

MICHIGAN SUGAR COMPANY • WINTER 2011



THE NEWSBEET

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Timely Information Allows for Innovation

This issue of *The Newsbeet* is arriving in your mailboxes much earlier than usual. When we began planning for the "2011 Spring" issue of our magazine, we realized it was getting to you too late. Many of the topics discussed in this issue of *The Newsbeet* are ideas and concepts we hope you will incorporate into your agronomic practices in 2011. We felt that if we could get this information to you sooner, it would give you more time to study the data, ask questions about it, and adjust your programs and practices. From now on, we will be issuing "Winter" and "Summer" editions of *The Newsbeet* instead of the old "Spring" and "Fall" timing. The "Winter" edition will focus on seed varieties, spray and fertility programs and research results, while the "Summer" issue will look at harvest improvements, topping practices and other fall activities.

We also will continue to provide you with insights and updates on other activities such as: *Growers in the News*, *Crop Updates*, *Washington DC Updates*, *Youth & Education*, *Corporate Spotlight* and other mainstays of our semi-annual publication. How we can better communicate and share information with our shareholders is something we constantly review — we hope the new timing of this publication makes the excellent information in it more useful to our readers.

This edition of *The Newsbeet* features some of the ongoing innovations happening at our Co-op. The article on page 24 reviews the early delivery program using the Ropa Maus in Ruth, which saved both the growers and Co-op a substantial amount of money. This direct from the field delivery program was an innovation that our Ontario growers perfected a couple of years ago. Highlighted on page 28 is a recap of the tremendous progress we have made in the packaging and warehousing area of our business. These examples of continuous improvements only highlight a small portion of the changes and improvements happening at Michigan Sugar.

One of the major improvements our industry has seen in recent years was the introduction of RoundUp Ready beet seed varieties. This new technology has allowed our shareholders to greatly improve their productivity. As you are aware, a lawsuit challenging the deregulated status of these new varieties is currently ongoing. The USDA, the seed companies, and the sugarbeet growers/processors have put together an excellent group of attorneys to try to ensure the continued, uninterrupted, use of RoundUp Ready sugarbeet seed. We will keep you posted as this legal process unfolds and we appreciate your patience as we work through this complicated situation.

Innovations, whether they are new seed varieties, new packaging equipment, new spray programs or new harvesting systems, keep our Co-op positioned to be competitive and prosperous. We trust that you will find the new timing of *The Newsbeet* to be more suitable to adopting some of the innovations which are being written about.

Good luck with your 2011 crop. ■



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THE NEWSBEET

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AT A GLANCE: 2010 Harvest Data

Acres Harvested	156,552
Total Tons Harvested	4,082,015
Yield	26.07
Grower Sugar	18.17
Grower RWST	267.50

A Successful, Memorable Harvest

The 2010 harvest season will be memorable for several reasons. The first, and probably most obvious memorable moment, was the actual start of early delivery on Monday, August 23 — a good three weeks earlier than any previous start-up.

The Early Delivery Incentive Program was revamped to take into account the very early start to harvest and it worked! We actually harvested a total of 1,164,866 tons, or 28.5%, of our total tonnage during the early delivery season, which ended on October 18.

The lack of any significant rain, for the entire harvest season, is probably the second most memorable moment and the four-day shutdown, in the middle of harvest because of warm temperatures, will always be part of our memory as well.

Monthly Rainfall Totals for 2010 Harvest

August	1.48"
September	3.83"
October	1.97"
November 1 - 15	0.02"

The harvest started under some very dry conditions and we never had excessive rain at any point over most of the beet growing area. Not only was the soil moisture good for beet harvest — it was also good for the bean and corn harvest as well. In fact, most of the fall tillage was done under ideal soil moisture conditions and this makes us optimistic for the spring planting season.

When all was said and done, we harvested the second largest crop on record and just missed the record set in Crop Year 2008 by 31,430 tons. Our yield was a bit less than what we once expected, but at 26.07 tons per acre, it, too, was our second highest on record.

If we would have had just a little more rain in late August and early September, it is quite conceivable that we would have had another record-breaking year.

We cannot talk about the 2010 season without mentioning the success of the early delivery Ruth Direct harvest, which used a Ropa Maus to clean and deliver 98,420 tons of beets directly from the field to the factory. Initially, a lottery system was used to select growers who were willing to participate in the Ruth Direct project, and by the end of early delivery, we had growers waiting in line to participate. The Ruth piling ground was not opened until long-term storage piles were built, beginning on October 19. With the addition of Ruth Direct, and the expansion of the Gratiot County and Dover operations, just under 400,000 tons of beets were delivered directly to a factory site without the cleaning of a conventional piler.

It truly was a memorable season for many reasons. Add to that the great harvest season, the great payment per ton, and everyone should remember 2010 for many, many years to come. ■



A hand is shown holding a bright, glowing star against a dark, starry night sky. The hand is positioned in the center-left of the frame, with the fingers gently cupping the star. The star is very bright, creating a lens flare effect. The background is a deep blue/black sky filled with numerous smaller, distant stars.

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The Ever-Changing Landscape of Politics

Elections create an ever-changing landscape in politics and it is no news to anyone that a major shift in leadership came out of the November elections, both at the federal and state levels. As with any election, we look at the new leadership as yet another opportunity to build relationships and educate elected officials about the positive impact and the importance of Michigan Sugar Company and our industry.

by Ray VanDriessche, Director of Community and Government Relations

The Congressional Landscape

In the case of the House Agriculture Committee, Chair and Vice Chair positions were reversed with Congressman Frank Lucas of Kansas now serving as Chair and Congressman Collin Peterson of Minnesota serving as Vice Chair. Obviously, with their experience in guiding the passage of the last Farm Bill, they are very knowledgeable and the appointments are considered to be very positive for agriculture.

With the leadership realignment, U.S. Senators and Representatives from Michigan now hold an outstanding number of leadership positions on key committees. Committee assignments, as of late December, included Senator Debbie Stabenow as Chair of the Senate Agriculture Committee. She will be very instrumental in the policy development and final passage of the 2012 Farm Bill. Others include Senator Levin, as Chair of the Armed Services; Congressman Dave Camp, as Chair, and Congressman Sander Levin, as Vice Chair, of the Ways and Means overseeing Trade and Taxation issues; Congressman Fred Upton, as Chair of the House Energy and Commerce Committee; Congresswoman Candice Miller will serve as Chair of Homeland Security Border & Maritime Security Subcommittee. Unfortunately, for the first time in a long time, there is no one from the Michigan Congressional delegation on the House Agriculture Committee.

With so many of the Michigan congressional delegation in key leadership positions, we have an enhanced opportunity to work closely with our legislators to positively affect our future. This is especially significant given the fact the 2012 Farm Bill will be debated and passed in the next two years. Working with and educating legislators about our company and our industry is critically important and has had a significant impact on the outcome of the provisions of the sugar policy such as in the 2008 Farm Bill. These provisions resulted

in a balanced sugar market based on providing an ample supply to large users and consumers alike and allowing the sugar program to continue to be administered at “no cost” to the taxpayer. Field hearings on the 2012 Farm Bill started in 2010 and sugar industry representatives testifying at the hearings have commented that the sugar industry would like to keep the provisions of the sugar policy intact through the next Farm Bill. Whenever the Farm Bill debate intensifies, issues that are sure to be on the table are:

Budget deficits The agriculture committee will be under pressure to make budget concessions and although the sugar policy is a “no cost” program, our industry will most likely be expected to “share in the pain” of budget reductions.

Taxes on sweetened beverages will continue to be promoted as an easy way to address both the deficit and obesity. Some states already have added candy as their next target.

Dietary Guidelines Recommended daily allowances of sugar intake will be published.

Climate Change Legislation limiting greenhouse gas emissions has lost initiative and may be scaled back significantly.

The Clean Water Restoration Act could require a National Pollutant Discharge Elimination System (NPDES) permit to apply crop protection products.

The Food Safety Act would implement stringent regulations in connection with food processing and distribution.

The Child Nutrition and School Lunch Program Bill could impact funding for traditional farm programs and limit sugar intake in school lunch programs.



Trade Agreements The Obama administration, along with other members of the World Trade Organization (WTO), are again trying to breathe new life into the WTO negotiations with an intensified negotiating schedule for 2011. Our industry trade representative, Don Phillips, is attending the meetings in Geneva to monitor the discussions. Many believe it is still very unlikely that the WTO negotiations will be completed in the near future, if at all. Pending trade agreements that could give additional access are with Columbia, Panama, and the Trans Pacific Partnership members.

U.S./Mexico Sugar Trade Discussions between U.S. and Mexico government officials and industry representatives continue in an effort to keep the North American sugar market in balance. The main focus of the discussions at this time are the re-export programs in both countries and the substitution of third world sugar coming into Mexico and eventually ending up in the U.S. market. It is expected that Mexico will ship over 1.2 million tons of sugar into the U.S. in the 2010/2011 marketing year. Fortunately, the current market has absorbed the large amount of imports from Mexico without a substantial negative impact to market prices; however, the potential to oversupply the North American market is a major concern for the future until the re-export programs and the substitution issue are addressed by both governments.

RoundUp Ready Lawsuit The industry continues to monitor closely the court proceedings with respect to the lawsuit against USDA by

the Center for Food Safety, the Sierra Club and the High Plains Organic Growers on the deregulation of RoundUp Ready sugarbeets without an Environmental Impact Statement having been completed. Sugarbeet seed, with the RoundUp Ready technology traits, has allowed growers to significantly reduce the amount of herbicides to control weeds, make fewer passes across the field, decrease fuel usage and enhance their overall environmental stewardship practices. With 95% of the U.S. sugar industry planting this technology, a ban would also impact the availability of an ample supply of sugar to meet the needs of the current market.

Michigan Politics and State Issues:

Newly-elected Governor Rick Snyder has appointed Dan Wyant, former Director of the Michigan Department of Agriculture (Engler administration) as Group Executive of DEQ, DNR & Agriculture and Rural Development, as well as Managing Director of the DEQ. Keith Creagh, former Deputy Director of MDA (Engler administration) will now serve as the Director of the MDA. Rodney Stokes will serve as Director of the DNR. We believe these appointments are well thought out and bring many years of valuable experience with them. As a result of their former department positions, they fully recognize the value of the Michigan agricultural industry as the number two economic provider to the state. We look forward to working closely with them to continue the positive momentum.

Process Residuals In 2009 and 2010, meetings were held to discuss proposed rules on disposal and reporting of process residuals involving the DNRE and industry representatives from the manufacturing and food processing industries. In the discussions, it became apparent that the DNRE was considering publishing for public comment, rules that would limit Michigan Sugar Company's ability to reduce stocks of valuable by-products derived from the processing of sugarbeets. The "beet process lime" and the "soils washed off sugarbeets" were the target of the proposed rules. As a result, Michigan Sugar Company representatives worked with legislators to successfully pass SB 1506 which exempted precipitated calcium carbonate (process lime) from regulation in mid-December 2010. Language to address the "soils washed off beets" will be discussed with the Snyder administration again in 2011.

The Favorable Sugar Provisions in the 2008 Farm Bill and the passage of SB 1506 in Michigan were achieved through relationship building and education of legislators. This accomplishment is the direct result of your contributions to the Great Lakes Sugarbeet Growers PAC fund giving your sugar industry representatives the ability to attend fundraisers and receptions in addition to making office visits. Your company's management and Board of Directors look forward to working hand-in-hand with the 112th Congress and Governor Snyder's administration in the upcoming year. ■



Rim Guard: A Success Story of Sugarbeet By-Products



by Darryl Salter, Vice President, North American Operations, Midwest-Agri Commodities

For decades, farmers have added weight to their tractors by filling the tires with liquid to increase traction and add stability. Farmers needed something that was relatively cheap, weighed more than water in order to maximize weight, and didn't freeze. The ag community settled on using a calcium chloride solution to meet their needs, which was unfortunate because the resulting liquid ballast was highly corrosive and could be counted on to rust the rim and valve stem. If a leak occurred, it would kill any vegetation it touched and was toxic to animals.

In the late 1990s an ag scientist from Lansing, Michigan, Glen Daly, experimented with a formulation using desugared molasses from sugarbeets (CMS) as a substitute for the calcium chloride. The result was a totally non-corrosive alternative that weighed about 11 pounds per gallon (like CaCl) and didn't freeze. In fact, the product was also animal food grade safe as desugared molasses is principally sold as animal feed. He received a patent on the invention in 1998 and formally introduced the product to the marketplace in 2001. He sold it as a ready-to-use liquid and targeted tractor and agricultural tire dealers for distribution. He called the product Rim Guard because it protected the metal rims from corrosion.

In 2005, the current owners of Rim Guard, Bob Koch and Phil Globig, purchased the patent and business from Daly. Today, Rim Guard is the number one branded liquid tire ballast in North America with over 700 dealers from Maine to Washington. In 2010, more than 16 million pounds of Rim Guard will be loaded into tires. Their headquarters are located just outside Grand Rapids, MI, and Rim Guard has additional distribution operations in Selkirk, NY, Webberville, MI, Renville, MN, Gering, NE, and Nampa, ID.

So far in 2010, they have added 133 new dealers, most of whom have contacted them directly to inquire about becoming a dealer because consumers keep calling them asking for Rim Guard. According to Bob Koch, "90% of our marketing budget goes for advertising directed at the end user to build brand recognition and create product demand. As a marketing strategy for acquiring new dealers this may seem a little backward, but we have found, over the years, that without a line forming in front of the dealers asking for a product, the dealer doesn't have time to pioneer a product like Rim Guard. Also, the fact that Rim Guard can be characterized as a 'green' product is a big plus for selling to farmers who are looking to remove toxic chemicals (CaCl) from their farming practices."

They have approximately 250 dealers in the northeast region who are served from their Selkirk, NY, storage and distribution facility. To supply this location, they ship CMS from Bay City, MI, by railcar to Selkirk, offload the railcar into storage tanks, formulate the product and then ship via semi-tanker to their dealers.

Bob says, "We have enjoyed a great working relationship with Midwest Agri as our company has grown over the years. We have learned to become much more aware of the issues and economics affecting the sugarbeet industry as our lifeblood is so closely tied to the availability and pricing of desugared molasses. Our prospects for continued growth remain strong as Rim Guard becomes the preferred tire ballast in the marketplace and we look forward to strengthening our relationship with the sugarbeet industry to support that growth."

For more information about Rim Guard, please visit their website: www.rimguard.biz or give them a call at 866-792-3700. ■

Darryl Salter was born and educated in the U.K. and has been involved in the sugar industry since 1974; then moved to the U.S. in 1983 with Midwest Agri-Commodities. He has been responsible for trading and logistic aspects of their overseas and domestic sales activities.



Crop Records Are You Current?

by Paul Pfenninger, Vice President of Agriculture

Crop Records – A Powerful Tool

Are your crop records up to date? As most of you know, we have launched a very aggressive program to educate all growers on the power of information and crop records.

We have a lot of “catching up” to do, but we feel we are now on the right track. This past winter, we rolled out the “free shirt” incentive and participation was excellent. A “Crop Records 2010” polo shirt was offered to anyone who completed their field information on our website, and a laptop computer was given away at each district meeting. To be eligible for the drawing, we just needed your records completed.

A total of 969 shirts have been ordered and will be distributed this spring to those who filled out the order form. Let’s hope this excitement carries over to the 2011 crop and into the future.

What can you do with this information? Let’s take a look. Here is what you will find if you check out your records:

Example: Member – John Doe

Fields	# Fields	T/A	Harv. Acres	% Sugar	RWST	% MSC
Home Farm	1	26.10	100	18.249	268.20	0.64
South Farm	1	28.30	40	18.077	270.49	0.26
East 80	1	24.10	80	18.56	279.69	0.52
North 80	1	29.30	80	17.91	263.53	0.52
All my fields:	4	26.71	300	18.262	268.11	0.19
Agriculturist	187	29.02	8,959	18.513	276.57	6.67
District	769	25.34	48,655	17.666	263.91	31.08
Company	2806	26.07	156,552	18.17	267.50	100.00

Note: You can compare your field data to that of your agriculturist, your district, and Michigan Sugar Company. How well did you do? If you have questions, please contact your agriculturist.

Tables I & II



We can also draw attention to various trends in our industry here in Michigan. Take a look at the graph representing yields and row widths (Table 1, left).

Notice the higher yield trend in narrow row production. Table II (below, left) shows we have 8% of our crop planted in 20” rows; 12% planted in 22” rows; 32% planted in 28” rows; and 48% planted in 30” rows. We can say that 20% of our crop is now in narrow row production.

Crop records can be a very valuable tool for you, your agriculturist and Michigan Sugar Company. Please make a concerted effort to keep your records current in 2011 and beyond. If you have questions or suggestions, please pass them along to someone on our agricultural staff.

Last year...

- 50% of our members were “shirt” eligible because they had entered some information on crop records
- 46% entered all of their fertilizer information
- 37% entered all of their fungicide information

We have a ways to go, but what a great start! ■

**Pull out the handy
Crop Records FAQ
included in this issue!
Put it next to your
computer for a quick
reminder to update
your crop records!**

Michigan Sugar Research 2010

by Lee Hubbell, Research Agronomist

Research in 2010 used about 90 acres for small plot work at 18 locations, plus additional work in strip trials. Some research was lost mainly to excess rainfall and related diseases early in the summer and Rhizoctonia root and crown rot later.

Variety Trials

Variety testing is very important to provide the information needed to approve the best varieties for the grower. Variety changes have been interesting in Recoverable White Sugar per Ton (RWST) and Recoverable Sugar per Acre (RWSA) in recent years (Table 1). In this comparison over six years, RWSA increased 20%, but RWST decreased slightly. We do need to know more than RWSA and RWST for selecting varieties. Table 1 also indicates that in 2010 the varieties have less resistance to Cercospora leafspot. Allowing lower Cercospora resistance was a choice made by the Seed Committee to make varieties available with higher RWST and tolerance to some problems. The nursery results for; Cercospora, Rhizoctonia, Cyst Nematode, root aphid, Aphanomyces and Rhizomania give the other important pieces to the puzzle in selecting the best variety for each field.

RWST is a very important factor in efficient factory operation and improved profit for the Co-op. The RWST production in the varieties has stayed about the same over the years. To correct this, the required level for variety approval is being increased to improve the RWST in the varieties over the next few years (Table 2), increasing from 98.9% of the check varieties in 2007 to 104.2% in 2015.

Forty-six varieties were submitted from four brands for testing and consideration for approval in 2010. Eighteen were first-year varieties and six of these would meet the requirements for approval. After a second year of testing in 2011, these new varieties will be considered for approval. One new variety has tolerance to Cyst nematodes and two may have a good level of Rhizoctonia tolerance. There are 22 varieties that received approval to be sold for 2011 and 20 have seed available. We still do not have the perfect variety with all the traits we need, but there are many varieties with different traits to choose from. The production and tolerance traits vary greatly between varieties. With all these choices, variety selection is worth some extra time to select the best varieties for each situation.

Table 1.

Approved Varieties Compared, Average of 3 Years

	RWSA	RWST	Cercospora ²
2005¹	7,607	279.5	3.48
2010¹	9,128	272.5	3.98

1. 2005, years 2003-2005. 2010, years 2008-2010.

2. Cercospora- lower number indicates more resistance.

Table 2. Required Level of RWST for Variety Approval, Percent of Check Varieties

2007	2008-2009	2010-2014	Starting in 2015
98.9%	99.9%	101.2%	104.2%

Narrow Row Research

Most sugarbeets across the nation are grown in narrow rows, but Michigan has remained behind in the change to narrow rows. Research in Michigan has shown some advantage to narrow row sugarbeet production. Michigan State University research in the late 1980s found that sugarbeet yield increased by 1.2 tons per acre when grown in 22-inch rows. The same research also found an increase in narrow rows for dry beans and corn. Sugarbeet Advancement (2007-2008) found an advantage to sugarbeets grown in narrow rows of 1.8 tons per acre and an increase of 0.35 percentage points in sugar content. Christy Sprague and Joe Armstrong, from Michigan State University, found an advantage to narrow rows in work from 2006 to 2008. The narrow rows yielded an increase of 1.7 tons per acre and an increase of 7 pounds of sugar per ton. Other potential advantages to growing sugarbeets in narrow rows include a quicker canopy closure; improved weed control; the ability to establish a higher sugarbeet population; better compensation for gaps; and a reduced chance of having to replant.

We were excited when it became possible for the Research Department at Michigan Sugar Company to compare 22 and 30-inch rows. When we changed to 22-inch rows for all our research, we kept one of our old planters to plant the 30-inch rows and had a one-row harvester in storage that could harvest the 30-inch rows. In two years of trials, the 22-inch rows have consistently out-produced the 30-inch rows.

In 2009, we compared 22 and 30-inch rows each at different populations, ranging from 75 to 250 beets per 100 feet of row. Overall populations, the 22-inch rows yielded more than the 30-inch rows by nearly three tons per acre. The yield increases in tons per acre and RWSA (Figure 1) were consistent as the 22-inch row treatments out-yielded the 30-inch row treatments at each of the eight sugarbeet populations. The sugar content, purity levels and RWST

were essentially the same for both row spacing (Figure 2). With respect to population effects over both row widths, sugarbeet yield and quality, RWST increased steadily as the sugarbeet populations rose.

Two trials were planted in 2010 and were similar comparing 22-inch and 30-inch rows each over six populations. Rather than comparing beets per 100 feet, populations were beets per acre ranging from 15,000 to 50,000 plants per acre. At two locations, the yield advantage to the 22-inch rows in 2010 was 3.6 tons per acre. Both locations had a similar ton per acre increase. Again, the yield increases in tons per acre and RWSA were consistent as the 22-inch row treatments out-yielded the 30-inch row treatments at each of the eight sugarbeet populations. At both locations the only 22-inch row population that did not out-produce all populations in 30-inch rows was 15,000 beets per acre.

continued on page 12

Figure 1. Effect of Row Width and Plant Population on Sugarbeet Yield
Michigan Sugar Company • 2009

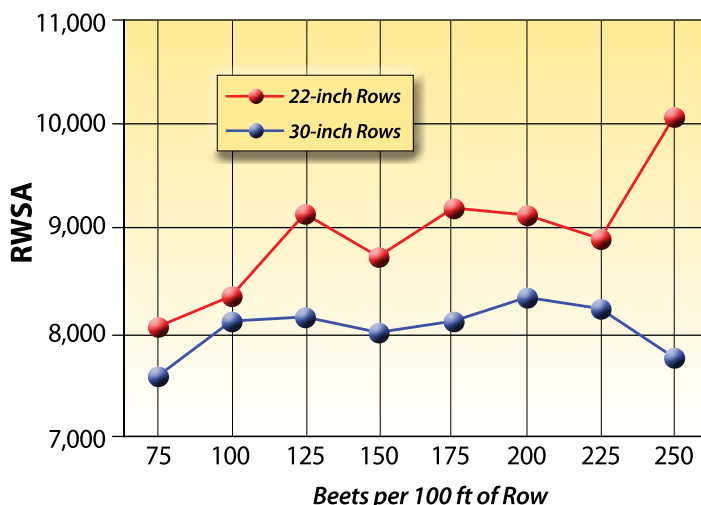
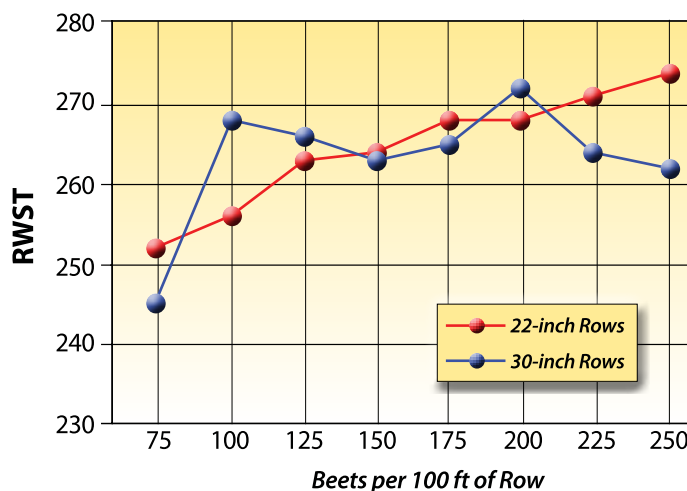


Figure 2. Effect of Row Width and Plant Population on Sugarbeet Quality
Michigan Sugar Company • 2009



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1. Source: Winfield Solutions, 2004, River Falls, WI.

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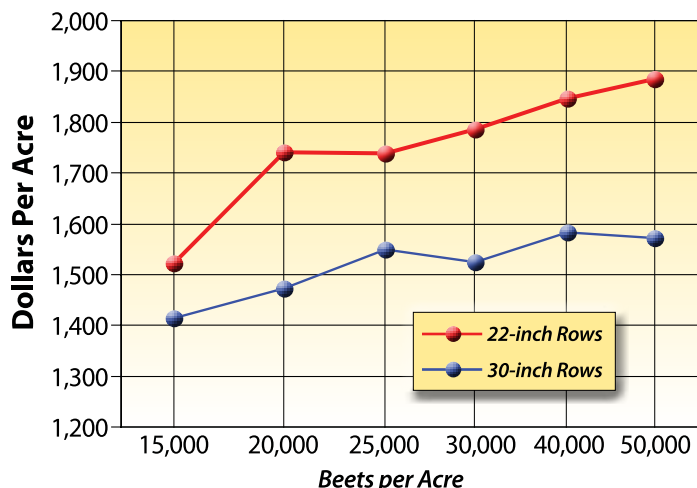
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RESEARCH REPORT

In 2010, the RWST increased by 10.1 pounds at one location and only .2 pounds at the other location. With respect to population effects over both row widths, RWST and RWSA increased as the sugarbeet populations rose.

Figure 3. Effect of Row Width and Plant Population on Grower Income • Michigan Sugar Company • 2010



Both years, the return in dollars per acre to growers was higher for the 22-inch rows. The 2010 results are in Figure 3. The advantage, over all populations, to 22-inch rows over 30-inch rows in 2009 was \$167 gross per acre and in 2010 it was \$234 gross per acre (using a \$55 per ton payment).

Fertility – Nitrogen

Nitrogen is the most tested nutrient in sugarbeets. It is important to have enough for good growth to capture sunlight, but an excess will lower sugar content and purity at harvest. Recommendations vary depending on the previous crop. When sugarbeets follow dry edible beans or soybeans, the use of 90 to 120 pounds of nitrogen is optimum. The optimum rate following wheat or corn is 120 to 150 pounds. The amount of residue from the previous crop affects the optimum amount and when planting into heavy residue the upper rate may be needed.

We have conducted trials over three years testing the application timing and placement of nitrogen and phosphorus. The largest effect was in the application time and placement of nitrogen. The conclusion of Michigan Sugar Company and Sugarbeet Advancement research is the advantage of using 40-50 pounds of nitrogen placed two inches to the side and two inches below the seed while planting. This, coupled with pre-plant incorporating the balance of the nitrogen, would be ideal. Good results are also obtained if the balance of the nitrogen is sidedressed early at about the 4-6 leaf stage of the beets. Nitrogen present to encourage fast early growth helps to close the row as early as possible to capture the most sunlight.

Rhizoctonia Control

Rhizoctonia root and crown rot is the largest root disease problem in the Michigan Sugar Company area and a harder problem to control for many people than Cercospora leafspot. There is a level of tolerance to Rhizoctonia in some varieties, but it varies greatly over the varieties available. In most cases the highest production and quality varieties, in the absence of Rhizoctonia, have poor tolerance to the disease. The choice of some tolerance to Rhizoctonia vs. a higher producing variety makes variety selection challenging. Another control method is fungicide use. Some fields do not have a Rhizoctonia level to require either a tolerant variety or fungicide use, but there is the other extreme where both variety tolerance and fungicide application is needed. Neither variety tolerance nor fungicide use will control this disease completely. Quadris is the most effective fungicide available to control Rhizoctonia.

We would recommend a Quadris application to most acres whether using a tolerant or more susceptible variety. Quadris trials show that a T-band at planting or a post application in a band when the beets are in the 4-6 leaf stage is effective. The T-band treatment has given somewhat better control than the 4-6 leaf stage foliar application. Two Quadris applications may be needed in two situations; on a susceptible variety in a field with moderate Rhizoctonia or on a more tolerant variety in severe Rhizoctonia. If two applications are being used, T-band plus a 4-6 leaf post application, or two post applications at 2-4 leaf and 6-8 leaf size, would be good. Quadris should not be dribbled in furrow or mixed with another product that could reduce stand in a T-band. A T-band would be sprayed over the open seed furrow before the closing wheels. The recommended foliar rate is a 7-inch band using 10.5 ounces per acre. For T-band rates see Table 3.

Table 3. Recommended Quadris In-Furrow Rates at Different Row Spacings and Band Widths

Band Width	ROW SPACING				
	30 inch	28 inch	24 inch	22 inch	20 inch
7 inch	10.5	11.2	13.1	14.3	15.8
6 inch	9.0	9.6	11.3	12.3	13.5
5 inch	7.5	8.0	9.4	10.2	11.3
4 inch	6.0	6.4	7.5	8.1	9.0
3½ inch	5.5	6.0	7.1	7.6	8.5
3 inch	5.5	6.0	7.1	7.6	8.5

Setting up a planter for applying Quadris at planting is not difficult. A bracket to hold the nozzle needs to be installed behind the seed drop, but before the closing wheels. It is important not to spray toward the closing wheels or they will get wet. The set-up should allow the spray nozzle to be adjustable up and down and be able to rotate so that the band width can be easily set. Most growers are using nozzles like a 4002E or 2502 flat fan and using relatively low pressure to achieve around five to eight gallons per acre, depending upon row spacing.

We are evaluating very narrow band widths (two to three inches) and reducing Quadris rates proportionally. However, at this time we do not have enough information to recommend Quadris rates below 5.5 fl oz/A in 30-inch rows or 7.6 fl oz/A in 22-inch rows. We are also studying foliar application timings based upon soil temperatures and leaf stage. Currently we are recommending Quadris applications from the 2-4 to the 6-8 leaf stage. Applying Quadris at the 4-6 leaf stage has given the most consistent results. Pre-emergence Quadris applications have not worked and waiting until after the 8 leaf stage has generally given poor control.

One new fungicide, Moncut, (Moncut is not yet registered for sugarbeets) shows promise for Rhizoctonia control. In limited testing Moncut appears to be as good as Quadris in controlling Rhizoctonia root rot. Research from Michigan Sugar and Sugarbeet Advancement indicates that Proline does provide Rhizoctonia control, but is inferior to Quadris. We have also tested Headline and Topsin and found them to have moderate levels of activity against Rhizoctonia. A new biological product, ActinoGrow, has fairly good activity against Rhizoctonia and may be useful in an overall control program, possibly in combination with Quadris. ■



Lee Hubbell, Research Agronomist, is a specialist in sugarbeet breeding development and variety testing and has been with Michigan Sugar Company for 26 years.

Growing Susceptible Varieties? Spray Aggressively for Cercospora

After several years of relatively low leafspot infestations, Cercospora came storming back with a vengeance last summer.

by Jim Stewart, Director of Research

Too many fields suffered some level of burndown last year, which reduced yields by an estimated 1-3 tons and lowered sugar levels by $\frac{1}{2}$ to $\frac{3}{4}$ points. The worst fields likely lost 4-5 tons per acre and over 1 point of sugar. In many cases, better application timing, and/or one more spray, would have protected the crop. The dollar loss for losing 2 tons per acre and $\frac{1}{2}$ point of sugar is around \$225 per acre. The cost of one more fungicide application is around \$20 per acre.

Disease Severity Values (DSVs) reached the highest level that have been recorded since the initiation of the BeetCast program in 2004 (Figure 1). The Research Department monitors Cercospora infection levels each year and there is a fairly good correlation between DSV levels and the level of Cercospora infection in our fields (Figure 2). The disease level in untreated check plots was very high in 2005 and then trended lower for four years. In 2010, the Cercospora level came back up. In these same test fields a 55/55/55 fungicide spray schedule provided adequate Cercospora control. Disease control from 2006 to 2010 was improved due to the availability of the strobilurin and triazole fungicides. Varieties with less tolerance to Cercospora were used in the trials in 2009 and 2010.

The BeetCast prediction model was developed using moderately susceptible varieties and the 55/55/55 spray recommendations were based on those varieties. The new high yielding, high quality and nematode tolerant varieties (C RR827, C RR824, C RR808, B 17RR32, B 18RR4N and B 19RR1N) have poor Cercospora tolerance and need a more intensive spray schedule. DSV timings, such as 45/45, 45/50, 45/55 or 50/50, depending upon the situation, are needed to protect these varieties from Cercospora leafspot.

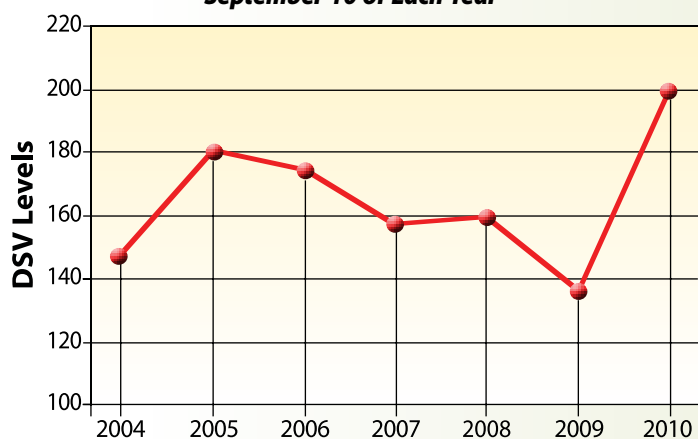
So why the big Cercospora problem in 2010?

Early plantings, coupled with favorable growing conditions, pushed crop development well ahead of normal and row closure was reached by mid-June in many locations. We also had weather conditions that favored early season Cercospora development and it appears that some growers have become less concerned with Cercospora because of lower disease levels in recent years. When you combine these factors with more susceptible varieties, it was almost a perfect storm for Cercospora in parts of the growing region in 2010.

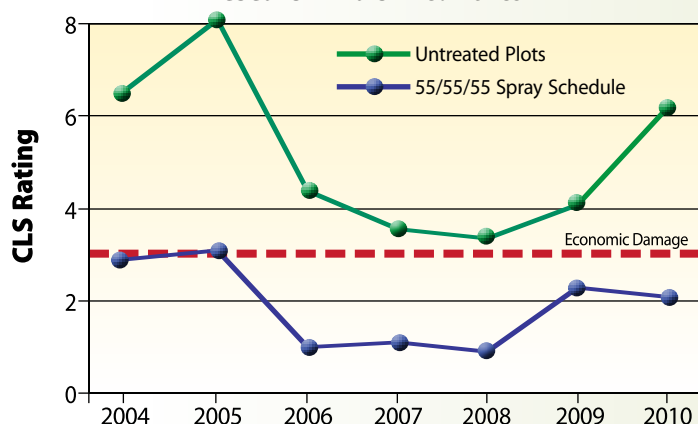
Growers should be aware that after the rows close a more humid micro-climate develops within the canopy. Cercospora survives the winter on beet debris in the soil and under warm and humid conditions the spores will germinate. Rain and wind splash and carry the spores to the lower leaves where they enter the leaf through the stomata. An infection can occur in as little as 8 hours under favorable conditions. Spots from this infection will generally be visible within seven to fourteen days. It is extremely important to protect the leaves with fungicides at this time. For susceptible varieties, that would mean spraying at around 45 DSVs. The DSV levels were registering between 45 and 55 the last week of June and the first fungicide application should have been on in fields planted to susceptible varieties.

continued on page 14

**Figure 1. DSV Level From 2004 to 2010
September 10 of Each Year**



**Figure 2. Cercospora Infection Levels in
Research Trials • Red Zones**



**Figure 3. Cercospora Progression
September and October**

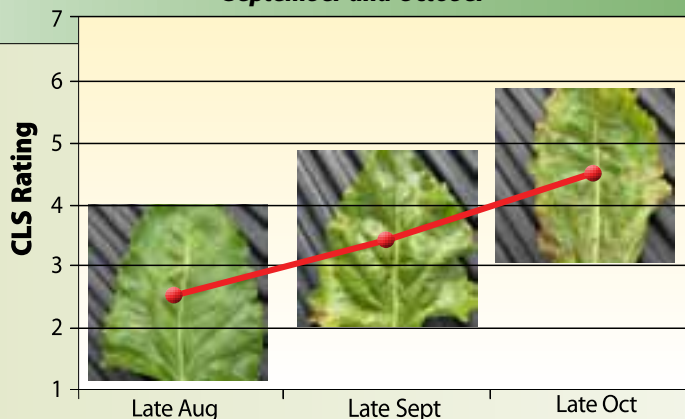
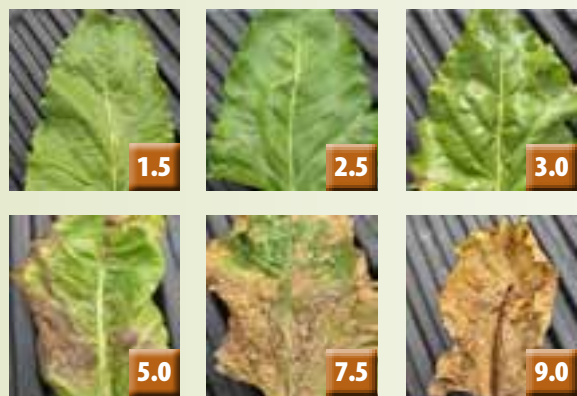


Figure 4. Example of Cercospora • 0-9 Rating Scale



**Figure 5. BeetCast Cercospora Trial
Highly Susceptible Variety
Quanicasse, MI • 2010**

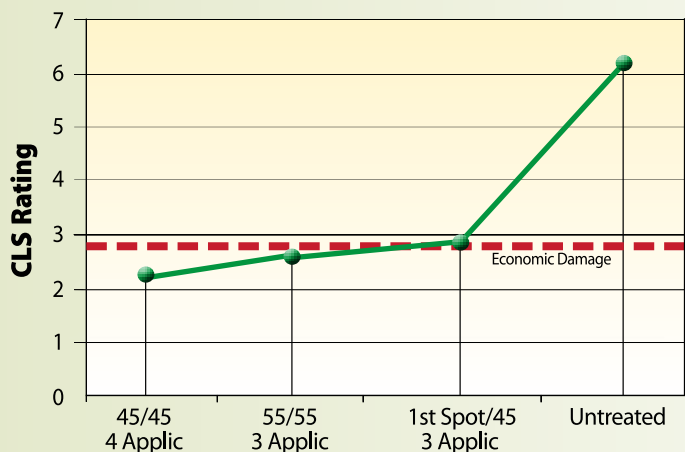


Figure 6. BeetCast Cercospora Trial



RESEARCH REPORT

Growing Susceptible Varieties? Spray Aggressively for Cercospora

Timing of the first Cercospora spray is critical. It would be best to make your first fungicide application just prior to disease development. The BeetCast program is designed to predict the optimum spray dates. DSV levels are usually in the 60 to 75 range when the first spots are found. Scouting alone can be risky because the first spots are very difficult to find and by the time spots can be seen the disease has likely been active for several weeks. If spots are found on or near your farm, and you have not applied your first application, you should spray as quickly as you can and come back with the second spray earlier than normal (35 to 45 DSV). Utilizing BeetCast in conjunction with scouting is the best method for timing fungicide sprays.

Deciding whether or not to spray in early September is another important and sometimes difficult decision to make. In general, if BeetCast calls for a late spray it will usually pay off, but you must consider your harvest date and look ahead at the weather predictions. Several years of research illustrates the progression of Cercospora from the end of August until the end of October (Figure 3). During an average year, if your crop has a rating of 2.5 in late August and you don't spray again, the disease will likely increase to over a 3 in late September and to the 4 or 5 range by late October. A rating of 2.5 is below the economic damage level, however a level of 3 will cause a 1-2 ton and ¼ point of sugar loss. A rating of 4 to 5 will likely cause a loss of 2 to 3 tons and ½ point of sugar.

Several comments in this article refer to Cercospora levels or ratings. These values come from a 0-9 rating scale (Figure 4) that is used to evaluate Cercospora plots. A rating of (0) has no spots and a (1) has very few spots. A (2) rating has noticeable spotting, but they are sparsely scattered and some leaves will have no spots. Leaves with a rating of (3) have many spots (maybe 100 or more), but the spots are not merging together to form larger dead areas. At stage (4) the spots begin merging together forming desiccated areas and about 10% of the leaf area will be affected. Flagging (leaves cupping and bending down) and regrowth begins at stage (5) and approximately 25% of the leaf area is desiccated. Leaf damage in stages (6) through (8) gets progressively worse (from 50 to 90 percent leaf desiccation) and the entire leaf is dead at stage (9). As the sugarbeet leaves die back, new growth forms in the middle of the plant, but this is not considered part of the rating. Eventually the plant will grow an entirely new canopy.

Research trials were conducted in 2010 to evaluate fungicide application timings on susceptible varieties. Small plot replicated trials near Akron showed that the 45/45 treatment kept a susceptible variety well within the safety zone as compared to a 55/55 or 1st spot/45 treatment (Figures 5 and 6). Moderately susceptible varieties were well protected with a 55/55 DSV schedule. Steve Poindexter and myself were concerned about the early crop development last spring so we established replicated Cercospora strip trials near Auburn, Akron and Pigeon. We asked growers to apply a very early fungicide application (35 DSV) compared to the standard 55/55 treatment. The trials were established in fields with highly susceptible varieties. Cercospora ratings were taken in late September (Figure 7). It appeared that the 35/55 treatment gave marginally better protection from Cercospora compared to 55/55 DSVs, however both treatments kept the disease infestation below damaging levels. Many of the neighboring fields had significantly worse Cercospora problems than the test strips, especially in the Pigeon area.

Effective fungicides are available for combating Cercospora leafspot. The most effective products come from two chemical classes, the strobilurins (Headline, Gem) and the triazoles (Eminent, Proline and Inspire). It is extremely important to rotate these chemistries and never make a back-to-back application of one class of fungicides. Inspire appears to be the most effective fungicide available to us (Table 1). However, the differences are small and any of these products will provide good control if the timings are correct.



Jim Stewart, Director of Research, coordinates the research projects of the agronomists with Michigan Sugar Company and specializes in sugarbeet breeding development and variety testing. He has been with the company for 12 years.

Improving sugarbeet yield and quality is a major goal for the Cooperative and for individual growers. Planting high quality varieties is an important piece of the puzzle, but we must protect these varieties from Cercospora and other diseases or the high quality potential of the varieties will not be realized. Proper management of our varieties will enable us to reach the quality levels and profitability that are needed both on the farm and for the Co-op. ■

Figure 7. Michigan Sugar/Sugarbeet Advancement Cercospora Strip Trials Three Locations in 2010

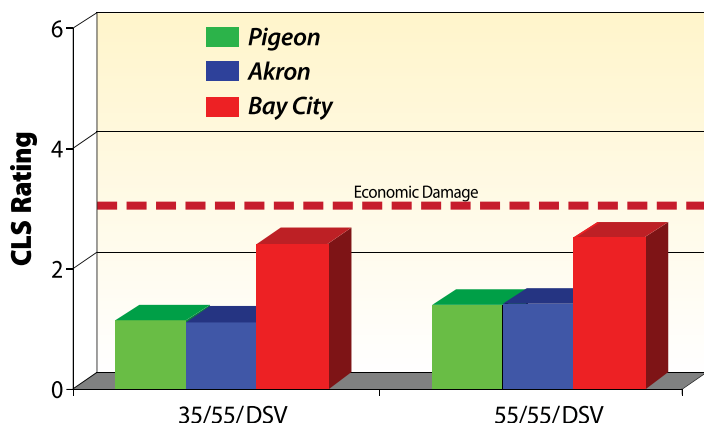


Table 1. Control of Cercospora Leafspot With Fungicides Two Michigan Locations • 2010

Treatment	Rate	CLS Rating	RWSA	RWST	\$/Acre
Inspire	7 fl oz/A	2.1	9402	278	2028
Eminent	13 fl oz/A	2.3	9192	272	1983
Proline	5.7 fl oz/A	2.4	9112	270	1968
Headline	9 fl oz/A	2.6	9361	270	2002
Gem	3.6 fl oz/A	2.9	9203	268	1973
Super Tin	5 oz/A	3.0	8694	272	1875
Dithane	2 lbs/A	3.6	8446	264	1821
Untreated		6.6	7838	255	1681
LSD 5%		0.34	594	8.3	129
CV%		10.9	7.7	3.5	7.8
Mean		3.6	8734	266	1881

SEEDEX

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Oilseed radish roots



Red clover



Oilseed radish seeded with manure

Value of Oilseed Radish and Clover in Sugarbeet Rotations

by Steve Poindexter, MSU Extension
Senior Sugarbeet Extension Educator

The next step in achieving higher yields and quality of sugarbeets will involve making long-term soil quality improvements. One of the best ways to improve soil quality is to incorporate cover crops in our sugarbeet rotations. Cover crops have many benefits including improved soil quality, organic matter, enhanced nitrogen production/recycling, erosion control, reduced nematode populations, and improved soil structure and drainage. Which cover crop to use and how to incorporate it into a producer's operation depends on crop rotations and specific issues that are to be remedied. The two most valuable cover crops for sugarbeets are oilseed radish and clover.

Among the cover crops currently grown in Michigan, oilseed radish is relatively new. Acreage has steadily increased in the beet producing area in the last few years because of its value as a sugarbeet nematode trap crop and its ability to deeply root in the soil which can improve soil drainage and aeration. This crop, established in late summer, generally exceeds four tons of biomass per acre. Oilseed radish is an excellent scavenger of nitrogen from deeper soil layers after harvest of a cash crop. Upon decomposition, the nitrogen becomes available to the next crop.

Oilseed radish varieties, Adagio and Colonel, are bred specifically to be used as a sugarbeet nematode trap crop. Oilseed radish releases exudates from its roots that stimulate cyst eggs to hatch. Nematodes then attach to the radish root, but are unable to feed and, because of poor nutrition, either die or do not reproduce. This effectively reduces nematode populations and improves sugarbeet yield.

It is recommended that oilseed radish be used in conjunction with a nematode resistant variety (B-18RR4N or B-19RR1N) as they work synergistically to improve beet yields (Chart 1). Oilseed radish without the use of a nematode resistant variety will not maximize yield. Using radish will lower the risk of nematodes becoming resistant to the nematode resistant varieties.

Oilseed radish is effective when planted anytime in a sugarbeet producer's three or four-year rotation. Most commonly, radish is planted late summer following wheat harvest, or very early harvested dry beans, at a 10 to 20-pound seeding rate. The heavier rate is more effective for nematode suppression. Ideal planting times are the first two weeks in August.

When following wheat, the best success has occurred after wheat stubble has been tilled. No tilling into standing wheat stubble has not been very successful because growth is greatly impeded due to nitrogen being tied up. When planting behind wheat, a minimum of 50 to 60 lbs of nitrogen should be applied. Radish should be tilled into the soil no later than green pod stage to prevent seed development.

Red clover is Michigan's most common cover crop. It is normally frost seeded into wheat in March. Michigan mammoth and June clover (also known as medium red clover) have been shown to perform better than other red clovers frost seeded into well fertilized wheat. Seeding rate should be between 10-12 pounds per acre and can be applied with fertilizer, if thoroughly blended and applied evenly. Many clover growers prefer to apply clover with a small spreader and a utility vehicle, which allows them to spread seed on soft soils. Clover is a proven soil builder and can supply 60-80 pounds of nitrogen to the following crop. Research conducted at the Saginaw Valley Research & Extension Center has shown positive crop yield response lasting more than one year. Sugarbeet Advancement research has also shown an improvement in beet yield, similar to oilseed radish in fields with known sugarbeet cyst nematodes (Chart 2). Clover should be incorporated into the soil late in the fall when soil temperatures are below 50 degrees, either by mold board or chisel plowing. A glyphosate application may be desired to improve control if chisel plowing.

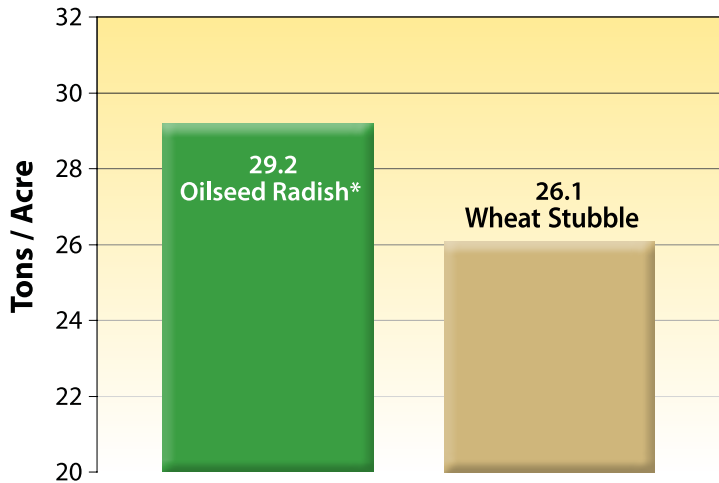
In summary, oilseed radish and clover are both excellent soil improvement cover crops. If sugarbeet cyst nematodes and soil compaction are issues, you may want to consider oilseed radish. If no nematode problems exist, clovers should be considered for the soil health benefits and the ability to grow your own nitrogen. For most farmers, the ability to incorporate these in your rotation is limited. Frost seeding clover in wheat, or planting radish in early August after wheat harvest, have both been successful. To plant wheat and not include cover crops is a missed opportunity for improving soil quality and yield. ■



Steve Poindexter, is the Senior Sugarbeet Educator with Sugarbeet Advancement, MSU Extension (Saginaw County). Steve has been the Director of Sugarbeet Advancement for 13 years.

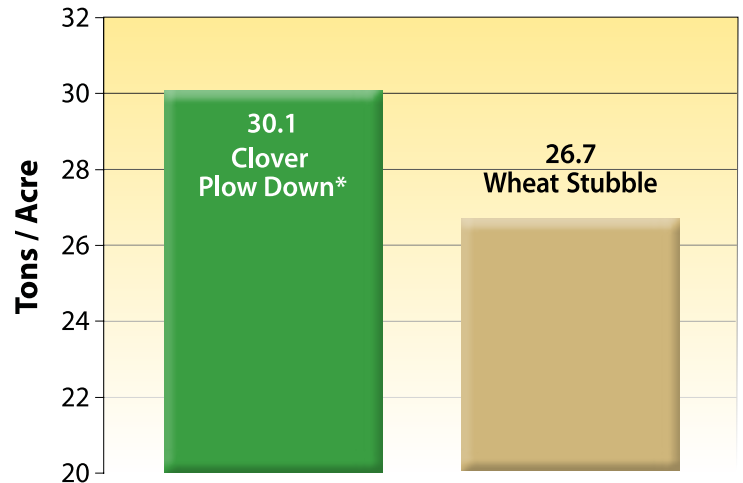


Chart 1. Sugarbeet Yield Following Oilseed Radish vs. Wheat Stubble



*2008 Nematode Resistant Variety - SBA

Chart 2. Sugarbeet Yield Following Clover vs. Wheat Stubble



* Average of 3 Trial Locations - SBA



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Getting Acquainted With

Michigan Sugar Company hired a new agronomist, Greg Clark, in October of 2010. All of you will get a chance to meet Greg in the next few months, but I had an opportunity to sit down with him recently and would like to share some of the things I learned about him with you.



What was growing up in Illinois like?

Growing up in Illinois was great. The land was flat and we have the best soil types in the Midwest; we can produce some wonderful crops from pumpkins to horseradish to watermelons. Do I miss Illinois? Yes, but this is a new chapter in my life, with a new crop to learn and what I have seen so far in Michigan is that there are some great farmers here and I cannot wait to work with them. The one thing I don't miss about Illinois is our politicians; especially our past governors of Illinois. If you want to see them, you can watch them on reality shows or see them at a nearby prison.

Who was your mentor?

My mentor was my dad. He taught me that life will not always be fair, but if you gave it your best, then you did the best to your ability and nobody can take that away from you.

Tell me about your family.

My parents still live in the same town and house where I was born. My dad retired several years ago and my mom retired three years ago. After six months of them spending 24/7 with each other, mom said the "honeymoon phase is over, and I need to get a part-time job or your dad is going to drive me crazy." It's funny that you wait so long to retire, to spend time with your spouse and enjoy it, but I guess too much of a good thing can be a handful sometimes.

How did you meet your wife?

During college, I had a friend who set me up with a girl named Denée. My first reaction was, "Wow! Is she French?" Turns out, she was not, but that didn't matter. Things just fell into



Our New Agronomist



by Julie Perry, Executive Assistant, Administration

Julie Perry, Executive Assistant of Administration, recently talked candidly with our new agronomist, Greg Clark, to help us get to know him — both personally and professionally.

place. We were married after college and have been married for 13 wonderful years. We have two daughters; Grace, who is six years old, and Avah, born on December 29, 2010.

Where did you attend college?

I attended Western Illinois University in Macomb, Illinois, where I graduated cum laude with a BS in Crop Physiology and minor in Agricultural Business. Then I attended the University of Illinois in Champaign/Urbana, Illinois, where I received my MS in the Department of Crop Science, Entomology.

What is your favorite place to eat?

The Texas Roadhouse, which is a restaurant chain, famous for their steaks, that I enjoy. Bring your appetite though, because they're not small!

What are some of your favorite things to do?

The most important and number one thing is spending time with family. Other things I like to do are to watch NASCAR Sprint (yea to Jimmie Johnson for winning his fifth consecutive championship this past year!); collecting John Deere precision classic toy tractors; and working out in the yard and garden.

If you could travel anywhere in the world, where would you go?

I have never flown before, but with this job, I know I have to, so I will bite the bullet and get over my fear of heights. My dad was in the Navy and traveled to different parts of the country, and one piece of advice he gave me was, once you leave the protection of the U.S., you are on your own. So I have no interest in

traveling to different parts of the world; however, traveling and seeing places like the Grand Canyon National Park and Yellowstone National Park does interest me, and, of course, taking the little ones to Disneyworld.

What is the biggest hurdle to overcome in this agronomist position?

It would be to learn a whole different crop, from planting to harvesting. You can read all the information from books, and believe me, I think I have read all the books on sugarbeet production, but the hands-on experience that I will gain over the next year will be the greatest benefit of all. The other biggest hurdle is earning the respect from producers and from colleagues.

What are your first impressions of Michigan Sugar Company?

My first impression of Michigan Sugar Company: After working 14 years with the University of Illinois, where the atmosphere was always so serious and you were just another employee, working here is so different — in a good way. I already can tell you that Michigan Sugar Company has strong family values, good relationships with employees and producers, and most of all, a good sense of humor.

What are some goals you would like to accomplish at Michigan Sugar?

To learn everything about sugarbeet production, from the field to the piling grounds, to the factory. I want to bring the same principles that I practiced while working for the University of Illinois, which includes being a "one-stop shop" of knowledge for producers.

This includes troubleshooting problems in fields, research, and most of all, having producers and individuals working in the agricultural sector knowing where to go to get this information.

How did you help growers in Illinois succeed?

I was involved with research and programs at the University of Illinois DeKalb Research Farm and on farm sites throughout northwest Illinois. Some of the research and programs I offered included: Corn/soybean production updates, weed control, crop pest management, soybean cyst nematode clinics, private pesticide applicator training, biotechnology, GPS/GIS, and horticultural production updates. These programs, and research that I did, helped improve knowledge gained for producer and industry folks alike, thus improving the quality of products produced as well as being good stewards of the land.

What would you attempt if you knew you could not fail?

How do you know if you failed if you didn't try? So I always like this quote from Albert Einstein, "If we knew what it was we were doing, it would not be called research, would it?" ■



Julie Perry is the Executive Assistant of Administration at Michigan Sugar Company and has been with the company for 13 years.

Improving Our Efficiency at Pilers

By Greg Clark, Agronomist

Harvest and piler efficiencies will be keywords for us here at Michigan Sugar Company as we implement what is termed a "Continuous Improvement Plan to Harvest and Piler Efficiency." We hope to look at all facets of our process, from the time you enter your field with the harvester, until the minute you receive your outbound scale ticket. How can we improve, limit idle time, decrease turnaround time, and streamline harvest and piler operations? One quick look, this past fall, dealt with truck hoists while unloading your beets.

Michigan Sugar Company provides machinery and employees at the piling grounds. As the volume of beets delivered to a piler varies throughout the harvesting season, with peak volumes around October 25, there are times when large volumes are delivered and trucks delivering beets are delayed. This, in turn, results in harvester delays in the field unless additional trucks and drivers are obtained. This common solution adds to the harvesting cost on the farm.

If I asked producers to list problems associated with the greatest loss of time during harvesting, I would venture the following responses: waiting at pilers, waiting for trucks in fields, breakdowns at pilers, and weather. Well, one of the four we cannot control, and that's Mother Nature. Another one is part of any operation and breakdowns will happen; however, the other two problems we can solve, to a certain point, with assistance from you.

A time trial was done this past fall at six locations (Caro, Breckenridge, AuGres, Bay City, Sebewaing, and Sandusky) on the time it took for a truck hoist to descend after dumping sugarbeets. At the six locations, the average time for a trailer to touch the frame was 63 seconds (Graph 1) with the slowest time being 120 seconds and the fastest time being 13 seconds. We have been told that policies at some sugarbeet facilities have implemented a 45-second rule for trailers to come down after unloading sugarbeets (which is indicated by the red line on the graph). Is a policy going to happen here? The answer to this question has not been determined. The information in this article is intended to inform you of current conditions, what you can do to improve your equipment and identify the benefits that can be associated with these improvements.

Let's look at this from a different perspective, and this is just theoretical (Table 1 and Table 2). At Bay City (Table 1) we have approximately 11 pilers with an average of 240 tons per hour, with 24 tons per load. This figures out to be 10 trucks per hour or 1 truck every 6 minutes (unloaded).

Table 1: MSC, Bay City Piling Ground

# of Pilers	Avg. Ton/Hr	Truck Size Tons/Load	# Trucks/Hr.	Unload Time (mins.)
11	240	24	10	6

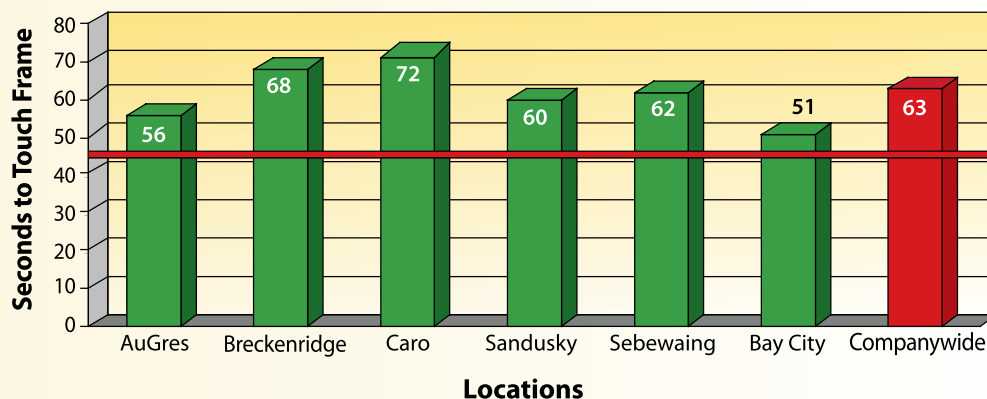
In theory, if you saved 30 seconds per truck in Bay City on 10 trucks, this figures out to be 5 minutes per piler, per hour, that is gained. Then take 5 minutes that was gained, divided by 6 minutes to unload, and this comes out to be 0.83 more trucks, per hour, per piler. If you multiply 11 pilers by 0.83, we get an additional 9.2 trucks per hour at Bay City, or approximately 1 more piler.

In theory, again, for companywide (Table 2), if you saved 30 seconds per truck on 8 trucks, this figures out to be 4 minutes that is gained, per piler, per hour, or take the 4 minutes that is gained divided by 7.5 minutes to unload, and this equates to 0.5 more trucks per hour, per piler. If you multiply 75 pilers by 0.5, thus getting 37.5 trucks per hour for company-wide, or approximately 6 more pilers.

Table 2: MSC, Companywide Piling Grounds

# of Pilers	Avg. Ton/Hr	Truck Size Tons/Load	# Trucks/Hr.	Unload Time (mins.)
75	200	25	8	7.5

Graph 1: Summary of the Time Trials at Six locations
AuGres, Breckenridge, Caro, Sandusky, Sebewaing and Bay City Piling Grounds





So the million dollar question is, "How can we save 30 seconds?" We can accomplish part of this by getting hoists down faster after unloading. There are a couple of ways to achieve this, depending on whether you have a top port or not.

1. With a top port already installed, just add a second line to the cylinder port and then add an air diffuser valve back to the tank. Cost for this would be around \$500-700. According to hydraulic mechanics, this process will be twice as fast as without the additional line.
2. Without a top port, install a T-valve to the main line and then back to the oil tank. The cost is \$400, and the hoist will come down 50% faster.

So, let's solve some of these problems with slow hoist times. The faster you get your hoist down, the less time you spend waiting at piling grounds and the faster you are back to the field for another load.

For more information on these two systems, contact the following hydraulic dump trailer mechanics.

- **A-1 Truck Parts**
920 N. Van Dyke Road, Bad Axe, MI, 48413; (989) 269-6510 ■
- **Darcy McCarty Repair**
41 S. Pinnebog Road, Bad Axe, MI, 48413; (989) 269-8841
- **Sawyer Sales & Service**
3089 W. Sawyer Drive, Saginaw, MI, 48601; (800) 310-2810
- **Thumb Truck & Trailer Co.**
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Greg Clark is the new Agronomist at Michigan Sugar Company. He has 13 years of experience in agronomy. On pages 18-19 of this issue of *The Newsbeet*, you will find an interview with Greg.

Pressed Pulp Sales Prove Valuable

By Robert Braem, Director of Commodities

The sale of pressed sugarbeet pulp to area dairy farmers and livestock feeders has become an important part of Michigan Sugar Company's co-product business. In the past, our company chose to dry virtually all of the pulp and sell this product in a pellet form. Pressed pulp was produced only when the factory had mechanical issues and could not dry all the pulp. Supply was erratic and quality suffered because of delivery delays. Sales volumes were less than 50,000 tons per year.

As more dairy farms expanded and moved into our area, demand for pressed pulp grew. Both Michigan Sugar Company and Monitor Sugar Company began contracting with area farms and producing pressed pulp intentionally for sale. Our customer base grew and sales volumes increased steadily to approximately 100,000 tons.

When Michigan Sugar Company and Monitor Sugar Company merged, a decision was made to include pressed pulp as a part of our core business. Our sales area was expanded well beyond the beet growing region. Currently, our customers are located in nearly every county in the lower two-thirds of the Lower Peninsula and most of southwestern Ontario. Sales volumes have grown rapidly to over 400,000 tons sold in 2010. Our current customer base includes nearly 400 individuals and corporations. Pressed beet pulp is fed primarily to dairy and beef, but also includes bison, sheep and goats.

An important benefit to the company from pressed pulp sales is energy avoidance. To dry pulp and produce pellets, it takes 8 to 10 MMBTUs per ton of dry pulp. In 2005, natural gas and oil prices spiked to \$13 per

MMBTU, primarily due to hurricanes in the Gulf of Mexico. Drying pulp at those costs is not economical. Energy prices declined from those levels, but ran back up in 2007 to over \$13 per MMBTU again. Michigan Sugar Company is unable to control energy prices, but we can control energy consumption. Selling 400,000 tons of pressed pulp reduces fuel consumption by nearly 1 million MMBTUs per year. There is also reduced operating and maintenance costs associated with making pulp pellets.

Pressed pulp sales at Michigan Sugar Company have changed significantly over the years. This product was originally a result of mechanical problems that had to be removed, but now pressed pulp is a valuable co-product produced specifically for sale. We are able to provide an excellent feed product to area livestock feeders, while reducing fuel usage in a volatile energy market. Pressed pulp is being shipped every day of campaign and will be for many years to come. ■





⇒ Pressed beet pulp is an excellent addition to any dairy or beef ration.

⇐ Pressed beet pulp can be stored in bunker silos and fed long after campaign has been completed.



Robert Braem is the Director of Commodities at Michigan Sugar Company. He has been with Michigan Sugar for 30 years. He manages the Purchasing Department, purchases energy and major materials, along with marketing certain co-products from factory operations.





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Ruth Direct: A Win-Win!

by Keith Kalso, Agricultural Manager, Croswell,
and Robert Corrigan, Agriculturist

The year 2010 will be remembered for the first year that the Ruth beet receiving station remained closed for the early sugarbeet delivery period, but produced 98,470 tons of early delivered beets transferred to various Michigan Sugar Company factories. This was accomplished by duplicating the delivery system that has been evolving since 1998 in the Ontario growing area of Michigan Sugar. The descriptive name of Ruth Direct was coined because this unique delivery system sent field-piled beets directly to the Michigan Sugar Company factory wet hoppers via transfer trucks from fields instead of the piling ground. Ruth Direct allowed growers to place harvested beets in long, narrow field windrows at roadsides for access by a Ropa Maus field cleaning/loading machine and not have to transport them from farm to receiving station.

Planning for this system began back in the winter of 2010 when grower-owners, Chris Guza, Les Volmering, and Doug Volmering, had several meetings with company officials to plan out and develop uses for a Maus machine; soon after that, they ordered a new Ropa Maus from Germany. The Ruth area growers were offered the direct program in June of 2010 so plans for the upcoming harvest could begin. Later in the summer, Tony Guza Trucking was selected to provide the transfer trucking from fields to factories. Once all the players were in place, it was up to Bob Corrigan (Agriculturist in the Ruth/Verona area) to begin planning.

Participation in the program required a contract to the Ruth piling station prior to May 2010. Verona contracts were ineligible at the start of early delivery. Exceptions were made later in early harvest to see if there would be interest in Verona Direct for 2011. Growers wanting to participate in Ruth Direct committed either 20 or 40 acres for the program. A lottery-style drawing was held to determine harvest order with the lottery results being posted on the Michigan Sugar Company website for all to see. Trading was allowed for changing spots in the harvest order as long as it could be accommodated.

Field accessibility and pile construction were keys to the success of the Maus operation. Transfer trucks required a good road surface accessible in all weather conditions; in-field loading was discouraged. A few exceptions were made the first year since prior planning was short. During pile construction, guidelines needed to be followed such as pile width could not exceed 27 feet and 22 feet being the maximum distance from the edge of the pile to the edge of the truck box. It was quickly realized that 22 feet meant 22 feet, not 23 feet. Some fields with wide ditches were not used or, in some cases, beets were placed in another field that was accessible.

Roadside loading safety was the responsibility of Guza Trucking. Safety training was required for flagmen and the trucking group through the

Huron County Road Commission. Applicable safety signs were used while loading trucks for responsible public safety. Many inspections were done by county road officials with an excellent report achieved.

Tare samples were taken by John Hurley, an employee of Michigan Sugar Company. One sample was taken per load and given to the driver for delivery to the factory destination. John was also the keeper of each grower's load ticket, which was coordinated long before harvest with Michigan Sugar's IS Department to assure each grower would receive accurate credit for all loads. Early delivery premiums were paid on the date of harvest, not the date the beets were hauled.

Ruth Direct began shipping field-piled sugarbeets on August 26 and the last beets shipped October 22, 2010. The Bay City, Caro, and Croswell factories were the recipients of the successful first year beet haul of Ruth Direct. It was a learning year for all involved; company employees, grower members, and trucking contractor. The success relied on intense communication between all parties. Timing was very important so beets would not be kept in field piles too long. Daily coordination was critical between growers, Maus crew, and the freight provider.

The growers and company experienced many savings and efficiencies. The Ruth piling station was closed during early delivery, saving approximately \$2.00 per ton on the 98,470 tons of early beets. The growers' transfer freight costs to the factories were the same as if the beets were loaded and shipped from the Ruth station. Savings to the grower included no trucking cost from field to station, no waiting in long lines, reduced labor, and being able to harvest entire fields all at once.

Ruth Direct's success can be attributed to the cooperative effort of all those involved. It was a win-win for both grower and Co-op. ■



Keith Kalso, Croswell Agricultural Manager, has worked for Michigan Sugar Company for 25 years.

Robert Corrigan, Agriculturist in the Ruth/Verona area, has worked for Michigan Sugar Company since 1990.

New Tractor Removes One Man's Barrier

by Keith Kalso, Agricultural Manager, Croswell

The 2010 sugarbeet harvest proved to be monumental for Gary Wolschleger, brother of Co-op member, Debbie Bischer. Thanks to the ingenuity of Debbie's husband, Allen Bischer, and a new Case IH tractor, Gary was able to drive a farm tractor once again, after a 2006 farm accident had left him paralyzed below his arms.

Before Gary's accident, in 2006, he was very active, both on the farm near Harbor Beach, Michigan, and working full-time off the farm. In 1969, Gary graduated from high school and began his off-farm employment in Harbor Beach, while farming at home. In 1971, Gary purchased the farm from his father, which consisted of 325 acres of land, growing corn, wheat, soybeans, and fed cattle. During 1982, his off the farm work increased to seven days per week, as well as doing daily cattle chores and crop farming. He kept up this pace until...

One fateful day, in the spring of 2006 (March 18), just two days before his 56th birthday, Gary was involved in a tractor accident while spreading fertilizer alone in a field. His active life changed from that day forward. Gary was taken to Harbor Beach Community Hospital and then transported via flight care to Saginaw's Covenant Hospital for the treatment of a spinal cord injury. After four weeks of intensive care at Covenant, Gary was transferred to Mary Free Bed Rehabilitation Hospital in Grand Rapids, where he went through ten weeks of rehabilitation. Joanne, Gary's wife, and their four grown children, were instrumental in his recovery. He returned home on June 30, 2006.

Since the accident, Gary has stayed active, continuing his interest in hunting and traveling. Gary has been able to successfully shoot deer every year since 2007; shot a turkey this past season, shot a bear up near Copper Harbor, and killed five animals on an African hunting trip in 2007.

In 2008, Gary was able to start mowing grass by operating his small garden tractor. Jared, Gary's son, worked on the family's garden tractor to make it possible for him to "get back in the seat" by installing hand controls to operate the hydrostatic transmission. Since then, the lawn chores have been Gary's responsibility.

This past summer, Allen Bischer purchased a new Case IH Magnum 225 tractor with a CVT transmission. Knowing that the transmission could shift by hand controls only, Allen offered Gary a job of beet defoliating this past harvest season. Gary was up to the challenge, so Allen built a type of boom-hoist for his forktruck to lift Gary into the tractor. Once



Above and left, Gary Wohlschleger is able to drive his farm tractor again with the installation of hand controls to operate the hydrostatic transmission. He topped beets on over 400 acres and worked a full 14-hour day!

into the tractor cab, Gary was positioned into the seat with an extended backrest and a few straps to hold him in. Gary was more than happy to drive a full-sized tractor again. He went to work pulling a six-row defoliator and successfully "topped" over 400 acres of sugarbeets (about half of Debbie and Allen's beet acreage). The Bischer's operation utilizes two six-row defoliators and one eight-row Amity harvester. Gary operated in both the Ruth and Deckerville areas. October 30, 2010, was his biggest day of beet harvest. He started at 6:30 a.m. and it wasn't until 8:30 p.m. that Gary left the tractor cab. The tractor worked very well for Gary, since hand controls were all that was needed to operate the machine. Gary's only complaint was the color of the tractor; he prefers green paint!

Gary Wolschleger is an example of someone triumphing over adversity. His active lifestyle and happy disposition is inspirational to all who come in contact with him. Getting back into the field is one more barrier removed for this courageous man. ■





The Business of Beets

How Technology Supports

by William Gough, Caro Factory Manager

Our factories are full of technology, ranging from old to new—technology at all stages of the lifecycle. One definition of technology is that the “new” looks and seems like “magic” to the “old.” And, in fact one definition of magic (from Wikipedia) is “..if something is done here a result happens somewhere else.” Sounds a lot like modern technology, doesn’t it? The following is a brief description of some of the “magic” that technology brings to our factories.

The magic is accomplished through a complex series of wires, relays, sensors, automated valves and variable frequency drives via a computer connected to our factory network. The control room operator monitors several computer screens and can see, in “real time”, what is happening and has the ability to change control set points, right on the computer monitor, to tell the computer how it should set valve openings and motor speeds to match current factory operating conditions. The computer compares current sensor readings to current settings and makes changes, as needed, to valve and motor controllers. Computers are good at this sort of thing, because they continuously monitor the instrumentation and results to determine if changes need to be made to valve and motor settings.



Screen Shot 1

Starting in the Beet End Control Room, the flow of sugarbeets is controlled to the beet slicers. Looking at the diffuser screen (**Screen Shot 1**) we get a glimpse of some of the many items being monitored and controlled that will ultimately determine the flow of beets into the factory.

Starting in the upper left of the screen, we see the flume gate that opens to allow beets to flow out of the wet hopper to the feeder wheel. The feeder wheel (controlled to maintain proper loading of the beet washer and slicer hopper level) controls the amount of beets going through the stone wheel, gravel drum, beet pump, beet washer and into the slicer hopper above the slicers.

The control room operator sets the tons per hour of slice that is needed parameter. The computer monitors the cossette belt scale to see if this tonnage is being maintained and makes speed adjustments to slicer rpm. The cossettes fall directly into the mixer, pumped out to the diffuser and the exhausted cossettes are conveyed off the top into the pulp presses for mechanical dewatering. Water flows into the top of the diffuser and is pumped out of the



Sugar Production

mixer, with the extracted sugar, through juice heaters toward the purification stages. As you can see from the picture, there are many other operational characteristics being monitored on this screen. Examples are the sugar content of juice streams or brix (brix is a measure of % dissolved solids), tank levels, chute levels, temperatures, juice flows, valve positions, equipment on/off indicators, pH, etc.). The computer monitors, calculates and automatically initiates changes to maintain set points throughout the system.



Screen Shot 2

As the juice moves on to the evaporators (juice concentration stage), the computer mostly monitors what is happening and allows the operators easy access to change set points (**Screen Shot 2**). The operators monitor steam flows, juice flows, tank levels and juice brix to determine what settings they need and what levels need to be maintained. They then make those setting changes and the computer carries out the instructions and maintains the new parameters.

From any of these screens, operators can switch to other screens to see what is happening in other parts of the system so that they can be sure the changes they make don't cause problems elsewhere in the system. When they click on the Carbonator button (**Screen Shot 3**) they can see the carbonation tanks, liming system and juice clarification vessels. Maintaining proper level (affects retention/reaction



Screen Shot 3

time), temperature and pH is critical to the production of "good" quality juice so the pan floor operators can grow sugar crystals in the crystallization pans. A click on the Pan Floor button (**Screen Shot 4**) allows the operator to see the levels of the tanks and vessels on the pan floor, in the basement and in the white mixer (white sugar holding tank for supplying the centrifugals). If any of these tanks and vessels were to overflow, it would cause major problems and could amount to lost product, so these are critical pieces of information.



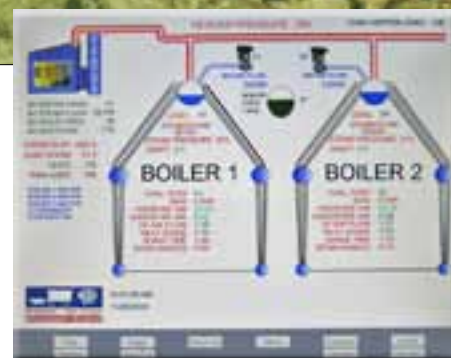
Screen Shot 4



Screen Shot 5

A mouse click on the Pan button (**Screen Shot 5**) brings up the screen that the sugar boilers use on the pan floor to control the sugar crystallization process. Here you can see four windows on the screen, two white pans, a high raw or intermediate pan and a low raw pan (the last pan before the separation of molasses). These windows each have clickable pop-up controls hidden behind certain numbers and words that are used to control steam flow, fill rate, vacuum and other variables that affect water evaporation, solution temperature and crystal growth.

Because sugarbeets are +/- 75% water, we have to remove tons and tons of water in the process of extracting and crystallizing sugar and this makes it a very energy intensive business. In the Caro factory



Screen Shot 6

we use electric, coal, coke, #6 fuel oil and natural gas as energy sources. Coal is our major energy source and we utilize it by burning it in boilers. The steam we create is used to boil juice and generate electricity (here at Caro we generate about 25% of the electricity we use). When the Boilers button is activated, a screen depicting our three main boilers comes up (**Screen Shot 6**). This screen has information on several very important variables in the operation of the boilers, including coal feed rate, combustion air control, steam flow and steam usage. We also have a wet scrubber to remove particulates and some air pollutants from the flue gas stream that requires constant monitoring with many different emergency operations and shutdown points. This requires a separate computer system just for scrubber control, but it is connected to the factory system so that it can be monitored and certain set points can be altered by the operators, depending on conditions.

As a side note, water chemistry is very crucial to boiler operation. We have a system, developed by NALCO Chemical Company, that monitors boiler feed water chemistry and automatically feeds chemicals to the feed water based on an automated continuous "indicator" chemical analysis performed by specialized equipment. This equipment is also connected to the Internet, via a wireless gateway, and if certain warning conditions arise, an email is sent to specified persons so adjustments can be made before major problems occur.

There are many different screens with detailed information, data tracking, trend graphing over time and max/min values, that are just a click away for the operators, supervisors and managers to help evaluate how the overall process has developed over the past minutes, days, weeks, etc. The real magic is behind the scenes with the hours and hours of programming computers, the electrical work and the instrumentation that makes all these different pieces of technology work together to create the something done here magically make something happen over there. ■



William Gough, Caro Factory Manager, has been with Michigan Sugar Company for 28 years.

Update: Packaging & Warehousing

Packed With Pride!

by James Ruhlman, Vice President, Administration

One of our cooperative's strategic objectives is to increase revenues through the production and sales of value-added packages and over the past several years, significant focus has been placed on our packaging and warehousing (P&W) operations. This focus encompasses everything from house-keeping, food safety, facility upgrades, higher production standards, and the implementation of state of the art packaging equipment. Of equal importance, is our focus on a culture that mirrors our *"Packed with Pride"* slogan. When we compare the net margins that we receive when we sell sugar in a consumer bag (i.e., 4#, 5#, 10#) to shipments made in bulk form, it is significant. Production and sales of specialty items, like powdered sugar and brown sugar, reap even greater net returns to our shareholders. We have made great strides in our production numbers and we have taken big steps to improve the quality and the cosmetic look of the product that sits on the self at your local grocery store.

Many of the improvements that we have made in P&W, over the past several years, have been accomplished through the use of technology. Entry doors are now programmed to utilize a swipe card system (similar to what you would see in a hotel). This system has paid huge dividends in the area of facility security and food safety. Additionally, our old time card system has been replaced by a biometric fingerprint scanner. Instead of "punching in" we now place our finger on a scanner. This scan is used for identification, recording time of entry, and instruction of job station. While these systems do not necessarily improve production, it allows us to better manage our workforce.

Sugar packages travel along conveyors to a robot that stacks product on pallets. Pallets are then moved to shrinkwrapping (above right), all without human intervention.





Our Board of Directors has played an instrumental role in the advancements in our P&W operations. Millions of dollars have been approved by them to replace antiquated equipment with new state of the art machinery. These investments have paid huge dividends. We are seeing production levels of grocery items (4#, 5#, and 10# bags) double, and we have seen our daily production of specialty items (consumer powdered and consumer brown) increase by four times the rate of our older machines. Old palletizers have been replaced by robotic stackers that place bags and bundles on pallets without human intervention. This new equipment allows us to pack more sugar in a shorter timeframe which allows us to adapt more quickly to customers' demands.

Even though many of the improvements in the warehouse have been equipment related, the culture and the work environment is also improving. Our facilities are neater and cleaner and the pride factor is more and more evident every day. Our P&W employees who live in our nearby communities fully understand the importance and the impact that they make through putting the final touches on your product before it goes to our customers. "Packed with Pride" is more than just a slogan. It is that internal feeling that transforms a simple, basic product into a superior package that we can all be proud of. ■



Jim Ruhlman, Vice President of Administration, is responsible for Packaging & Warehousing Operations, in addition to overseeing the Safety, Human Resources and IS Departments, and has been with Michigan Sugar Company for 28 years.



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Real. Sweet.

by Jerry Coleman,
Vice President,
Marketing & Sales

Making the Switch to Sugar

What do Snapple, Hunt's Ketchup, Thomas' English Muffins, and Sierra Mist all have in common? Other than the obvious fact that they are all great products, each of these popular consumer brands has been reformulated to remove High Fructose Corn Syrup (HFCS) and replace it with sugar.

To make matters even more delicious, many, many more products (too numerous to list in this article) have also made the switch from HFCS to sugar.

HFCS has always sold at a discount to sugar, since its commercial inception in the late 1970s. The term HFCS comprises any of a group of corn syrups that have undergone enzymatic processing to convert some of the glucose into fructose in order to produce a desired level of sweetness. HFCS is typically manufactured into two broad categories: HFCS 42 (meaning, 42% of the solution is fructose) and HFCS 90 (meaning, 90% of the solution is fructose). Then, to meet the sweetness and dry solids requirements of certain industrial use segments (the bottling industry, for example) the producers of these two products blend them into what is called HFCS 55 (meaning, 55% of the blended solution is fructose).

Sugar is the common name for sucrose, which is simply extracted, unaltered, from its natural form, from sugarbeets and sugar cane.

HFCS was produced in 1957, but it was not "scalable" to a level of commercial production, until 1965 when Dr. Y. Takasaki at The Agency of Industrial Science and Technology of the Ministry of International Trade and Industry of Japan figured out a way to commercialize (i.e., produce in large enough batches to make it commercially feasible) the production of HFCS.

The process to convert corn into HFCS is very complex chemistry, requiring at least three different enzymatic processes to make the conversion. Corn is "steeped" in solution to breakdown the kernel into its various constituent parts, one of which is cornstarch. This cornstarch is treated with an enzyme called alpha-amylase to produce shorter chains of sugars called oligosaccharides. Then, yet another enzyme, Glucoamylase, is added to break the sugar chains down even further to yield the simple sugar known as glucose. Finally, a third enzyme, Xylose isomerase, is added and it converts the glucose into a mixture of about 42% fructose and 50–52% glucose (the balance of the solution is "other" sugars). Whew!

After Dr. Takasaki perfected the process to commercialize HFCS, food manufacturers in the U.S., especially the bottling industry, saw HFCS as a way to add sweetness and bulk to their products at a significantly lower cost; and gradually they began reformulating their products to accept more (or perhaps all) HFCS and less (or perhaps no) sugar.

However, "A funny thing happened on the way to the forum." Science. According to several health studies, a link has been seen between HFCS consumption and obesity. These studies state that HFCS consumption and obesity are linked because HFCS consumption may not cause an insulin response in the body as does sugar; without an insulin response after consumption of a food laden with HFCS, there is no suppression of appetite (satiety). If there is no satiety or suppression of appetite occurring, then the person consuming the HFCS sweetened food product may continue eating because they are not satisfied.

Science has also raised the question as to whether or not the body can metabolize HFCS in the same

manner that it metabolizes sugar. Sugar, from either sugarbeets or sugar cane (as well as hundreds of fruits and vegetables), is a product that the body does efficiently metabolize. Sugar is all-natural and has been used as a sweetener by humans for thousands of years. Sugar exists naturally in almost every fruit and vegetable; but most abundantly in sugar cane and sugarbeets. HFCS has only been available since the early 1970s, when Dr. Takasaki figured out a way to "isomerize" corn starch into HFCS. There is no established and well-accepted body of scientific research that directly compares the nutritional aspects of HFCS to sugar. Therefore, any claim that the two products are nutritionally equivalent is false and misleading. The HFCS industry has tried to convince consumers HFCS and sugar are "similar," and that consuming HFCS is essentially the same as consuming sugar — but not everyone is convinced.

When the New York Times carries a front page article about sugar replacing HFCS on food labels, there must be something happening in the food industry and in the minds of consumers. In fact, sugar consumption is once again above HFCS, a lead that sugar lost between 1979 and 2003; only to regain it in 2007; and the gap continues to widen.

Food marketers, ever diligent in listening to their customers/consumers, have decided en masse to reformulate and return pure, natural sugar to their formulas and to their ingredient panels on the back of their products' package (soon to be on the front of the packages).

"As a company, we've always seen HFCS and sugar as the same," says Jason Genthner, a Snapple spokesperson. "We listened to our

consumers, and the consumers' perception is that they wanted sugar in the products."

"The angle from the consumer standpoint is we've always claimed we're the best stuff on earth," Genthner says. "We're just getting better. It's just a more premium, mature execution of it."

So, sugar is in great favor with consumers nowadays and those same consumers are concerned about HFCS and the food companies that supply these consumers are taking giant steps to remove HFCS from their products and replace it with pure, all-natural sugar.

Of late, producers of HFCS have taken to the airwaves to mount what is estimated to be a \$30 million ad campaign to try and convince consumers that there is no difference between the two products.

The Name Game

When was the last time you dined at your favorite seafood restaurant and saw "Pan Seared Slimehead" on the menu? Of course you haven't; but I bet you have ordered "Pan Seared Orange Roughy" before, and thoroughly enjoyed it!

Other game-changing name switches:

Marion Michael Morrison became John Wayne.
Raquel Tejada became Raquel Welch.
Alphonso D'Abruzzo became Alan Alda.
Tim Allen Dick became (just) Tim Allen.
Frederick Austerlitz became Fred Astaire; and
Virginia Katherine McMath became Ginger Rogers.
Slimeheads became Orange Roughy.

Just as Marion, Alphonso, Virginia, and Slimeheads all changed their names to become less undesirable and more appealing to consumers, the corn wet milling industry wants to change the name of HFCS to "corn sugar." HFCS is a name they chose in the mid-70s when they first developed the techniques to isomerize corn syrup into high fructose corn syrup. Now, after more than a quarter of a century of calling their product HFCS, they are seeking to change it to "corn sugar."

Sugar, on the other hand, always has been, is, and will continue to be sugar. Pure and simple. ■



Jerry Coleman is Vice President of Marketing and Sales at Michigan Sugar Company. He has been with the company since 1995, and has 35 years of experience in the sugar industry.

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2010 High Sugar Producer

East District: Troy Volmering

The East District's high sugar producer for Crop Year 2010 was Troy Volmering of Volmering Brothers Farms. Troy's field produced 306.30 pounds of recoverable sugar per ton (RWST). The seed variety Crystal 827RR was planted on April 1, 2010, and yielded 32.5 tons per acre with 20.347% sugar.



Troy Volmering, Volmering Brothers Farm

Troy (age 19) is the son of Les Volmering. Les and brothers Bill, Rich, and Doug, comprise the partnership of Volmering Brothers Farms. The farm grows 950 acres of sugarbeets, 1,200 acres of corn, 450 acres of wheat, 900 acres of edible beans, and raises 2,000 head of fed cattle. Troy is the fourth generation involved in this family business. He took a keen interest in the farm at a very young age. Troy began operating the planter at age 15; he currently plants with a 24-row RTK assisted 22-inch row planter, runs a sprayer, operates a beet harvester, and also operates the farm's newly acquired Ropa Maus.

Les and Doug Volmering partnered up with fellow Co-op shareholder, Chris Guza, to purchase the Maus this past summer. The Maus loaded 130,659 tons of field-piled sugarbeets. Of those tons, there was 98,470 tons loaded out of the Ruth area

directly from grower fields and shipped to factory wethoppers during the pre-pile period as well as 32,189 tons shipped from the Ruth area to the Sandusky receiving station and "stacked" by a converted beet piler for a long-term storage pile research project.

Troy was excited to receive this award in front of his fellow growers on December 10, 2010, at the East District annual meeting in Croswell. He was also offered an expense-paid trip/tour for him and a guest to the Oregon seed production area by American Crystal Seeds for his high sugar achievement.

West District: L&M Scheuerlein

The Scheuerlein family has been raising sugarbeets in the Saginaw area for over 100 years. L&M Scheuerlein is owned by Louis and his son, Duane. Louis and Duane have 200 acres of sugarbeets on their farm along with corn, soybeans and dry beans. This year, their field won for the highest RWST in the West District, and had 323 pounds of sugar per ton and 23 tons per acre. Duane planted this field to Beta 17RR4N on March 31. This was the first year they used Quadris in a T-band at planting. Duane feels that it helped in achieving the yields they obtained this year. He also put 1.25 tons of lime on this field last fall, following his soybean crop. He also applied 85 pounds of N, with 35 pounds put on 2x2 at planting. His K and P were applied according to a soil test that was taken. Before planting he worked three times with RoundUp for weed control and applied three Cercospora sprayings.

The beets went through a very dry period during August and September and it was fairly dry until the day before harvesting this field. They started harvesting this field on October 21. The day before they harvested this field they received 0.4 inches of rain. Duane said this made it about ideal for digging. Duane stated, "This is the first year when everything I wanted to happen came together. From getting RoundUp Ready nematode seed, having Tachigaren applied to the seed, T-banding the Quadris at planting and getting the N applied when it needed to be." Louis and Duane had a wonderful crop this year and when things work out like you want them to, great things can happen.



Duane Scheuerlein proudly accepted the award

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Awards

Central District: Russell Farms

Grover Leonard Russell started the farm in 1932 on a piece of land now owned by Ruth McConnell on the northwest corner of Darbee and Unionville Roads in Section 12 of Fairgrove Township. Grover raised sugarbeets until hand labor for harvest was no longer available; he didn't want to buy a harvester.

Leonard Grover Russell was born in 1931 and began farming with his dad when he was old enough, in the early 1940s. He bought the farm to the west of the original, from Grover, in 1948. Leonard worked for Michigan Sugar Company from 1951-1953. He married Beth in 1952 and they started to milk cows and grow sugarbeets again. The farm has raised sugarbeets ever since. Leonard and Grover farmed together until 1957, when Grover was killed by a falling tree.

In 1976, Leonard partnered with his three sons; Rick, Randy and Dave. Randy left the partnership in 1997 and Dave left in 2007. Leonard, Rick and the fourth generation, Eric, Mitch, and Matt Russell, now operate the farm. The main operation has moved from the Darbee Road farm to Section 1, Fairgrove Township, at the corner of Dutcher and Unionville Roads, which is Rick's farm.

Members of Russell Farms who accepted the Central District's High Sugar Producer Award included, from left to right: Matthew, Mitchell, Eric, Rick and Leonard



When planning for the 2010 crop, the Russell's knew that, with timely rains, the sugarbeets should yield over 30 tons per acre and could be sweet with a 19% sugar content not being out of the question. Upon this foundation, they figured American Crystal varieties 827 or 824 would be good, so they mixed the two together and the decision really paid off. With timely weed control and fungicide applications, the field yielded an impressive 35 tons per acre with 21% sugar, and garnered them the High Sugar Producer Award for the Central District. ■



IT'S A BIG DEAL

Betaseed's \$500 Scholarships

Again this year, Betaseed will be offering a **scholarship program** for 2011.

Two **\$500** scholarships 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



Who Wudda Thunk?

Apparently those with wild imaginations are way ahead of the rest of us and unknowingly foretell the future of what is to come! For those of us “youngsters” who remember the comic book series of Flash Gordon and the cartoon series the Jetsons, it doesn't take long to realize that what we, at one time, thought what was ridiculous and unachievable may be just around the corner. Can you imagine the amazing ride that it has been for “old timers” who are celebrating birthdays in their 80s, 90s or even 100s? Transportation has gone from horses to 500-passenger airplanes, cars talk to you and tell you that you are going in the wrong direction and handheld phones send and receive emails and search the Internet. Just think, if Columbus would have had Onstar on the way to India to find the Orient trading route, he would have never discovered America. That's scary!

It is evident that agricultural advances have kept pace with other industries, going from horses and handheld implements in the early 1900s to 500 horsepower tractors equipped with auto-steer capability and implements that cover multiple acres in one pass. Biotechnology and genetics in seed production is another example; advancing yields in just a few years to levels that most thought were unattainable, and management practices that use satellite technology aid in grid sampling our fields for variable rate application of nutrients and other crop protection products.

The ability and willingness to advance as quickly as we have, puts an ever-increasing demand on our ability to communicate quickly and accurately. Cell phones and computers have given growers on the farm the ability to communicate, retain valuable information and stay current almost as quickly as anyone in an office setting. As a result, communications between Michigan Sugar Company and shareholders has been a key priority for company management. This is evident in the phoneblasts all growers receive simultaneously informing them of harvest changes,

a call to action to contact legislators on legislative issues, or to submit comments to USDA on the benefits of biotechnology.

Along with this new technology is the added responsibility of record-keeping and compliance requirements that goes hand in hand with being good stewards of the land, as we have been over many years. I believe, as grower/shareholders and as a company, we have shown our willingness to accept these new responsibilities and advance as quickly as any other industry.

Your company has provided the tools to accomplish this task through the Crop Records site on Michigan Sugar Company's secured grower website. Submittal of individual field cropping practices, by all shareholders, provides the ability for our cooperative to compile the data and, collectively, determine the practices which result in maximizing yields and purity levels. This field data collection not only provides for the best overall return to both the grower and their company, it also fulfills USDA recordkeeping requirements in connection with agricultural chemicals and biotechnology reporting.

Michigan Sugar Company's Information Systems (IS) Department and the agricultural staff are constantly looking for ways to make the grower recordkeeping site more user friendly. I have entered the information for our farm and, like many other things that we do for the first time, I found that it was not as much of a challenge as I had expected. Even I can do it! “Who Wudda Thunk?” ■



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