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Improving Beet Harvest and Storage Methods

Our first beets were harvested in August this year! Starting the factories and harvest in August, or even early September, was unthinkable a few short years ago. As a cooperative, however, it has become very clear that we can return the maximum amount of money to our shareholders by utilizing our factories for the maximum days possible. This year, our campaign may exceed 200 days. Not too many years ago, 125 days was the norm!

We expect this year's crop and campaign will rewrite the record books. Total tonnage will be near 4.5 million tons and our average yield could push 30 tons/acre. We are taking a number of steps in order to handle this massive crop. First, as stated above, we are starting the factories two to three weeks earlier than ever before. Second, we have added additional ventilation equipment to our receiving stations. We will have nearly 550,000 tons of beets over vents this year. Finally, we are making a number of processing adjustments in our factories in order to maximize throughput.

Also, this year we are testing some new pile storage concepts at three of our pile grounds. In an effort to improve harvesting and piling efficiencies, we are studying how field-piled beets or clamps store if they are picked up and set into a traditional pile via a "stacker." The stacker is simply a regular piler with the grab rolls removed. The cleaning action from the grab rolls is not needed since the beets will have been cleaned via the ROPA Maus that will be used to load the beets from the clamps. We want to see if these stacked beets can be stored until mid-January.

We are also utilizing two of the Maus operations to manage early delivery in Ruth and Dover. Having growers pile their beets on their headlands during a scheduled early harvest will save the growers a significant amount of freight and the Co-op will save the cost of operating those receiving stations during early delivery. The early beets will not have to sit on the ground as long with this scheduled delivery program which will help with beet quality during early delivery.

As the Co-op moves forward, we continue to change our past practices — whether it is when we start harvest, the length of our campaign, or how we pile or stack beets. All of these changes are done with one objective in mind — returning more money to our shareholders. We expect this year to be an excellent year and we hope the changes we are implementing will only improve our results.

Have a safe harvest. ■

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THE NEWSBEET

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Getting Ready for a Record-Setting Harvest

What a wonderful spring planting season! The first field of beets was planted on March 18. By the 26th, one week later, a total of 15,496 acres were planted. Favorable weather conditions, during the last few days of March, allowed for even more March planting of beets and we are estimating that 21% (approximately 32,000 acres) were planted that month.

April 1 arrived and planting conditions continued to be very, very good. From April 1 through April 4, Easter Sunday, all planters were out in the field. Rains finally arrived on April 5 and 6 and we had our first interruption in spring planting. Just over 126,000 acres were planted, representing 82% of our crop. What a start!

A record early startup date will hopefully lead to more records during this harvest and slice campaign. We surely have the potential to receive a record number of tons and slice a record number of days. We have added ventilation in Blumfield and will now have 575,000 tons over vents. This represents about 27 days of slice at the end of our campaign. It truly is a great insurance policy!

Having started our harvest on Monday, August 23, we will have a very long early delivery period. It will require many days of starting and stopping of harvest to ensure a good quality beet supply for slice. We do not know how warm it will be, but the idea of keeping beets in a pile for more than five to seven days is highly unlikely until later

Crop Information Comparison

2010	2009	
157,149	147,760	ACRES PLANTED
3,294 (2.0%)	10,408 (7.0%)	ACRES REPLANTED
610 (0.4%)	2,545 (1.7%)	ACRES ABANDONED
156,539	145,215	ACRES FOR HARVEST
TBD	24.69	AVERAGE YIELD (T/A)

In summary, all beets were planted by the end of April and the crop was a good two to three weeks ahead of our historical planting dates.

If we compare Crop Year 2010 to Crop Year 2009, we have 11,324 additional acres to harvest this year.

With the additional planted acreage (95% versus 90% in 2009), we had anticipated a September 1 startup date for this year. The early planting season, along with favorable growing conditions, has pushed this crop to potentially record-setting yields. That is why the decision was made, shortly after the July Board meeting, to start slice on August 24 in Bay City and as soon as possible thereafter at Caro, Croswell, and Sebawaing.

in the early delivery season. We anticipate more days of harvest on a weekly basis with fewer receiving hours in each day. Communication, participation and cooperation will be a key to a successful early dig.

It is with great anticipation that we approach this harvest. The overall quality of this crop and its storage will depend somewhat on the weather that lies ahead. We have positioned ourselves and we are prepared to harvest, store, and slice this record-setting crop.

Have a safe harvest. ■





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Michigan Sugar Company Hosts ASGA Summer Board Meeting

On July 11-13, 2010, Michigan Sugar Company hosted the 2010 American Sugarbeet Growers Association (ASGA) Board of Directors' summer meeting held at the Doubletree Hotel in Bay City. The ASGA, with offices located in Washington, D.C., is the organization representing U.S. sugarbeet growers on matters of international trade and USDA farm bill provisions that affect the U.S. beet sugar industry. The ASGA consists of a Board of Directors with representatives from each sugarbeet cooperative and the D.C. staff is headed by its Executive Vice President, Luther Markwart.

In two full days of meetings, the Board reviewed and discussed:

Dietary Guidelines

The government's recommended dietary guidelines, in relation to the obesity issue, are "encouraging restaurants and the food industry to offer health-promoting foods that are low in sodium, limited in added sugars, refined grains, fats, and served in smaller portions." The sugar industry is sending the message that no authoritative scientific body has ever found a public health need to set an upper level for sugar intake. This was just reaffirmed by the European Food Safety Authority in March 2010.

Sweetener Tax?

A "sweetener tax" has already been passed in the states of Washington and Colorado and other states are considering a similar tax. Unfortunately, in many states, this tax is being considered as a way to boost revenues in sagging state budgets. The sugar industry, along with the beverage industry, is working hard to discourage any further spread of sweetener taxes.

Crop Insurance

Industry officials are working with the USDA Risk Management Agency (RMA) to update coverage for replant of sugarbeets. The industry believes that, due to the considerably higher cost of new technology in sugarbeet seed production, current coverage levels do not reflect current costs of replanting sugarbeets and, therefore, replant coverage levels should be increased. A revenue insurance pilot program for sugarbeets is also being developed and hopefully details will be worked out in time for a 2011 rollout.

Roundup Ready Beet Seed Production

The sugarbeet industry continues to watch court proceedings closely as a result of a U.S. District Court ruling requiring the USDA to complete an environmental impact statement for Roundup Ready sugarbeets.

Farm Bill Hearings

Farm bill hearings are already taking place across the U.S. and ASGA President, Russ Mauch, testified that "Current sugar policy has maintained a balanced market, helped sustain fair prices, and has done it all without costing taxpayers a dime." The industry's opinion is that current sugar provisions are working well for consumers and the sugar industry alike. As the old saying goes, "If it ain't broke don't fix it."

Hosting growers from all over the United States gave Michigan Sugar Company the chance to show why many consider our region to be one of the most productive agricultural regions in the state, as well as the nation. Syngenta Seeds and Michigan Sugar Company sponsored a dinner cruise on the Princess Wenonah down the Saginaw River and out into the Saginaw Bay. A bus tour of the growing area was organized by Michigan Sugar and co-sponsored by Beta Seed and ACH Seeds. The tour included a stop at Laracha Farms to experience a pickle harvest, a tour of Star of the West Milling Co., in Frankenmuth, and a visit to the new Saginaw Valley Research Extension Farm where lunch was provided. After enjoying a great lunch, the tour headed to Atwater Farms in Ubyly to view a display of specialized beet equipment that many growers from outside of our area had never seen. The equipment display included the European-built, self-propelled ROPA beet harvester, a custom-built, 60-ton cleaning cart, and the large transfer trucks that are unique to Michigan. The tour also included a stop at a wind turbine farm and the Zwimmer dairy operation which uses pressed pulp in their feed ration for their dairy cows.

As evidenced in the August 3 primary elections, your vote has a tremendous impact on who will be representing your interests in the future. Be sure to get out and vote in the November general elections! ■



The Washington Scene: A Personal Perspective

by Ashlyn Gurley

This summer, I had the privilege and pleasure of working for the American Sugarbeet Growers Association as the Cleavinger intern in Washington, D.C., and it was an absolutely amazing experience!

I began my internship May 19 with apprehension as I left my home in Michigan, but immediately felt welcome when the ASGA staff met me at the airport and helped me settle in at the American University dorm where I lived.

On my first day, I was excited to meet everyone and get settled into the office. Initially, I worked compiling and organizing dossiers on each member of Congress so they would be easily accessible. The dossiers I worked on contained voting records for each member of congress, and later I learned they were very important when growers made visits to lawmakers.

Other projects included research on the tea party, helping to monitor congressional activity, and important floor votes. My days in the office began to fly by! Next, a wide variety of larger projects were assigned to me: I researched candy and food company financial information for a press release, completed a price survey, updated graphs for the American Sugar Alliance, designed the annual member directory, and helped complete financial disclosure paperwork.

Some of my most fun and memorable experiences were accompanying ASGA staff to events, including meetings with the American Sugar Alliance, agriculture committee hearings, and meetings concerning climate change, biotechnology and biofuel research. One of the first events I attended was an agribusiness luncheon at which the Secretary of Agriculture, Tom Vilsack, was the featured speaker, which really impressed me! I also attended a lot of fundraisers and got to meet many lawmakers; I met 20 congressmen and four senators, including both Michigan senators and my own congressman.

Everyone at the ASGA made a point to keep me involved and make sure I always had the knowledge and background information to complete my projects. At the beginning of my internship, I was invited to the American Sugar Alliance "Sugar 101," a presentation on the evolution of sugar policy and the programs of other countries so I would have adequate background knowledge on the sugar industry. A few weeks later, I was at a breakfast fundraiser with representatives from the entire American sugar industry — both beet and cane — and the congressman who hosted the fundraiser asked me a question about sugar trade. Thanks to "Sugar 101," I not only knew what he was talking about, but could answer his question — something that really surprised me at the time!

Upon reflection, this was an absolutely surreal experience. The number of events, projects, mentoring, networking, and cultural experiences I was able to observe and do as an intern with the American Sugarbeet Growers Association was absolutely staggering. Having grown up in a sugarbeet producing area and coming from an agricultural background, I was familiar with how agricultural issues affect rural communities, but this internship exposed me to how work by farm groups at the national level ensures there is adequate support for hometown agricultural communities. My decision to work in agriculture has been reinforced by this experience.

Another thing this internship exposed me to was the kindness and support of the sugarbeet industry. A few years ago, I received a scholarship from Michigan Sugar Company, and this spring was referred to this internship. This experience has greatly exceeded my wildest expectations and has broadened my horizons further than I thought possible; I'd do it all again in a sugarbeet — oops, I mean heartbeat. ■



Ashlyn Gurley, the ASGA Cleavinger intern in Washington D.C. this past summer, found that her decision to work in agriculture has been reinforced by the entire experience.



Ashlyn Gurley is a native of Burt, Michigan. She is currently a senior at the University of Michigan in Ann Arbor, studying Political Science and Environmental Studies. She would eventually like to work in an area of Agricultural policy to help create and evaluate programs designed to help farmers.



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Saginaw Valley Research Farm Update

by Paul Horny, Farm Manager

The process of completing the shop and office building at the Saginaw Valley Research and Extension Center took until mid-May. This was the busy planting season, and moving in progressed into July; however, we are mostly settled in now. Three-phase electrical service was established and well water and septic were hooked up. Final excavation was also completed. The office/shop building is a 150 x 60 foot building, with two 50 x 60 foot bays (one for the shop area and the other for the dry lab), a 50 x 60 foot office, and lunch/conference room area. The shop has in-floor heat; the office area is forced air, with air conditioning. The conference room will seat 30 and lunch-room the same. Other buildings at the site include a 150 x 60 foot machine shed and a 40 x 104 foot dry storage shed.

Final finish and spit polish work is being done as time allows. Some projects will wait until after the growing season, as the research at the station is priority. We have been custom building a lot of the furnishings, using discarded lumber from MSU dormitory lofts and recycling it into work benches, tables, and shelving. Other purchased furnishings had to be put together and installed. Landscaping began in mid-August when grass was seeded and beds for plantings were designed and established. We will incorporate as many edible plants into the landscape as possible, to make the landscape eye appealing, yet productive and tasty.



Research Farm construction is nearing completion both inside and out. Below, the shop has two 50 x 60-foot bays and in-floor heat.

Research plots planted this season are growing well. Research in sugarbeets this year includes weed control, evaluation of *Cercospora* and *Rhizoctonia* in varieties and germplasm, disease control, and variety evaluation. All of this work is done to ensure that varieties released will yield well and have good disease resistance in this growing area. Of course, weed, disease, insect control, and fertility studies conducted at the farm help to ensure a good yielding, high quality crop.

The research center is planning to establish an irrigated area for disease-resistance evaluations. Irrigation will help to ensure adequate and uniform disease pressure. We will be using a lower volume linear move system that will

wet the leaf surface during the night to help the disease develop faster and more uniformly. Corn is also planted around the trials to slow down wind so the canopy dries slower.

With the office/shop completed, plans are beginning for the next building — a conference center. We are in the early planning phase of this project and will update you in future *Newsbeet* articles. ■



Paul Horny, Farm Manager, has an MS degree from Michigan State University and has been the manager of the Saginaw Valley Research Farm since 1984.



Crop Records Are You Current?

by Paul Pfenninger, Vice President of Agriculture

Pay us a Visit!

Have you visited the Crop Records section of our website recently? You should have, in order to report your spraying for Cercospora leafspot control.

Take a look! It's new and improved — all on one page — no more skipping from page to page. Simply log into the password-protected section of www.michigansugar.com, then click on the Crop Records tab and then the Manage Records link.

Hopefully, your spring planting data is complete and all you need to do to report leafspot spraying is drop down to Disease Control, select Cercospora leafspot, and enter the date, fungicide used, and the current DSV, if you are tracking BeetCast numbers.

Your job of reporting leafspot spraying is all but done with just a few clicks of the mouse. It is quick, easy, and very beneficial as we track the control of this disease every year.

A Crop Records Committee was formed this year and has met on three different occasions to help create a Crop Records Report that suits everyone. The Committee consists of two growers from each of the three districts, along with Mike Weiss, our Programmer Analyst, Sally Martin, Executive Assistant of Agriculture, two Agriculturists and myself. Our schedule of meetings was once a month through the summer. We will not meet in September or October, but plan to resume meeting in November.

There have been many changes to the Crop Records Report based on the outcome of these meetings. We have even added a suggestion box for the crop records users to make suggestions, as well as collapsible comment sections under each specific area to make notes as you enter crop information.

Crop Records is a work in progress. The best information comes directly from the grower into Crop Records. Simple things, like accurate planted acres, and certified acres are very useful in certain decisions. Tracking our crop will assist the agricultural staff in problem solving of fields. For example, has Quadris been applied? Once? Twice? In furrow? 6-8 leaf? A simple check of Crop Records could, and would, answer all of those questions. Are there trends to yield and quality with control of diseases? Once again, good crop records would help us determine what is best for the Cooperative.

We encourage everyone to log into the Crop Records Report and enter as much data as possible. If you need assistance, contact your agriculturist. We are confident that you will be able to enter your data and we will begin to utilize this data in our decision-making and crop management scenarios.

Our goal is to get a majority of our growers to enter at least the basic information on their fields. It is our job to incorporate this information into useful charts and graphs that will show trends toward better crop management.

Please help us by entering your crop records data on our website. You will be amazed at the power of information, if we can get better than average participation. ■



Crop Records FAQs

How do I get into Crop Records?

- Log in to www.michigansugar.com with your user name and password
- Click the Crop Records tab

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

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

What type of information can I enter?

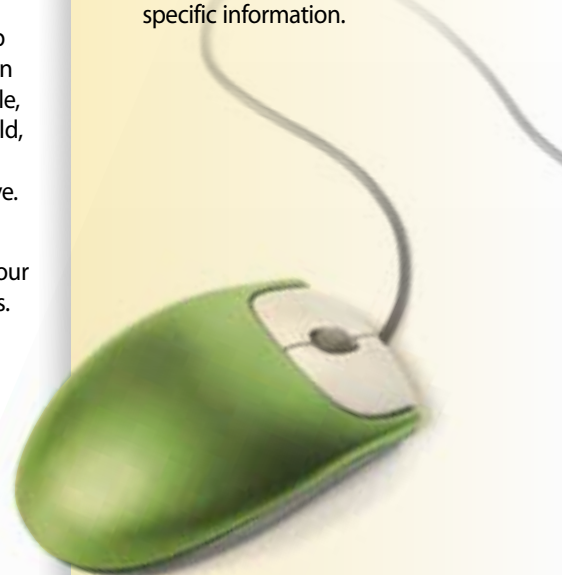
- **Field information** such as previous crop, tillage, row spacing, and sugarbeet rotation
- **Planting information** such as date, seeding rate, and variety
- Fertilizer information
- Weed control information
- Disease control information
- Any problems that occur in the field

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

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

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

- Contact your agriculturist for specific information.





It's a Package Deal!



Sugarbeet companies around the world have invested millions of dollars in research to discover what it takes to produce high quality sugarbeets. Many uncontrollable factors, such as rainfall, length of growing season, and amount of sunlight, can limit or enhance beet quality in a given season. On the other hand, there are controllable factors that sugarbeet producers can manage to improve quality. Research has determined that maximizing quality and recoverable sugar per acre involves more than a dozen controllable factors/practices. Not implementing any one factor can and will limit quality sugar production. In this article, we will discuss what Michigan research has indicated to be most important on "The Road to 19."

*by Jim Stewart, Director of Research,
Lee Hubbell, Research Agronomist,
Steve Poindexter, Senior Extension Sugarbeet
Educator, Sugarbeet Advancement*

Variety selection offers many options. In Michigan, there were 21 varieties being sold for 2010. Growers should consider how both production and disease resistance traits affect their profits when selecting a variety. From Michigan Sugar Company variety trial results, two varieties with similar tonnage showed a difference of over 22 pounds of sugar per ton. On a \$50 payment, and a yield of 30 tons per acre, the difference in payment would be \$116.70 per acre, but this variety is not the best for every situation. Matching varietal traits to a specific field or grower can be as important as sugar potential. Many of our highest sugar varieties are weak on some of our most common problems, such as Rhizoctonia, Cercospora, and cyst nematode. These pests often require more management and will reduce quality if not controlled.



Planting date changes the length of the growing season for your crop. Michigan Sugar Company conducted a trial with four planting dates, each two weeks apart starting in mid-April. Starting with the earliest planting date, the pounds of sugar per ton was 237, 232, 219, and 197. The longer sugarbeets have to grow, the higher the potential for increased yield, sugar content, and quality. The highest beet quality growers will take advantage of early planting opportunities.

Population of your beet crop has a large effect on quality and yield. We would recommend final emergence of 175-225 beets per 100 feet in 30" rows, and 150-200 beets per 100 feet in narrow rows. These ranges are ideal, but replant trials have shown it is economically better to keep uniform stands down to 75 beets per 100 feet, rather than to replant. From Michigan Sugar Company population research in 30" rows, both RWSA and RWST were reduced at 60, 90, and 300 beets. In this research, the RWST ranged from 274 lbs to 250 lbs per ton. In limited population trials in 22" rows, the RWST increased up to the thickest population tested at 250 beets per 100 feet. Many factors can affect your established stand; some are crusting, wind erosion, seed variety, tillage, seedling disease, and soil health. Emergence can be improved by increasing surface organic matter and incorporating cover crops to improve soil health.

Narrow row research conducted by Michigan Sugar, Sugarbeet Advancement and Michigan State University demonstrates that sugarbeet root yields and sugar levels are increased significantly by growing sugarbeets in narrow rows. Root yields were increased by two tons per acre and percent sugar was increased by 0.3 points in these trials. There are two main reasons why sugarbeet yield and quality are higher in narrow rows:

- (1) Increased capture of sunlight due to quicker row closure. Prior to row closure, a portion of the sunlight is hitting the ground and is not being utilized by the plant to make sugar. Observations from row spacing trials show that when the narrow row plots achieve canopy closure, the wide row plots are only about 80% closed. Some varieties have smaller canopies that may never close in 30" rows.
- (2) In-row plant spacing is improved in narrow rows, especially with high beet populations. For example, if a grower wants 45,000 plants per acre, it would take 190 beets per 100 feet of row in 22" rows, compared to 260 beets per 100 feet of row in 30" rows. Numerous trials have shown that high sugarbeet populations will improve yield and quality. Additional narrow row research is being conducted by Michigan Sugar Company in 2010.

Nitrogen is by far the most critical nutrient that needs to be managed in a sugarbeet crop. Too little nitrogen can reduce tonnage. Too much nitrogen will reduce quality. Finding the right balance has been widely studied in all beet growing areas. This type of research is ongoing in Michigan as our varieties, planting date, previous crops, tillage systems, and tonnage change. Managing nitrogen properly includes application rate, placement and timing. General rate recommendations have been established that are based on optimizing tonnage, quality and net return per acre. When sugarbeets follow dry edible beans or soybeans, per acre rates of 90 to 120 pounds of nitrogen are optimum. Rates following wheat or corn would be 120 to 150 pounds. When planting into heavy residue, the upper rate should be considered. If beets are following clover or manure, rates can be adjusted downward. Both Michigan Sugar Company and Sugarbeet Advancement research has shown 2" x 2" starter placement of 40-50 pounds of nitrogen, greatly improves early season growth, especially in high residue situations. This, coupled with pre-plant incorporating of nitrogen, would be ideal. Sidedress nitrogen application should be done early at about the 4-6 leaf stage. Insufficient early nitrogen, followed by a late sidedress application, will keep the beet foliage green longer, but will also lower beet quality and tonnage. A high quality beet crop will have off color foliage prior to harvest.

Rhizoctonia root rot in sugarbeets will reduce revenue per acre by reducing both tonnage and quality. Research conducted by Sugarbeet Advancement in 2009 indicated that susceptible varieties planted in a field with moderate Rhizoctonia levels reduced yields by five tons per acre and sugar by one percentage point. Recent USDA research (Campbell and Fugate) also indicates that diseased beets put into storage have a significantly higher respiration rate and will not store as well compared to non-infected beets. The most effective approach for minimizing Rhizoctonia impact is selecting varieties with the field appropriate level of genetic tolerance coupled with a fungicide application. The disease level does not need to be high to justify a Quadris® treatment. Rhizoctonia susceptible varieties benefit the most from a fungicide application, but research has often shown an economic response on tolerant varieties.

Sugarbeet cyst nematodes (SBCN) were found at detectable levels in 22% of Michigan beet fields in a survey conducted in 2007. Research has shown, under heavy infestations, yield losses can be as high as 15 tons per acre with reduced quality. Research conducted in 2008 at four field locations, with generally moderate levels of nematodes, showed an average loss of 3.5 tons per acre and over 0.5% in sugar when comparing a nematode-resistant variety to a susceptible one. Use of oil seed radish as a nematode trap crop can also enhance yield and quality in heavily infested fields. Sugarbeet producers need to be aware that yield losses can occur with no visual symptoms with lower SBCN populations. If populations are heavy, a strategy of utilizing oil seed radish in your rotation in conjunction with a SBCN-resistant variety should be implemented. It is critical for growers to check



current sugarbeet fields in August for the presence of SBCN by looking for cysts on the hair roots. This will help growers place nematode-resistant varieties the next time the field is in rotation. Be aware that Rhizoctonia incidence and nutrient deficiency is often increased in the presence of SBCN.

Cercospora leafspot infections reduce sugarbeet yield and percent sucrose, and increase the level of impurities in the beet. Information from five years of research at Michigan Sugar Company showed that uncontrolled Cercospora reduced sugar levels by 0.6 points and purity levels by 0.5 points, compared to the best fungicide spray programs. Yield was reduced by 3.4 tons per acre in the same trials. Several less effective spray programs lost about 0.2 points of sugar, compared to our most effective sprays. Inspire XT, Headline, Eminent, Proline and Gem have provided the best results in the Michigan Sugar Company trials. The timing of fungicide applications is critical to Cercospora control. Five years of BeetCast research has demonstrated that the best application timing (55/55 DSV) provided superior yields and quality compared to 1st spot, (70/70 DSV), 1st spot + 2 weeks and the untreated check (see table below).

Table 1.

Effect of Cercospora leafspot on sugarbeet yield and quality with various application schedules at Michigan Sugar Company locations.

TREATMENT	CLS Rate*	# App	% Suc	% Purity	Tons/Acre	RWST lb/Ton	RWSA lb/Acre	Income /Acre
55/55	1.6	2.5	18.8	93.7	27.7	270	7460	\$1,419
First Spot	2.1	2.7	18.6	93.5	26.7	265	7074	\$1,342
70/70	2.2	2.1	18.5	93.7	26.5	265	7014	\$1,332
Late Treatment**	2.7	1.8	18.3	93.4	25.8	262	6753	\$1,282
Untreated	4.7	0	18.1	93.1	24.5	256	6278	\$1,190
LSD 5%	.76	.26	.33	.38	1.1	5.4	347	—

*CLS 0-9 rating scale: 0 = no spots, 3 = economic damage, 5 = noticeable burn down, 9 = total burn down.

** Late treatment was 2 weeks after first spot was found.

It is important to apply the initial fungicide application just prior to the first spot in your area. Spots are usually found at around 65-70 DSVs in the red zones and at about 80 DSVs in the green zones.





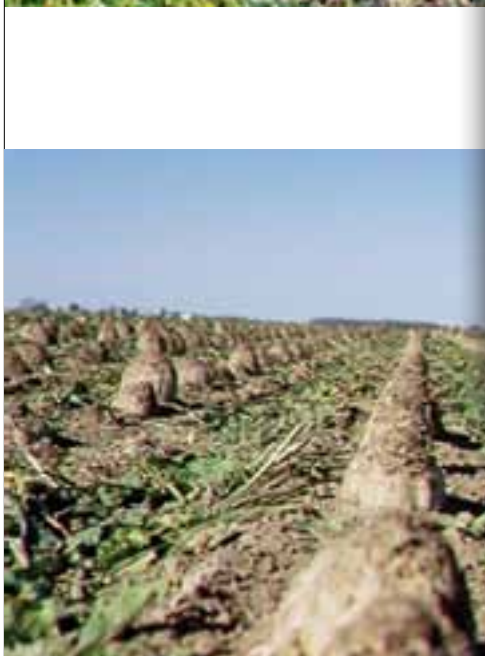
0, 1, 2 Rhizoctonia Rating



3, 4, 5 Rhizoctonia Rating



Date of harvest can have a significant effect on sugarbeet yield and quality. Sugarbeets can put on considerable tonnage and sugar during the harvest period; especially when temperatures are warm and the soils have moisture. Five years of harvest data collected by Michigan Sugar Company showed that sugarbeets harvested towards the end of October or early November had 2.6 percentage points higher sugar and an increase of 1.5 tons per acre compared to early harvested beets. There were 33 days difference in early harvest compared to late harvest. Weather plays a big factor on how much yield and sugar are gained by harvesting late. Some years, there were almost no tonnage gains; however, sugar increased significantly each year. Due to our yield gains, early harvest will be necessary for the foreseeable future. Growing a high quality, early harvest beet is going to be one of our future research projects.



Topping is an important factor in both beet quality and storage. Three years of research at Michigan Sugar Company has shown that poorly topped beets can result in 11 pounds of sugar per ton lost to molasses. Similar research conducted by Sugarbeet Advancement found that inadequate defoliation reduced recoverable sugar per ton by 4-9 pounds. Ten pounds of recoverable sugar per ton is approximately \$46 per acre in 25 ton beets at \$50 per ton (\$4,600 per 100 acres). Even 4 pounds RWST would be \$18 per acre or \$1,800 on 100 acres. A good stand of evenly spaced beets makes proper defoliation easier. Gaps, doubles, and weeds create major problems. Speed is dependent on field and defoliator conditions, but generally should not be more than 3.5 to 4.0 mph. Ultimately, growers need to decide if the monetary losses to themselves and the Co-op are worth slowing down, checking adjustments, or replacing flails.

Summaries of research conducted by Michigan Sugar Company and Sugarbeet Advancement over the years have shown a range of effects on quality for each factor discussed. Table 2 shows the maximum influence on sugarbeet quality we have seen with Michigan research. The impact of raising sugar by one percentage point will result in an



6, 6.5, 7 Rhizoctonia Rating

estimated 15 pounds more sugar per ton. This is approximately \$2.75 per ton or \$82.50 per acre at 30 tons. Producing high quality beets will require producers to fine tune their management skills. Maximizing sugar requires all factors be addressed as a package. Falling short on any one factor can have a large negative impact on our “ROAD to 19.” ■

Table 2.

Maximum Influence of Production Practices on Sugarbeet Quality

FACTOR	% Sucrose
Variety Selection	1.5
Planting Date	2.1
Population	2.5
Row Width	0.5
Nitrogen Rate	1.2
Rhizoctonia	1.3
Cercospora	2.1
Nematodes	2.2
Harvest Date	1.5
Topping	0.5

Based on estimates from MSC and SBA research trials

Left to Right: Jim Stewart, Director of Research, has been with Michigan Sugar Company for 12 years; Lee Hubbell, Research Agronomist, has been with the company for 26 years; and Steve Poindexter, Senior Extension Educator, Sugarbeet Advancement, MSU Extension (Saginaw County). Steve has been the Director of Sugarbeet Advancement for 13 years.





Beet Harvest and Storage

by Dr. Keith Jaggard, Broom's Barn Research Centre, Higham, UK



Introduction

This issue of *The Newsbeet* is focused on options for harvest and this article aims to describe the options available to beet growers in England as a contrast to the choices that can be adopted successfully in the area around the Great Lakes.

England is a part of such a small island that the proximity to the sea has a powerful and moderating influence on the climate, which is seldom severe. Long-term average values for air temperatures and precipitation during the fall and winter at Broom's Barn Research Centre are shown in Table 1 in comparison with values from Grand Rapids in Michigan. December, January and February are clearly much warmer in England, where precipitation is less. This has a huge impact on the harvest and storage procedures that are possible in England.

British Sugar, unlike most European beet processors, operates a long beet slice campaign; from mid-September until late February or March. Until a decade ago, beet harvest finished around Christmas, so that beets could be stored in insulated piles to supply the factory throughout January and February. Beet storage in Europe is the growers' responsibility and beet is kept on the farm from harvest until it is delivered to the factory for almost immediate processing; therefore, losses in storage are losses of farm income. Beet in well-managed, insulated stores loses about 0.18% of its value per day, so 100 days' storage is costly.

Contracts and Beet Price

European beet contracts are tonnage based, not acreage based as most are in the US. Beets that are surplus to contract are accepted by the processor, but usually at a lower price. Growers satisfy their contract requirements first and then they may be left with a low-value surplus to deliver towards the end of the campaign. Thus, in many years, if they use a risky practice (such as waiting until February before harvesting part of the crop), there is not a huge amount of money at stake.

« Good quality beets harvested by hand in late February

Beets ready for harvest
in late February.

in England

Table 1. Weather at Grand Rapids and Broom's Barn during fall and winter.

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Grand Rapids: 1971-2000							
Air Max (°F)	72	60	46	34	29	33	43
Air Min (°F)	51	40	31	21	16	17	26
Precip. (in)	4.4	2.8	3.4	2.7	2.0	1.5	2.6
Broom's Barn: 1965-2008							
Air Max (°F)	65	58	49	45	44	44	49
Air Min (°F)	51	46	39	36	35	34	37
Precip. (in)	2.0	2.2	2.3	2.1	1.9	1.4	1.8

Options for Late Delivery

The last part of the deliveries in England is often of low-value beet, and these either suffer the inevitable losses in storage after Christmas, or they can be left in the ground until required, where there is the risk that they will be damaged by frost. The frost will not be so serious that the ground will be frozen solid: the harvester will be able to operate within a few days, when the thaw has started. However, there is a risk that the beets will be damaged by the growth of microbes when they have thawed. Gradually, more and more growers have accepted the risk of frost damage in the field instead of facing the inevitable sugar loss while the crop is in insulated storage.

Harvest in January and February

Experiments have shown that there are no losses of weight or quality of beet that is left in the field until required, so long as the crop is not damaged by frost (Table 2). In three experiments on the sandy loam soil at Broom's Barn, adjusted root yield increased from October until mid-December, when it reached about 44t/ac: thereafter the yield remained stable. During the winter period there was a small decline in sugar concentration. Contrary to the notion that the beets might lose quality, the crop that is left in the field is unlikely to be infected by root rot diseases because the beet are isolated by the soil and the rot organisms only grow slowly in the cool winter conditions. Conversely, root rots can spread much faster

in the warmth of an insulated storage pile. Extending the harvest period throughout January and February also has the advantage that it allows the harvest machinery to cover more acres per season. European self-propelled harvesters are very costly, so this can be a significant benefit.

Table 2.
Yield and sugar concentration
of freshly harvested beet.
Mean of 2002/03 - 2004/05

Adjusted¹ yield (t/acre)	40.6	43.6	44.2	42.9
Sugar (%)	18.9	18.4	18.3	18.1

The perception is that the risk of frost damage has declined with the advent of global warming, but this is difficult to demonstrate. Last January was the coldest at Broom's Barn since 1987, and beets in the field were damaged by frosts in December and January. The crowns and the top of the roots froze, but they deteriorated slowly once they thawed because February was also colder than average. The frosted beet were topped severely to remove as much damaged material as possible and were taken to the factory to be processed within one or two days of harvest, so minimizing the period when there was a risk of deterioration. This required a good deal of



coordination between the grower, the harvest contractor, the haulier and the field staff from the factory. However, this coordination is becoming second nature as this just-in-time harvest becomes more common-place. Very little tonnage has to be rejected at the factory, although the grower with frost-damaged beets probably loses 15-20% of the affected crop by topping severely: nevertheless, this is still a small loss to suffer occasionally when compared to the regular losses experienced with insulated storage piles. ■

¹ Yields in Europe are often expressed as the weight of beet adjusted to a standard sugar concentration of 16%.



Acknowledgements

Dr. Keith Jaggard is a professor and staff member of the Crop Productivity Research Group with Broom's Barn Research Centre in England.

Thanks to Chris Clark who supervised the field experiments. Broom's Barn Research Centre is a part of Rothamsted Research, which receives grant-aided support from the Biotechnology and Biological Sciences Research Council of the United Kingdom. The in-field storage experiments were funded by the British Beet Research Organisation.

Michigan Sugar Company Invests in Employee Wellness

by Jeff Adamo, Director, Human Resources

In the fall of 2009, a Wellness Committee was formed to develop and implement different health and wellness programs. The goal of this initiative is to complement our existing employee health care programs by promoting awareness of health risks and offering services in a variety of health and wellness areas. The Wellness Committee is taking a long-term view to this initiative by starting this program with a smaller employee group, to ensure success and gain momentum before implementing it company wide.

Outlined over the next few paragraphs is a recap of the activities that the Wellness Committee has worked on over the past few months. The Wellness Committee thought it would be very important to develop a mission statement so all activities and programs would focus around supporting the mission of the Wellness Program. The mission statement is as follows:

"To enhance the overall health and wellness of our employees by providing them with the knowledge, skills, and encouragement to promote and support their desire to make healthy lifestyle choices."

In addition to developing the mission statement, a wellness logo was designed to be used in conjunction with the mission statement.

In the winter of 2010, the Wellness Committee embarked on its first activity; conducting biometric screenings and health risk assessments for employees. The purpose of these activities was to establish baseline data for developing future programs and to provide employees with awareness about their own health and wellness. Biometric screenings inform an employee of their own key health indicators such as blood pressure, cholesterol levels, and body mass index. The health risk assessment is a questionnaire about an employee's lifestyle and behaviors. After completing the questionnaire, each employee received a personalized plan of action that let them know what they are doing well and identifies areas for improvement within their own lifestyle.

In the spring of 2010, after receiving the composite results of both the biometric screenings and the health risk assessments, the Wellness Committee sponsored a step competition. The theme of this event was, ***"Growing Healthy One Step at a Time."*** Teams of five employees were randomly selected and each team kept track of their individual daily steps by using a pedometer. There were two, three-week competitions and each of the winning teams received \$50 cash prizes.

As we head into the fall of 2010, the Wellness Committee is reviewing the results of a needs and interest survey completed by employees. The feedback from these surveys is assisting in developing upcoming activities. A special thank you recognition should be given to those employees who volunteer their time to serve on the Wellness Committee.



Michigan Sugar Wellness Committee

Jim Ruhlman, Bay City
Lisa Wagner, Caro
Priscilla Owens, Bay City
Deborah Van Erp, Caro
Dawn Premo, Bay City
Mike Leen, Croswell

Tricia DeGroat, Bay City
Chris Dutcher, Sebewaing
Rick List, Bay City
Greg Martin, Sebewaing
Kelly Scheffler, Sebewaing

Again, in summary, the goal of the Wellness Program is to promote awareness on a variety of health and wellness areas while providing activities that will help foster a positive camaraderie among employees. ■



Jeff Adamo serves as Director of Human Resources at Michigan Sugar Company and has worked for the company for nine years.

Michigan Sugar Company Achieves SQF Certification

by Racheal Grandmaison, SQF Manager

Consumers are increasingly demanding assurance that the food they feed their families is safe, no matter where it was produced or packaged. While Michigan Sugar Company has long been dedicated to food safety and quality, an initiative implemented in June 2010 at the Bay City and Sebewaing Packaging and Warehousing facilities takes that dedication to the highest possible level. The Safe Quality Food (SQF) Program is an integrated food safety and quality management system that is recognized worldwide. SQF certification not only ensures customers that Michigan Sugar Company is committed to providing the highest level of food safety for its consumers, but also ensures its shareholders that it will continue to attract and retain business now and in the future.

In May 2000, following several food safety scares and recalls, the Global Food Safety Initiative (GFSI) was created by a group of international retailers. The GFSI set requirements for food safety schemes through a benchmarking process and harmonized worldwide food safety standards. GFSI standards exceed the current audit requirements of the FDA and USDA and are widely used around the world. The SQF Program is one of the accepted GFSI food safety programs.

A landmark decision was made by Wal-Mart Stores, Inc., in 2008, when they became the first nationwide U.S. grocery chain to require all suppliers of its private label and select food products to achieve certification against one of the internationally recognized GFSI standards. Following in the footsteps of this retail powerhouse, several other leading retailers in the U.S. mandated certification to one of the GFSI accepted food safety schemes.

Michigan Sugar Company chose certification to SQF 2000 which is tailored for the manufacturing and distribution sectors; and decided to focus attention on the Bay City and Sebewaing Packaging and Warehousing (P&W) facilities first. A goal was set to bring both facilities up to SQF 2000 compliance within an extremely short timeframe due to a customer driven audit deadline of July 1, 2010.

The SQF implementation process began in January 2010 by gaining commitment from Executive Management and hiring a SQF Manager to create and oversee the system. Approximately 30 employees representing Executive Management, P&W, Engineering, Quality Control and Operations were formally trained in the SQF 2000 Code and HACCP (Hazard Analysis Critical Control Point).

Within five short months, new policies and procedures were written and existing documentation was revised and formatted to meet the new SQF requirements. Security was substantially increased by installing a swipe card access system on warehouse and silo doors. Badges with employee photos were issued to control access into the warehouse and silos. Gate security was also tightened for visitors and vendors. Multiple handwash stations were installed, new lockers and breakrooms were added and all employees affected by the new SQF 2000 requirements were trained on the new procedures and appropriate sections of SQF 2000.

In early June 2010, the program was fully implemented and employees began to adhere to the new requirements. Sebewaing and Bay City were audited by an accredited third-party auditor in mid-June 2010. Everyone was extremely happy to learn that both locations were recommended for certification upon our first audit. Sebewaing P&W became SQF 2000 certified for packaged granulated and powdered sugar on July 20, 2010. Bay City P&W became SQF 2000 certified for packaged granulated, brown and powdered sugar on August 2, 2010.

Michigan Sugar Company's Safe Quality Food certification represents a significant investment in the company and its future. It assures that Michigan Sugar Company, its shareholders, employees and communities, will remain competitive in the global marketplace. ■



Racheal Grandmaison, SQF Manager, was hired by Michigan Sugar Company to develop, implement and oversee new SQF policies and procedures

SQF certification not only ensures customers that Michigan Sugar Company is committed to providing the highest level of food safety for its consumers, but also ensures its shareholders that it will continue to attract and retain business now and in the future.

Weburg Farms, Inc., Breckenridge, Michigan *by Chad Bender, Agriculturist*

Weburg Farms, Inc., has created a farming legacy in central Gratiot County. Dale and George Weburg began their journey into farming at a very young age, watching and helping their father George Weburg, Sr., till the fields around the family homestead.

In 1962, Dale and George started farming as Weburg Brothers, later becoming Weburg Farms, Inc., in 1979. They started their farming journey with a total of 500 acres, of which 100 acres were sugarbeets. Today, Weburg Farms, Inc., farms 1,800 acres, which consists of sugarbeets, corn, soybeans, wheat, and dry beans. Their sugarbeet crop has grown to 450 acres. According to George, they build their farm around sugarbeets because "they have been a pretty stable market and provide a big income to the farm."

Both Dale and George have been great citizens of Gratiot County. Not only have they taken active roles in the 4-H Council, they have also set positive examples by participating with the Youth Board of Directors at the Gratiot County Fair. The men have expanded outside Gratiot by investing time into creating the state's first ethanol plant. This accomplishment stemmed from their membership in Michigan Agrifuels. Despite an already impressive track

record, they will be adding another piece of history to Gratiot County in a few more years. The farm that Dale lives on will become a centennial farm in 2019.

From their personal perspective, Dale looks back over the years in amazement as to how the technology and work processes have changed. In remembering helping his dad during harvest, he talked about lifting and topping beets with a crotch lifter. Then during the 1960s, the family purchased a John Deere 3010 tractor and a John Deere 223 two-row harvester. In the 1970s, their goal was to "plant to a stand" of 100 beets in 100 foot of row. Today, sugarbeets are planted at the desired four-inch spacing, which is a drastic population increase from the past. Weburg Farms now uses a John Deere 8430 on a new six-row Artsway, 6812 harvester.

They were the recipient of the 2009 Michigan's Master Farmer Award given out by Michigan Farmer.

The third generation cousins, James and Robert Weburg, formed J. R. Farms in 1995. They began with 700 acres. J.R. Farms was created as a separate entity because Dale and George wanted their sons to learn about the

entire farming operation. They needed to learn how to market their crops and learn from their mistakes. James and Robert have done quite well over the years and have made J.R. Farms into a successful farming operation. Today, they farm 1,900 acres, of which 230 acres are sugarbeets. James and Robert also have an operation that finishes 2,000 head of hogs three times a year.

Technology has become a big component of their farm operation. GPS grid soil sampling and application, yield monitoring and mapping have kept the nutrients in their soil in check with the required rates so they won't have an excessive amount of waste. Auto Trac is used as a guidance system in their tractors. Dale says the system is not perfect, but takes a lot of effort out of operating.

The Weburg families are very active in their local community. Dale and his wife, Camille, have three children; Shelley Traven, Erin Steward, and Robert Weburg. George and his wife, Linda, also have three children; Jennifer Simpson, Jeff Weburg, and James Weburg. James and his wife, Alisha, have two children, Bennett and Mason. James currently serves as Township Supervisor for Emerson. Robert and his fiancée, Terri, have one child, Lauren. Robert is a member of the Gratiot County Farm Bureau and serves on the Gratiot County Pheasants Forever Committee.

As Dale and George venture into retirement, the third generation, James and Robert Weburg (J.R. Farms), will continue this farming legacy. As of January 2011, these two farms will merge into one operation resulting in a 3,700-acre farm. The future looks promising for a possible fourth generation of Weburg sweetness. ■

At left, Dale, Robert, George and James, own and operate Weburg Farms, a four-generation farming legacy in Gratiot County.



Chad Bender, Agriculturist in the Ithaca area, has worked for Michigan Sugar Company since April of 2010.

Guza Farms, Minden City, Michigan *by Paul Wheeler, Agriculturist*

Chris and Angie Guza, of Minden City, farm in Huron, Sanilac, and Tuscola Counties. They were married in 2002 and have three children Abbie (5), Grant (3), and John (1). They have two full-time, one part-time, and several seasonal employees.

Chris worked for a neighboring farmer for several years and eventually also started farming some of his own land in addition to his full-time job. In 1998, he purchased his first farm of 100 acres and rented 300 acres, which included 30 acres of sugarbeets. Chris continued to expand his acreage and, with the help of Angie's grandparents, they farmed 1,600 acres in 2002, at which point he went on his own and officially established Guza Farms. Today, he and his family farm 2,200 acres of corn, dry beans, wheat, 540 acres of sugarbeets, and custom farm another 1,000 acres.

Chris was elected to the East District Board in 2009 and is a member of the PAC and REACH Committees. He is a member of the Paris Township Planning Commission and St. Mary's Church in Parisville, where he is a member of the Men's Club. Angie is a graduate of Hope College with a B.S. in biology and chemistry and has an M.A. in education from the University of Michigan. She was a full-time substitute teacher during the first year of their marriage, but with the lack of job opportunities, quickly found herself fully occupied with managing the office, driving tractor, running errands, and taking care of the kids.

Guza Farms is certified in the N.R.C.S. MAEAP cropping system. This voluntary program establishes guidelines for the proper recordkeeping of all chemicals and nutrients applied, thus promoting environmentally responsible nutrient and pest management strategies. As a result of the program, they have begun to use more cover crops and reduced tillage practices.

Technology and tools of the trade have constantly evolved at Guza Farms. This is the second year they have implemented strip till and have planted 400 acres of the 2010 sugarbeet crop in strips. The strip tillage was done on 250 acres in the fall and 150 acres this spring. In Guzas' crop rotation, the beets are primarily planted after corn. The GPS technology they have imple-



Above, left to right: Full-time employees, Bob O'Henley and Brad Walsh, work the Guza farms with John, Grant, Abbie, Chris and Angie Guza

mented has consequently reduced up to three passes across the field by utilization of strip till. The strip till practice also allows them to reduce fertilizer inputs, labor costs, equipment and fuel usage.

The Guzas harvest sugarbeets with a group that harvests about 1,100 acres of sugarbeets. After three years of research and discussion with Michigan Sugar Company, Chris joined up with Les and Doug Volmering, and they formed Thumb Maus LLC and purchased a ROPA Maus to direct load their sugarbeets out of the fields. Their goal is to make the entire process of beet harvest more efficient: reducing harvest time, labor and trucking costs, and to deliver a cleaner, higher quality product to Michigan Sugar Company.

Thumb Maus LLC will be providing the Maus for a pilot project in the Ruth beet receiving area this year. A managed harvest during early delivery pre-pile will take place with farmers harvesting their sugarbeets and piling them

in windrows for the Maus to pick up and load direct into transfer trucks for delivery to our factories, saving labor and trucking costs for everyone. They will also be participating in the stacker pile test in Sandusky during long-term storage pile establishment.

Always looking toward the future, the Guzas are planning to convert their operation from 30" to narrow rows. Also, seeing the benefits of tracks on a tractor and sprayer in their current operation, they would like to work toward having tracks on their planter, combine, dump and grain carts. ■



Paul Wheeler, Agriculturist in the Deckerville and Sandusky areas, has worked for Michigan Sugar Company for 16 years.



The Business of Beets

Early Delivery Economics

by Brian Haraga, Chief Financial Officer

This fall, the Cooperative looks to receive over 4.5 million tons of sugarbeets and produce 1.2 billion pounds of sugar. This will mark the fourth straight year that Michigan Sugar Company has exceeded the one billion pounds of sugar milestone. Further expectations this year include historic daily slice rates, campaign length, and revenues. Should forecasted daily slice rates meet the expected average of 21,800 tons at all four factories, the campaign will last nearly 200 days; and the campaign does not just stop with beet slice — sugar processing will continue with extended juice runs at Bay City and Sebewaing. In order to meet a 200-day campaign, an August 23 start date was required at Bay City. Wow! That certainly was an **early** start.

In order to understand why we need to start processing so early, it is first important to review the financial dynamics of the beet payment. The Cooperative's financial model of revenues, less operating costs and interest expenses, results in the margin available for distribution to the growers. Look at the breakeven model for Michigan Sugar Company below.

This breakeven analysis demonstrates sales revenues continue to increase as more sugar is sold to the market. Fixed costs are those that are inherent to the company and relatively stable year after year. Property taxes, insurance,

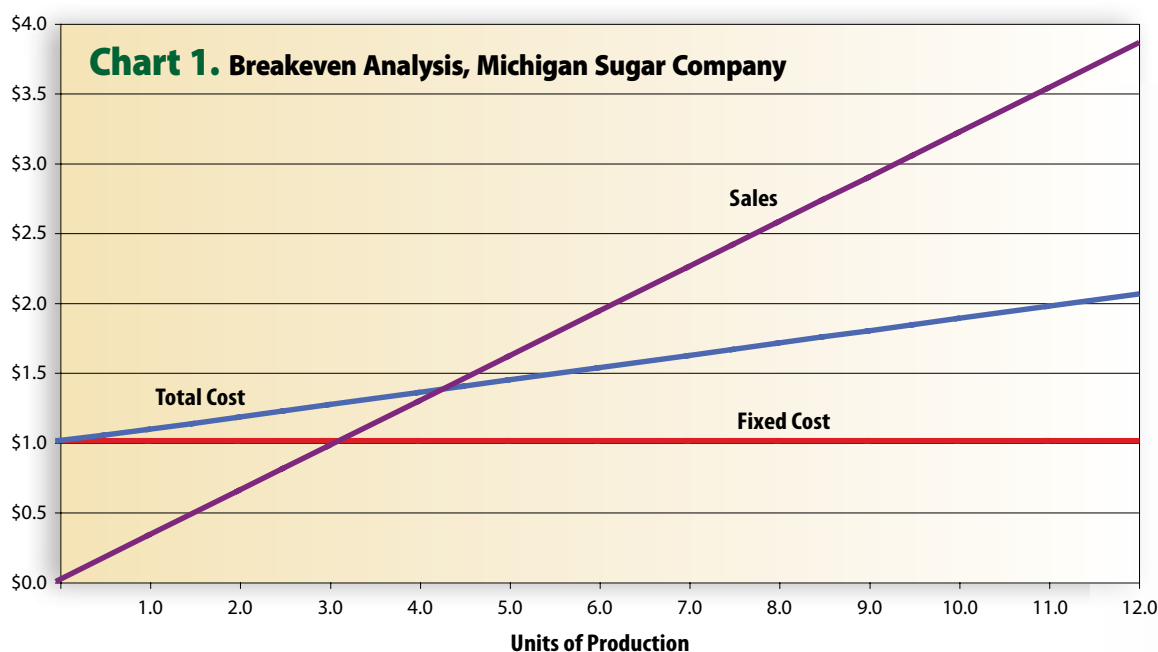
depreciation, general and administrative, warehousing, and repairs and maintenance are typically included as fixed. Variable costs are essentially tied to the production functions of the business. Those costs include labor, energy, chemicals and supplies, beet receiving, packaging and the like. The contribution margin is the difference between the total sales line and the total cost line (variable plus fixed cost). This margin directly correlates to an increase the gross beet payment.

As in any business model, there are several ways to maximize the profit margin. The first is an increase to selling prices. This will generate more revenue. Over the past couple of years, Michigan Sugar has achieved high sales revenue through a combination of stronger market dynamics and strategic initiatives. Reduced costs can have a positive impact as well. Since the formation of the Cooperative, efforts to decrease variable costs have always been a major focus. For example, changes in production processes and installation of energy efficient machinery and equipment reduced fuel per ton sliced from 1.58 mmbtus in 2003 to less than 1.20 mmbtus in 2010. As in most companies, the purchasing department is committed to securing operating supplies and chemicals at the most economical prices. Costs are consistently challenged from operations to agriculture, and even accounting.

When analyzing the breakeven graph below, the most important aspect is the impact of sugar production. The dramatic increase in margin (the difference between total sales and total costs) occurs as sugar production moves to the right. The sales line continues to climb at a much steeper rate than the total cost line. It should also be noted that as the margin continues to widen, it impacts the beet payment in the same fashion. With that said, what can Michigan Sugar Company do to increase sugar production? The answer is more volume from both tons processed and sugar in the beet.

A one percent increase in sugar content can improve the beet payment by \$4 per ton. For each ton of yield, the increase to the beet payment is approximately \$1.25. Compared to the 2009 harvest, the yield this fall is expected to increase over four tons per acre. That is an additional \$5 per ton to the beet payment for the 2010 campaign. An increase of an additional 11,000 acres from 2009 results in an additional \$2.50 per ton. That volume increase totals \$7.50 per ton to the beet payment.

Why such a dramatic increase in the beet payment? Again, just look at this breakeven table. The additional throughput (tons sliced and sugar produced) is a function of variable costs only. Fixed costs are just that, they remain flat and are not genuinely influenced by sugar production. Certainly the same is true on a farming operation. Think about what a grower may consider as fixed costs. An example may include the cost of a harvester. Whether 100 acres are harvested or 1,000 acres, the original cost of the harvester remains the same. That annual depreciation cost is merely spread over a greater number of acres. The efficiency of utilizing a piece of equipment is maximized and cost remains flat while production and revenue increase as more acres are harvested.



Early Beet Lottery

by Wayne Martin, Agriculturist

Although August 23 is an early date, much analysis was done comparing the impact on the beet payment of an early start versus the late finish. The early campaign start date is really a reflection of the total beets expected to be sliced and processed. Earlier, it was mentioned that the expected campaign length will be nearly 200 days. If campaign started at the same time as the past few years, mid-September, slice would end close to March 31. Although a number of actions can be taken to extend beet storage to mid-March, the risks of stretching the campaign beyond would be huge. The loss of two weeks, at the average slice of 21,800 per day, could exceed 300,000 tons of beets lost to decay in the spring warmth. The direct cost impact on the beet payment would be \$4 to \$5 per ton, plus the unknown cost of returning beets to the fields.

The downside to a longer campaign is that it certainly will put stress on the factories and may negatively impact intercampaign repair and maintenance; however, other beet companies in the sugar industry have a campaign range from 225 to 275 days.

In conclusion, the **early start** is a direct result of additional acres and a better than expected crop yield. A business strategy that is expressed in terms of a breakeven model clearly demonstrates that more volume will provide greater margins which will ultimately be seen in a larger beet check. ■



Brian Haraga, Chief Financial Officer, has been with Michigan Sugar Company for eight years.

In the summer of 2008, the Dover growers requested direct deliver/roadside loading for early beets. Direct delivery has been part of the Lambton growing area since 1998. The direct system uses a Euro Maus to clean and load beets at the roadside for delivery to the factory. Sugarbeets are wind-rowed at the roadside where the Maus later will clean and load them directly into a transfer truck destined for the processing factory. Growers wanted to direct deliver early beets to Croswell eliminating the transportation costs to the piling grounds. There were three major areas of concern to be addressed before **Dover Direct** could etch its way into Michigan Sugar Company's business plan.

Safety is first. The local municipality was contacted, informed of our plans and input was requested. Aside with the project, road department officials assisted with the interpretation of signing requirements and helped configure signage to accommodate our activity on the road.

Accessibility is paramount in making the direct delivery system work. Beets harvested the traditional way are controlled by the company and available for processing. When harvesting and storing on farm, the processor needs assurance that beets will be available for pickup on demand, regardless of weather conditions. Without these assurances of accessibility, our factories could be at risk of falling short of beets, particularly in the early harvest when stocks are kept to a minimum.

Efficiency is challenged because the cleaning machine goes to the beets instead of the beets coming to it. It would not be practical to have all growers in a growing area harvest and then chase beets across the countryside. The answer is to organize the harvest in such a way as to eliminate the scattering of harvested beets. A lottery technique was devised to determine an orderly harvest and random selection. The processor is charged with the logistics of keeping adequate supplies on the ground in front of the Maus. Growers need to work with the Agricultural Department in this effort.

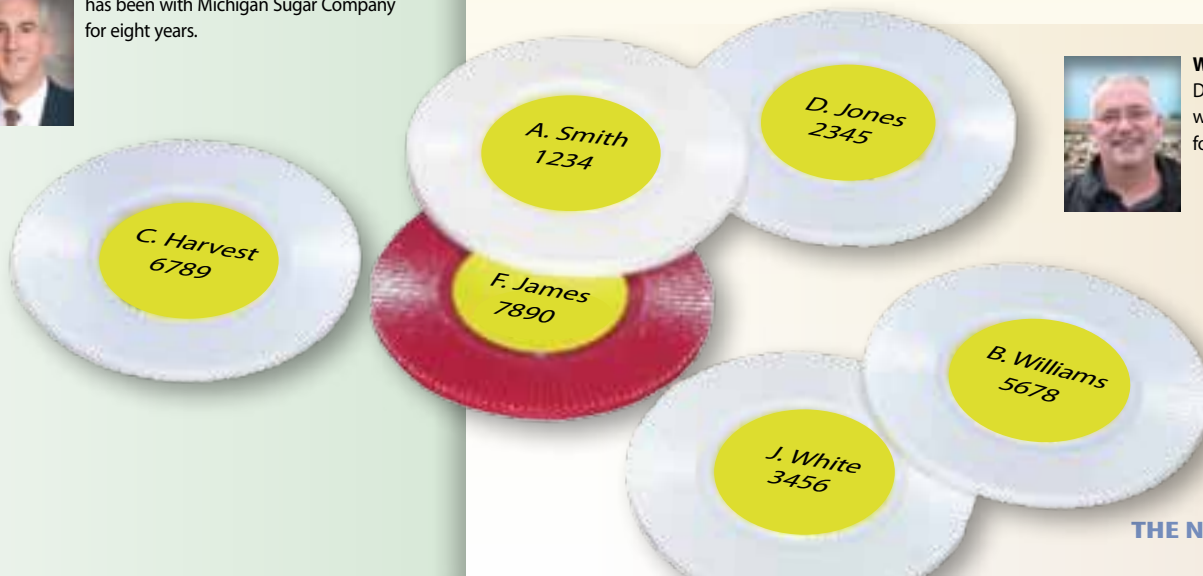
All acres are represented with poker chips labeled with the member's identity. The member's owned shares are divided by 50. For example, members with 250 shares get 5 chips. Members with less than 50 shares get one chip and it represents the number of shares they own. The lottery determines the order in which beets will be harvested and picked up with the Maus. We harvest according to the lottery list, which is posted at www.michigansugar.com. The agriculturist is responsible for triggering harvesters and keeping adequate supplies of fresh product available to the Maus. At the end of the year, if our last field ID position is 29, we will continue with position 30 the following year. We carry on where we left off the previous year and continue until we have cycled all the shares. All shares are treated equally.

If a grower does not want to harvest early in a particular year, they can look on the public list at www.michigansugar.com for someone to trade with, putting them in a different position/year. They can also sell or deal the delivery right to an individual who may want more than they have the right to deliver in that given year. Growers not able to find a trade can make arrangements with the agriculturist for assistance in finding a solution. Growers with fields further away from the piling grounds seem to place more value on the chips because of freight savings. Growers finding it difficult to find labor or trucks to haul their beets are likely to place value on a direct delivery option. This system can ease pressure on a farm operation at a time when the industry is taxed heavily for resources.

In summary, growers reduce freight and labor costs, the company reduces operating costs and the municipality reduces traffic on the roads. Win, win and win. ■



Wayne Martin, Agriculturist in the Dover and Lambton areas, has been with Michigan Sugar Company for 14 years.





Storage Concepts

Stacking & Piling

by Gary Sauer, Agricultural Maintenance Manager

This fall we will be trying a new way of putting beets into a storage pile at three of the outstation locations. We will build a 20,000-ton pile at Dover, a 20,000-ton pile at Sandusky, and a 10,000-ton pile at Gratiot using a stacker rather than a piler. A stacker is a piler that does not have a cleaning bed or dirt belt. The beets that go into these storage piles will be harvested and piled in the growers' fields. After three days, these beets will then be picked up and cleaned with a Maus and loaded into trucks, which will deliver them to a specific storage site. The beets will be unloaded at each of the sites into a stacker which will put them into a storage pile. No additional cleaning will be done to the beets while they are being piled at the storage site. A number of temperature probes will be installed in each of the stacker piles so that the temperatures can be closely monitored. The stacker piles will be some of the first piles that are taken out of storage and processed starting in about mid-December.

A new super piler that is going to Sandusky. It is scheduled to be delivered on September 16. The Kringstad Ironworks Company is building the piler and will be sending five of their technicians along to help assemble the piler when it arrives. With the combination of our maintenance crew working with their crew, the piler will be ready to pile beets by October 1. Besides being larger and having a higher unloading capacity than any other piler we have, the new piler will have several features that will be new to this area. It will have low profile end dumps rather than swing conveyors on it. These low profile end dumps are nothing like the old drive over platforms. They are only eight inches high at their highest point so the trucks do not have a big ramp to climb onto. The platform the truck will be sitting on while it is unloading is about 15 feet long, so most of the axles from the long trailers will be sitting on the ground. These platforms are attached to the piler with sliding frames that allow the piler to be moved back while

beets continue to be unloaded, which adds to the piler's capacity. There are also water sprays on the boom belt and platform belts to keep the dirt from building up on them. This will further reduce the idle time of the piler.

Stacking beets and a new super piler are just two of the ways that we are trying to make beet harvesting and receiving more efficient this year. ■



Gary Sauer, Agricultural Maintenance Manager, is responsible for agricultural equipment maintenance and has been with Michigan Sugar Company for 37 years.





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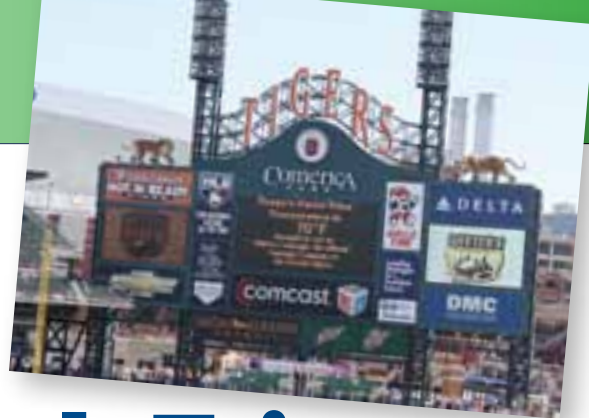
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Spotlight on Youth & Education

Roaring Good Time During Summer Youth Trip



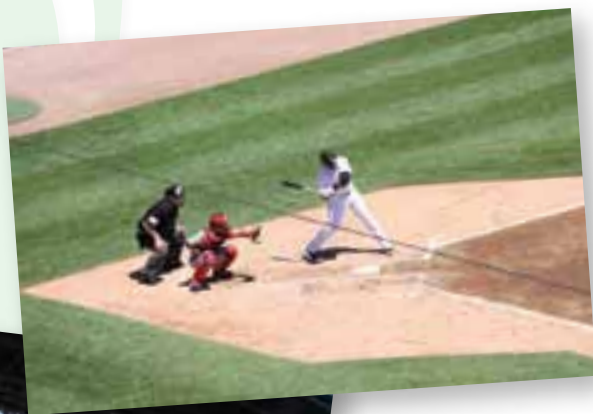
This year's summer youth trip took participants, leaders, parents and Co-op employees to Comerica Park in Detroit to watch a Tiger baseball game. Four air-conditioned tour buses made several stops around the area (Deckerville, Sebewaing and Blumfield) to load the 248 people making the trip. Upon arrival, the buses were parked and the group proceeded to the upper deck where a lunch was waiting for them. The lunch was served from noon until game time at 1:05 pm. Hot dogs, hamburgers, potato salad, pasta salad, beans, chips and drinks rounded out the meal. It was a very beautiful day. The temperature was 75 degrees with clear skies and lots of sunshine. Even though there was a slight breeze, it was warm sitting in the middle of the upper level bleachers behind home and first. Because the sun was hitting everyone directly in this section, and because there were plenty of empty seats throughout the stadium, some people opted to move higher and get under the top roof out of the direct sun.

The field and stadium were spectacular and there was a great view of downtown, the GM building and other Detroit landmarks.

It was a very good game with lots of action. Detroit beat the Washington Nationals 8-3. Jeremy Bonderman was pitching for seven innings, had seven strikeouts and only five hits. Migel Cabrera hit a double off the fence and scored two runs. Brennan Boesch made a diving grab in left field and also saved a home run when the centerfielder caught one by jumping up on the wall. There was one double play and lots of other exciting plays.

The return trip was a bit arduous because of the traffic around the stadium and it was rush hour (I-75 was bumper to bumper, stop and go).

Needless to say, it took an hour longer to get home than it did to get there. In spite of that, it was a good trip because the bus drivers had to contend with the traffic and everyone else could relax. ■



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2010 MICHIGAN SUGAR QUEEN



... and the Sweetest Girl in the World is ... Dana Davidson of Fairgrove, crowned 2010 Michigan Sugar Queen! Katie Kunding of Sebawaing was crowned first runner-up and Chloé Kas-Mikha of Frankenmuth as second runner-up at the 46th Annual Michigan Sugar Festival in Sebawaing on June 18.

Dana is the daughter of David and Diane Davidson of Fairgrove. Dana recently graduated from Akron-Fairgrove High School and will be attending the University of Michigan majoring in engineering in the fall.

First runner-up Katie is the daughter of Bryce and Connie Kunding. Katie graduated from Unionville-Sebawaing Area High School in 2008 and attends Delta College where she is majoring in radiography with a goal to become an x-ray technician.

Chloé Kas-Mikha, second runner-up, is the daughter of Ann Kas-Mikha. Chloé, graduated from Frankenmuth High School in 2009. Chloé currently attends the University of Michigan-Flint pursuing a degree in health-science with a goal of becoming an oncologist.

The Royal Court will be touring the state on the Pioneer Sugar float while making appearances in many local parades. In July, the young ladies appeared in two national parades; the National Cherry Festival Parade in Traverse City and the National Baby Food Festival Parade in Fremont, Michigan. These festivals are attended by thousands of people, and the Cherry Festival parade is broadcast on local television in Traverse City.



From Left: Katie Kunding, Dana Davidson and Chloé Kas-Mikha

Michigan Sugar Company sponsors the Michigan Sugar Queen competition, providing the queen with a \$2,000 scholarship for use at the university of her choice. The first and second runners-up will each be awarded a \$1,000 scholarship.

As the parade schedule winds down for 2010, you may be able to catch a fall or winter parade. The ladies will be cozying up together on the float in the Sandusky Lighted Farm Implement Parade and the Harbor Beach Christmas Parade in December. Check our website for exact dates (<http://www.michigansugar.com/about/calendar.php>). ■

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2010 Scholarships Awarded



Katie Jo Gentner

Albert Flegenheimer Memorial Scholarship

Katie Jo Gentner of Minden City, Michigan, is this year's recipient of the Albert Flegenheimer Memorial Scholarship. She is the daughter of proud parents Craig and Mary Kay Gentner. Katie Jo has participated in the Sugarbeet Project for 10 years and earned the Premier award in 2007, 2008, and 2009.

Katie Jo graduated from Ubly High School on June 6, 2010. While in high school, she was very active in the FFA program. Katie Jo held several chapter positions (president for two years), earned several local FFA awards, and successfully competed on the state level, bringing home several state awards.

Katie Jo has held the office of class president, was on the student council, appointed Student of the Month in November 2009 at her school, was in the National Honor Society, involved in sports, the Huron County Fair, and her family's church.

Katie Jo has been employed on the family beef and cash crop operation since her younger years. Her duties on the farm include feeding the 450 head of feeders, cleaning barn pens, vaccinating, and tagging. When working the 750 acres of family owned farm land, Katie Jo works ground, moves equipment, helps with fertilizer fill-ups, does implement maintenance, and helps with tractor maintenance. She really enjoys scouting fields and agronomy-related work.

Katie Jo will be attending Michigan State University this fall pursuing an agricultural degree in agronomy. She aspires to possibly return to the Thumb of Michigan to assist local farmers with their crop production and management. She believes success comes by setting goals, working hard, and a strong belief in self. It is evident that Katie Jo will accomplish what she has set out to do! ■



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Emily Gulick



Bradley Booms



Eric Houghtaling

Betaseed Awards Three \$500 Scholarships To Teens Supporting Sugarbeets

A \$500 scholarship check from Betaseed was a highlight for Emily Gulick (Breckenridge), Bradley Booms (Harbor Beach), and Eric Houghtaling (Reese) at this year's high school awards nights. The three senior high school students submitted outstanding essays relating to the sugarbeet industry, and were selected as winners in each of the three Michigan Sugar Company factory districts.

Betaseed is committed to supporting future generations of potential sugarbeet growers as the company believes that sugarbeets continue to be one of the drivers in Michigan's economy.

Betaseed, Inc., headquartered in Shakopee, MN, is a market leader in the sugarbeet seed business. Known for strong variety performance, Betaseed has had a longstanding commitment to the beet sugar industry focusing research on developing new varieties to improve the efficiency and profitability of sugar production. ■

Heidi Grekowicz



Phil Brimhall and Guy Beals Memorial Scholarships

This year's recipient of both the Phil Brimhall and Guy Beals Memorial Scholarships is Heidi Grekowicz. Heidi is the daughter of Chris and Michelle of Harbor Beach and has been involved in the Youth Sugarbeet Program for the last ten years. She is the third oldest of four children and very busy working for the family farming operation.

During her time in the Youth Program, she received the Premier Grower Award in years 2005, 2006, and 2008. In 2009 and 2010, she earned top honors by receiving the Prestige Award both years.

Heidi graduated from Harbor Beach High School in June 2010. She has been very active in many school activities such as playing basketball and soccer for Harbor Beach High School; member of the National Honor Society; student manager of her school's boys' soccer team; and member of the student council. In addition to being very active in many 4-H activities outside of school, she was also a Eucharistic Minister at her family's church and participated in the local food pantry.

Heidi plans to attend Alma College in the fall of 2010, working toward a degree in athletic training. ■

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research breeds confidence

Who is promoting agriculture?

There is an ever-expanding disconnect between the main population and agriculture. This is very evident with the non-science-based legislation and regulations being implemented that are seriously impacting traditional agriculture. Jim Byrum, President of the Michigan Agri-Business Association, has made it a mission to educate business leaders about the importance of agriculture in communities all over the state. To that end, I have asked Jim to be a guest writer in this issue of The Newsbeet to share his message.

Agriculture is a great industry to be involved with, especially today.

With technological advances, greater market access, more integrated market potential and growing respect in all quarters for what we do, never before have there been such opportunities.

There is excitement in all types of agriculture. From small, local farms that produce vegetables for their own consumption or sale at farmers markets in season, to very large farms — all still family farms, though — that grow for a global market, there is enthusiasm everywhere.

While we somewhat “tongue-in-cheek” still claim to be “Michigan’s No. 2 industry” — most of us believe we’re really No. 1, but don’t want to be a target for more taxes — all segments of Michigan agriculture still try harder!

The sugar industry in Michigan — sugarbeets to be exact — is a great example of how tenacity, perseverance, a strong work ethic and policy leaders (and yes, politicians) who understand the industry’s importance have helped create a model of economic development.

From two independent companies a few short years ago to a single, vibrant, grower-owned company that owners — and their bankers — are proud of, the success of Michigan Sugar is legendary.

For Michigan agriculture, “local” is taking on a much broader meaning.

Take, for example, Michigan’s potato sector.

Open a bag of Lays® or Better Made® potato chips, and chances are you’ll be enjoying a chip made with Michigan potatoes. The Michigan potato industry generates about \$100 million in sales every year.

And what about white wheat, that unique type grown in just a few places in the world? Michigan soft white winter wheat has appeared in breakfast bowls across the nation for generations. White wheat has been grown in this area for more than a century

to serve the cereal makers in Battle Creek and commercial pie, cookie and other bakers across the Midwest. Recently, Nabisco also started using white wheat to make their popular Triscuit crackers.

Dry beans grown in Michigan literally travel the world as navy beans from Michigan find their way to such items as Bush’s Best Baked Beans, and even on breakfast menus in England, where the popular Heinz and other brands use Michigan navy beans for their baked beans.

Nationally, Michigan is the largest producer of black beans, accounting for around 58 percent of the entire U.S. crop, and the neighborhood — and local market — for black beans stretches far south, with a substantial portion of the production exported to Mexico every year.

But back to sugar.

Michigan’s Thumb and Saginaw Valley region is renowned as the Sugarbeet Capital of the World and today home to the only sugarbeet processing plants east of the Mississippi River. Michigan’s 2008 harvest of just more than 4.1 million tons smashed the old 2006 record of 3.8 million tons. Michigan sugar is sold locally at retail stores, and used across the Midwest in cakes, cookies, donuts, pies and virtually anything sweet.

Next time you bite into a glazed Dawn Donut — available almost anywhere in the country — remember that everything from the flour used to make them to the liquid sugar glaze itself came from a farm in this area! ■



Jim Byrum graduated from Michigan State University with a degree in public affairs management. He has served in positions important to the health of agriculture including the state executive director of the US Department of Agriculture, Farm Service Agency. His current position is serving as the President of the Michigan Agri-Business Association (MABA). As the President of the MABA, Byrum works closely with state and US legislators to help them understand the complexity of the agriculture industry and pass policies that promote the industry, not harm it.

The sugar industry in Michigan — sugarbeets to be exact — is a great example of how tenacity, perseverance, a strong work ethic and policy leaders (and yes, politicians) who understand the industry’s importance have helped create a model of economic development.



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