides used include: Headline 1<sup>st</sup>, Eminent 2<sup>nd</sup>, Topsin + Super Tin 3<sup>rd</sup> and Super Tin alone was used after September 1, 2003. Varieties include: SX Prompt (Pro) and Beta 5451. Previous crop was pickles. 0-9 CLS Rating Scale: Visual scale with 0 = no symptoms and 9 = leaves completely covered with spots. Treatments are application timings based on DSV's (Disease Severity Values). DSV's in boxes below dates show the exact DSV on that application date. **Trial Reliability: Very Good**

**Cooperating Agriculturist(s):** Jim Stewart, Cory Guza, Tom Rader – Michigan Sugar Company  
 Steve Poindexter – Michigan State University Extension  
 Ron Pitblado, Ian Nichols – Ridgeway College, Univ. Of Guelph - Canada

# SUGARBEET ADVANCEMENT

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## BEETCAST CERCOSPORA CONTROL TRIAL

Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	Wayne Uebler	<b>Tillage:</b>	Fall Plow, Field Cultivated
<b>Location:</b>	Saginaw	<b>Harvest Date:</b>	10/24/03
<b>Planting Date:</b>	4/23/03	<b>Type of Harvester:</b>	Artsway
<b>Previous Crop:</b>	30 Inches	<b>Herbicides:</b>	Microrates
<b>Variety:</b>	B-5451 / E-17	<b>Replicated:</b>	3x
<b>Row Spacing:</b>	30 Inches	<b># of Rows Harvested:</b>	4
		<b># Defoliated:</b>	4
<b>Fertilizer:</b>	40 – 40 – 140 Plus N Sidedress	<b>Fungicide:</b>	DSV: (2 Applications at DSV) - 55/55 – 7/22 - Headline 8/20 Eminent (1 Application at DSV) - 70/70 – 7/30 - Headline (2 Applications at DSV) - 1 <sup>st</sup> Spot – 7/30 - Headline 9/2 Eminent (Quadris applied In Furrow at Planting)

*D S V = DISEASE SEVERITY VALUE based on BEETCAST prediction model*

TREATMENT NAME (Variety / Spray Timing)	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	CJP %
<b>B-5451 DSV – 70 / 70</b>	<b>7288</b>	<b>23.94</b>	<b>304</b>	<b>20.6</b>	<b>94.1</b>
B-5451 DSV – First Spot	7103	23.59	301	20.5	94.1
<b>B-5451 DSV – 55 / 55</b>	<b>7073</b>	<b>23.33</b>	<b>303</b>	<b>20.6</b>	<b>94.2</b>
E-17 DSV – 70 / 70	6562	21.61	304	20.5	94.6
<b>E-17 DSV – 55 / 55</b>	<b>6528</b>	<b>22.06</b>	<b>296</b>	<b>20.3</b>	<b>94.3</b>
E-17 DSV – First Spot	6237	21.14	295	20.2	94.5
<b>Average</b>	<b>6798</b>	<b>22.61</b>	<b>301</b>	<b>20.5</b>	<b>94.3</b>
<b>LSD</b>	<b>531</b>	<b>1.34</b>	<b>NS (11)</b>	<b>NS (.6)</b>	<b>NS (.4)</b>
<b>C.V. (%)</b>	<b>4</b>	<b>3.3</b>	<b>2</b>	<b>1.6</b>	<b>.2</b>

**Comments:** Trial was conducted to evaluate the BEETCAST SPRAY PREDICTION MODEL for the control of Cercospora Leaf Spot. Small plot trials were conducted on the site by Lee Hubbel, Research Agronomist for Monitor Sugar Co. The small trials used several different spray timing scenarios as compared to the strip trials which tested only three treatments. Spray at first spot was considered standard for comparison. Comparing yield and quality found no significant differences in the strip treatments within each variety. Leaf Spot pressure was low.

**Trial Reliability: VERY GOOD**

**Cooperating Agriculturalist(s):** Dave Ganton– Monitor Sugar Company, Charlie Neuenfeldt – Michigan Sugar Co.  
**Trial Conducted in Cooperation Of:** Lee Hubbel, Monitor Sugar Company Research Agronomist



# SUGARBEET ADVANCEMENT

Partnership  
of:



## BEETCAST CERCOSPORA CONTROL TRIAL

Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>Richard Sylvester</b>	<b>Tillage:</b>	Fall Plow, Spring Tooth Drag
<b>Location:</b>	Tuscola County (Quanicassee)	<b>Harvest Date:</b>	10/16/03
<b>Planting Date:</b>	4/15/03	<b>Type of Harvester:</b>	Arts Way
<b>Row Spacing:</b>	30 Inches	<b># of Rows Harvested:</b>	4
		<b># Defoliated:</b>	6
<b>Previous Crop:</b>	Cucumbers	<b>Herbicides:</b>	Microrated 5 x
<b>Fertilizer:</b>	25 gallons starter mix of: 10 gallons of 10-34-0 10 gallons of 28% 5 gallons of Thiosul 28 gallons of 28% sidedress	<b>Fungicide:</b>	DSV: (2 Applications at DSV) - 55/55 – 7/9 - Headline 8/5 Eminent (2 Applications at DSV) - 70/70 – 7/19 Headline 9/5 Eminent (3 Applications at DSV) - 1 <sup>st</sup> Spot – 7/19 Headline 8/5 Eminent Topsin / Penncozeb – 8/28
<b>Variety:</b>	Prompt / B-5451		
<b>Replicated:</b>	3x		

*D S V = DISEASE SEVERITY VALUE based on BEETCAST prediction model*

TREATMENT NAME (Variety / Spray Timing)	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	Leaf Spot Ratings 0-9 Scale
<b>B-5451 DSV – First Spot</b>	<b>5863</b>	<b>21.91</b>	<b>267</b>	<b>18.0</b>	<b>94.4</b>	<b>2.0</b>
B-5451 DSV – 55 / 55	5783	21.33	271	18.1	94.7	2.38
<b>B-5451 DSV – 70 / 70</b>	<b>5509</b>	<b>21.81</b>	<b>264</b>	<b>17.7</b>	<b>94.2</b>	<b>3.29</b>
Prompt DSV – First Spot	5340	20.68	261	17.6	94.3	1.79
<b>Prompt DSV – 55 / 55</b>	<b>5192</b>	<b>20.52</b>	<b>253</b>	<b>17.4</b>	<b>94.1</b>	<b>1.63</b>
Prompt DSV – 70 / 70	5155	20.04	257	17.6	93.8	2.21
<b>Average</b>	<b>5474</b>	<b>21.05</b>	<b>262</b>	<b>17.7</b>	<b>94.3</b>	<b>2.22</b>
<b>LSD</b>	<b>621</b>	<b>1.16</b>	<b>NS (16)</b>	<b>NS (.6)</b>	<b>NS (1)</b>	<b>.47</b>
<b>C.V. (%)</b>	<b>6</b>	<b>5.5</b>	<b>3</b>	<b>2</b>	<b>.6</b>	<b>11</b>

**Comments:** Trial was conducted to evaluate the BEETCAST SPRAY PREDICTION MODEL for the control of Cercospora Leaf Spot. Small plot trials were conducted on the site by Jim Stewart, Research Agronomist for Michigan Sugar Co. The small trials used several different spray timing scenarios as compared to the strip trials which tested only three treatments. Spray at first spot was considered standard for comparison. Comparing yield and quality found no significant differences in the strip treatments within each variety. Leaf Spot pressure was moderate. Refer to MI Sugar BEETCAST page for a more complete evaluation.

**Trial Reliability: VERY GOOD**

**Cooperating Agriculturalist(s):** Steve Bohn – Monitor Sugar Company, Craig Reiman – Michigan Sugar Company  
**Trial Conducted in Cooperation Of:** Jim Stewart, Monitor Sugar Company Research Agronomist

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## LATE LEAF SPOT CONTROL TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>VERN STEPHENS</b>	<b>Soil Type:</b>	Sandy Loam
<b>Location:</b>	Bay County (Freeland)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	04/16/2003	<b>Row Length:</b>	1650 Feet
<b>Harvest Date:</b>	10/27/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	C-963 + B-5451 Blend	<b>Herbicides:</b>	Nortron-pre Microrates 4x – post
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Field Cultivated Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	4
<b>Fertilizer:</b>	Starter – 10 gal. of 10-34-0 130# of N at planting	<b># Defoliated:</b>	4
		<b>Fungicide:</b>	05/31 – Quadris for Rhiz. Crown Rot 07/17 – Headline 08/13 – Gem 09/12 – Topsin/Super

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
3 SPRAY	6884	26.26	262	18.17	94.0
2 SPRAY	6794	26.03	261	17.97	94.0
<b>AVERAGE</b>	<b>6839</b>	<b>26.15</b>	<b>262</b>	<b>18.07</b>	<b>94.0</b>
<b>LSD (5%)</b>	<b>NS 472</b>	<b>NS 1.17</b>	<b>NS 12</b>	<b>NS .27</b>	<b>NS .6</b>
<b>C.V. (%)</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>.66</b>	<b>.3</b>

**Comments:** Trial was conducted to look at the effect of a late Leaf Spot Spray (9/12) on sugar beet quality and yield. Leaf Spot Control Fungicides were applied three times to the field. Strips were skipped during the last spray application for comparison. Very little leaf spot was seen in any spray treatment. No significant differences were observed.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Rick List - Monitor Sugar Company

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## LATE LEAF SPOT CONTROL TRIAL

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### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	MARK HELMREICH	<b>Soil Type:</b>	Loam
<b>Location:</b>	Bay County (Bay City)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	5/18/2003	<b>Row Length:</b>	1,122 Feet
<b>Harvest Date:</b>	11/06/2003	<b>Type of Harvester:</b>	Parma
<b>Variety:</b>	C-963	<b>Herbicides:</b>	Microrates 2x + Dual
<b>Previous Crop:</b>	Soybeans	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Disk Ripped Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	6
<b>Fertilizer:</b>	Fall – 150# of 0-0-60 Spring – 60# of N ppi Starter – 130# of 9-41-0 + 1Mn + 1/4B Side Dress – 17 Gal. of 28% N	<b># Defoliated:</b>	6
		<b>Fungicide:</b>	Headline and Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
CHECK (1 Spray)	7495	25.26	297	20.31	94.4
SPRAYED (2 Spray)	6939	23.28	298	20.09	94.2
<b>AVERAGE</b>	<b>7217</b>	<b>24.27</b>	<b>297</b>	<b>20.20</b>	<b>94.3</b>
LSD (5%)	NS 590	1.23	NS 18	NS .56	NS .6
C.V. (%)	4	2.2	3	1.2	.3

**Comments:** Trial was conducted to look at the effects on yield and quality of one additional application of fungicide (late season). No significant differences were found in RWSA or beet quality. Typically, a late season fungicide application would mainly improve quality with a lesser improvement in tonnage. This trial indicates a decrease in tonnage for the late sprayed strips. This is not a normal trend. Use this data with caution. A late fungicide application should never decrease tonnage.

**Trial Reliability: ?**

**Cooperating Agriculturist(s):**

Rick List - Monitor Sugar Company

**Special Thanks To:**

Lee Hubbell - Research Manager, Monitor Sugar Company

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## LATE LEAF SPOT CONTROL TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>HUMPERT (R &amp; R Farms)</b>	<b>Soil Type:</b>	-
<b>Location:</b>	Tuscola County (Fairgrove)	<b>Row Spacing:</b>	22 Inches
<b>Planting Date:</b>	4/25/2003	<b>Row Length:</b>	-
<b>Harvest Date:</b>	Not Harvested	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Prompt	<b>Herbicides:</b>	Microrates 3x
<b>Previous Crop:</b>	Soybeans	<b>Replicated:</b>	8x
<b>Tillage:</b>	Fall – Chisel Spring – Secondary Tillage 1x	<b># of Rows Harvested:</b>	8
<b>Fertilizer:</b>	In Furrow – 4 gal. of 6-24-6 = 17 gal. 2x2 (12 gal of 28% N + 5 gal. Alpine Custom Premium Blend) Side Dress – 40 gal. of 28% N	<b># Defoliated:</b>	8
		<b>Fungicide:</b>	07/18 – Eminent 08/13 – Headline 09/07 - Eminent

TREATMENT NAME	RWST	% SUGAR	% CJP
<b>3 SPRAY</b>	<b>274</b>	<b>18.75</b>	<b>94.3</b>
CHECK (2 spray)	266	18.30	94.2
<b>AVERAGE</b>	270	18.52	94.2
<b>LSD (5%)</b>	NS 15	NS 1.04	NS .5
<b>C.V. (%)</b>	5	5.2	.5

**Comments:** Trial was conducted to measure how a late Leaf Spot Fungicide Application (September 7) might affect the quality of sugar beets. Late Leaf Spot Infections normally decrease sugar percentage more than tonnage. Eight quality samples were taken from each of the test areas. The percent sugar and RWST trended higher but not significantly in the (3 spray) areas when compared to the check (2 sprays) areas. Visual observations showed less leaf spot in the (3 spray) areas compared to the Check (2 sprays) areas.

**Trial Reliability: Very good**

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## QUADRIS TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** MARK HELMREICH  
**Location:** Bay County (Bay City)  
**Planting Date:** 5/18/2003  
**Harvest Date:** 11/06/2003  
**Variety:** C-963

**Previous Crop:** Soybeans

**Tillage:** Fall – Disk Ripped  
 Spring – Field Cultivated 1x

**Fertilizer:** Fall – 150# of 0-0-60  
 Spring – 60# of N ppi  
 Starter – 130# of 9-41-0 + 1Mn + 1/4B  
 Side Dress: 17 gal. of 28% N  
**QUADRIS** – 10.5 oz. in a 10-inch Band

**Soil Type:** Loam  
**Row Spacing:** 30 Inches  
**Row Length:** 1,122 Feet  
**Type of Harvester:** Parma  
**Herbicides:** Nortron, Banded at Planting  
 Microrates 2x + Dual-Post  
 6x

**Replicated:** 6  
**# of Rows Harvested:** 6  
**# Defoliated:** 6  
**Fungicide:** 08/11 – Headline  
 09/03 - Eminent

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	RHIZ BEETS/ 1200FT
QUADRIS 6-8 LEAF	7802	26.26	301	20.31	94.5	34
CHECK	7464	25.87	294	20.12	94.2	60
<b>AVERAGE</b>	<b>7633</b>	<b>26.07</b>	<b>298</b>	<b>20.21</b>	<b>94.4</b>	<b>47</b>
LSD (5%)	NS 709	NS 2.63	NS 8	NS .32	.3	NS
C.V. (%)	7	6.9	2	1.25	.2	-

**Comments:** Trial was conducted to look at the effects of Quadris, applied at the 6-8 leaf stage, on Rhizoctonia Crown Rot. The field had a relatively low level of Rhizoctonia infection. Yield and quality of the treated areas were not significantly different from the Check. However, a trend does show improved yield and quality with the use of Quadris. The number of Rhizoctonia beets per 1200 feet of row was reduced by half.

**Trial Reliability: Good**

**Cooperating Agriculturalist(s):**  
**Trial Conducted In Cooperation With:**

Rick List - Monitor Sugar Company  
 Lee Hubbell; Research Manager, Monitor Sugar Company

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## QUADRIS TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>G &amp; E MEYLAN</b>	<b>Soil Type:</b>	
<b>Location:</b>	Bay County (Linwood)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	4/26/2003	<b>Row Length:</b>	254 Feet
<b>Harvest Date:</b>	10/21/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	RH-5 and E-17	<b>Herbicides:</b>	Etho-preplant Progress – 1x Post
<b>Previous Crop:</b>	Dry Beans	<b>Replicated:</b>	4x
<b>Tillage:</b>	Fall – Chisel Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	6
<b>Fertilizer:</b>	Starter – 20 gal. of 13-25-0 + 2.5 S + 2 qt. Mn And 25 gal. of 28% N Side Dress – 25 gal. of 28% Quadris In Furrow: 10.5 oz. in 8 gal. of water with a 5-6 inch band. Foliar – 10.5 oz. in 10 inch band with 10 gal. of water	<b># Defoliated:</b>	6
		<b>Fungicide:</b>	07/27 – Eminent 08/20 – Headline
		<b>Insecticide:</b>	Lorsban

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				# RHIZ BEETS / 1200 Ft
						10 Day	20 Day	30 Day	Harvest	
<b>RH-5 In-Furrow</b>	<b>5591</b>	<b>21.4</b>	<b>262</b>	<b>17.6</b>	<b>95.0</b>	<b>108</b>	<b>246</b>	<b>254</b>	<b>217</b>	<b>148</b>
E-17 In-Furrow & 6 to 8 Leaf	4381	17.37	255	17.2	94.8	76	235	239	180	353
<b>E-17 In-Furrow</b>	<b>4290</b>	<b>16.71</b>	<b>255</b>	<b>17.5</b>	<b>94.8</b>	<b>82</b>	<b>235</b>	<b>236</b>	<b>165</b>	<b>539</b>
E-17 2-4 & 6-8 Leaf Half Rates	3843	15.23	252	17.1	94.7	176	255	243	149	551
<b>E-17 2 to 4 Leaf</b>	<b>3683</b>	<b>15.0</b>	<b>245</b>	<b>16.9</b>	<b>94.9</b>	<b>180</b>	<b>269</b>	<b>258</b>	<b>147</b>	<b>632</b>
RH-5 Check	3433	13.5	255	17.1	94.9	214	258	263	169	636
<b>E-17 6 to 8 Leaf</b>	<b>3305</b>	<b>13.4</b>	<b>248</b>	<b>17.2</b>	<b>94.8</b>	<b>200</b>	<b>257</b>	<b>253</b>	<b>141</b>	<b>651</b>
E-17 Check	1514	6.4	235	15.7	94.8	182	236	237	57	1453
<b>Average</b>	<b>3755</b>	<b>14.9</b>	<b>251</b>	<b>17.0</b>	<b>94.8</b>	<b>152</b>	<b>249</b>	<b>248</b>	<b>153</b>	<b>620</b>
<b>LSD (5%)</b>	<b>568</b>	<b>2.3</b>	<b>19</b>	<b>.8</b>	<b>NS .6</b>	<b>23</b>	<b>21</b>	<b>20</b>	<b>38</b>	<b>249</b>
<b>C.V. (%)</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>3.3</b>	<b>.4</b>	<b>10</b>	<b>6</b>	<b>6</b>	<b>20</b>	<b>27</b>

**Comments:** Trial was conducted to compare the timing of Quadris applications for Rhizoctonia Crown Rot Control. The Rhizoctonia infection level was severe. The numbers of Rhizoctonia beets listed in the right column are dead or dying beets counted in late August. The best combination, RH-5 with a Quadris application, returned about \$154/acre more than the second best treatment. The resistant variety, RH-5 check, yields were similar to susceptible variety, E-17, treated at the 6-8 leaf stage. **Trial Reliability: Very Good**

**Cooperating Agriculturist(s):** Tom Schlatter - Monitor Sugar Company  
Dr. Willie Kirk - MSU Plant Pathology Department  
**Special Thanks To:** Doug Ruppel - Syngenta Seeds / Hilleberg for Trial establishment and Management

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## QUADRIS TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** D & D SCHULTZ  
**Location:** Bay County (Linwood)  
**Planting Date:** 4/24/2003  
**Harvest Date:** 10/06/2003  
**Variety:** E-17 and RH-5  
**Previous Crop:** Dry Beans  
**Tillage:** Fall – Chisel  
 Spring – Field Cultivated 1x  
**Fertilizer:** Pre-plant – 35 gal. of 28% N  
 Starter – 25 gal. of 9-25-0  
**QUADRIS** – 10.5 oz. in a 10-inch Band

**Soil Type:** Loam  
**Row Spacing:** 30 Inches  
**Row Length:** 1200 Feet  
**Type of Harvester:** Artsway  
**Herbicides:** Standard Splits  
**Replicated:** 4x  
**# of Rows Harvested:** 6  
**# Defoliated:** 6  
**Fungicide:** 08/15 – Headline

VARIETY	RWSA	TONS PER ACRE	RWST	% SUGAR	% CJP	RHIZ BEETS/ 1200 FT
RH-5 CHECK	5339	22.14	241	16.49	95.4	83
E-17 8-10 LEAF	5201	21.26	245	16.87	94.4	119
RH-5 8-10 LEAF	5141	22.26	232	16.03	94.6	48
E-17 CHECK	4865	19.90	245	17.11	95.0	346
<b>AVERAGE</b>	<b>5136</b>	<b>21.39</b>	<b>241</b>	<b>16.62</b>	<b>94.8</b>	<b>149</b>
<b>LSD (5%)</b>	<b>NS 488</b>	<b>1.37</b>	<b>NS 17</b>	<b>NS 1.01</b>	<b>NS 1.2</b>	<b>110</b>
<b>C.V. (%)</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>3.81</b>	<b>.8</b>	<b>46</b>

**Comments:** Trial was conducted to look at the impact of Quadris on yield and quality of sugar beets in Rhizoctonia problem fields. The level of Crown Rot Infection in this field was moderate. The Quadris application was delayed beyond the optimum stage of growth (4-8 leaf) by sustained wet conditions. The RH-5 Check (resistant variety) yielded similar to the susceptible variety (E-17) treated with Quadris. Both treatments were significantly better in tonnage than the susceptible (E-17) Check. Late spraying Quadris (after 8 leaves) appears to be less effective on Rhizoctonia Crown Rot than timely foliar applications. This suggests that the fungus is invading the plants prior to the 8 leaf stage.

**Trial Reliability: Excellent**

**Cooperating Agriculturalist(s):** Bill Hartley - Monitor Sugar Company  
**Special Thanks To:** Lee Hubbell, Research Manager - Monitor Sugar Company

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## QUADRIS TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** DAN ROGGENBUCK  
**Location:** Huron County (Harbor Beach)  
**Planting Date:** 4/29/2003  
**Harvest Date:** 10/17/2003  
**Variety:** C-963  
**Previous Crop:** Corn  
**Tillage:** Fall – Chisel  
 Spring – Field Cultivated 1x  
**Fertilizer:** Fall – 12,000 gal. of dairy manure  
 Starter: 80# of dry 2 x 2  
**QUADRIS** – In Furrow – 10.5 oz. T-Band at  
 planting and 6 Leaf = 10 oz. in a 10 Inch Band

**Soil Type:** Loam  
**Row Spacing:** 30 Inches  
**Row Length:** 840 Feet  
**Type of Harvester:** John Deere  
**Herbicides:** Microrates 4x  
**Replicated:** 3x  
**# of Rows Harvested:** 4  
**# Defoliated:** 4  
**Fungicide:** Topsin / Manzate

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION RHIZ 100 FT. ROW BEETS			
						10 Day	20 Day	30 Day	1200FT
<b>In-Furrow And 6 Leaf</b>	<b>4637</b>	<b>21.1</b>	<b>218</b>	<b>15.06</b>	<b>93.0</b>	<b>189</b>	<b>200</b>	<b>205</b>	<b>6</b>
In-Furrow	4483	21.2	212	15.12	92.8	199	196	191	6
<b>Check</b>	<b>4481</b>	<b>21.1</b>	<b>212</b>	<b>15.30</b>	<b>93.4</b>	<b>198</b>	<b>208</b>	<b>205</b>	<b>36</b>
6 Leaf	4461	21.6	206	15.05	93.7	210	213	203	14
<b>Average</b>	<b>4516</b>	<b>21.3</b>	<b>212</b>	<b>15.13</b>	<b>93.2</b>	<b>199</b>	<b>204</b>	<b>201</b>	<b>-</b>
<b>LSD (5%)</b>	<b>NS 278</b>	<b>NS .3</b>	<b>NS 12</b>	<b>NS .77</b>	<b>NS 1.1</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>-</b>
<b>C.V. (%)</b>	<b>3</b>	<b>.7</b>	<b>3</b>	<b>2.6</b>	<b>.6</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Comments:** This trial was established to evaluate the affects of Quadris on Rhizoctonia Crown Rot. An excellent field with very low levels of Rhizoctonia present. No significant differences between treatments.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Bob Corrigan - Michigan Sugar Company  
 Andy Bernia - ACH Seeds  
 Randy Hemb - GTG



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## QUADRIS TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

**Cooperator:** RAYL FARMS, INC.  
**Location:** Tuscola County (Akron)  
**Planting Date:** 4/25/2003  
**Harvest Date:** 11/07/2003  
**Variety:** RH-5 and E-17  
**Previous Crop:** Wheat  
**Tillage:** Fall – Disk Chisel  
 Spring – Stale Seed Bed  
**Fertilizer:** Starter – 17 gal. of 28% + 3 gal. Thiosul;  
 3.5 gal. of 6-24-6 In-Furrow;  
 100# of N Side Dress  
 Quadris In Furrow: 10.5 oz. in 8 gal. of water with a five  
 inch band / Foliar – 10.5 oz. in 10 gal. of water  
 O.M.: 2.2      CEC: 15

**Soil Type:** Loam  
**Row Spacing:** 30 Inches  
**Row Length:** 190 Feet  
**Type of Harvester:** Artsway  
**Herbicides:** Microrates 4x  
**Replicated:** 4x  
**# of Rows Harvested:** 6  
**# Defoliated:** 6  
**Fungicide:** 06/03 – Quadris  
 07/20 – Eminent  
 08/13 - Headline

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW				# RHIZ BEETS / 760 Ft
						10 Day	20 Day	30 Day	Harvest	
E-17 6-8 Leaf	6517	23.07	283	19.17	94.8	89	216	213	197	2
RH-5 CHECK	6504	22.85	285	18.99	95.0	66	200	194	184	6
E-17 2-4 Leaf	6206	22.28	278	19.07	94.8	46	187	190	178	19
RH-5 In Furrow	6104	22.42	273	18.47	95.3	51	185	198	177	1
E-17 In-Furrow & 6-8 Leaf	6092	22.56	270	18.71	95.0	62	203	202	198	10
E-17 In-Furrow	6072	22.28	272	18.71	94.9	49	200	206	189	15
E-17 – 2-4 & 6-8 Leaf Half Rates	6016	21.82	276	18.63	94.9	63	206	191	185	17
E-17 CHECK	5634	20.44	275	18.30	94.8	98	211	209	180	91
<b>AVERAGE</b>	<b>6143</b>	<b>22.21</b>	<b>276</b>	<b>18.76</b>	<b>94.9</b>	<b>65</b>	<b>201</b>	<b>200</b>	<b>186</b>	<b>20</b>
<b>LSD (5%)</b>	<b>NS 738</b>	<b>NS 1.73</b>	<b>NS 20</b>	<b>NS 1.05</b>	<b>NS .4</b>	<b>NS 46</b>	<b>NS 30</b>	<b>NS 34</b>	<b>NS 36</b>	<b>NS 29</b>
<b>C.V. (%)</b>	<b>8</b>	<b>5.3</b>	<b>5</b>	<b>3.8</b>	<b>.3</b>	<b>48</b>	<b>10</b>	<b>12</b>	<b>13</b>	<b>98</b>

**Comments:** Trial was conducted to compare the timing of Quadris applications for Rhizoctonia Crown Rot Control. The Rhizoctonia infection level was low (3 Reps.) to moderate (1 Rep.). The numbers of Rhizoctonia beets listed in the right column are dead or dying beets counted in late August. The resistant variety, RH-5 Check, and the susceptible variety, E-17, sprayed at the 6 to 8 leaf stage yield trended higher than the E-17 Check.

**Trial Reliability:** Very Good

**Cooperating Agriculturist(s):**

Jeff Karst - Michigan Sugar Company  
 Dr. Willie Kirk - MSU Plant Pathology Department

**Special Thanks To:**

Doug Ruppall - Syngenta Seeds/Hilleshog - for Trial Establishment and Management

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## RADISH TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>ELBER FARMS</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Saginaw County (Reese)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	4/04/2003	<b>Row Length:</b>	1,220 Feet
<b>Harvest Date:</b>	10/13/2003	<b>Type of Harvester:</b>	Artsway
<b>Variety:</b>	Prompt – C-963 Blend	<b>Herbicides:</b>	Standard Split + Dual
<b>Previous Crop:</b>	Wheat	<b>Replicated:</b>	5x
<b>Tillage:</b>	Fall – Plow    Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	4
<b>Fertilizer:</b>	200# of 0-0-60 75# of N pre-plant 85# of N Side Dress	<b># Defoliated:</b>	4
		<b>Fungicide:</b>	Headline and Eminent

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP
<b>RADISH</b>	4233	15.01	282	18.77	95.0
<b>CHECK</b>	3887	13.43	290	18.86	95.7
<b>AVERAGE</b>	<b>4060</b>	<b>14.22</b>	<b>286</b>	<b>18.82</b>	<b>95.4</b>
<b>LSD (5%)</b>	<b>NS 690</b>	<b>NS 2.11</b>	<b>NS 16</b>	<b>NS 1.02</b>	<b>NS .9</b>
<b>C.V. (%)</b>	<b>10</b>	<b>8</b>	<b>3</b>	<b>3</b>	<b>.5</b>

**Comments:** Oil Seed Radish (Colonel) Strips were established no-till into wheat stubble in early August of 2002. The emergence was good but growth was less than desired because of the lack of moisture. Field was sampled for Sugar Beet Cyst Nematode but found to be negative. In the absence of a significant Sugar Beet Cyst Nematode population the radish strips did not show a yield difference. The economics of using Oil Seed Radish under such conditions may not be positive.

**Cooperating Agriculturist(s):** Dave Ganton - Monitor Sugar Company  
Lee Hubbell - Research Agronomist, Monitor Sugar Company

# SUGARBEET ADVANCEMENT

Partnership  
of:



Sugar Beet Growers  
Michigan Sugar Company  
Monitor Sugar Company  
Michigan State University  
Agribusiness

## MUSTANG TRIAL

### ON-FARM RESEARCH AND DEMONSTRATION

<b>Cooperator:</b>	<b>DAN ROGGENBUCK</b>	<b>Soil Type:</b>	Loam
<b>Location:</b>	Huron County (Harbor Beach)	<b>Row Spacing:</b>	30 Inches
<b>Planting Date:</b>	04/29/2003	<b>Row Length:</b>	840 Feet
<b>Harvest Date:</b>	10/17/2003	<b>Type of Harvester:</b>	John Deere
<b>Variety:</b>	C-963	<b>Herbicides:</b>	Microrates 4x
<b>Previous Crop:</b>	Corn	<b>Replicated:</b>	3x
<b>Tillage:</b>	Fall – Disk Chisel Spring – Field Cultivated 1x	<b># of Rows Harvested:</b>	4
<b>Fertilizer:</b>	Fall – 12,000 Gal. Dairy Manure Starter – 80# of dry 2 x 2	<b># Defoliated:</b>	4
		<b>Fungicide:</b>	Topsin / Manzate
		<b>Insecticide:</b>	4 oz. of Mustang T-Band at Planting

TREATMENT NAME	RWSA	ACTUAL YIELD T/A	RWST	% SUGAR	% CJP	POPULATION 100 FT. ROW			
						10 Day	20 Day	30 Day	Harvest
MUSTANG	4586	20.9	219	15.14	93.5	222	237	232	-
CHECK	4590	21.0	219	15.39	93.6	219	232	215	-
<b>AVERAGE</b>	<b>4588</b>	<b>20.9</b>	<b>219</b>	<b>15.27</b>	<b>93.6</b>	<b>221</b>	<b>235</b>	<b>225</b>	<b>-</b>
<b>LSD (5%)</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>-</b>
	<b>327</b>	<b>.5</b>	<b>12</b>	<b>1.21</b>	<b>.9</b>				
<b>C.V. (%)</b>	<b>2</b>	<b>.7</b>	<b>3</b>	<b>2.3</b>	<b>.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Comments:** Trial was conducted to look at the affect of T-Band applied Mustang Insecticide(FMC). Little to no insect pressure was evident. No significant differences in yield or quality were quantified.

**Trial Reliability: Excellent**

**Cooperating Agriculturist(s):** Bob Corrigan - Michigan Sugar Company  
Andy Bernia - ACH Seeds  
Randy Hemb - GTG