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# NEWSBEET

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*to* **19**



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by Mark Flegenheimer, President and CEO

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## The Road to Change

This edition of *The Newsbeet* discusses various ways growers can increase the quality of their beet crop. We have set a goal of 19% grower sugar by 2013 and we hope some of these articles will help us reach this target. As we head down this "Road to 19," growers will be challenged to change how they grow and harvest sugarbeets. If growers are going to increase sugarbeet quality, it will require improved seed varieties as well as new and different agronomic practices.

Some of these new and different techniques are already being embraced by many of our shareholders; however, we have numerous growers who are not willing to change how they grow beets. Change is never easy. Change is always uncomfortable, but in order to continuously improve we must change. Whether it is a new fertilization program or trying to achieve a higher plant population, I encourage you to try something new this spring. Try something that will improve the quality of your crop. We have many resources available through our agricultural staff that can help you develop a plan to increase your RWST.

Speaking of change, we have decided to freshen up the look of *The Newsbeet*. We felt that it was time for a new look and feel. This magazine has provided us with an excellent vehicle to share the latest agronomic and research information with our shareholders. *The Newsbeet* has also given us the opportunity to communicate about other topics of interest ranging from news from Washington, D.C., to updates on factory operations. We think the updated magazine, however, will be easier to read and will allow us to add new topics in future issues. This month we are adding a new feature by spotlighting one of our customers, Graceland Fruit, on page 30.

Let us know if you like the new layout and format of *The Newsbeet*. Also, let us know what other topics you would like us to review in future editions of the magazine. Change is never easy, but with change is the opportunity for improvement. I hope you enjoy the "new" Newsbeet. ■



*Change is never easy. Change is always uncomfortable, but in order to continuously improve we must change.*

## THE NEWSBEET

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## 2009 CROP RESULTS

Tons Received .....	3,585,770
Acres Harvested .....	145,215
Tons Per Acre .....	24.69
RWST .....	273
Grower Sugar .....	18.22%
Clear Juice Purity .....	95.61
Amino Nitrogen .....	3.59



## Earlier Starts with Better Results

Harvest 2009 is now part of our Cooperative's history. We had scheduled a September 15 startup date for harvest; however, dry conditions slowed harvest which was the exact opposite of the heavy rainfall that delayed harvest in 2008. Dry conditions were good for early sugars, but many growers were challenged with harvesting all of the beets under such dry conditions. We did manage to receive enough tons to start factory operations almost immediately. In total, we had five days with some early delivery receiving before we began long-term storage on October 16, 2009. Originally, we had communicated an October 20 start to open receiving, but weather conditions were so good in mid-October that we decided to open all stations on October 16, and harvest was underway immediately. Before we could complete harvest on November 20, we had experienced three different shutdowns; two for cold temperatures and one for warm temperatures. The biggest obstacle to harvest was the October 30 rainfall across our entire growing area. Anywhere from 1.75 to 4.00 inches of rain was recorded and the battle was on to complete harvest in a timely fashion. Many wondered how we could go from so dry to so wet in just a matter of weeks.

Little did we know, but November of 2009 turned out to be absolutely beautiful, with sunshine almost daily and no additional precipitation. The beautiful weather allowed the corn to dry down and fall tillage to take place. In fact, many growers have stated that fall tillage was as good as ever and they are anxious for the planting season to arrive.



The results for the 2009 crop were better than expected, in some cases, considering the difficult planting season and the dry conditions in August and early September.

The numbers from last year were very similar to 2008, except for the fact that we harvested 4,113,738 tons from 142,385 acres, for an average yield of 28.89 tons per acre the previous year. Sugars and purities were very similar in both years.

What is in store for 2010? We have some very exciting new varieties to go along with our standard varieties from the last couple of years. Our "Road to 19" will begin this year with planting high sugar varieties. Our Board of Directors has announced a five percent cut in base acres, which means we will plant approximately 155,000 acres, and we expect to harvest 155,000 acres. If our varieties perform as expected, we should harvest between 3.8 million and 4.2 million tons of beets. Our expectations are closer to 4.2 million tons; therefore, we are preparing ourselves for a very early start to harvest — as early as September 1 with factory slice on September 2!

We know there are tradeoffs to an early harvest and our Board has also approved a new schedule for early delivery tonnage premiums. The benefits to an early start far outweigh the disadvantages and we know that if we have a good spring planting season, only good things happen to the crop afterwards.

We are out contracting and signing Grower Agreements with the high expectations of our newly approved varieties. The road to success begins with variety selection and an early planting season. We were fortunate to have good fall tillage conditions last November and we hope to carry that good fortune into an early spring, a good growing season and a Wednesday, September 1, startup date for Harvest 2010. ■

# Update: Washington

by Ray VanDriessche, Director of Community and Government Relations

## Annual Capitol Hill Visits

Representatives from Michigan Sugar Company's Management, Board of Directors, and Union Representatives visited 35 House and Senate offices on Capitol Hill during the first week of March to build relationships with legislators and their staffers. Pending legislation that could have a significant impact on our industry was discussed thoroughly with legislators or their staffers in the visits. Discussions included:

### Climate Change-Cap & Trade Legislation

Senator Lisa Murkowski, of Alaska, a ranking member of the Senate Committee on Energy and Natural Resources introduced a "resolution of disapproval" to prevent the EPA from taking action to regulate carbon dioxide and other climate-altering gases under the Clean Air Act. The resolution of disapproval, a seldom used legislative tool which falls under the Congressional Review Act, would remove the ability of the EPA to limit emissions of greenhouse gases under the Clean Air Act. Agriculture, like most other U.S. industries, strongly opposed the proposed regulation which, would increase input costs and international market disparities, severely impacting the economy. A majority of agricultural organizations have signed a letter in support of Senator Murkowski's resolution, including the American Sugarbeet Growers Association. Passage of the Murkowski resolution is unlikely because it would take a majority vote in the Senate to approve. Support for climate change legislation from legislators, on both sides of the aisle, continues to diminish as analysis of financial impacts are completed on a domestic and worldwide basis.

### The Clean Water Act

Proposed revisions to the Clean Water Act would remove the words "navigable waters" from the current language, which would essentially give the EPA jurisdiction over any standing water on agricultural land. This proposed change in wording would have a far reaching impact on current crop protection practices and may require an NPDES (National Pollutant Discharge Elimination System) permit just to spray crops for weeds and diseases. Our industry continues to oppose and watch the proposed legislation closely.

### Beverage Sweetener Tax

In May of 2009, as means of financing the overhaul of the health care system, the Senate finance committee considered imposing a beverage tax on soda and other naturally sweetened drinks. The sweetener industry and beverage industries expressed their concerns to legislators about being targeted as the reason for obesity and as a means to pay for a new health care program. Drinks containing sugar, alcohol, high fructose corn syrup, and similar sweeteners, would have been targeted; however, diet drinks with artificial sweeteners would not. When it became evident that the proposed sweetener tax would not have enough legislative support to pass, proponents withdrew the idea. Supporters of the "lifestyle tax" are starting to stir the legislative waters again and may try for a renewed effort again the spring of 2010. The sweetener and beverage industry is already preparing to oppose any such effort.

### WTO Negotiations

Although the World Trade Organization negotiations continue to flounder, it is not for lack of effort by the lead negotiators to keep them alive. Of major concern is a required increase of additional sugar imports into the U.S. market.

### U.S./Mexico Sugar Trade

Ongoing discussions on sugar trade in the North American sweetener market throughout April, June, and August of 2009, between U.S. sugar industry representatives and their counterparts in Mexico culminated with an agreement on a set of recommendations for balanced trade. The recommendations were presented to Mexico's Secretary of Agriculture in October and to USDA officials shortly thereafter for analysis and comment. As of this writing, a meeting of USDA officials and Mexican government officials is being scheduled to discuss the recommendations to determine if both countries would agree to implement the recommendations. Put simply, the recommendations would:



- 
- 1) Improve quality of market data by establishing a similar system for the timely collection on stocks, production, imports, exports and deliveries of sugar in the U.S. and Mexican markets.
  - 2) Improve U.S.-Mexican government cooperation by coordinating sugar policies under NAFTA and forming a joint U.S.-Mexico Sugar Commission
  - 3) Prevent substitution of third world sugar into the North American sugar market. The U.S. and Mexican governments would remain consistent with their international trade obligations and work together to prevent substitution of non-NAFTA sugar for U.S. and Mexican sugar that is sold in the U.S. and Mexican markets. This spirit of cooperation would result in an agreement that neither country would be able to import non-NAFTA sugar for its own needs as part of a plan to export its own sugar to the other countries market.
  - 4) Modification of re-export programs. The U.S. and Mexican governments should modify the U.S. re-export and the Mexican IMMEX programs to apply only to goods re-exported outside of Mexico and the United States.

**Federal Election Campaigns** are extremely expensive for candidates seeking office. The average House congressional campaign costs \$2 million, which means a representative would have to raise \$4,000 every day of his or her two-year term in office. Senate campaign costs are approximately \$7 million, which means a senator would have to raise \$5,000 every day of his or her six-year term to finance their campaign costs. Similarly, state campaigns can be very expensive. PAC contributions to candidates help to offset campaign debt ensuring that not only the wealthy can afford to run for office. We will continue to watch and analyze the campaign races for the November 2010 elections closely. Early elections to fill vacant seats have already surprised many. State senate races in November will be contentious with 33 out of 38 senators term-limited out. Voters will need to do their homework before going to the polls.

### ASGA Website

You can be kept up to date on issues important to our industry by visiting the ASGA website ([www.americansugarbeet.org](http://www.americansugarbeet.org)). You will find information and links to other industry and government sources that will be useful to you, as well as details on the ASGA Annual Meetings.

### ASGA Internship

The ASGA is now accepting applications for the Cleavinger Internship for 2010. If you have a son or daughter (preferably a junior or senior in college) who would like to work in the Washington office for six to eight weeks next summer and have an absolutely tremendous experience, please contact ASGA's Washington office for an application. The application must be submitted no later than March 30.

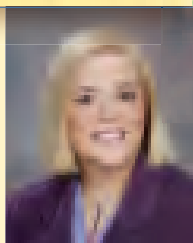
### Lansing Legislative Luncheon

Michigan Sugar Company's annual legislative luncheon in the Capitol Building in Lansing was held on February 10. This was a great opportunity for representatives from Michigan Sugar Company Management, Board of Directors, and members of the PAC Committee to visit with state legislators and raise their awareness of the importance of our industry to the State of Michigan. The luncheon also gave us an opportunity to personally invite legislators to tour one of our factory sites and experience the production of sugar from sugarbeets. Over 60 legislators and 20 staffers attended the luncheon. ■





# Annual Shareholders Meeting



by Julie Perry, Executive Assistant, Administration

Michigan Sugar Company held its 8th Annual Shareholder Meeting on January 12, 2010, at Saginaw Valley State University's Curtiss Hall.

Chairman Rick Gerstenberger welcomed approximately 200 registered shareholders, as well as employees and other guests. He highlighted Michigan Sugar Company's outstanding accomplishments during the past year, the structure of the Board and Management's strategic planning sessions, and short and long-term goals for our Cooperative.

Chief Financial Officer, Brian Haraga, reviewed our Co-op's financials, Jerry Coleman, Vice President of Marketing & Sales, spoke on consumption, the domestic and world sugar markets, farm bill changes that matter and

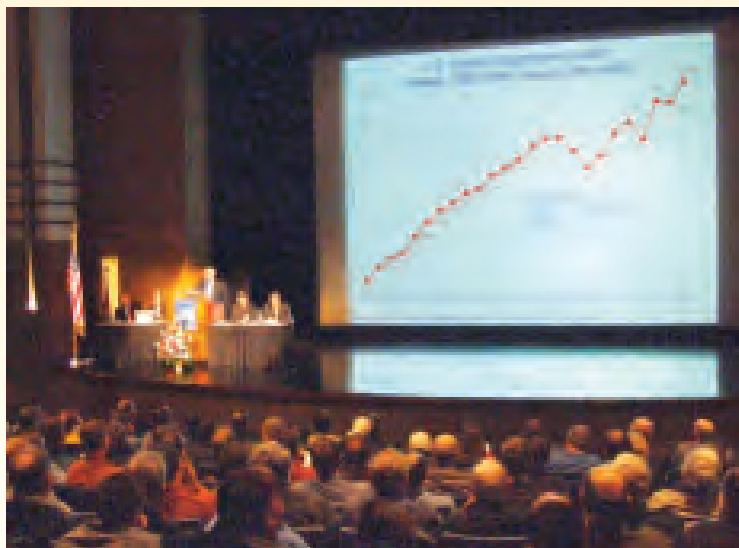
what the future holds. Jim Eichenberger, President of Midwest Agri-Commodities presented marketing reports on co-products, spotlighting betaine. Mark Flegenheimer, President & Chief Executive Officer, talked about the "Road to 19"; how can we get there, why do we want to get there, and what it will look like.

Dr. H. Christopher Peterson was our keynote speaker this year and spoke about the role of an outside director, a report card of sorts on our current Board of Directors and what to look for in a director. Attendees were informed that, due to time constraints with his schedule at MSU, Dr. Peterson will be unable to continue to serve as our outside director. Chairman Gerstenberger presented him with a com-

memorative plaque, thanking him for his excellent service to our Cooperative.

Elections took place as a result of the nominations made at the district meetings held in December of 2009. At their reorganization meeting, the Co-op Board of Directors named Richard Gerstenberger as Chairman, Charles Bauer as Vice Chairman, William Herford as Secretary and Richard Sylvester as Treasurer. Below is an overview of our current Board of Directors as well as the District Boards.

If you have not had an opportunity to attend an annual shareholder meeting in the past, we strongly encourage you to make a point to attend next year to learn more about your Cooperative. ■



*Jerry Coleman, Vice President of Marketing & Sales, spoke on sugar consumption, the domestic and world sugar markets, farm bill changes that matter and what the future holds.*



*Mark Flegenheimer, President & Chief Executive Officer, talked about the "Road to 19"; how can we get there, why do we want to get there, and what it will look like.*

## Co-op Board

Richard Gerstenberger (East) <i>Chairman</i>	Warren Bierlein (Central)
Charles Bauer (West) <i>Vice Chairman</i>	Ben Booms (East)
William Herford (Central) <i>Secretary</i>	Tom Gettel (Central)
Richard Sylvester (Central) <i>Treasurer</i>	Loren Humm (West)
	David McConnachie (East)
	Gene Meylan (West)
	John Spero (West)
	Thomas Wadsworth (East)

## West District

President, Chris Ratajczak  
Vice President, Steve Hoad  
Secretary, Matt Brown  
Treasurer, Clay Crumbaugh  
**Directors:**  
Dean Haubenstricker  
David Helmreich  
Kurt Hrabal  
Rick Leach  
Michael Schmidt

## Central District

President, Brian Rayl  
Vice President,  
Michael Richmond  
Secretary, Mark Zimmer  
Treasurer, Tom Ziel  
**Directors:**  
Lee Butts  
Joel Gremel  
Kent Houghtaling  
Troy Schuette  
Doug Vader

## East District

President, Scott Shaw  
Vice President,  
Jim Roggenbuck  
Secretary, Jacob Maurer  
Treasurer,  
Chad McNaughton  
**Directors:**  
Chris Guza  
Mark Lumley





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# Saginaw Valley Research Farm Update



by Paul Horny, Farm Manager

The relocated Saginaw Valley Research and Extension Center had a great first year with reported plot yields of up to 45 tons per acre of sugarbeets and 70 bushels per acre of dry beans and soybeans. We have been busy with many projects. Tiling of the main farm location has been completed. The average tile spacing is 18 to 20 feet with four-inch tile. The ditch along Krueger Road that drains the tile has been cleaned and a 60-foot tube has been installed across the Reese Road drain for the main driveway.

The address of the farm is now 3775 South Reese Road, Frankenmuth, MI 48734. The first building, a 60 x 150-foot machine shed was built in August 2009. Construction started on the next building, a 60 x 150-foot shop and office in early December 2009. The shop and office will have an office for the manager, Paul Horny, and assistant manager, Dennis Fleischmann, a lunchroom, bathrooms, a small conference room (25-30 person), and two 50 x 50-foot shop bays with 24-foot overhead doors. The shop and office will be completed before the spring planting season. The existing 40 x 80-foot shed will be re-stepped and roofed with a 24-foot extension added for pesticide mixing and loading. A fuel pad is in place with two fire-rated 500-gallon fuel

tanks on order. Septic systems have been approved and are in place. The well permit is approved and driveways and approaches are completed. Three-phase power was brought in during January 2010.

Crop rotations will be a minimum of four years for sugarbeets and dry beans. Tillage practices will include moldboard plowing, chisel plowing

and no-till, depending on soil conditions and research project needs. We will plant green manure crops, such as clover, into wheat to help maintain tilth as much as possible. Next year will be very busy with projects being planned to cover expanding research needs on the Saginaw Valley Research and Extension Center. ■



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by Mark Lumley, President, Fairwind Farms  
2009 Chairman, Sugarbeet Advancement



In any industry, knowledge is the key to success. In the sugarbeet industry, profitability to the shareholder depends upon a combination of keeping the cost of crop inputs low, while increasing sugar yield. To accomplish this, we need to understand which cropping practices are best. This includes land preparation, seed selection, pest management, fertilizer choices, and harvesting strategies.

What is the right answer in each of these categories, and how does one choice affect the other parameters? For example, if I choose a certain seed variety, how does that affect my pest management strategies? The answers are not definitive. The right answer for Grower A is not the right answer for Grower B. The right answer last year is not necessarily the right answer this year. Because of all of these ambiguities in our industry, the number one driver on the "Road to 19" is knowledge, and since there are no "right" answers, we need to have a very comprehensive research program.

In the past, we have had research projects running at two sugar companies, multiple universities, various municipal, state, provincial, and federal organizations, seed companies, Sugarbeet Advancement and grower plots, as well as data publications from other jurisdictions in the U.S., Canada and Europe. A typical grower information meeting included research information from any number of those entities, in a potpourri-style information smorgasbord. A grower previously received any number of publications and postcards in the mail. With the consolidation of Monitor and Michigan Sugar Companies as a single processing cooperative, we still had no clear research mandate or research specific official committee.

## Welcome to REACH!!

The purpose of the Research & Education Advisory Council is to be a central, trusted source of information for the shareholders and staff of Michigan Sugar Company, as well as, to advocate and participate in the advancement of the industry as a whole. The goal of the Council is to promote and assemble research projects and agronomy information from a wide range of sources, and to facilitate various educational efforts through multiple mediums in order to increase productivity and profitability for all stakeholders. The goal is profitability — REACH provides you with the answers on how to get there.

The Council is made up of growers, researchers, company personnel, and input suppliers. It is the same group that makes up the Sugarbeet Advancement Committee, but has a separate mandate, while Sugarbeet Advancement maintains its autonomy. Remember, however, REACH is not just a committee, it is a philosophy and a brand that stands for sugarbeet agronomy answers in Michigan and Ontario.

This new paradigm of collection and dissemination of knowledge, with the ultimate end of increased productivity, and less confusion is very exciting. It will be the number one driver on the "Road to 19" and beyond! ■

## Why REACH Will Make a Difference:

### What you will notice:

- A more succinct and informative fall seed meeting
- A single, reader-friendly fall seed choices publication
- Continuity of agronomy mailings, all branded with the REACH logo
- A comprehensive REACH reporting session meeting in January
- A more succinct and informative spring agronomy meeting
- A single, reader-friendly spring agronomy publication
- A single source, well organized, internet agronomy resource, arranged by topic
- Continuity of message, with the ultimate goal being increased profitability
- Cooperation between all members of the research community
- An impressive new presence in the national research stage, including ASSBT.
- More control by growers over research project priorities.

### What you will not see:

- Elimination or lack of recognition of any of the contributors, including the very successful and trusted Sugarbeet Advancement
- Mixed messages
- Multiple publications from different sources
- Censoring of the information you are receiving



*Your Michigan Sugar REACH team, left to right: Lee Hubbell, Research Agronomist; Jim Stewart, Director of Research; Corey Guza, Ph.D., Agronomist; and Steven Poindexter, Senior Sugarbeet Extension Educator, MSU Extension-Saginaw County*



## New and Improved for 2010

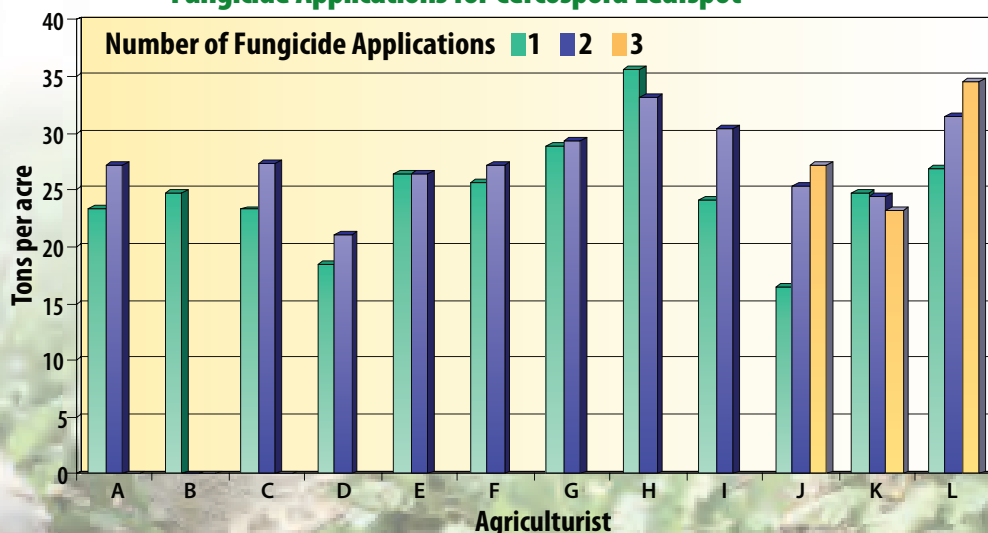
In the Fall 2009 issue of *The Newsbeet*, 150 growers were introduced to a new, easy to use, crop records program. The program is designed to allow quick entry of management practices into the Michigan Sugar Company website database and ultimately determine which management practices are providing growers the best results. In 2009, growers, representing about 40,000 acres, were asked to test the new crop records program. After analyzing the information, some interesting trends were observed.

Growers who applied two or more fungicide applications for Cercospora leafspot in 2009

generally improved sugarbeet yield compared to growers who only applied a fungicide once. This is especially true when comparing growers that have the same agriculturist (Figure 1). Growers who applied Quadris, generally produced a higher yielding and quality sugarbeet crop than growers who did not apply Quadris (Figures 2 and 3). Growers who used the crop records system, on average, applied 110 lbs of actual N, 37 lbs of actual P and 117 lbs of actual K per acre. Growers generally had the highest tons per acre when applying 125 to 150 lbs of N and the highest RWST when applying 100 to 125 lbs of N per acre.

As more growers enter information in crop records, the database will become stronger and more interesting trends will be observed. Growers have produced record yielding sugarbeet crops within the last few years and may think they are doing the best they can, only to discover that other growers in the area are out-yielding them by one or two tons per acre and have higher quality. Improving sugarbeet yield and quality is not only good for individual growers but good for the Michigan Sugar Company cooperative. Please participate in crop records and help Michigan Sugar Company to become more profitable. ■

**Figure 1: Sugarbeet Yield as Influenced by Number of Fungicide Applications for Cercospora Leafspot**







## Crop Records FAQs

### How do I get into Crop Records?

- Log in to [www.michigansugar.com](http://www.michigansugar.com) (<https://www.michigansugar.com/member/login.php>), with your user name and password
- Click the Crop Records tab

### Once I am in Crop Records how do I start entering information?

- Once you are in Crop Records, you will see a list of fields contracted for that year
- Click Manage Records for the field that you want to enter information

### What type of information can I enter?

- Field information such as previous crop, tillage, row spacing, and sugarbeet rotation
- Planting information such as date, seeding rate, and variety
- Fertilizer information
- Weed control information
- Disease control information
- Any problems that occur in the field

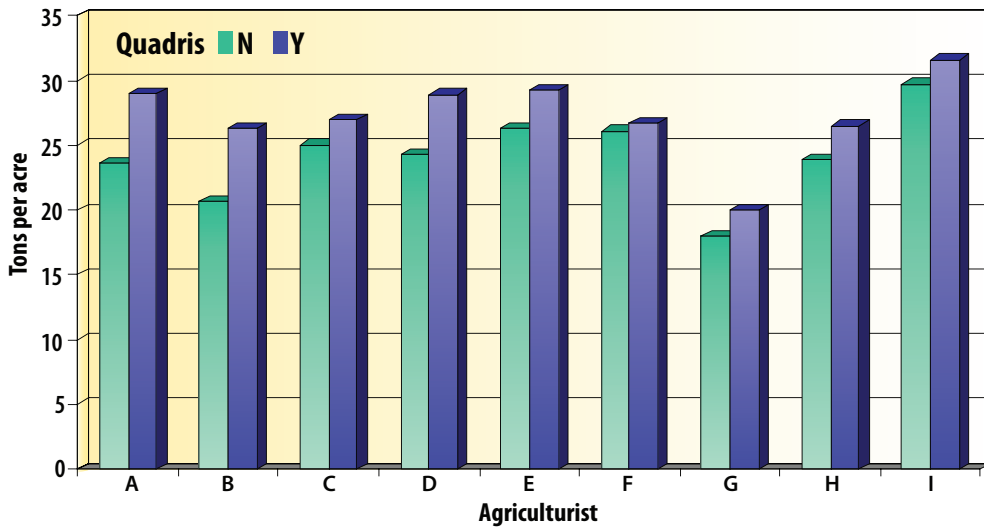
### For some fields, I apply the same starter fertilizer and other management practices. Do I need to enter the information for each field?

- No, you can enter the information for one field then copy it into the other fields.

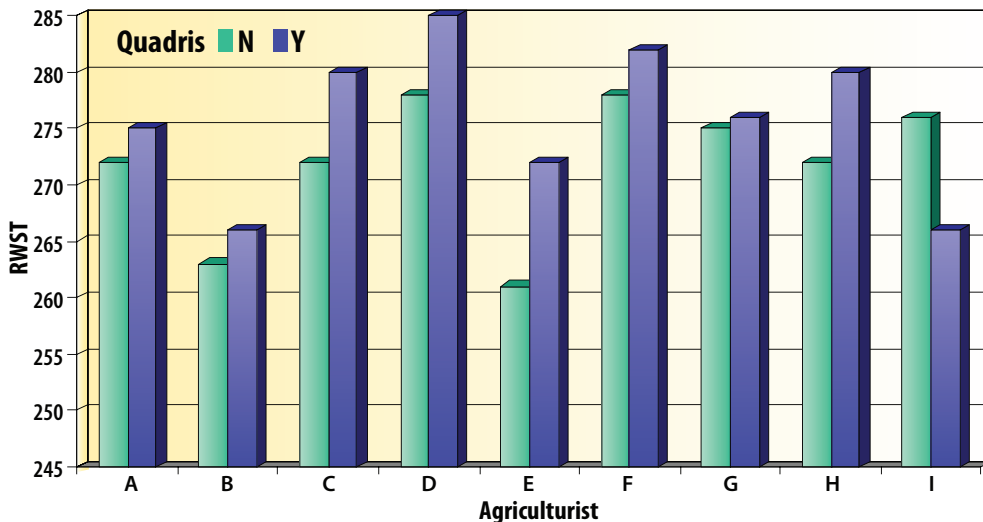
### What if I have questions or need help entering the information?

- Michigan Sugar Company will host workshops to help growers with information entry. They can also contact their agriculturist for specific information.

**Figure 2: Sugarbeet Yield as Influenced by Quadris Application, Tons/Acre**



**Figure 3: Sugarbeet Yield as Influenced by Quadris Application, RWST**



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# The Road to 19



by Steve Poindexter, Senior Sugarbeet Extension  
Sugarbeet Educator, Sugarbeet Advancement

## MANAGING RHIZOCTONIA ON SUSCEPTIBLE VARIETIES



*Rhizoctonia-infected sugarbeets*

*Michigan Sugar Company has a goal to improve beet quality by increasing average sugar content to 19 percent. This goal is achievable, but will take increased management and use of higher sugar varieties. Many of our new varieties have a high tonnage and sugar potential, but several are also very susceptible to Cercospora leafspot and Rhizoctonia. Left unchecked, both diseases can greatly affect yield and quality. By using the BeetCast leafspot prediction model and appropriate fungicides, growers are doing an excellent job of minimizing the impact of Cercospora leafspot. Rhizoctonia is more difficult to manage, but we have made great strides in reducing its impact on yield and quality.*

Rhizoctonia management begins with matching varieties with specific fields. Potential 2010 sugarbeet fields that have had a history of high Rhizoctonia crown rot are not good candidates for planting of any highly susceptible varieties. In these fields, a Rhizoctonia-resistant variety is the best choice. There are several varieties to choose from that carry varying levels of resistance. Be aware that resistance does not mean immunity. Sugarbeet Advancement (SBA) research has shown a resistant variety placed in a heavy infestation of Rhizoctonia may reduce infection by about 75 percent as compared to a susceptible check. Couple this resistance with an in-furrow or properly timed foliar application of Quadris® and infection will likely be reduced by more than 90 percent while maintaining a good return on investment for Quadris.

Fields that have not shown a history of significant Rhizoctonia are excellent candidates for some of the new high tonnage and sugar varieties. Many of these varieties are very susceptible to Rhizoctonia and almost always give an economical response to a Quadris application. For this reason, it is encouraged that every grower equip themselves to be able to apply Quadris either in-furrow or with a foliar band application. Research conducted in 2009 (Table 1), indicated economic responses to a Quadris application ranging from \$85 to \$212 per acre in fields with moderate infection

levels. The sugarbeet quality significantly increased from 291 to 305 pounds of sugar per ton on the best treatments. This reflects an average improvement of 0.6 percent in sugar along with an improvement in clear juice purity.

The 2009 research results on susceptible varieties were very similar to previously conducted trials. In-furrow, T-band applications of Quadris, at planting, generally provided the most consistent control. The label recommendation is 10.5 or 14.3 ounces per acre in a 7-inch band for 30 or 22-inch rows, respectively. SBA research in 2009 suggests that band width and Quadris rates may be reduced by half and still provide results comparable to a well-timed foliar application. Growers who choose to reduce the 7-inch band width should maintain a rate of 1.5 ounces per inch of band in 30-inch rows and a rate of 2 ounces per inch of band in 22-inch rows. Do NOT dribble in-furrow or apply with in-furrow fertilizer as emergence reduction and lack of efficacy may result. More research needs to be conducted comparing efficacy of narrow in-furrow band widths and rates to the standard 7-inch band.

In the last few years, the standard recommendation for foliar application has been to apply 10.5 or 14.3 ounces per acre in a 7-inch band for 30- or 22-inch rows at the 4 to 6 leaf stage. In 2009, foliar applications showed best efficacy in full-rate applications at the 6 to 8 leaf

stage. Rhizoctonia is a warm season disease and research in other states indicates that the infection period generally occurs when the mean soil temperature reaches 70° F at the 4-inch depth with moist soil conditions.

Due to the prolonged, cool spring in 2009, soils were slow to warm (Figure 1). This favored the later Quadris application timings. Research indicated that the 2 to 4 leaf application still resulted in 51 percent control over the check compared to 83 percent control at the 6 to 8 leaf stage. Research also showed a reduction of Quadris efficacy when the foliar rate was reduced to the lowest labeled rate of 7 ounces per acre, as compared to 10.5 ounces per acre in 30-inch rows.

In summary, in-furrow or a well-timed band application of Quadris is important to effectively manage Rhizoctonia crown rot. Quadris needs to be used in conjunction with matching field Rhizoctonia history with variety tolerance. Reducing the in-furrow band width and rate appears to have similar efficacy as a well-timed foliar band application. In a 7-inch foliar band, reducing the Quadris rate from 10.5 to 7 ounces per acre, in 30-inch rows, reduced control. In-furrow applications in 2009, did not significantly affect beet emergence. Improved Rhizoctonia control will increase beet quality, yield and grower profitability. ■

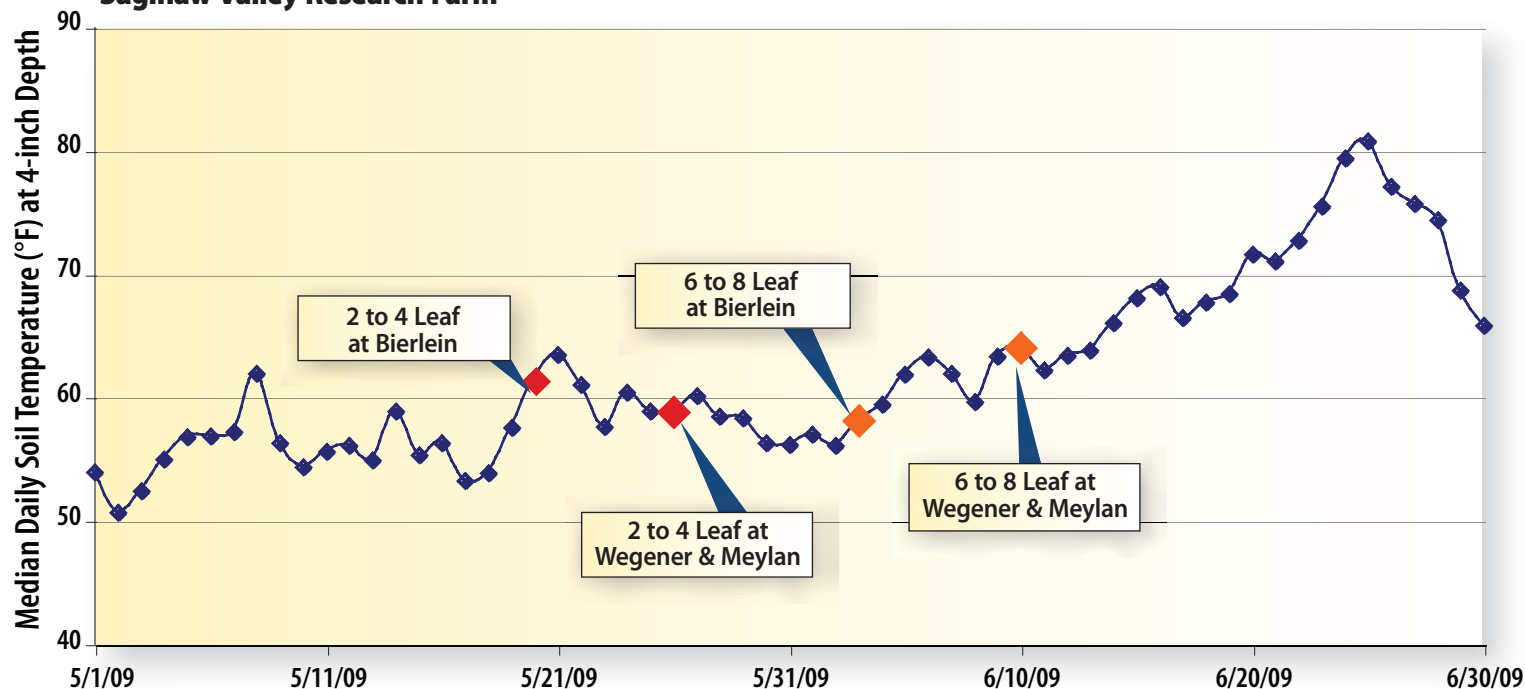
**Table 1. Averages of Three Rhizoctonia Trials**

Meylan (Linwood), Wegener (Auburn), & Bierlein (Vassar)

TREATMENT	RHIZOCTONIA COUNTS*	% CONTROL	TONS/ACRE	RWST	NET RETURN/ ACRE
In Furrow + 6-8 Leaf Low Rate	31	86%	29.1	305	\$200
In Furrow	55	75%	28.8	305	\$212
6-8 Leaf Normal Rate	37	83%	28.3	301	\$164
2-4 and 6-8 Leaf Low Rate Twice	48	78%	27.0	299	\$81
2-4 Leaf Normal Rate	106	51%	26.6	300	\$85
Check	216	—	24.4	291	—
LSD (5%)	62	—	2.2	11	—

\*Dead or dying beets per 1,200 feet of row. All three trials had moderate levels of Rhizoctonia.  
2009 Sugarbeet Advancement Trials

**Figure 1. Median Daily Soil Temperature at Quadris Application Time**  
Saginaw Valley Research Farm



REACH: Michigan Sugarbeet Research & Education Advisory Council

# The Road to 19

by Jim Stewart, Director of Research



## Influence of Narrow Rows on Sugarbeet Production

The sugarbeet yield in Michigan has improved significantly over the past ten years, in a large part due to variety improvement, advances in disease control and other agronomic improvements. Sugarbeet quality, however, has remained relatively constant during the same time period although, there has been an upward trend in quality over the past two years (Figure 1). The need to develop Rhizomania and Rhizoctonia resistant varieties has been the major reason quality improvement has been slow over the past decade.

A recent decision by the Board of Directors to improve sugar content by one percentage point, over the next five years, will likely slow our rate of yield increases. We have asked the seed company plant breeders to make quality the principle goal over the next five years, while maintaining sugarbeet yield. As a result, tonnage increases from variety improvement will likely be minimal during this quality "ramping up" period. Additional management strategies will be needed if we are to boost yield significantly in the near future.

Most other sugar cooperatives have converted sugarbeet production to narrow row systems and have reported significant yield and quality increases as a result. Numerous studies have found that planting sugarbeets in narrow rows improves yield by one to two tons per acre and also improves sugar content. Trials conducted in California in the early 1970s concluded that sugarbeet yield was increased by one ton per acre when grown in narrow rows. Researchers in the Red River Valley began narrow row sugarbeet research in the early 1970s. Trials conducted in the Minn-Dak region showed a yield increase of 1.4 tons per acre during a period of very dry growing conditions. Research near Fargo, North Dakota, was conducted under more normal growing conditions and researchers found that sugarbeets grown in narrow rows had an average yield increase of 1.5 tons per acre. An extensive research program conducted by Michigan State University in the 1970s found that sugarbeet yield was increased by 10 percent when sugarbeets were grown in 20-inch rows as opposed to 30-inch rows. Another series of experiments at Michigan State, 37 trials in total, during the late 1980s, found that sugarbeet yield increased by 1.2 tons per acre when grown in 22-inch rows. Sugar levels were also improved. Research conducted in Wyoming from 2001 to 2003 showed that sugarbeets produced an additional 0.8 tons per acre

when grown in narrow rows. Weed levels were also lower in the narrow row plots. Sugarbeets gained 1.9 tons per acre and 1.1 points of sugar in a multi-year study conducted at Scottsbluff, Nebraska. Sugarbeet Advancement found that sugarbeets grown in narrow rows increased yield by 1.8 tons per acre in two years of research (2007-2008). The sugar content in these trials was raised by 0.35 percentage points in the narrow row strips (Tables 1 and 2). Michigan State University researchers, Christy Sprague and Joe Armstrong, found that sugarbeet yield increased by 1.7 tons per acre and RWST increased by 7 lbs per ton in narrow rows in trials conducted between 2006 and 2008. American Crystal Sugar Company has conducted an extensive literature review and discovered that sugarbeets grown in narrow rows experienced an increase of 589 lbs of sugar per acre in 31 studies conducted industry wide. Numerous researchers have discovered that sugarbeet yields and quality can be improved by utilizing even narrower row spacings, in the range of 11 to 15 inches; however, field operations, such as harvesting, become an issue when row spacing is much narrower than 20 inches.

As a result of the overwhelming evidence that narrow row sugarbeets are more productive, Michigan Sugar Company initiated a row-spacing study on the Stoutenburg farm near Sandusky in 2009. The objective was to compare the yield and quality of sugarbeets grown in 22-inch rows compared to a traditional row spacing of 30 inches. Also studied was a wide range of sugarbeet populations, 75 to 250 beets per 100 feet of row, at each row spacing.

On average, over all populations, the 22-inch plots out-yielded the 30-inch plots by nearly three tons per acre. The yield increases were consistent as the 22-inch row treatments out-yielded the 30-inch row treatments at each of the eight sugarbeet populations. Sugar and purity levels were essentially the same for both row spacings. With respect to population effects, sugarbeet yield increased steadily as the sugarbeet populations rose (Figure 2). Sugarbeet quality (RWST) also responded positively to increasing sugarbeet populations (Figures 3 and 4). Grower income in dollars per acre was significantly higher in the narrow row treatments. Grower income also increased as sugarbeet populations increased (Figure 5). Please note that this is only the first year of a multi-year research program and results should be interpreted with caution.

**Table 1. Sugarbeet Advancement  
Narrow Row Replicated Strip Trial • Bernia / Rayl - 2007**

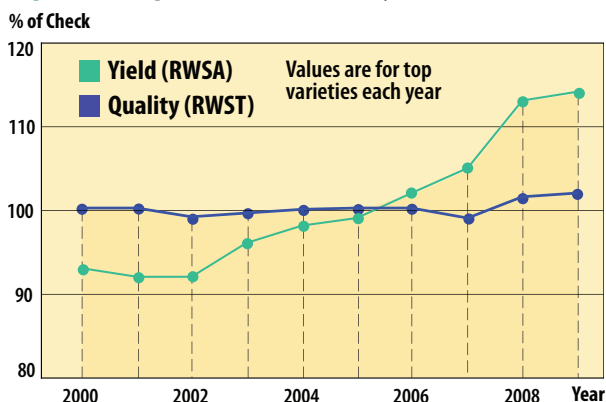
Row Spacing	Tons/A	% Suc	% CJP	RWST	RWSA	\$/A
22-inch	35.3	18.4	94.9	272	9594	1472
30-inch	34.9	17.9	94.4	261	9126	1396
LSD 5%	0.9	1.0	1.0	23	750	

**Table 2. Sugarbeet Advancement  
Narrow Row Replicated Strip Trial • Bernia / Rayl - 2008**

Row Spacing	Tons/A	% Suc	% CJP	RWST	RWSA	\$/A
22-inch	42.1	20.3	97.1	315	9594	1717
30-inch	39.0	20.1	96.5	309	9126	1560
LSD 5%	3.2	0.4	0.5	3.6	1052	



**Figure 1. Sugarbeet Yield/Quality Trends, 2000-2009**



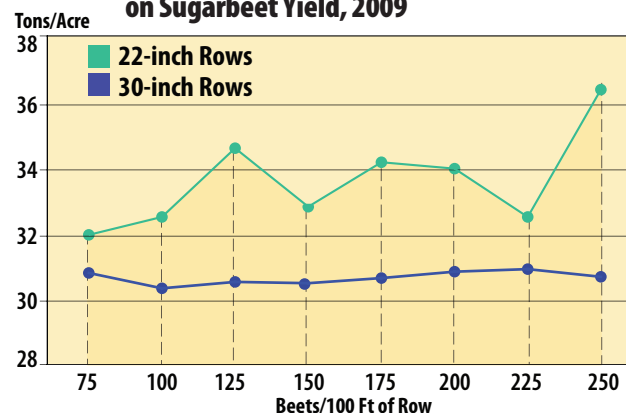
Sugarbeet researchers and agronomists have noted additional benefits from growing sugarbeets in narrow rows, including the following: a quicker canopy closure, improved weed control, better sugarbeet spacing, the ability to establish a higher sugarbeet population, better compensation for gaps, a reduced chance of having to replant, better fertilizer utilization and less need to cultivate. On the negative side, the cost of changing over equipment can be substantial. Spraying banded products such as Quadris would be approximately 25 percent more expensive in narrow rows and earlier row closure with narrow rows could increase the risk of damage from Cercospora leafspot.

While there has been a strong effort to examine the value of converting to narrow row sugarbeets, growers have questioned the value of converting to narrow rows in other crops. Dr. Donald Christenson, Crop and Soil Sciences, Michigan State University, summarized studies conducted, in Michigan, in the late-1980s through the early-1990s, indicating an increase of 2.4 cwt per acre when dry beans were grown in 22-inch rows compared to wide rows. This translated to a \$54 per acre gross margin per acre increase in revenue. For corn, yield increased by 13 bushels per acre when grown in 22-inch rows compared to wide rows. Gross revenue for corn was \$19 per acre more in 22-inch rows compared to wide rows. Growers generally understand the benefit of growing dry beans in 20 or 22-inch rows. Growers in Michigan are not convinced that there is an advantage to growing corn in narrow rows. Dr. Kurt Thelen, Department of Crop and Soil Sciences, Michigan State University indicated that environmental conditions can enhance or mask the advantages of switching to narrow row corn. Generally, the advantage in switching to narrow row corn is not as great in a high yield environment, high moisture and fine textured soils. The advantage with narrow row corn seems to be greater on coarse textured soils in low rainfall conditions. Northern latitudes may benefit the most by growing corn in narrow rows due to more efficient light interception ([www.michigansugar.com/AgUpdates/NarrowRowCornResearch](http://www.michigansugar.com/AgUpdates/NarrowRowCornResearch)).

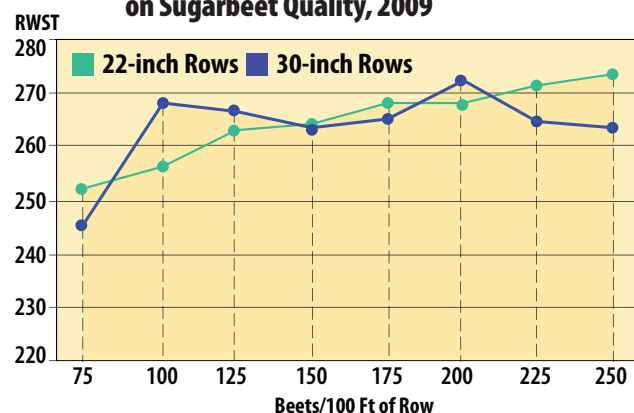
Additional trials examining sugarbeet row spacing will be conducted by Michigan Sugar in 2010 and 2011. Three trials will be established each year; one in each district. We will again compare 22- versus 30-inch row spacings at various sugarbeet populations. More attention will be paid to monitoring parameters other than yield and quality, such as crop development stages and row closure dates, to better determine the value of planting sugarbeets in narrow rows. ■

**Source for Figures 1 through 5:** Michigan Sugar Company and REACh: Michigan Sugarbeet Research & Education Advisory Council

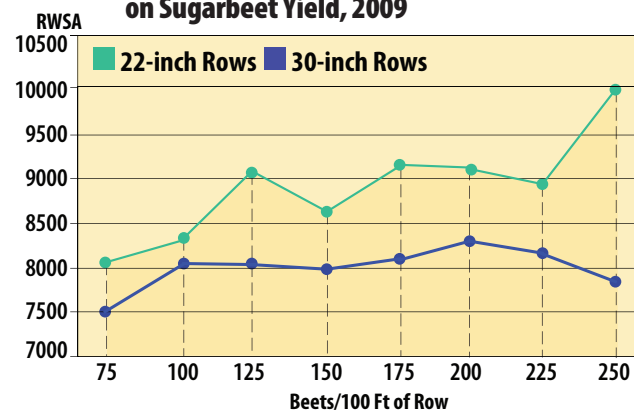
**Figure 2. Effect of Row Width & Plant Population on Sugarbeet Yield, 2009**



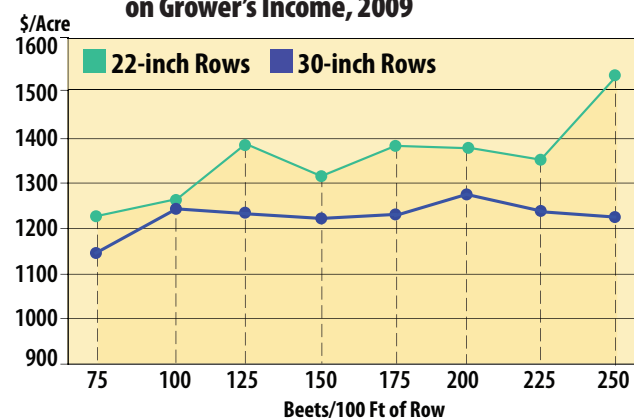
**Figure 3. Effect of Row Width & Plant Population on Sugarbeet Quality, 2009**



**Figure 4. Effect of Row Width & Plant Population on Sugarbeet Yield, 2009**



**Figure 5. Effect of Row Width & Plant Population on Grower's Income, 2009**



# The Road to 19



by Lee Hubbell, Research Agronomist

## Narrow Row Research Planter

There is always excitement with new equipment. We purchased a new 12-row research planter for the 2009 season (Picture 1). A planter is an important part of producing a successful crop. It must space the seed and position the seed at the right depth in the soil to make the best conditions possible for good emergence. Beyond these challenging requirements, our planter must do a few more things for variety research.

We change seed every 38 feet and in most variety trials, every two rows are a different variety. In each Official Variety Trial (OVT), we have about 380 different plots. We plant eight OVTs, four *Cercospora* nurseries, two *Rhizoctonia* nurseries and four Plant to Stand variety trials. Imagine doing that with your planter and changing the seed that often.

Another challenge is the limited seed supply. We use about three-quarters of a unit of seed to plant 100 two-row plots and 24 four-row plots, enough for 18 trials at 12 different locations. Each packet consists of as few as 400 seeds. Three-quarters of a unit of seed probably would not be enough to start a normal 12-row planter.

Yes, our planter is not normal. Seed Research Equipment Solutions (SRES) does start with a commercial Monosem planter, but makes many changes. The most obvious is the platform where we usually have three people ride to dump seed packets (Picture 2). There are frames to hold the hundreds of packets we use in each trial and maps so we can double-check that the packets have been sorted correctly. There are headphones, not for the latest music, but for us to communicate. Coordination is necessary between us on the planter and also between us and the driver because this planter allows us to change seed and never stop. In the past, we have had one packet for each row. The new planter has seed splitters so each packet is split and fills two rows. This allows us to make one-half as many packets of seed; about 8,500 for 2009. Each person in Picture 2 is dumping two packets that fill four rows. Each packet is a different variety.

An important part of the SRES modifications is to clean out one seed variety and fill the plate with another every 38 feet throughout an OVT. This is accomplished using an additional vacuum

fan, electric valves, a clutch assembly and motor, to advance the planter drive, hoppers to collect the extra seed, and a redesigned cover on the planting units. The cover on the planting unit is designed to plant using a very small amount of seed and for all leftover seed to vacuum out completely before planting the next variety.

The timing of seed cleanout and seed fill operations are computer controlled. While still planting the first variety, the leftover seed is vacuumed out, the next variety being held in the seed splitter is dropped and the planter plate spins faster to fill with the next variety. This process makes it possible to change seed and never stop. The bare area left from where the varieties change is only about 12 to 18 inches long. We are moving 2.7 miles per hour as this happens. The part of our process that limits our speed is the time it takes us to dump seed into the splitters. The person must remove two packets from the box, double check the seed numbers, dump the two packets, and put the empty packets in a waste bag for every seed change. Our *Cercospora* nursery plot length is

only 17.5 feet. To have time to dump packets, we travel only 1.1 miles per hour. Even with this slow speed, the planting is much faster than with our old planters. To change seed before, we stopped every time, switched a lever to clean out the seed left from the first variety, switched the lever back, dumped the seed packets, and then spun the plates to fill with the new variety. We were stopped more times than we were moving.

How does the planter know when to change seed? Picture 3 shows a cable and reel assembly. The cable has clips that are spaced the same as our plot length. We do have three different plot lengths and three different reels. There is a sensor by the bottom white pulley that tells the planter when to change seed. The cable unwinds as we plant across the field. As we come back across the field, the cable laying there is wound back up to trip the planter. The cable must be moved and anchored to make the next round.

This planter has been a great addition for our research program. ■



Picture 2



Picture 3



Picture 1

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# The Road to 19

by Corey Guza, Ph.D., Agronomist

## Beet Lime: Improved Productivity

As margins become tighter in agriculture, growers are looking for cost effective ways to improve crop production. With sugarbeets, one important step in improving and maintaining yield is to be sure that soil pH is in "balance." If soils have a low pH, less than 7.0, applying lime is a way to improve nutrient utilization and sugarbeet yield. Based on experience and research, sugarbeets generally grow best in soils with a pH of 7.0 to 7.5. The optimum pH for corn, soybeans, wheat and dry beans is generally 7.0, but these crops will tolerate soils with a pH of less than 7.0 better than sugarbeets. Higher pH levels, 7.0 to 7.5, will not necessarily reduce yield in other crops, but may not benefit other crops as much as sugarbeets.

Soil pH has an impact on nutrient availability in soils. The pH "sweet spot" is 7.0. Most macro- and micro-nutrients are available at 7.0. That is the main reason most crops grow best at a pH level of 7.0. Nitrogen, phosphorus, potassium and boron are most available at a pH range of 6.5 to 7.5. Calcium and magnesium are most available at a pH range of 7.0 to 8.5. Zinc and manganese are most available when soil pH is less than 6.0. Depending what nutrients are needed most for individual crop growth, balancing pH is one way to increase crop yield.

Soils in the Michigan Sugar Company growing region can be quite variable. Within fields, it is not uncommon to have pH ranges from 5.9 to 7.0. Due to soil variability, growers may not realize that a field has pH issues. Fertilizer application and row crop production tend to acidify soils or lower pH values. If soils are not sampled properly, soil tests may not identify low pH spots in the field. While these spots may not be an issue for other crops, it can be a serious yield limiting factor for sugarbeet production.

The best method for correcting the pH levels within a field is to GPS sample and variable rate apply lime every two to three years. GPS sampling will not only identify pH issues, but other nutrient deficiencies that are limiting production as well. Growers that are concerned about the cost of GPS sampling can reduce cost by sampling by soil type or sample problem spots within a field. If soil pH is determined to be an issue, growers can apply lime as needed.

There are a number of liming materials that are available for correcting pH issues. Material effectiveness is generally measured by total neutralizing power or calcium carbonate equivalent, along with a fineness factor. Beet lime or lime from the sugar factories is considered a good quality liming material due to its good

neutralizing power and fineness (Draycott and Christenson 2003).

Michigan Sugar Company has an abundance of beet lime available for growers at a low cost. Growers may benefit from applying beet lime the year prior to sugarbeets, to maintain and improve sugarbeet yield. Beet lime can improve low pH levels in problem spots without seriously increasing pH levels in parts of the field with high pH levels. Research in 1999, showed applying as much as 2.5 tons per acre of sugarbeet lime every three to four years to fields with pH levels of 7.4 or greater did not reduce soybean, corn, dry bean and wheat yield (Christenson and Warncke 1999). Beet lime has trace levels of nutrients and may also reduce the incidence of Rhizoctonia crown rot. Sugarbeet growers can improve productivity by applying beet lime as a standard practice in a soil fertility program. ■

*Draycott, A.P. and D.R. Christenson. (2003) Nutrients for sugarbeet production soil-plant relationships. CAB International.*

*Christenson, D.R. and D.D. Warncke. (1999) Yield of sugarbeet, soybean, corn, field bean and wheat as affected by lime application on a high pH soil. North Central Extension-Industry Conference.*

*GPS soil testing and variable rate application of lime can identify and correct pH issues within a field without the concern of over or under correcting soil pH.*



*Lime is loaded into a trailer to be trucked to sugarbeet farms throughout mid-Michigan.*



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by Carl Strausbaugh, USDA, Kimberly, Idaho

## Improving Sugarbeet Storability

Storing sugarbeets, in piles, under ambient conditions, in production areas with mild climates, allows for longer and more productive factory campaigns. In southern Idaho, approximately one-third of the roots are directly processed, one-third are held in short-term storage, and one-third are held in long-term storage (greater than 90 days). Some beets in long-term storage will be held up to 150 days, leaving roots susceptible to a number of negative influences. Extreme temperature fluctuations, excessive moisture, restricted air flow (snow, soil, weeds, and rotted roots), microbial development, respiration rate, and buildup of impurities can all negatively impact sucrose recovery. In addition to disease and water-related problems in the field, wounding during harvest and transport will also negatively influence beet storability; therefore, saving sucrose in storage begins with cultivar selection for disease resistance and storability along with good field and harvest management.

Controlling sucrose loss in storage has been an industry goal since the 1950s. Since that time, sugarbeet roots have been documented to lose between 0.2 and 0.5 lbs of sucrose per ton of sugarbeets per day. Based on historical data, sugar companies could expect to have 8 to 17 percent sucrose reduction in 100 days with healthy roots under good storage conditions; however, cultivar selection for storability, although tried by a number of groups over the decades, has proven to be a challenge. In order to establish a cultivar selection program for storability in Idaho, both outdoor and indoor approaches, were investigated.

Our first approach (details in Plant Disease 92:581-587) studied selection under ambient conditions in an outdoor sugarbeet pile. In mesh onion bags, eight beet samples were placed in a metal corrugated pipe (not part of ventilation system, but the pipe had holes) on top of plywood at least 20 feet from the edge of the pile (Figure 1). The pipe was sealed off using hay bales. This approach allowed for easy access to the bottom and middle of the pile, facilitated sampling over time, and samples

were not subject to loss during reloading. By placing the bags near the bottom and center of the pile, conditions were assumed to be more stable. To improve our calculation for sucrose reduction, samples taken at harvest were only compared with storage samples originating from the same field plot. The percent sucrose was determined with a polarimeter at harvest, but sucrose in storage samples was determined via gas chromatography (GC) analysis. GC was utilized for stored samples, because polarimeter readings may be influenced by the buildup of impurities.

Our second approach (details in Plant Disease 93:632-638) involved placing beet samples on top of an indoor pile (Figure 2). Conditions on top of the indoor pile were more stable and fungal growth on roots could be observed without disturbing the bags. Based on observations, there was more fungal development and regrowth with roots on the surface of the indoor pile than in the pile, so storage on the surface was assumed to be more challenging and might provide for better cultivar separation.

Results from our outdoor studies indicated that differences in storability exist between healthy roots from different cultivars. Roots from six cultivars produced in a disease-free commercial

field in 2005 and 2006 had sucrose losses ranging from 14 to 31 percent after storage for 144 and 142 days, respectively. This data was consistent with historical losses in storage research by others; however, statistically separating the best cultivars from the worst on a consistent basis was problematic. Roots from the same six cultivars produced in a Rhizomania, Beet necrotic yellow vein virus (BNYVV), infested field, in 2005, had sucrose reduction ranging from 41 to 94 percent and cultivar separation was significant ( $P < 0.0001$ ). In 2006, with BNYVV infested roots under more favorable storage conditions, sucrose reduction only ranged from 13 to 32 percent, but cultivar separation was significant ( $P = 0.0133$ ).

Roots in 2006, from the same infested plots, were also included as check cultivars in indoor storage tests, where sucrose reduction ranged from 24 to 60 percent and cultivar separation was significant ( $P < 0.0001$ ). Roots from 26 additional commercial cultivars were also included with the 2006 check cultivars in the indoor tests. Sucrose reduction for these 26 cultivars ranged from 13 to 90 percent and significant ( $P < 0.0001$ ) differences between cultivars were evident. In 2007, similar differences were observed, with significant differences



**Figure 1.** Sugarbeet cultivars being compared for storability inside pipe placed in an outdoor commercial sugarbeet pile.

( $P = 0.0004$ ) evident within both the check and commercial cultivars when BNYVV-infested roots were utilized. When comparing the same 20 commercial cultivars assayed in 2006 and 2007, the rank correlation was similar ( $r = 0.55$ ,  $P = 0.01$ ) indicating cultivar performance did not vary between years. In addition to sucrose loss, BNYVV also had a significant negative impact on storage root surface rot, weight loss, and susceptibility to freeze damage. The increased susceptibility to freeze damage could potentially make pile management more challenging, because roots must be processed in seven to ten days if they thaw. To help alleviate sucrose losses in storage, roots originating from highly diseased fields might be considered for early processing and not storage.



**Figure 2.** Sugarbeet cultivars being compared on top of an indoor commercial sugarbeet pile.

Work outdoors under ambient conditions was necessary to establish real-world losses; however, cultivar selection was better with the indoor assay using roots produced in BNYVV infested commercial fields. Since most fields in Idaho have some level of BNYVV infestation, all Idaho commercial cultivars are required to have some BNYVV resistance; all possess at least the Rz1 gene for resistance. With the indoor storage approach and BNYVV infested roots,

cultivars that retained the most sucrose also had resistance to BNYVV and the least fungal growth and weight loss. By combining cultivar selection for storage and disease resistance with good field and harvest management, grower-owned cooperatives should be able to increase profitability. ■



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by Craig Rieman, Agriculturist  
Central District, Sebewaing

## Bernia Family Farms, Akron Michigan

Meet Bernia Family Farms, located in Akron, Michigan. This family farm was founded in 1932 by Sy Bernia. His son, Ron Bernia, started farming with him at a young age and by 1956, Ron farmed 160 acres, including 20 acres of sugarbeets. He is now retired but remains very active by helping out whenever possible. He is typically running for parts, moving people around and, most importantly, keeping everyone fed. Ron has been involved in several organizations throughout the years, including 35 years on the zoning board, multiple terms on the Farm Credit Services Board, and as a founding member of the Gateway Sportsman Club.

In the late 1980s, Ron started turning the reins over to his sons, Scott and Jeff, followed by their youngest brother, Art, in the late 1990s. Sugarbeets are viewed as a core crop in their farm business and they own a combined total of 720 shares in Michigan Sugar Company. They have a four- to five-year sugarbeet rotation with corn, wheat, edible beans and food grade soybeans filling in the balance. They are very proud of their operation and the many dramatic changes that have evolved throughout the years. Five years ago, they converted to 22-inch rows. Originally, they harvested beets with a 2-row John Deere harvester, now they harvest with a 12-row Amity. They changed

from pulling all of their dry beans to clipping half of them, depending on the variety. They have switched over to disk ripping most of their fields compared to moldboard plowing. They utilize new seed technologies like Roundup Ready® corn and sugarbeets. They have also been progressive with new techniques like the use of stale seed bed planting and spring seeding clover to minimize issues with Rhizoctonia. This year they are very proud to have won the Michigan Sugar Company High RWST Award for the Central District.

When they are not busy with the farm, the entire family enjoys outdoor activities like fishing, hunting, snowmobiling and spending time up North. They are also active in their church and local community. Scott, and his wife, Donna, have two daughters, Sarah (21) and Ashley (18), who are both musically gifted. Jeff and Laura, also have two children, Heather (17) and Matthew (14), who also enjoy music and snowmobiling. Scott is on the Thumb Oilseed Producer Board and Jeff serves on the Bay Side Best Bean Board. Art and his wife, Stephanie, have two young boys, Sy (4) and Kent (2). In addition to overseeing the financial management of the farm, Art also has his own accounting business, Bernia Financial Services, P.C., and specializes in agricultural accounting. Bernia Family Farms has two full time employees, Terry Coleman and Mike Kirk, who have key roles in the farm operation.

A fourth brother, Andy Bernia, is known by many sugarbeet growers as the District Marketing Manager for ACH Seeds. Andy, his wife, Georgie, and son, Theron (6), are not partners in the farm operation, but enjoy helping out whenever possible, especially during sugarbeet harvest. Andy also owns shares in Michigan Sugar Company and has been a long-time supporter of the sugarbeet industry. He is especially proud that his family was able to win the high sugar award by planting Crystal RR827.

The Bernia family continues to be very interested in new technology and is optimistic about what the future may bring. With the help and support of their family, friends and community, they plan to be here for future generations. ■

*Bernia Family Farms is effectively run by, left to right: Andy and Jeff Bernia, Mike Kirk, Art Bernia, Terry Coleman, Ron and Scott Bernia.*







## Mike McCormack, Sunfield, Michigan

by Ralph Fogg, Chief Agronomist

Mike McCormack has been farming all 52 years of his life in the Sunfield area, north and west of Lansing. Mike claims to have the longest drive to the nearest factory; 122 miles to Bay City. His 2,000-acre farm has always had the traditional crops of alfalfa, corn, wheat, soybeans and sometimes dry beans, but in 2003, Mike decided to give sugarbeets a try. His grandfather had grown sugarbeets and delivered them to the Lansing factory. Mike's neighbor, Weldon Brown, also raised sugarbeets for the Lansing factory and would tell Mike about how beets were a dependable and usually profitable crop to grow.

Mike says he always likes a challenge and enjoys learning by doing, so he decided to grow 240 acres of sugarbeets to diversify their farming operation.

In 2004, Mike bought 400 shares in the Michigan Sugar Company cooperative; he now owns 500 shares. Pickles were added to his rotation in 2007.

Mike likes the fact that he can usually plant last year's beet fields earlier the next spring, because beets draw water out until they are harvested and the ground is drier. All beets are harvested with carts to reduce compaction of the soil. Rhizoctonia crown rot is not usually a problem, but this year all beets will receive Quadris because Mike is using some varieties that are especially susceptible to the disease. Last year, he sprayed the beets three times for leafspot. He likes to have them protected well into September because other crops require his attention then and he usually harvests his beets later in the season.

Having a good crew is very important to a successful harvest season and Mike is thankful that many people return every year. He has brought the entire crew, including spouses,

to Bay City for a factory tour. This seems to keep their interest in sugarbeet production. Maybe it's the dinner at Zehnder's after the tour that helps too. He refers to his wife, Pam, as the "Topper Chick." Pam tops most of the beets and you never see poorly topped beets in their trucks.

Brother, John McCormack, and his son, Jason, run the 150-cow dairy, and the farm supplies most of the feed for it. They also have back-hauls of beet pulp and lime for the farm. About half of the acres are planted to rye each year to reduce wind erosion, but especially to build up the soil structure and organic matter.

The first year they grew beets, they had a turkey hunting trip scheduled in Wyoming for mid-April. Mike ran into Michigan Sugar Company agronomist, Tom Schlatter, a few weeks before the trip and Tom told him that he had to plant beets in early April so Pam went alone and Mike planted beets! Pam had a very successful turkey hunt and bagged several birds and got her picture on the hunting club's brochure for the next year.

With all this going on, you would think there would not be much time for fun, but that is not the case. Mike has skied on the Himalayan Mountains and the Alps in Austria and he and Pam regularly go to Colorado to ski. What is even more amazing is the fact that Mike does all of this from his wheelchair and from specialized adaptations on his equipment, but he never uses that as a reason not to try something new and to be successful along the way.

Mike is looking forward to 2010 and the future of the Co-op. He feels this has been a good investment and will continue to be in the years to come. ■

*Mike McCormack decided to give growing sugarbeets a try in 2003*





## 2009 Factory Capital Improvements

by David Noble, Vice President of Operations

### 2009 Capital Project Summary

The following projects represent just three of the 30 factory capital projects completed during the year, but 50% of the budget. Projects covered a wide range of issues from building repairs, to sugar silo structure reinforcement, new electrical and control updates, insulation and other energy saving projects, plus pond rebuilding. Each project encompasses extensive work and involvement from the factory staffs and corporate engineering from design work, site reviews, obtaining quotes, installation, training and operation. Even beyond installation, project work continues with troubleshooting and correcting issues, documentation, establishing critical parts in the purchasing system and establishing maintenance routines. Major step changes in technology, such as the Croswell boiler controls, also require training and development of new skills at the factory level. This ensures long-term operational performance and paybacks will be obtained and installed equipment will deliver the designed 25 to 40-year service lives through proper care and maintenance.

### Caro Cossette Mixer

The major project this past summer was a replacement cossette mixer at Caro. Since the 1960s, the original mixer had limited capacity and produced a hot diffusion juice, making it less energy efficient. With the proposed changes, the new mixer would handle higher slice rates with lower water consumption in diffusion thereby significantly reducing boiler fuel usage.

A suitable mixer was sourced through BMA (the original diffuser equipment supplier) from a factory in Germany. The used diffuser was one-sixth of the price of a new unit. This mixer underwent a lengthy journey through Germany, via the Atlantic and Great Lakes, then final trucking to Caro. Once there, it was split apart and refurbished to "as new" condition prior to being installed, section by section, in the beet end of the factory.

Although the mixer was the centerpiece of the whole project, the bulk of the work and cost involved heaters plus steam and juice piping. By exchanging heat between the incoming cossettes and diffusion juice in the mixer, heat is returned to the tower diffuser to keep the extraction of sugar efficient. The resulting cooled diffusion juice flowing to purification can then be reheated using condensates and low-grade evaporator vapors. These so-called low-grade heat sources were previously wasted as the juice from the old mixer was too hot. Now they are being utilized to reduce the overall factory steam usage and boiler fuel.

A project of this scope involves a lot of detail, which was handled by a combination of corporate engineering and factory personnel. The project scope included pumps, controls, flooring, re-routing underground drains, belt conveyors, electrical changes and a new mixer drive. Two heaters from Carrollton were refurbished and used as part of the project.

This was a major change to the heart of Caro's beet end and a major gain for factory performance. The diffuser operators quickly optimized operation over several weeks of learning and control changes. Already they have shown a 10 percent reduction in sugar lost to pulp with up to a 20 percent reduction in "draft" or water

used. As any water in the process ultimately has to be evaporated, this substantial reduction in draft provides the energy savings but also allows more sugar throughput. Despite the extensive work and substantial cost, the project will have a three to four-year payback due to the significant impacts.

### Sebewaing Pulp Press

About five years ago, a pulp press gearbox failed mid-way through the campaign. A replacement was sourced from Ireland and the gearbox was rapidly shipped to Sebewaing to complete the campaign. The broken gearbox was subsequently repaired as a spare for pulp presses at two factories.

Last winter, the remaining parts of the full pulp press from Ireland were rebuilt to "as new" condition in a workshop in Minnesota. Such a shop has to be able to turn and machine 35-foot long spindles. During the summer, the different parts of the press and spare gearbox were lifted into place on the third floor of the factory alongside the original large press.

This project involved removing an older and smaller pulp press and substantial steelwork improvements to carry the increased weight of the refurbished press. It also required a special crane able to lift and reach with such a weight past the lime kiln to the centrally located press area. These larger presses have roughly three times the capacity of the older presses and are substantially built to handle the higher mechanical forces to produce lower pressed pulp moistures.

The project has proven its value by the new pulp press achieving 2 to 3 percent lower pulp moisture than the older, smaller presses. While this change seems relatively small, it has a significant impact on reducing fuel needed when drying the pulp. It also influences pulp loss, which allows more flexibility on diffusion operations in the main process. This project was also 40 to 50 percent less costly than purchasing a new press as it used an existing asset. Parts from the smaller pulp press were used to repair another press at Caro, so several process gains were made at two locations.





**Top Right:** The larger pulp press installed in the Sebewaing factory has proven its value — resulting in 2 to 3 percent lower pulp moisture than the older, smaller presses

**Bottom Right:** A new cossette mixer has produced major gains for Caro's factory performance — showing a 10 percent reduction in sugar lost to pulp with up to a 20 percent reduction in "draft" or water used.

## Croswell Boiler Controls

Throughout the factories we have controls that date from the 1960s through to the latest computer-based systems. As technology changed, and as different parts of the factories were updated, new control systems were applied. More recently, control systems have evolved more rapidly, just like computers and laptops at home, making the older controls obsolete and without repair parts.

This summer, all the controls on both coal boilers were replaced and updated with new sensors, programmable logic controllers or PLCs, and a new computer interface for the operators. Key changes to the prior system were new oxygen sensors plus synchronizing the coal boilers and package boiler to act as "one" boiler.

To ensure the full combustion of coal and release of its energy, all boilers are designed to have "excess air" flows. If too much air is used, then energy is wasted through heating the extra air and the same air taking more heat up the stack. The new oxygen sensors indicate the level of excess air and allow

adjustments to be made on coal bed depth and air flow. With the coal boilers matched with the package boiler, there are also less performance swings giving a more stable operation. These changes have resulted in about 5 percent less air and about four tons per day less coal burned.

The PLCs and computer interfaces ensure reliability as the system now has its own backup or control-redundancy. Boilers can be controlled via either system if the other fails. More information is now available to the operators in the form of trends and daily report screens. Trends allow potential problems to be seen earlier and corrected, and electronic records allow troubleshooting of alarms and failure modes to prevent similar events occurring in the future.

Although the controls were replaced due to age and obsolescence, the performance improvements will result in a three-year pay-back of the costs, which was not originally anticipated. ■





# Beet Pile Management



## Reclaiming Beets from Long Term Storage Piles

by Gary Sauer, Agricultural Maintenance Manager

Every year, our goal is to put the cleanest beets possible into the piles that will be kept for long-term storage. This all starts in the field with each grower doing their best to harvest and deliver clean beets in every truckload. As the beets reach the receiving station and are run over a piler, we try to remove as much of the dirt, weeds and tops that may still be mixed in with the beets before putting them into a pile. Most of the time, Mother Nature provides us with good harvesting conditions that enable all of us to store clean, cool beets in these piles, but when field conditions turn wet, like they did this past year, there is an increase in the amount of dirt that remains on the beets even after they have been run through a harvester and piler. Some of this dirt may have been clumps of wet soil that stuck together and some of it is dirt that remained on the beets. It is very difficult for the machinery to remove all of this wet, sticky soil and some of it ends up in the beet piles despite everyone's best efforts. For many years, everything that was put into the beet piles was loaded into various transfer trucks and delivered to the factories. In recent years, a number of systems have

been used to try to eliminate as much of this dirt and trash as possible before it enters the factories.

In 1997, a new stationary conveyor and screen system was installed at the Bay City plant to remove the dirt that had been stuck on the beets. This system consists of two large hoppers for unloading trucks or railcars, several large conveyors to move the beets, and a large vibrating screen to remove the dirt from the beets. All of the beets that enter the factory are first cleaned in this system.

Several years ago, we began experimenting with a modified Ropa Maus to see if it could be used to load and clean the beets at the same time that the beets were being removed from the storage piles on the receiving stations. We have been using a Maus to load all of the beets at the Dover receiving station for three years and also began using it at the Sandusky receiving station this year.

A new method of screening and loading the beets is being used at the Meade, Ruth and Verona receiving stations this year. The method

that is being used at these locations is a large, specially-built beet cart. After a loader fills the cart with beets they are run through a cleaning area and then up a conveyor and into a waiting transfer truck.

There is another new method being used in the Red River Valley this year too. It was built by Kringstad Ironworks of North Dakota. It consists of a hopper, vibrating screen and loading conveyor that is mounted on a semi-trailer. The trailer is stationed near the pile that is being loaded. A loader feeds the beets into the hopper. The beets then go over the vibrating screen to clean them. After they are cleaned, the loading conveyor deposits the beets into a transfer truck.

Typically, for each ton of beets that are run through one of these cleaning operations, about 60 to 120 pounds of dirt and trash is removed. The material that is separated out of the beets is then hauled away and spread on nearby farm fields on a regular basis. While there are pros and cons to each of these cleaning systems, they all help to deliver a cleaner beet to the factory for processing. ■

*Loading and cleaning beets using the new carts.*



# High Sugar Producers 2009

## 2009 High Sugar Producer Award – East District

by Keith Kalso, Agricultural Manager

Recognizing high producers has been a practice in the East District for many years. High sugar percent was the standard for awards before the new quality provision in the grower agreement was adopted. Since the quality change has taken place, the recognition is now based on RWST (Recoverable Sugar Per Ton).

The East District's high sugar producer for Crop Year 2009 was the Volmering Family Farm, Inc. The Volmerings produced 322 pounds of recoverable sugar per ton this past growing season. A wood plaque with beet knife attached was presented to recognize this accomplishment at the East District Annual Meeting on December 8, 2009.



Jim Emming received the East District High Sugar Producer Award for Volmering Family Farm, Inc.

## 2009 High Sugar Producer Award – West District

by Tom Schlatter, Agriculturist

The Mammel Family Farm was established in 1906 by Mike's great-great-grandfather. Sugarbeets have been in the crop rotation of the family farm since 1918. Now, Mike Mammel has taken home the prize for having produced the most sugar per ton in the West District, in 2009. Mike produced a crop of 28.27 tons per acre with a 20.38 percent sugar and a clear juice purity of 97.28 equalling 318 pounds of sugar per ton.

Mike and his dad, Gordon, farm just west of the Bay City factory. Their crop rotation is soybeans, corn, soybeans and sugarbeets. In the fall, they applied 120 pounds of potash and incorporated it with a chisel plow. In the spring, they incorporated 220 pounds of 33-0-0 with 12 percent sulfur and applied 20 gallons of 16-17-0 with the planter.

Crystal 827RR was planted on April 17, 2009, at a  $\frac{3}{4}$  inch depth and a population of 46,464 seeds per acre. The sugarbeets were sprayed with Quadris® at the 6 to 8 leaf stage for Rhizoctonia crown rot and sprayed three times with Roundup PowerMax® at 22 ounces per acre for weed control. Mike also sprayed Proline® for Cercospora leafspot at 75 DSVs and again with Inspire® at 135 DSVs. The beets were harvested in mid-October.

Congratulations, Mike, on a job well done.



The West District's High Sugar Producer Award was presented to Mike Mammel of Mammel Family Farms

## 2009 High Sugar Producer Award – Central District

by Dennis Monte, Agricultural Manager

The award for high recoverable sugar per ton (RWST) in the Central District was presented at the Central District Annual Meeting to Bernia Family Farms of Akron, Michigan. When we interviewed the Bernia Family to find out how they achieved the high RWST, they mentioned a number of growing practices that lead to growing quality sugarbeets.

Here is a list of "points of interest" to growing a great crop of beets we gleaned from talking and listening to the Bernia Family.

- Plant early in narrow rows
- Be very intense about good populations
- Spray herbicides very timely, using BeetCast when possible
- Spray fungicides following BeetCast
- Select the best seed for soil conditions
- Fertilize according to soil tests and recommendations and past history
- Pay close attention to nitrogen use.
- Use lime if needed
- Extend beet rotations when possible
- Pay attention to the "job" the beet topper is doing and make adjustments often
- Do the best job harvesting you can for conditions, making adjustments accordingly
- Be highly motivated to grow the best sugarbeets and learn from those knowledgeable and interested in how to "do it better"
- Strive for a better quality crop

Scott, Art and Jeff Bernia of Bernia Family Farms accept the High Sugar Producer Award for the Central District



## Graceland Fruit Cooperative, Inc.

What do Michigan-grown cherries and sugar-beets have in common? Come to find out, quite a lot actually. You see, Michigan Sugar Company has been a supplier of sugar to Graceland Fruit Cooperative, Inc., from the very first days back when Don Nugent, a local entrepreneur from Benzie County, Michigan, started looking for creative ways to convert a bumper crop of tart cherries into a value-added product that would expand Graceland's reach into the hearts, minds, and products of food processing companies around the country; and eventually around the world.

It was way back in 1973, when Don Nugent started Graceland Fruit Cooperative, Inc., with a group of local farmers in the small community of Frankfort, Michigan. Cherry growers in that part of Michigan were in need of a local processing plant to facilitate the increasing needs of local cherry farmers for a place to process their tart cherry crops. At that time, the company had four full-time employees, including Don Nugent; a farmer, businessman, and a "hands-on" operations guy. Today, though the efforts, determination, and perseverance of Nugent, the company, which operates two facilities, has grown into the largest full-time employer in Benzie County, and the largest infused dried fruit manufacturer in the U.S.

From 1973 until 1984, Graceland Fruit Cooperative, Inc., operated as a tart cherry processing facility only. Faced with a bumper crop of cherries in the summer of 1985, Mr. Nugent had to figure out what to do with all of the processed product from the prior year's crop that was already in their freezers. At this point, he installed a small dryer at the Forrester Road processing plant, and started to dry cherries. This was no small feat. The buckets of frozen cherries had to be thawed, drained, washed, placed on to the drying pans, and then dried in the dryer. With little knowledge of drying time and temperature for cherries, the first few runs were simply done by trial and error. They learned from the experiences, and continued to improve the processes. Once the cherry drying was mastered and the market need for the dried cherries was being met, Graceland moved on to other fruits.

One of the first forays, outside of drying cherries, into other fruits or vegetables was cranberries. Naturally tart by nature, cranberries would make a perfect addition to the line of infused dried cherries Graceland had already perfected at their Frankfort facility. Nugent presented the idea of dried cranberries to Ocean Spray Cranberries. His first attempt to convince Ocean Spray that his idea was workable was hardly successful; as he was told "Cranberries are too sour to be eaten by hand as a snack." Persistence paid off, and finally after many attempts to present the cranberry idea to Ocean Spray, Nugent succeeded! In the fall of 1988, Graceland installed its first commercial dryer, and proceeded to "proof of production" runs for Ocean Spray. Finally, in the summer of 1989, Graceland entered into a co-packaging arrangement with Ocean Spray Cranberries, and employment quickly increased from four to forty within a few months of this agreement.

The market for dried fruits in the United States was growing fast with the introduction of the infused dried cranberry into the industrial arena as a food ingredient (included in breakfast cereals, for example), and Graceland Fruit was there to take advantage of this new interest in American diets. It was evident there was room in the market for the introduction of other fruits as well. Requests for different sized dried fruit pieces started to filter in. In order to meet the demand, Nugent hired a consultant to help develop a way to slice the dried fruit without tearing it into pieces. This technology was developed, patented and is still being utilized by Graceland today to provide julienne sliced, diced, and bite-sized fruit pieces to industrial food manufacturers throughout the U.S. and abroad. Soon, a full-time research and development person was brought on board to help in the production and processing of blueberries, strawberries, peaches and apples.

In 1994, Graceland was awarded the prestigious Ocean Spray Co-Packer of the Year Award. As Graceland's demand for sugar continued to expand alongside their demand for infused dried fruits, they could no longer satisfy their sugar consumption at the plant using tote bags of sugar. So that year, Michigan Sugar Company (formerly Monitor Sugar Company) partnered with Graceland Fruit in the installation of a large, state-of-the-art bulk sugar silo. After the bulk silo was installed, sugar could be continuously streamed into the production process, thereby eliminating labor, and making the entire process automatic.

In 1995, Nugent persuaded his son, Steve, to leave a career working for Anderson Consulting and join Graceland Fruit to manage the sales of the company's products. Steve quickly put together a consortium of 16 manufacturers' representative firms to create a network of salespeople that span the United States, Europe and Asia. Under Steve's guidance, the company's sales have increased each year.

In the summer of 1997, Graceland purchased the "FreezeFlow" fruit product line from Rich Products. FreezeFlow is a patented technology that allows fruits to be frozen and yet remain "pourable" for use, for example, as ice cream toppings. This acquisition allowed the company to begin producing and marketing frozen fruits to serve the dairy, fresh baked goods, and frozen baked goods markets.







In 1998, Graceland was granted the Michigan Agricultural Exporter of the Year Award, having grown export sales from zero to well over \$2 million in less than two years. In 1999, Graceland Fruit, Inc., was awarded the Michigan Manufacturer of the Year Award from the Michigan Manufacturer's Association, and was also chosen as the National Agricultural Marketer of the Year by the National Association of Agricultural Marketing.

Today, Graceland continues to manufacture extraordinary fruit and vegetable ingredients used in breads, muffin mixes, bagels, trail mixes, ice cream, frozen dough and many

other consumer goods, with new ingredients and applications being explored every day.

If you are a fan of Food Network, watch for Don Nugent there; as Don and Graceland Fruit's line of infused dried fruits was recently featured on the Food Network series "How'd That Get On My Plate?" hosted by Sunny Anderson. The cherry episode first aired October 20, 2008, and is occasionally repeated on The Food Network. ■



*Jerry Coleman is Vice President of Sales & Marketing at Michigan Sugar Company.*

# Spotlight on Youth & Education

## 2009 Youth Sugarbeet Project Awards

### Central District: Caro Area

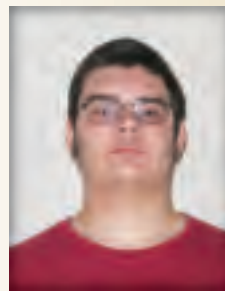
The annual Awards Banquet was held on November 30, 2009, at the Brentwood where eight participants received Premier Awards: Eric Shian, Jennifer Mossner, Jessica Hecht, Bryce Hecht, Haley Zwerk, Nathan Bednarski, Abigail Hecht, and Eric Mossner.

Top honors went to three Prestige Award winners: Joe Bublitz, Kristin Reinbold, and Landon Zwerk. The Prestige winners read the project report from the back of their booklets.

All participants received an umbrella, ID tag, and a blanket. Premier Growers received an Ott reading light and Prestige Growers received a backpack and an Ott light.

Special guests also in attendance were from the Central District local board; Brian Rayl, Kent Houghtaling, Rob Henne, Mike Richmond, and Joel Gremel. Ray VanDriessche was also in attendance. ■

### Prestige Award Winners ✓



Joe Bublitz



Kristin Reinbold



Landon Zwerk

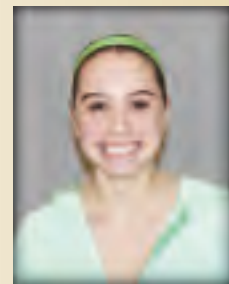
### Central District: Sebewaing Area

The Sebewaing Area Youth Sugarbeet Banquet was held on Tuesday, January 5, 2010, at Immanuel Lutheran Church. Sixty-four people attended the program and many participants along with their leaders, parents, and board members. The participants were introduced and the award winners were announced.

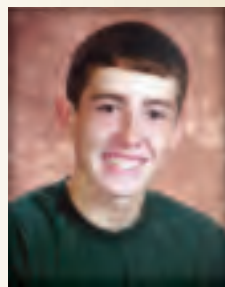
Three Prestige Award winners and seven Premier Award winners were presented their prizes. The three Prestige growers were: Andrea Schuette, daughter of Troy and Leanne Schuette; Erica Gremel, daughter of Joel and Lyndsay Gremel; Joe Lutz, son of Matt and Terri Lutz. ■



Andrea Schuette



Erica Gremel



Joe Lutz

### East District

The East District held their Sugarbeet Youth Project Awards Banquet on January 11, 2010. There were 26 participants in this season's project resulting in six Premier Award recipients and two Prestige Award recipients. The Banquet was held at Woodland Hills Country Club in Sandusky. Entertainment was provided by Dave Kujat featuring solo saxophone and contemporary music.

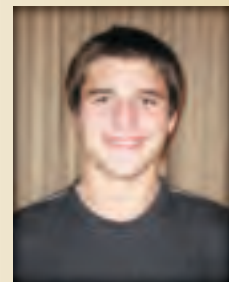
Harbor Beach High School senior, Heidi Grekowicz, was the master of ceremonies for the evening. All participants received a Michigan Sugar blue blanket, an umbrella, and an ID tag holder.

Those receiving Premier Awards were: Krista Roggenbuck, Lisa Volmering, Jessica Roggenbuck, Ashley Talaski, Shaun Roggenbuck, and Katie Gentner. The Premier Award was an Ott reading light.

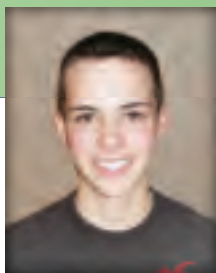
Receiving top honor Prestige Awards and recognition was Heidi Grekowicz and Scott Grekowicz, whose parents are Chris and Michele. The Prestige Award was a backpack and an Ott reading light. ■



Heidi Grekowicz



Scott Grekowicz



Kyle Crumbaugh



Timothy J. Frahm



Hunter Hrabal

### West District

The West District held their annual Youth Sugarbeet Project Awards Banquet on January 6, 2010 at the Trillium Banquet Center in Saginaw. Thirty-five participants received awards for their participation in this project. Seven students received Premier Awards for outstanding achievement and three received the Prestige Award for superior accomplishments. Over 70 people attended the banquet including participants, parents and family, Michigan Sugar Company staff and special guests.

The Premier Awards were presented to Allyssa and Amber Brown from the Breckenridge area, Bryce and Lance Frahm from the Frankenmuth area, Amy and Kelly Hecht from the Frankentrost area and Steven Merrell from the Laporte area. Participants receiving the Prestige Award, which is the top honor, were Kyle Crumbaugh (parents Clay and Christine) from the Breckenridge area, Timothy J. Frahm (parents Eric and Theresa) from the Frankenmuth area and Hunter Hrabal (parents Kurt and Cynthia) from the St. Louis area.

Scoring for this year's awards, as in the past years, was based on five criteria; written test, interviews by company personnel, youth project books and final story, attendance at the District Agricultural Day, and county fair participation.

This year's participants all received a fleece sports blanket with logo, a compact umbrella with logo and a leather ID tag. The Premier Award winners received a high quality Ott reading light and the Prestige Award winners received the Ott light, plus a multifunctional backpack with logo.

Entertainment was furnished by Tommy Anderson, a comedian/magician, who mystified the crowd with disappearing fuzz balls and caused Sally Martin's card to reappear in a dried up, old sandwich. Everyone had a great night of fun, good food, prizes and stimulating conversation. Paul Pfenninger, Vice President of Agriculture, presented a short update on factory slice and pile storage.

Over the summer, participants were invited to attend a District Agricultural Day at the Blumfield piling grounds and the Research Center. Students were given information on Rhizoctonia, Rhizomania, Cercospora, nematodes and weed identification. This year's Summer Fun Day was held in Midland at a Great Lakes Loons' baseball game. The rain never stopped and after a nice meal the buses were turned around and headed home. Everyone received rain tickets and some families traveled back to Midland later in the summer for a nice dry evening. ■



**Betaseed has extended the application deadline for the 2010 scholarship program to March 31, 2010.**

**One \$500.00 scholarship** will be awarded to **senior high school students** in each of the three Michigan Sugar grower districts .

To qualify, each student **directly related to a Michigan sugarbeet grower** needs to send in a **300 word essay** on a topic related to the sugar industry with a completed application.

For more **information** or to receive an **application**, **contact your local Betaseed representative!**

research breeds confidence





## Giving Back to Our Communities

The foundation of Michigan Sugar Company's success for over 100 years has been the growers, the management team, a talented company workforce and the communities in which we live, work and play. As a company, we believe we are not only a provider of jobs and a positive economic stimulus, but also a neighbor who cares about the wellbeing of its communities' citizens. These communities, both big and small, have a common thread and that is the need for support, financially, and through individual involvement for various reasons. Because we feel strongly that our communities have played a large role in the success of our company, Michigan Sugar Company has made it a priority to give back in a number of ways; lending a helping hand to those in need by partnering with local charitable organizations, through individual involvement, supporting education, sponsoring local sports programs and strengthening the arts.

Michigan Sugar Company receives many requests for support in one way or the other and although we would like to honor all requests, we have to spread our support wisely. In the decision-making process of evaluating requests to contribute, we prioritize, first of all, that we will help those in need and, secondly, have as much of a widespread benefit to the community as possible.

Let's take a look at the different approaches, or philosophy, that Michigan Sugar Company uses in giving back.

**Sugar Donations:** Approximately 80,000 lbs. of sugar, annually, is distributed to 35 to 40 mid-Michigan food pantries; the United Way, local churches, the Eastern Michigan Food Bank Council, and various fundraising events.

### Monetary donations to:

**Support family-oriented destinations** such as the Mid-Michigan Children's Museum, Area Family YMCA, and Saginaw Children's Zoo.

**Charitable organizations** such as United Way, Salvation Army, CAN Council, Heroes for Kids, Tri-Kids Triathlon, and American Cancer Society (i.e., Relay for Life), and others.

**Scholarships** to Delta College, Northwood University, Saginaw Valley University, as well as the Albert Flegenheimer Scholarship and the Michigan Sugar Queen Scholarships.

**Foundations and events** such as the Chocolate Affair (Delta College), Shocks & Saves (MCVI Foundation), Bay Area Community Foundation, Saginaw Community Foundation, and the Chocolate Lover's Benefit (Underground Railroad).

**Educational programs** such as Junior Achievement, Read Association, Michigan Youth Sugarbeet Project, Michigan FFA, and the new MSU Research Farm.

**Community events** such as Taste of Home Cooking School, Zehnder's Snowfest, local fairs, festivals, and parades.

**Local Arts** – Matrix Midland (Center for the Arts) and the Saginaw Art Museum.

**Community Sporting Events** such as the Dow Classic Women's Tennis Tournament, Spirit Hockey, Pioneer Sugar Bowl – Reese vs. USA, Carrollton Volleyball Tournament, Croswell Basketball Tournament and Coryell Baseball Field in Bay City.

**Individual Involvement:** Through company-approved time, employees give of their talents in the United Way, Habitat for Humanity, Project READ, Junior Achievement, Rotary Club, local Chambers of Commerce, caring for the Bay City River Walk Gardens, community blood drives, and a number of other organizations.

The many opportunities of giving back to the community listed above are Michigan Sugar Company's means of accomplishing our goal, which is to:

- Partner with other organizations who provide aid to those in need.
- Say "thank you" for providing us with a dependable workforce and a business environment that has allowed us to grow and prosper for over 100 years.
- Show our appreciation for the understanding and patience of the community during harvest when our roads are congested with heavy truck traffic, and for any inconveniences connected with processing at our factories.
- Have a positive impact by providing jobs and contributing largely to the local economic stability by purchasing locally as much of our input needs as possible.
- Create a "community of choice" for all of us who live in the area and for those that are looking to relocate for purposes of new job opportunities.

Most importantly, Michigan Sugar Company feels very blessed to be a part of our many communities and to have the ability to repay them for all that we have received. ■

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