MICHIGAN SUGAR COMPANY • WINTER 2011-2012

THE NEWSBEET

Michigan Sugar Company Board Chairman, Richard Gerstenberger, left, and President and CEO Mark Flegenheimer, right, initiate the Cooperative's 10th anniversary celebration.

Celebrating 10 Years of Growing Together!

PIONEER • BIG CHIEF
MICHIGAN SUGAR

We're firmly rooted in sugarbeets.

After all, we've been a part of your industry for more than 100 years, beginning with Syngenta's Hilleshög brand sugarbeet seed. Syngenta continues to roll out innovative products, like Inspire® XT fungicide and CruiserMaxx® Sugarbeets insecticide/fungicide seed treatment combination. These are just a few more ways we are working to bring you more vigorous stands and higher beet yields. Our products, along with our local crop experts, field representatives and industry support, demonstrate a commitment to your healthy growth—today and in the future.

syngenta®

THE NEWSBEET

WINTER 2011-2012 • VOLUME 26, NO. 1

Table of Contents

THE NEWSBEET

THE NEWSBEET EDITORIAL STAFF:
Publisher: Mark Flegenheimer
Senior Advisor: Paul Pfenninger
Editor: Julie Perry
Contributing Editor: William Gough
Circulation and Advertising: Sally Martin
Cover Photo: Karen Gerhardt
Creative Director: Karen Gerhardt

SEND INQUIRIES TO:
Editor, *The Newsbeet*
2600 S. Euclid Ave., Bay City, MI 48706

Email: editor.newsbeet@michigansugar.com

PIONEER • BIG CHIEF
MICHIGAN SUGAR

THE NEWSBEET is published by Michigan Sugar Company, Bay City, Michigan. It is prepared for grower members of Michigan Sugar Company, from information obtained from sources which the Company believes to be reliable. However, the Company cannot guarantee or assume any responsibility for the accuracy of the information or be responsible for the results obtained. Mention or illustrations of a special technique, specific equipment or products does not constitute endorsement by the Company. Reprinting or quoting articles appearing in ***The Newsbeet*** is granted with the exception of those items credited to outside sources.

Root of the Business

by Mark Flegenheimer, President and CEO

A Look Back: A Decade of Growing Together

In the ten years that we have been a cooperative, we have experienced enough highs and lows to fill a very long career. Our cooperative was formed under trying circumstances; Michigan Sugar Company's parent company, Imperial Sugar, was involved in a bankruptcy and our growers were uncertain as to whether they would be paid for their 2000 crop. A forward-thinking and brave steering committee was formed to look at the opportunity of buying Michigan Sugar Company as part of the restructuring/beet payment workout. After a seemingly unending number of meetings and difficult negotiations, the growers bought the company on February 12, 2002.

During those early days of the Co-op, we faced skyrocketing fuel prices and stagnant sugar prices which pressured the returns paid to our owners. Undaunted, the first Board of Directors realized that we must reinvest in the factories to improve efficiencies. Simultaneously, they felt we must be prepared to buy or merge with Monitor Sugar Company, if the opportunity ever presented itself.

Two years after the Co-op started, Monitor Sugar was put up for sale by its South African owners. After much analysis, it became apparent that purchasing Monitor and merging the two companies was the best option for all growers in the state. A few short months after negotiations began with Illovo, a deal was consummated.

Unfortunately, the first crop processed after the merger was a disaster. Warm weather caused over 250,000 tons of beets to spoil and the beet payment hit a low-mark not seen in nearly 25 years. At the same time, natural gas prices were reaching new, never-before-seen heights. As the Board planned for the future, they realized we needed to drastically reduce our energy consumption and protect our beets in storage.

Two years after the merger, with the support of our bank group, we installed a $13 million steam dryer in Bay City. This project instantly reduced our fuel bill in Bay City by one-third! During this time, we also began to install ventilation equipment to help maintain the quality of our beets in storage. In addition to these activities, the difficult decision to shutter the Carrollton factory was made in order to lower our costs.

During these last ten years, the Board has taken courageous actions which have and will continue to improve returns to our shareholders. Since we became a cooperative, we have purchased and installed nearly $100 million of new equipment in our factories, on pile grounds, and in packaging and warehousing. These upgrades, along with a renewed focus on process improvements, have us slicing more beets per day with four factories than we ever sliced with five, while using over 40% less fuel for each ton processed.

With the merged companies, we have been able to develop a focused marketing plan that emphasizes increasing our value-added sales. This growth had strained our packaging assets; however, with a new management structure and millions of dollars of investment, our P&W team is now exceeding these sales requirements.

Today, the Board continues to take bold steps to enhance our Co-op while maintaining a strong balance sheet. With record beet payments, the Board is looking at large, long-term investments in the factories which will continue to reduce our costs and increase reliability. Also, on the agriculture side of our business, we are looking at ways to lower harvesting costs and improve the storability of our crop. New Maus operations and self-propelled harvesters, coupled with changes in beet receiving, are at the cornerstone of these efforts.

We have seen our share of ups and downs during the last decade. Through the thoughtful leadership of the 30 directors who have served on our Co-op Board during the last ten years, we have successfully navigated the challenges that came before us. With careful planning and precise execution, our Co-op will continue to overcome obstacles and thrive for the next decade and beyond.

Crop Update

by Paul Pfenninger, Vice President of Agriculture

By being creative this year with flexibility in planting allocation, our growers stepped up to the challenges of this season and we have been able to meet many of our 2011 goals.

Another Successful Sugarbeet Crop!

Wow! What a year. Let's forget about the very wet and very late spring planting and let's not talk about the difficult harvest conditions — instead, let's talk about the successful 2011 sugarbeet crop!

Our goal was to produce 4,000,000 tons of beets for processing when we set the acreage goal at 95% of our shares. We anticipated a little overplant within our 2.5% allowance and if we planted 155,000 – 158,000 acres and produced 25.5 tons per acres, we would arrive at 4,000,000 tons at the end of harvest.

The late spring caused concern and the Board relaxed the planting allocation and moved the allocation from 95% to 103%. We created a "pool" of acres for everyone to use. It worked! Growers accepted the challenge, and we planted 163,698 acres.

Who would have thought that we could produce 271.4 lbs. of sugar from a 24 tons per acre crop with an 18.16% sugar (these beets were planted in May and harvested with a startup date of September 14). We did it! We were a bit short of our 4,000,000 tons, but we still plan to slice until early March.

A Quick Look at 2011

2011 Summary	
Harvested Acres	162,845
Tons Per Acre	24.07
RWST	271.48
% Sugar	18.16
NH_2	6.04

Looking Back at Where We Started

How does that compare to 10 years ago or to our time as a merged cooperative? Well, here are the numbers from 2001 (combining Michigan Sugar and Monitor Sugar):

2001 Summary	
Harvested Acres	174,565
Tons Per Acre	19.54
RWST	235.20
% Sugar	16.90

What has changed? Here are just a few thoughts:

- Roundup Ready® genetics, high quality varieties
- Stale seed bed, conservation tillage practices
- Site specific, GPS field applications
- Increase in plant population per acre
- Cover crops, trap crops
- Seed treatments/priming
- Rhizoctonia control with Quadris
- Increase in acres of narrow-row production
- Less herbicide carryover

Where will we end up? The "Road to 19" is just the beginning of long-term goals. Our research today is producing 30+ tons per acre with 19% (or higher) sugar, so we know that with intensive management practices our current varieties have tremendous potential and the future is even brighter.

Active Depth Control wands continuously monitor ground conditions

Harvested with Active Depth Control

Harvested without Active Depth Control

A Cleaner, More Efficient Harvest

Amity Technology sugar beet harvesters have the uncompromised design and engineering you expect from Amity Technology.

Amity Technology's newest harvester, the 12-row Wheel Harvester, is the preferred choice around the world with features like:

- Industry leading, 42-inch-wide wheel for greater capacity
- 12 rows to cover more ground in less time
- Large, 4.5-ton holding tank to increase field efficiency
- Unrivaled pinch point adjustment to aid in pulling more tap root in dry conditions and less mud in wet conditions
- Optional in-cab adjustments to make harvesting more efficient

Plus, Active Depth Control from Amity Technology continuously monitors the digging depth of the harvester and adjusts both the hitch and rear cylinders to match digging depth across the machine. This on-the-go adjustment prevents hundreds of tons of extra dirt from going into the harvester!

For a cleaner, more efficient sugar beet harvest, choose Amity Technology 12-row Sugar Beet Harvesters with Active Depth Control.

Amity
TECHNOLOGY

www.amitytech.com
2800 7th Avenue North • Fargo, ND 58102
Phone: 701.232.4199 • Fax: 701.234.1716

The 2012 elections are just around the corner. Take the time to become familiar with the candidates, who they support, and what they stand for. We encourage all to get out and vote on Election Day!

Election
Make the Mo

by Ray VanDriessche, Director of Community and Government Relations

Your vote can, and does, make a difference in which direction our country, region, and state will go for the next four years…

National Budget Deficit

In 2011, Congress seemed to be totally engulfed in the budget deficit crisis and many believe that the year will be remembered as one of partisan politics and very little substantive progress on not only the budget deficit, but any major piece of legislation. It was especially disappointing to agriculture when the Joint Deficit Reduction Committee, or the so-called "Super Committee," was unable to come to an agreement on $1.2 trillion in cuts to the budget over the next ten years to help reduce the national debt. As a result of the Super Committee not coming to an agreement, "sequestration" (meaning cuts on a percentage basis for all budgets across the board) will now most likely go into effect.

The 2012 Farm Bill

Unlike any other committees, the House and Senate Agriculture Committees brought forth to the Super Committee a well thought-out recommendation of $23 billion in budget cuts to the Farm Bill over the next ten years. If the Super Committee could have come to an agreement, the proposed cuts would not have been open for debate and it would have avoided what could prove to be a very contentious and drawn-out Farm Bill legislative process. Senator Debbie Stabenow, Chair of the Senate Ag Committee, a long-time supporter of Michigan's sugar industry, played a major role in the drafting of the recommended cuts to the Farm Bill and we are fortunate that she will be at the helm of the continuing 2012 Farm Bill process. The Senator has stated that her goal is to get the Farm Bill passed in 2012 using the recommendations that were proposed to the Super Committee as a basis for the discussions in the "normal" legislative process for passage of the Farm Bill.

The current sugar provisions of the 2008 Farm Bill have worked well to ensure an ample supply of high-quality sugar to both consumers and large users, while at the same time providing an adequate return from the market to producers for their hard work and significant investment. As a "no cost" program, the sugar industry's position is to maintain the current provisions of the sugar program in the 2012 Farm Bill. As in past farm bills, there are a number of bills that have been introduced, both in the House and Senate, to eliminate the sugar program. The bills have been introduced by legislators with large sugar users in their districts, and, as usual, they have very few co-signers who support the proposed legislation. Nevertheless, we will monitor closely any attempts to build additional support for the bills as the Farm Bill debate progresses.

2012:
st of Your

Trade Agreements

The World Trade Organization (WTO) negotiations continue to go nowhere and most of those involved in the process believe the Doha Round is as good as dead. As a result, the U.S. is now focusing on other trade agreements such as the Colombia, South Korea, and the Panama Free Trade Agreements, which were finally approved in October. Although this FTA does provide for increased sugar imports to the U.S. market, the volume is not enough for the U.S. industry to oppose the agreement.

The focus has now moved to the Trans Pacific Partnership (TPP) trade agreement which includes the United States, New Zealand, Australia, Singapore, Chile, Peru, Malaysia, and Vietnam. In addition Japan, Canada, and Mexico have also expressed interest in joining the TPP trade talks. The sugar industry has representatives appointed to the U.S. Agricultural Trade Advisory Committee (ATAC), who will watch the negotiations closely and express industry concerns to U.S. trade negotiators as they move forward in an effort to minimize additional access to the U.S. sugar market.

Mexico

Unrestricted imports of sugar from Mexico continue to be a major concern and in FY 2010/2011 approximately 1.705 million short tons raw value were shipped to the U.S. market. Discussions have taken place between the U.S. and Mexican sugar industries to address the issue of third world sugar coming into Mexico and being utilized for their domestic consumption only to have Mexican produced sugar shipped into the U.S. market. This is a loophole known as "substitution," and although it is legal under the NAFTA agreement, sugar industry and government discussions will continue to try to address the problem. As a result of increased U.S. consumption, significantly lower yields in the Red River Valley, and supply issues in the cane sector, our market was able to absorb the large volume of imports without severely depressing prices in the last year.

Other Proposed Legislation

Boiler MACT Rules - The sugar industry continues to watch closely proposed climate change legislation in which the EPA has significantly lowered boiler emissions limits. Michigan Sugar Company invested $10.5 million in stack scrubbers to reduce emissions just four years ago. Unfortunately, the EPA continues to lower emissions limits to what many believe are unattainable levels. The EPA has now released four versions of the proposed rules which makes investment strategies for industry very difficult when trying to analyze the impact of a moving target. There have been, and continues to be, a number of legal and legislative challenges to the proposed rules changes and we will strongly express our concerns to our Congressional representatives.

PAC - The Great Lakes Sugarbeet Growers (GLSBG) PAC is now being supported by grower-shareholders at a participation level of 94%, based on allowable acres. This level of participation signifies that growers realize the benefit of having the opportunity to educate our legislators and their staffers on the value of a strong domestic sugar policy just prior to the writing of the 2012 Farm Bill. All growers and employees will benefit from strong sugar provisions in the upcoming Farm Bill. We encourage and welcome those who are not currently supporting the GLSBG PAC fund to join in supporting the efforts of your fellow growers and employees. Thanks to all who are currently participating in the PAC fund!

ASGA INTERNSHIP – The American Sugarbeet Growers Association is now accepting applications for the Cleavinger Internship for 2012. If you have a son or daughter (preferably a junior or senior in college) who would like to work in the Washington office for six to eight weeks next summer and have a beneficially life-changing experience, please contact ASGA's Washington office for an application. The application is also available on the ASGA website (www.amerciansugarbeet.org) and must be submitted no later than March 30.

A Look Back: Reflections from the Chairmen

As we begin to commemorate Michigan Sugar Company's tenth year as a cooperative, we asked our current Chairman, and past Chairmen, to comment on a number of topics …

Forming the Co-op

"We were dealing with Imperial Sugar who had just declared bankruptcy. We worked long and hard to get our shares sold. We wanted to see the industry continue to thrive." (Richard Maurer)

"To purchase the Company from Imperial Sugar and then, shortly thereafter, merge with your nearest competitor, was a huge accomplishment." (Richard Gerstenberger)

"It took a phenomenal number of meetings, phone calls, and e-mails before the agreement was signed to form our cooperative in 2002. I didn't realize that we could spend so much of our time attending meetings in Saginaw and still keep up our farm work." (Thomas Zimmer)

Overcoming Challenges

"There were growers who were not willing, at the start, to become co-op members … and then there was the 2004 loss of beets due to spoilage." (Thomas Zimmer)

"I remember the time when, during the darkest of clouds, the Board and Management decided to invest $13 million in the steam dryer in Bay City. Mark Flegenheimer stated at the end of the meeting that the Board's action was a real vote of confidence for the industry. The payback came, as promised." (Gene Meylan)

"The last ten years in the sugarbeet industry has been a rollercoaster ride to say the least." (Thomas Zimmer)

Richard Maurer
2002

Thomas Zimmer
2003-2006

Gene Meylan
2007

Richard Gerstenberger
2008-Present

Where we are today

"Gradually, things went much better. Actually, they can't get any better." (Richard Maurer)

"In the world of cooperatives, we are still very young … yet we accomplished so much! We are now walking in step with each other …" (Richard Gerstenberger)

"If you never believed in miracles, you should now! No one out there would have expected to see us in the position we are today." (Gene Meylan)

Thanks

"… to the employees who stayed with the Co-op during some very uncertain times … the many growers who have been with us from the beginning and who were certain that if other sugarbeet cooperatives were successful, we could be, too …" (Thomas Zimmer)

"… to the employees, growers, current and past Board members, for their commitment and dedication for making our cooperative a success …" (Richard Gerstenberger)

DID YOU KNOW?

That the Michigan Agri-Food Industry…

- **Employs one million Michigan residents — nearly 25% of the State's workers.**
- **Has over 56,000 farms and 10 million acres of farmland.**
- **Contributes $71.3 billion annually to the State's economy.**

Crop Records Update

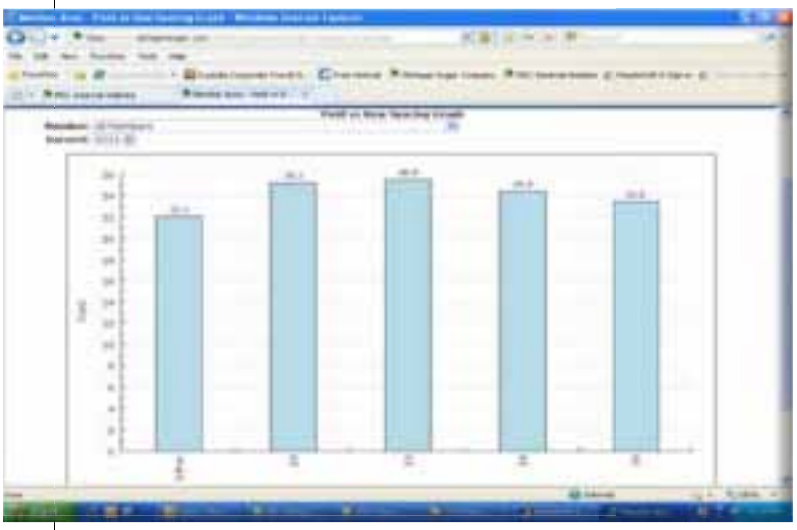
A Progress Report

by Paul Pfenninger, Vice President of Agriculture

More and more growers are participating in crop records and the overall value of data is improving. Using crop records to report bolters last year made using crop records a monthly process (actually, we had 28 days between bolter reports).

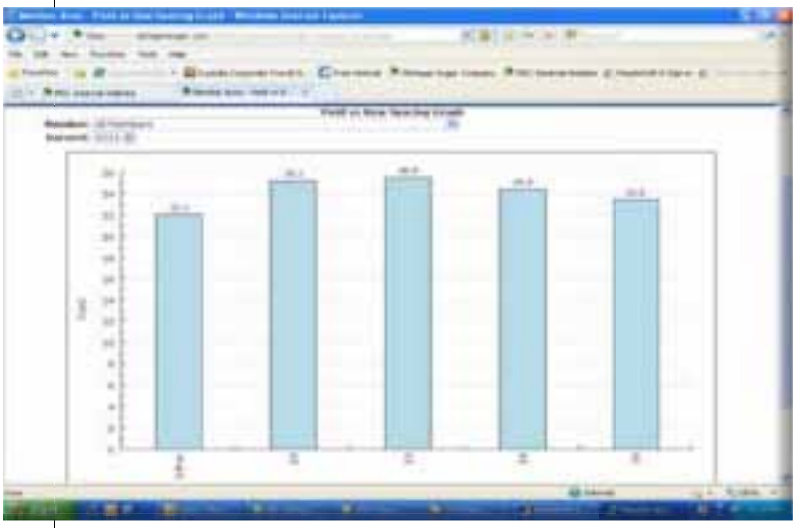
In total, we have 902 growers with crop records and in 2011, 686 growers participated which represents 75% of all growers.

Pulling data from our grower website at www.michigansugar.com can be quick and easy, and growers can compare their production to that of their district and to Michigan Sugar Company overall.



"Just a click away"

We can add acres to the above bar graph and produce the Acres vs. Row Width (Inches) Graph.



When you add the two graphs and analyze all data, the following information can be used to justify the move to narrow-row production.

Row Width	Acres	Tons	T/A
20"	16,278	413,778	24.56
22"	23,011	594,146	25.31
28"	42,822	1,043,231	24.13
30"	78,241	1,813,744	23.58
Other	2,493	54,296	21.31
	162,845	3,919,195	

If we look at other categories of crop records, we can see that Quadris is now applied on 52% of acreage in the spring. The chart below summarizes our Quadris data:

Application	Acres	T/A	RWST	% Sugar	Purity
In-Furrow Only	49,318	24.85	274.92	18.35	95.57
4-6 Leaf Only	28,084	24.03	271.32	18.17	95.45
In-Furrow and 4-6 Leaf	7,421	23.74	275.19	18.36	95.58
	84,823 (52%)				

We will continue to stress the importance of crop records, and we will continue to look for improvements.

There are charts and graphs on Yield vs. Planting Dates, Yield vs. Seed Variety and Yield vs. Cercospora Sprays, along with Yield and Tare comparisons for your crop, relative to your district, and to the overall company performance.

If you have completed your crop records, we thank you, and if you have not entered your 2011 crop data, we ask you to start now. It is never too late to enter data and begin seeing the benefits of good comparative information.

Your agriculturist can help you get started if you need any assistance. We need to move from 75% participation to 90+% before we can say our crop records effort has been a success.

Paul Pfenninger, Vice President of Agriculture, *has been with Michigan Sugar Company for 30 years.*

Managing Herbicide-Resistant Weeds in Michigan

by Christy Sprague, Weed Extension Specialist
Department of Crop and Soil Sciences, Michigan State University

Herbicide-resistant weeds are not new to Michigan growers. In fact, the first case of a herbicide-resistant weed in Michigan was reported in 1975, when a population of common lambsquarters was no longer controlled by atrazine.

Since that time, 11 additional weeds have been confirmed resistant to the triazine herbicides, seven weed species have been confirmed resistant to ALS-inhibiting herbicides, and populations of wild carrot have been confirmed resistant to 2,4-D. While not all of these herbicide-resistant weeds have impacted Michigan sugarbeet growers, ALS-resistant kochia (kochia resistant to UpBeet) became a significant management challenge for growers in the Red River Valley and the Western sugarbeet growing region prior to Roundup Ready® sugarbeets. The use of glyphosate in Roundup Ready® sugarbeet has helped growers control weeds that were once difficult to control and/or resistant to other herbicides used in conventional sugarbeets. Now the challenge is to preserve the effectiveness of glyphosate and the Roundup Ready® sugarbeet technology.

Similar to other herbicides, weeds have developed resistance to glyphosate. Currently there are 13 different weeds in the United States that are glyphosate resistant. In Michigan, we currently have two weeds that are glyphosate resistant. Glyphosate-resistant horseweed (marestail) populations have been identified in Mason (2007), Ionia (2010), and Gratiot (2010) counties. The spread of glyphosate-resistant horseweed is not surprising since it is found in 20 different States. We are currently screening 10 additional suspected glyphosate-resistant horseweed samples that were submitted this year from several other Michigan counties. The second weed that has been confirmed resistant to glyphosate in Michigan is Palmer amaranth. Palmer amaranth is a pigweed species not native to Michigan. In fact, until it was identified in a southwest Michigan grower's field in the Fall of 2010, it had never been reported in Michigan. Through greenhouse testing last year we confirmed that this population was able to survive a 32X the labeled rate of glyphosate and had a 20-fold level of resistance compared with a susceptible population from Tennessee.

Herbicide resistance in weeds can develop by the repeated use of the same herbicide in a field to a weed population, especially when the weed pressure is high. Herbicide resistance can also be acquired by gene flow through pollen dispersal or by the spread of resistant

weed seed from field to field. For example, since Palmer amaranth is not native to Michigan it is speculated that the glyphosate-resistant Palmer amaranth population was established by seed brought in from an outside source. This is not a surprise when looking at the millions of acres that are infested with glyphosate-resistant Palmer amaranth in the southern United States. Seed from this weed may have been brought in with equipment, livestock, or even feed produced in southern states. These means may also perpetuate the spread of Palmer amaranth in Michigan if we are not careful. The prolific seed production of Palmer amaranth also helps to ensure that if not properly identified and managed this weed will continue to spread.

Practices to reduce the risk of developing herbicide-resistant weeds

While herbicide-resistant weeds may not yet be present in any of your fields, following the practice of continuous use of any herbicide including glyphosate without other weed control strategies will most likely lead to the development of herbicide-resistance. So how do we slow down the development of herbicide-resistant weeds? DIVERSITY IS KEY! Whether it is diversity in tillage, herbicide use, or cropping systems utilizing diversity is one of the main strategies to slowing down the development of herbicide-resistant weeds. Below are six main strategies that should be followed to help reduce the development of herbicide-resistant weeds:

- Rotate herbicides with herbicides that have different modes/sites of action. Herbicide labels now list a herbicide group number that refers to the site of action of that herbicide. Herbicides with different numbers have different sites of action. These herbicide group numbers can also be found in the MSU 2012 Weed Control Guide for Field Crops (MSU Extension Bulletin E-434).
- Apply herbicides with multiple sites of action in sequential, premixed, or tank-mixed applications. Examples would include: applying a residual soil-applied herbicide preemergence before a postemergence application of glyphosate or tank-mixing another herbicide with glyphosate.
- Scout for changes in weed populations. Herbicide-resistant weed populations generally start with just a few plants. If they are identified within the first couple of years of development it is easier to manage the expansion and spread of these weeds.
- Rotate crops, particularly with different life cycles. Rotational crops offer different methods of weed management, whether it is different herbicides, planting dates, or tillage.
- Use cultivation and other mechanical weed management practices, when appropriate. While this practice may not be practical or feasible for every operation, it is a viable option for management of certain weeds. For example, preplant tillage would be an option to help manage winter annuals, biennials, and perennials that may develop resistance.
- Clean tillage and harvest equipment before moving from fields infested with resistant weeds. The movement of equipment from infested fields to other fields is the quickest way to spread herbicide-resistant weed seeds across and between farms.

While all of these principles apply to all herbicides, because of the wide-spread use of glyphosate for weed control in many of our Roundup Ready® crops, glyphosate currently is at the highest risk for the development of new herbicide-resistant weeds. While many of the strategies listed above may not fit in the sugarbeet year of the rotation, they should be implemented in other years of the rotation.

Dr. Christy Sprague is an Associate Professor *in the Department of Crop and Soil Sciences at Michigan State University. She earned her PhD in Crop and Soil Sciences from MSU in 1999, and joined the Department in 2003.*

We Must Manage Cercospora Leafspot Resistance

BELOW:
Cercospora trial in Elkton, Michigan. Strobilurin not performing (right of sign), compared to better treatment (left of sign).

by Jim Stewart, Director of Research

Cercospora leafspot has been more difficult for some growers to control during the past two seasons. Typically, growers use Quadris (a strobilurin) for Rhizoctonia control, then apply Proline, Eminent, Inspire or Enable (triazoles) as the first leafspot spray. Headline or Gem (strobilurins) are generally the second leafspot spray, and it appears that we are losing control of Cercospora at that time.

Research was conducted near Elkton, Michigan, in 2011 to evaluate the efficacy of fungicides for leafspot control. Results from this trial show that Headline and Gem (strobilurins) did not provide adequate leafspot control. Eminent, Inspire, Proline and Super Tin did a good job controlling Cercospora in the trial. Leaves from the plot were gathered and sent to MSU and NDSU to analyze for Cercospora resistance. Preliminary results from both universities indicate that Cercospora spores from the test plot are resistant to Headline and Gem. Agriculturists also sampled leaves from around the growing area and a high percentage of those leaves also tested positive which indicates resistance to Headline and Gem.

Headline and Gem (strobilurins) kill Cercospora leafspot by interfering with a specific energy producing process within the cells of the fungus. A mutation within the fungus can occur which creates a strain that is resistant to strobilurin fungicides. During the initial phases of resistance, the fungus population contains mostly susceptible and a few resistant strains; however, as more fungicide applications are made, the susceptible strain is killed and the resistant strain survives and increases in numbers. During this transition, fungicides begin weakening and finally no longer work, even at high rates, as the resistant strain establishes itself as the dominant population.

Triazole fungicides (Eminent, Proline, Inspire and Enable) are also susceptible to developing resistance. Typically, the resistance process develops more slowly with triazoles and an increased fungicide rate will often kill the fungus — at least for some period of time. Because triazoles and strobilurins kill fungus in different ways, a fungus strain that has developed resistance to strobilurins will not be resistant to triazoles.

All of the fungicides that we use for Cercospora control should be applied as preventative treatments. Strobilurins and triazoles are good at preventing spores from infecting leaves but neither fungicide type is good at curing an infection. The BEETCast prediction model has been effective in predicting when spots first occur. In red zones, spots generally appear around 70 DSVs and in green zones around 90 DSVs. The 55/55 DSV application timings have worked well in regions with severe Cercospora infestations; however, the recommendations were developed using moderately tolerant varieties and with the assumption that fungicide resistance was not an issue. We will be tweaking the BEETcast application timings this spring to account for fungicide resistance and the increased use of highly susceptible varieties.

Plant breeders are making progress increasing the Cercospora tolerance of new varieties, but the process is slow. With Headline and Gem losing potency, it is extremely important that we practice good resistance programs to keep all of the fungicide types effective for as long as possible. Plant breeders tell us that a beet with Cercospora resistance is being developed, but will not be available for seven to ten years.

How can we maintain Cercospora control and prevent or delay fungicide resistance?

A **Application Timing:** We must begin spraying before the disease develops. Cercospora can be controlled when fungicide applications are timely. Improper timings (too early or too late) are less effective and can encourage resistance.

B **Rotate Fungicides:** We should use a fungicide group only once per year, if possible. This will involve using fungicides that are somewhat less desirable to apply, including Super Tin, copper and EBDCs.

C **Tank Mix:** All fungicides need to be tank mixed with a different fungicide type. For example: Eminent + Manzate, Topsin + Super Tin, Headline + Super Tin.

D **Application Methods:** Maintain proper spray pressure (100 psi, if possible) and apply fungicides in 20 gallons of water per acre or more.

E **Variety Selection:** Nematode tolerant varieties are needed and many growers can make more money with high yield and high sugar types, however, these varieties require high levels of management for Cercospora control and should not be planted unless intensive leafspot management procedures are to be followed.

Growers are doing very well with high sugar prices, high yielding and high quality varieties, disease tolerant varieties and Roundup® for weed control; however, Headline and Gem are weakening for Cercospora control and we will also lose Eminent, Proline and Inspire if we do not employ proper resistance management strategies. Poorly controlled Cercospora causes losses of five tons and a point or more of sugar. The development of resistance should be a wake-up call for all of us. We need to be diligent in protecting our crop from Cercospora and we must employ a resistance management program that protects our fungicides.

***Jim Stewart**, Director of Research, coordinates the agricultural research activities at Michigan Sugar Company and specializes in weed, disease and pest control, soil fertility, and other sugarbeet production practices. He has been with the company for 13 years.*

NITROGEN: A Topic of Much Discussion

TAKE THE QUIZ:
Check your nitrogen knowledge!

Circle the correct answer:

1. I am tired of hearing about nitrogen	True	False
2. Green is good	True	False
3. Nitrogen applied early is best	True	False
4. Large tops mean higher yield	True	False
5. More nitrogen will produce more sugar per acre	True	False
6. Yellow leaves mean a nitrogen deficiency	True	False
7. Applying some nitrogen 2x2 at planting is best	True	False
8. The previous crop affects the amount of nitrogen that should be applied	True	False

by Lee Hubbell, Research Agronomist

Answers

1. **Whether True or False, we understand.** We have tested nitrogen more than any other subject, except seed varieties; however, it is extremely important in producing tons per acre and the highest quality crop to be profitable for you and the Cooperative.

2. **False.** Green tops near harvest are bad. If the sugarbeet tops are green at harvest, there is too much nitrogen. The tons will not be significantly higher and the RWST will be lower. Excess nitrogen is an impurity in the beets and sugar is lost removing the excess nitrogen during processing.

3. **True.** In trials conducted during the last few years, some early nitrogen is good because early growth is important for optimum production. There is a huge benefit to canopy closure as early as possible to collect sunlight. Use 40-50 pounds of nitrogen 2x2 at planting. The balance applied pre-plant incorporated (PPI) is best, but sidedressing the balance by the four- to six-leaf size is better than all nitrogen applied PPI or sidedress. When there is no spring tillage, no-till or stale seed bed, be sure to apply the balance early sidedress.

4. **False.** Leaf size is not a good way to evaluate varieties or production in general. There is a difference in canopy size between varieties and there is no correlation between canopy size and the correct amount of nitrogen.

5. **False.** There is a certain amount of nitrogen that your crop needs; however, beyond that point, you will waste money and lower your quality. In 2008, we had a record crop and probably the lowest nitrogen rates used in recent years.

6. **False.** This is similar to #2; green at harvest is bad. There are also varietal differences in color. Some varieties will never be as green no matter how much you apply. Know the leaf color traits of your variety before you apply more nitrogen. Yellow leaves can indicate other nutrients are short. Do a tissue test to know for sure.

7. **True.** See #3, apply 40-50 pounds 2x2 at planting. The first choice for the balance is PPI, second is sidedressing by the four- to six-leaf size.

8. **True.** Nitrogen is tied up in the decomposition of the crop residue and nitrogen is put into the soil by some crops. Following a low residue crop (dry beans or soybeans), apply 90-120 pounds, and following a high residue crop (corn or wheat), use 120-150 pounds of nitrogen. When following wheat with a good clover plow down, use 90-100 pounds, and after alfalfa, 60 pounds should be good.

Lee Hubbell, *Research Agronomist, is a specialist in sugarbeet variety and agronomic testing and has been with Michigan Sugar Company for 27 years.*

Fine Tuning Rhizoctonia Control in Sugarbeets

Infections from Rhizoctonia in sugarbeet plants can move down the row causing root rot and eventually death of plants.

Rhizoctonia is a soil-born fungus that causes infection under warm, wet soil conditions. The disease has several hosts that are common in our rotations including soybeans, edible beans and corn.

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

Rhizoctonia root rot is one of the most yield-limiting pathogens in the Great Lakes and other growing regions in the U.S. Under warm planting conditions, this pathogen can affect seedlings in early season, which causes damping off. The larger impact generally occurs later in the season causing root rot, such as crown or tip rot. The disease impacts sucrose yield by reducing both tonnage and quality. Field trial research conducted in the last three years by Michigan Sugar Company and Sugarbeet Advancement has fine tuned timing and placement of Quadris® applications.

Sugarbeet producers now have effective options for controlling Rhizoctonia root rot, either through variety resistance, fungicide applications, or a combination of both. Resistant varieties should be considered when fields have had a history of heavy Rhizoctonia pressure. Some of the newer varieties that are becoming available carry both resistance and higher yield potential. With a Rhizoctonia-resistant variety, a single application of Quadris® applied T-band in-furrow or in a seven-inch band at the four to eight-leaf stage will generally give over 90% control. Most resistant varieties do not express resistance to Rhizoctonia until plants are four to six weeks old. Since resistance is not immediate, in-furrow applications may help to provide early protection when combined with a resistant variety.

In 2011, research in a moderately heavy Rhizoctonia field indicated that a susceptible variety that had two Quadris® applications, applied T-band in-furrow followed by a six- to eight-leaf application had tonnage that was better than a Rhizoctonia-resistant variety, unsprayed. This trial also showed that the two-spray susceptible variety was as good as the Rhizoctonia variety without any of the Quadris® treatments (refer to Table 1, page 19).

Many growers are using a narrower T-band in-furrow application than recommended on the label. Instead of using a seven-inch band, they are

continued on page 18

RESEARCH REPORT

Susceptible Rhizoctonia variety, left unsprayed, compared to two applications of Quadris® applied in furrow and at the six- to eight-leaf stage.

spraying a three- or four-inch band. This narrow band width has performed similar to the wider band. Because the surface area of application has been reduced, Quadris® rates have been reduced proportionately, but concentration rate per inch of band width remains the same.

Under poor emerging conditions, in furrow Quadris® may slightly slow down or reduce emergence. This may occur under very cold or crusted conditions. In 2009 and 2010, one of 15 trials showed a significant reduction in emergence. The reduction when all trials were averaged together was seven beets in 100 feet. In 2011, under warmer conditions, five trials averaged increases of 15 beets. Quadris® will help control Pythium and Rhizoctonia seedling diseases.

Growers who use a susceptible variety and choose not to apply Quadris® in-furrow will need to apply it foliar. In the last three years, the best single application timing has been at the six- to eight-leaf stages. In fields that have heavy Rhizoctonia pressure, consider applying two applications. The first should be at the two- to four-leaf stage and again at the six- to eight-leaf stage. Use the full recommended rates when applying foliar. Reduced rates have reduced control.

Past research has shown that single foliar applications timed at the two- to four-leaf stage have given the poorest control. This may be because soil temperatures are cool. Rhizoctonia infection increases when soil is moist and temperatures start approaching 70 degrees. It has been suggested that applications should occur when the median daily soil temperature at 4" depth is in the low to mid 60s and rising. This year, the two- to four-leaf application was applied when the soil temperature was warmer (62.5 degrees) and was followed by seven days of soil temperatures rising up to 70 degrees; however, the two- to four-leaf treatment still performed much worse than the six- to eight-leaf treatment. Soil temperature-based applications continue to be difficult to time and based on the past three years' research, it is suggested to time foliar applications at the six- to eight-leaf stage.

Many of the new varieties that will be planted for 2012 are very high in sugar and tonnage. Many of these varieties are very susceptible to Rhizoctonia root rot. Any yield or quality advantage can be lost if the disease is not controlled. Generally, these varieties require at least one Quadris® application, even at low Rhizoctonia levels or two applications under moderate to heavy pressure. If Rhizoctonia history is moderate to heavy, a Rhizoctonia-resistant variety should be considered with a Quadris® application, either in furrow or at the six- to eight-leaf stage. Controlling plant diseases will be a critical step on our "Road to 19."

Harvested, partially rotted beets have increased impurities, reduced sucrose content and do not store well in piles.

Table 1.
2011 Hrabal Trial • Gratiot County

Treatment	Dead Beets / 1200 Ft	RWSA	T/A
Rhizoctonia Resistant Variety HM-27RR			
In Furrow & 6-8 Leaf	0	7971	28.6
2-4 Leaf & 6-8 Leaf	0	7603	27.4
In Furrow	0	7326	26.0
6-8 Leaf	1	7730	27.9
2-4 Leaf	8	7631	27.5
Check	9	7338	27.0
Rhizoctonia Susceptible Variety B-18RR4N			
In Furrow & 6-8 Leaf	40	7904	29.8
6-8 Leaf	109	7958	29.0
2-4 Leaf & 6-8 Leaf	120	7570	28.5
In Furrow	179	7005	26.5
2-4 Leaf	394	6052	23.8
Check	587	5607	22.8
LSD (5%)	108	992	2.7
C.V. (%)	62	9	7.0

Foliar applications were 10.5 oz/acre of Quadris.®
In furrow applications were 6.2 oz/acre of Quadris® in a 4" T-band.

***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.*

Shortage or Set Aside: Which is Better?

by Brian J. Haraga, Chief Financial Officer

Michigan Sugar Company is celebrating its tenth year as a cooperative. What a great opportunity to not only look back on those ten years, but more importantly look forward toward the future. Sugar market prices have increased, energy-saving capital equipment deployed, beet storage was enhanced, and sugar production was maximized. Beet payments have improved through dramatic increases in throughput of quality beets to the factories. Sugarbeets delivered in 2001 totaled just under 2.1 million tons as compared to the 4.1 million tons delivered in the 2011 fiscal year. Sugar production totaled 11.3 million cwt. as compared to the five million cwt. produced in 2001. The total gross beet payment in FY2011 exceeded $70 per ton. Now, and in the future, the Cooperative wants to continue to increase economic returns to the shareholders by maximizing throughput and sugar production; however, the Co-op has limitations. In 2008, a successful "set aside" program was put in place to mitigate the cost of not processing an over-supplied beet harvest. So as the Cooperative continues to work at maximizing production, it must weigh the costs associated with an oversupply versus under utilizing the factories.

There are five key drivers supporting the increase in beet payment; sugar price, tons delivered, pack, energy costs, and shrink. In the past several years, higher sugar price, beet quality and quantity have been prime factors to bolstering the beet payment. An illustration of the correlation between throughput and gross payment is easily seen in Figure 1 below.

Figure 1:
Tons of Sugarbeets Delivered as Compared to Change in Gross Beet Payment

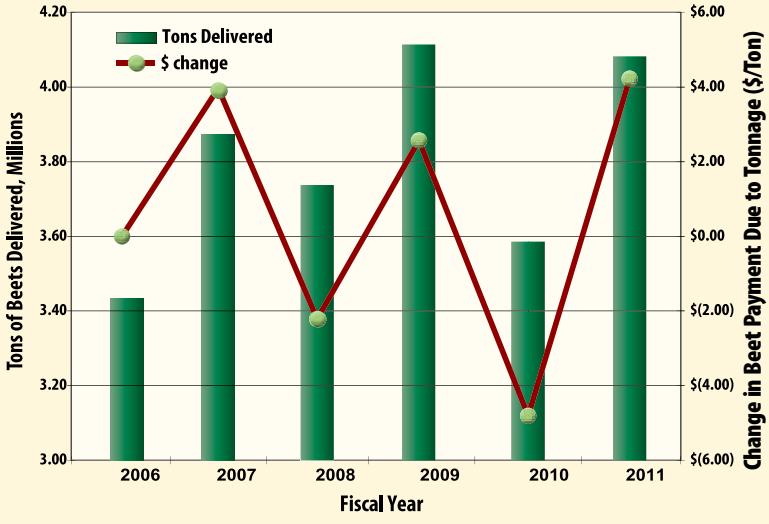
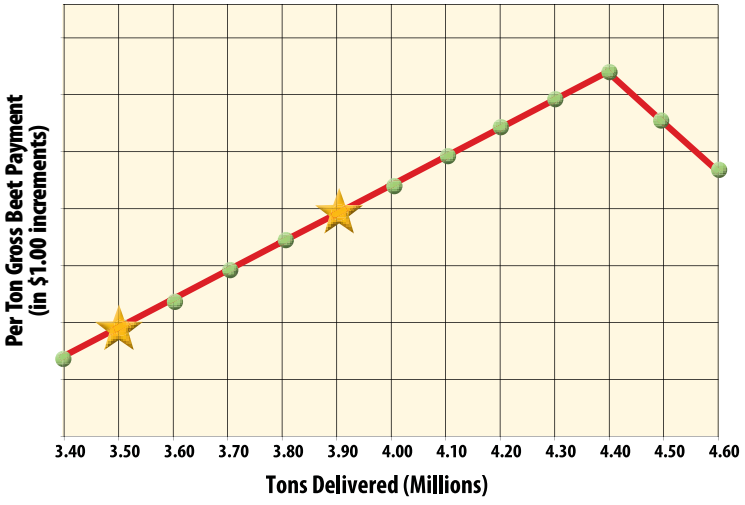


Figure 1 shows the annual change in beet payment compared to tons delivered since FY2006. For example, tons delivered in FY2008 where just over 3.7 million. The next year the volume increased to 4.1 million. The change in beet payment attributed to the increased tonnage was $2.56 per ton delivered. In FY2011, the tons delivered increased by 480,000 tons and equated to an increase of 1.26 million cwt. of sugar. The tonnage increase was primarily due to an additional 11,000 acres and yields increasing by 1.4 tons per acre. The direct impact on the beet payment was an improvement of $4.22 per ton.

The correlation between higher throughput and beet payment is primarily due to recognizing the additional revenues that drive the bottom line on the beet payment. Throughput adds to the beet payment until returns begin to diminish due to exceeding factory capacity. As a result, the set aside program comes into play. The program works to ensure the highest beet payment is achieved, even though beets are plowed back in the field. So the question that is asked is how much is too much?

Figure 2: Beet Payment Forecast Per Ton Delivered



Assuming that factory capacity is 4.4 million tons of sugarbeets delivered, Figure 2 shows the relationship of increasing throughput to the point of diminished returns. That is, when tons available to harvest are greater than factory capacity, costs will reduce the beet payment. Those costs could be the costs of disposal or cost of paying for beets not harvested for the set aside program. For this analysis, it is understood that the cost of disposal far outweighs the cost of plowing back beets and using the set aside program. The chart highlights the average tons delivered for the last five and ten years, at 3.9 and 3.5 million tons (★), respectively. Based on improving beyond average, there is

still opportunity for an even greater beet payment. The beet payment expects to increase by approximately $1.25 per ton for every 150,000 tons delivered. To gain perspective, look at Table 1:

Table 1: Beet Payment Increase

Million Tons Delivered	Cummulative Change From 2010 Crop (Per Ton)
3.800	$(2.50)
3.950	$(1.25)
4.100*	$0.00
4.200	$0.82
4.250	$1.25
4.300	$1.58
4.350	$1.91
4.400	$2.50
4.450	$1.93
4.500	$1.36

*2010 Crop was 4.1 million tons

What is the cost benefit of providing too many beets against providing too few beets? For example, had the 2010 crop been larger by 300,000 tons, the beet payment would have been $2.50 more. That increase could come from any combination of 12,500 more acres and/or a two-ton yield increase. Even if the tons available for harvest create an overstock and a set aside program is required, a higher beet payment is still realized. Had the quantity delivered been less by the same 300,000 tons, the beet payment would be less by $2.50 per ton. Figure 3 is used to forecast the impact on the beet payment at three potential yields at different levels of acres harvested.

Figure 3: Acres Forecast Model

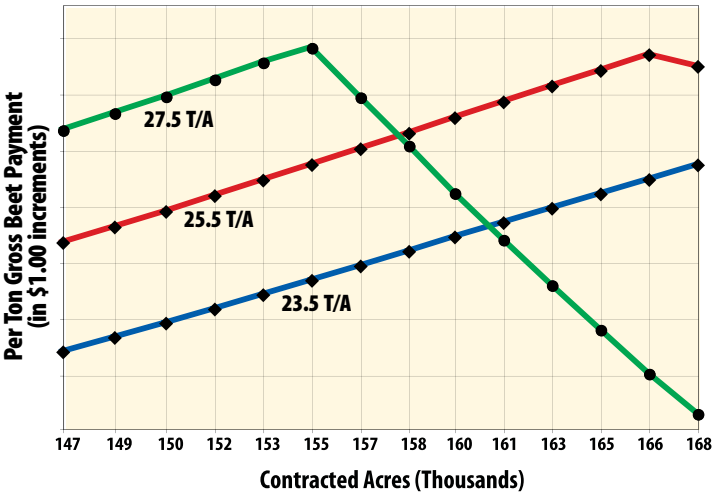


Figure 3 shows that a change in yield by two tons per acre, will change the beet payment by about $2.50 per ton delivered. These lines, representing yields, begin at 23.5 tons per acre, the average yield for the last ten years. Again, Figure 3 recognizes the impact of a set aside program at the point of diminished beet payment per ton. Based on the beet payment assumptions from the chart, there would be no risk of requiring a set aside program at the yield line of 23.5 tons per acre at any number of available acres. In order to trigger a set aside program at 25.5 tons per acre, there would have to be 166,000 acres available for harvest. That is almost 3,000 more acres than 100% of the Cooperative's hard acres available to plant. Should the Cooperative harvest 160,000 acres, with an average yield of 27.5 tons per acre, a diminished beet payment would necessitate a set aside. That is four tons greater than a ten-year average.

While it is important to understand the financial risk to the beet payment for too many beets harvested, I believe that there is greater impact to the beet payment should there be too few tons harvested. Today, the Cooperative has the factory capacity to receive about 4.4 million tons of sugarbeets. By analyzing the direct impacts on the beet payment from tons delivered and studying the set aside forecast models, the Cooperative can best predict the maximum levels of return to the shareholders. It has been an exciting ten years and the future is just as promising.

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

10 YEARS AS A COOPERATIVE:

Progress in Production

By David Noble, Vice President of Operations

In ten seemingly short years, the Operations Department of Michigan Sugar Company has experienced significant change, enabling it to establish new production standards and to handle an ever-growing beet crop. Since 2002, sugar production has increased 71%, substantially aided by the acquisition of the Bay City factory, but also despite the closure of Carrollton. Daily sugar output increased 50% while campaign length was extended by 40 days. Former campaign starts in late September have been replaced by early September targets; even August 23 in 2010! Throughout the years, the improved results were driven by an ever-improving beet crop, with higher sugar contents, higher purities and advanced storage techniques. They were supported and achieved through substantial investments across the whole process from beet washing to sugar silo.

The Co-op started with four factories in Caro, Carrollton, Croswell, and Sebewaing, slicing a total of 15,700 tons per day across 140 days. In 2004, the Bay City factory was added, bringing a significant jump in slicing capacity, plus its molasses desugarization plant. Following the 2004/05 campaign, operations at the Carrollton factory were suspended, returning Michigan Sugar Company to a four-factory operation. Annual improvements to factory operations have enabled the four factories to surpass the combined five-factory operation. Capacity now averages 21,800 tons per day over 180-day campaigns.

Major investments over the past ten years have not only enabled increased sugar capacity, but more importantly, it has been achieved within the constraints of existing boiler and lime kiln capacities, and within stringent environmental regulations. Since 2002, energy to process each ton of beets has been reduced by 43%. Due to improved beet purity and quality, plus enhanced factory operations, lime usage has fallen. Additionally, the spent lime piles at each location have been rapidly disappearing as its value in local agriculture has grown. Many pieces of equipment from Carrollton have been re-utilized at the other four factories, such as the pulp presses. In desugarization, sugar output and betaine recovery have essentially doubled.

Examples of the various factory projects funded by the growers and completed by the engineering department and the factories, over the past 10 years, are:

- Bay City steam dryer
- Coal boiler scrubbers at Caro, Croswell, and Sebewaing
- Caro cossette mixer
- Croswell pulp press
- Croswell wash-house
- Sebewaing sugar cooler
- Croswell and Sebewaing energy projects

Figure 1: Sugar Prodution

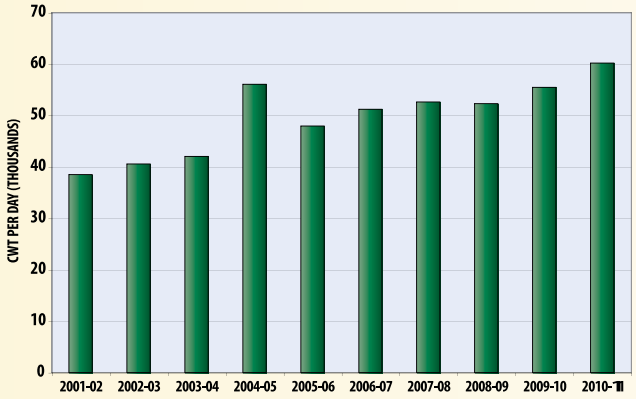
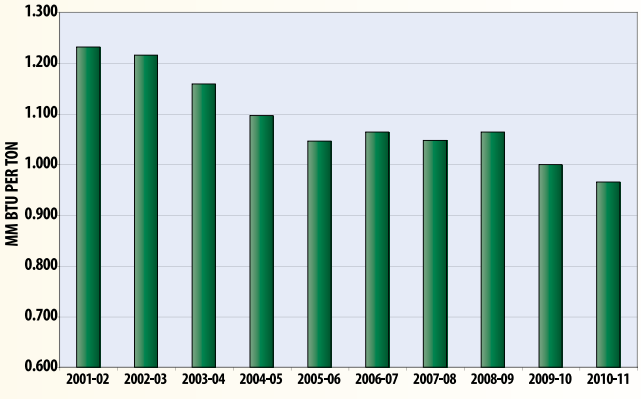


Figure 2: Boiler Energy Per Ton



OPERATIONS IMPROVEMENT HIGHLIGHTS: *Clockwise from top left: Bay City steam dryer; Caro cossette mixer internals; Croswell pulp press; Sebewaing coal boiler scrubber; and Croswell beet washer.*

As Michigan Sugar Company looks forward to a new decade, the emphasis on factory efficiency and long-term productivity continues with strategic investments planned at Bay City and Caro over the next three years. During that time, a new boiler will be installed to boost steam-drying capacity through higher-pressure steam. New generation drum slicers will replace the disc slicers from the 1960s and mid-1980s. Large capacity pulp presses will supplant smaller, older presses and will reduce energy costs and sugar losses. Finally, a new tower diffuser will replace the two existing towers in Bay City, again, one from the 1960s and the second from the 1984/85 expansion. Caro will then remove its 1960s vintage diffuser and install the larger, more efficient, 1984/85 tower which was removed from Bay City.

Alongside the investments and equipment changes, the employees have adopted new work practices and a new campaign-to-intercampaign lifestyle; earlier campaign starts, longer campaigns, and shorter maintenance seasons necessitated different factory strategies. Between beet campaign, extract and thick juice processing, the Sebewaing and Bay City factories now operate continuously between 200-260 days a year. Due to the added desugarization operations, Bay City never completely stops, even for one day!

Ten years as a co-op have shown how much can be achieved when the owners' (growers') and employees' goals are aligned and supported. The growth in factory output and increase in efficiency are meeting the strategic aims and challenges established by the Board. As the Co-op enters a new decade, investments and actions are already being implemented to ensure another ten years of success.

Figure 3: Boiler Energy Per CWT

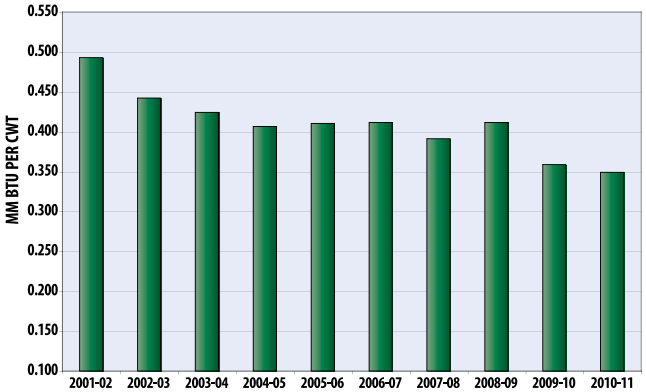
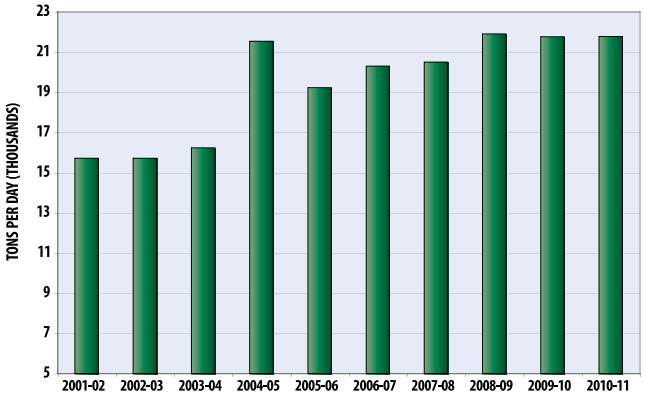


Figure 4: Daily Slice



David Noble, Vice President of Operations for Michigan Sugar Company, has been with the company for four years.

Benefits of

by Greg Clark, Agronomist

The benefits of applying lime to sugarbeets have been a "hot" topic of discussion over the past several years, especially fields with a history of Aphanomyces root rot. Research conducted by Dr. Carol E. Windels, University of Minnesota, observed the influence of three tons and ten tons of factory lime per acre on sugarbeet production in fields with a known infestation of Aphanomyces. According to Dr. Windels, "Each lime rate slightly raised pH and improved sugarbeet plant health. Within months after spent lime was applied, Aphanomyces soil index values (SIVs) decreased compared to non-limed controls. Two growing seasons later, SIVs in all plots (limed and non-limed) increased to pre-limed levels or higher in plots grown to sugarbeets as well as rotation crops."

In 2011, Michigan Sugar Company conducted a lime trial to see if root diseases, especially Aphanomyces root rot, can be reduced with various rates of lime. Our lime research trial has shown a similar trend as University of Minnesota (Table 1).

The trial was replicated and was designed in strips with lime being applied at rates of 0, 2, 4, and 6 tons per acre. Soil and tissue samples were taken along with Rhizoctonia, Cercospora, and Aphanomyces ratings. A significant difference in Aphanomyces root rot rating scale was observed, along with fewer dead beets per foot of row with higher rates of lime. There also was a trend with RWSA being higher with increased rates of lime. A minimum change in soil pH with higher rates of lime compared to the control strips was detected; however, the research indicated that pH neutralization may be quicker, and the benefit to sugarbeet health and ability to escape Aphanomyces may last longer from the six tons per acre versus the two tons per acre application rate.

Table 1. Lime Trial, Helmreich's Farm

Lime Rate (Ton/Acre)	RWSA	RWST	T/A	% Sugar	% CJP	Cerc (0-9)	Rhizoc #/1200'	Aph (0-5)
0	4734	308	16.9	20.2	96.1	3.38	81	2.63
2	4791	303	15.8	19.9	95.8	3.38	79	2.31
4	4970	302	16.5	19.8	96.2	3.25	73	1.88
6	5073	303	16.8	20.0	96.0	3.25	72	1.81
LSD 5%	764	21	5	0.9	1	0.5	6	0.2
CV	5	2	9	1	0.5	4	2	3

Cercospora = 0 (No spots); 3 (100+ spots/leaf); 5 (25% of leaf area is dead); 9 (complete burndown);
Rhizoctonia = Dead/Dying Beets per 1,200 foot of row
Aphanomyces = 0 (No symptoms); 2 (Russeting, minor scarring); 5 (Russeting, severe scarring)

To expand this research, three trials in randomized complete blocks with five treatments (0, 2, 4, 8, and 10 tons per acre) have been established for 2012. Soil samples were collected and lime was spread in November of 2011.

Lime application affects many aspects of soil and growing conditions. Here is a brief outline of the primary benefits of lime use.

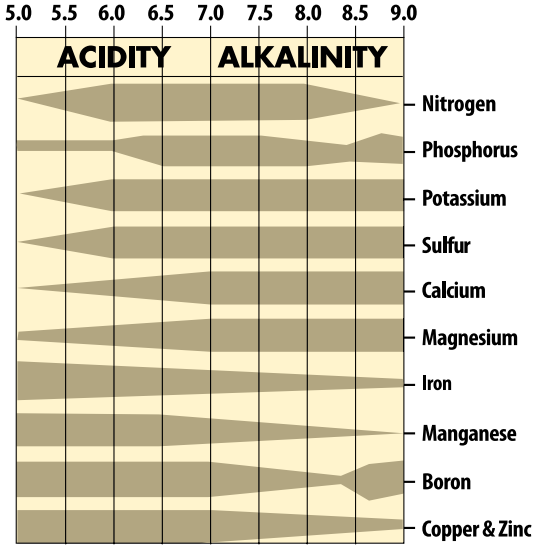
- pH adjustment toward alkaline
- Increased N_2, PO_4, K, Mg, Ca, S, B (Chart 1)
- Balances acidic results of N fertilizer use
- Offset surface acid zones in low-till farming
- Balances acid produced through harvesting; i.e., removal of calcium in crops
- Increases microbial activity
- Better soil structure (air and water flow)

Lime for Agriculture Use

Lime

Aphanomyces root rot has caused very major losses of yield at many locations in Michigan for several years. Improved sugarbeet production by soil-application of factory spent lime may be the result of increased soil pH, which modifies availability of micronutrients to the root and/or favors increases of beneficial microorganisms. Spent lime also contains nitrogen, phosphorus, potassium, and other inorganic and organic nutrients that directly fertilize crops. Additionally, spent lime alters physical properties of the soil, thus improving water drainage, which results in less Aphanomyces root rot.

Chart 1. Relation between Nutrient Availability and pH



Greg Clark is an Agronomist at Michigan Sugar Company. He has 13 years of experience in agronomy. Greg joined Michigan Sugar Company in October 2010.

BENEFITS OF SPENT LIME:

- **Increase soil pH of acidic soils**
- **No detrimental effects on rotational crops**
- **Increase yields of sugarbeet crops with severe Aphanomyces**
- **Increased N_2, PO_4, K, Mg, Ca, S, B availability and adds calcium and manganese**
- **Balances acidic results of N fertilizer use**
- **Offset surface acid zones in low-till farming**
- **Balances acid produced through harvesting (i.e., removal of calcium in crops)**
- **Increases microbial activity**
- **Better soil structure (air and water flow) and residue decomposition**

PRICING & PROCEDURES*

MEMBERS

Members will be charged $2.20 per ton to help defer lime preparation and loading expense. One lime coupon will be required for each load of lime shipped. Members may obtain coupons in the agricultural office at any factory location. Members may also print coupons from secure area of the Michigan Sugar Company website (michigansugar.com).

Members with a current Planting Agreement in place will have the cost of lime shipped deducted from future sugarbeet payments. If there is no current Planting Agreement, Michigan Sugar Company will invoice for lime shipped.

NON-MEMBERS

Pre-purchase lime coupons in the agricultural office at any factory location:

$90 for up to 20 tons
$135 for up to 30 tons
$180 for up to 40 tons
$245 for over 40 tons

Lime coupons leftover from 2011 can be refunded at an agricultural office. New coupons must be purchased for 2012.

Prices shown are good through 3/31/12.

CONTACT INFORMATION

- **Bay City** • 989-686-1549 – Press 7, for more information press 1.
- **Carrollton** • 989-686-1549 – Press 7, for more information press 2.
- **Caro** • 989-673-2223 – Press 2, press 7, for more information press 1.
- **Croswell** • 810-679-2241 – Press 6, for more information press 1.
- **Sebewaing** • 989-883-3200 – Press 2, press 5, for more information press 1.

A Passion for Technology: Eager Farms in Brown City, Michigan

by Michael Leen, Agriculturist

Jeff uses his iPad to keep track of operations at his bulk seed treatment facility.

Jeff Eager shows off his iPad which he mounted in the cab of his tractor so he can use it to keep up to date while in the fields.

It is after harvest season in Sanilac County, but on Eager Farms located in Flynn Township, there is a lot happening. Jeff Eager, who owns and operates Eager Farms, says that it is probably one of his busiest times of year. Eager, along with operating the approximately 1,100-acre farm (140 acres of sugarbeets, along with wheat, corn, and soybeans), also is a sales representative for Pioneer. This time of year is when early discounts are available on next year's seed, so this needs to be done along with the normal end-of-year farm work that needs wrapping up. In order to cover all the bases, Eager has turned toward technology to free up time and increase productivity.

Jeff, like his father before him, has definitely been "bitten by the technology bug." The farm was established in 1926 by Jeff's grandfather, and new technology or ideas have always been quickly accepted and utilized by the farm. Jeff has certainly continued with this strategy and repeatedly adopts the newest of technology. To keep up with his Pioneer customers, Jeff utilizes email, texting, and YouTube. He constantly forwards pertinent information to his customers that he gleans through Twitter and Facebook. Using YouTube videos, he broadcasts meetings, harvesting videos, plot tours and such. These videos are available on HDTV or Direct TV. Jeff is very active on Facebook, and his videos connect him to many people who are outside of the farming community. Eager is excited about the teaching opportunities this provides the agricultural community. He believes this new technology needs to be utilized by more growers so that they can educate the public about their way of life.

This fall, a new bulk seed treatment system has been added on the Pioneer side of the business. This is something that is being done widely in the seed business, so that seed can be treated "as needed" locally. Eager's system, though, is the only one of its kind as it has remote capabilities. With the use of his iPad, Eager can treat seed and even load a customer from a remote location, and watch everything that is happening via camera over his iPhone.

This switch to technology really happened on the farm side of the business first, with the coming of yield monitors, yield mapping, and guidance systems. Now, because of these advancements, a computer can be used while in the field to check any computer operated system on the farm, including dryers, ventilation systems, cameras, and in Jeff's case, his bulk seed treatment facility.

Although yield mapping is not yet available to a large extent with sugarbeets, Jeff is excited about the possibilities our crop record system offers. The Co-op has yield data from every field grown, and that is sometimes the most difficult information to get on the other crops. If the crop records are properly filled in, many trends can be shown rather easily. Eager feels like this field data, along with our current research efforts, can really give a leg-up to our members as far as productivity is concerned.

Jeff's family includes his wife, Corinne; sons, Jacob (7) and Josh (3); and daughters, Keegan (19) and Lauren (5). Along with his wife, who helps out with much of the management of Eager Sales/Eager Farms, the business also has hired help to keep the farm running during busy seed times. Jeff spends a lot of time helping people out with guidance systems and computer systems. He is also the VP of Our Savior Lutheran School Board. Check out some of Jeff's videos on YouTube! They are interesting and educational!

You'll Feel Welcome at the Weiss Family Farm in Frankenmuth, Michigan

by Rudy Schlatter, Agriculturist

The Weiss family farm has been in operation since 1853 when it was purchased from the government with cash by the first generation of Weisses. Roger is a fifth generation farmer and his kids, Margie (21), Scott (20), and Lydia (17), are in line to be the sixth. His wife of 24 years, Joanmarie, is no stranger to the farm either. She has been farming her entire life. Based on their acreage, the Weiss family farm is what some would call a small family farm, but once you get to know them, you realize this family farm is anything but small.

They currently farm around 250 acres of crops, 40 of which are their sugarbeets. The rest of the acreage includes corn, soybeans, and alfalfa. Using what some would consider "outdated machinery" by today's standards, they manage to bring Michigan Sugar Company a 27-ton average yield, with a 17.89 average sugar. Outside of getting soil samples taken every year by Brookside and supplementing what is needed, techniques used during the growing season are similar to those used around the area.

Other than the crops, Roger and his family manage 55 head of dairy cows, 100 head of replacement cattle, and 50 head of Holstein beef cattle. A milking robot named Johann LELY was installed earlier this year. Roger says the robot milks cows 24/7 and provides 800 gallons of milk every two days.

Each family member has his or her own niche on the farm. From feeding to breeding, Margie has a good handle on all the cattle activities. Scott heads up the crop and machinery duties — "just don't ask him to spray." Mrs. Weiss handles the accounting and marketing along with the many other motherly duties, and Roger makes sure they are all doing their jobs. The youngest family member, Lydia, is currently studying in Germany on a scholarship.

Outside of the everyday farm duties, the Weiss family is heavily involved in their community. They take part in countless activities around the Frankenmuth area and are part of several agricultural organizations. The family started a corn maze this year, which included three mazes, 2½ miles of trails and a design which reads "Farmers Feed Families" with the outline of a tractor that you may have been able to see from space. The maze was designed to educate the customers on farming techniques that are used on the Weiss farm. You can go to www.frankenmuthcornmaze.com for more information.

I really enjoyed sitting down with this family, and from the time I walked through the door, I knew this family was special. As I sat at the dining room table with the whole family, including Scott's girlfriend, Bethany Whitford, I realized they really enjoy the farm life and working together! Both Scott and Margie told me how they loved the sense of responsibility and accomplishment the farm gave them. As I left and tried to put all the information I was just given into thoughts, I appreciated what I had just experienced — a real small town farm family whose way of life wasn't just about the margin on their farm, but more so about the values of the family and community. I enjoyed the hospitality and the openness of the conversation.

Something tells me that this is just the beginning for this family and that there will be many more ventures and many more generations to come. I look forward to taking my girls to see Johann the robot and the corn maze next fall.

PHOTOS, TOP TO BOTTOM:

An aerial shot of the Weiss Family Farm shows how extensive and well-kept it is.

The family gives visitors to their farm a warm welcome.

The new milking robot, Johann LELY.

Margie is the third generation to use the Old Buckeye tile machine.

Real. Sweet. Winners!

EAST DISTRICT:
Mike Roggenbuck, Helena Farms

The East District's high sugar producer for Crop Year 2011 was Michael Roggenbuck of Helena Farms. Mike's field produced 316.37 pounds of recoverable sugar per ton (RWST). The 121-acre field that produced this record amount of sugar was planted on May 12, 2011, to Beta's BTS 19RR90 seed; it yielded 24.44 tons per acre with 20.78% sugar.

Mike is in partnership with sons, Jim and Doug, at Helena Farms. Most of the land that they work is in the Ruth and Harbor Beach areas. Their farm encompasses 5,500 acres of tillable land of which 1,500 acres are sugarbeets. Other crops grown are corn at 1,500 acres, 1,500 acres of edible beans, and 1,000 acres of wheat. Besides crops, the Roggenbuck's feed over 1,200 beef cattle. Row crops are planted 20 inches apart using a 24-row RTK assisted row planter. Mike has been farming for over 57 years and was on the Great Lakes Sugarbeet Growers Association Board (later East District Board) for some 30 years. During his time on the board, he held several positions of leadership.

Mike, Jim, and Doug, were the first Michigan growers to use the imported Ropa technology from Germany to harvest and clean their beet crop. In 2003, the farm purchased a Ropa Tiger self-propelled beet harvester. They saw the value in using the Ropa equipment to produce more efficient work with less manpower and equipment. The results they obtained were so positive that a second Tiger was brought to the farm for the 2005 harvest. In 2007, the Roggenbucks purchased a Ropa Maus to field-load and clean their beet crop. An agreement was negotiated with Michigan Sugar Company to deliver their entire acreage to the Caro factory's wet hopper; thereby removing some 40,000 tons from the Ruth receiving station. The noticeably less truck traffic and beets stored at Ruth, along with the Roggenbuck's tonnage, Caro bound, benefitted all growers who delivered to Ruth. The Caro factory has received the Roggenbuck beets each harvest since that time, which benefits its slice during the harvest period and has fewer transfers to receive after harvest is completed. Over 40,000 tons of beets from 1,750 acres were harvested, field piled, field cleaned, field loaded, and hauled to the Caro factory this past harvest season by Helena Farms.

Michael Roggenbuck has seen many changes in agriculture over his lifetime. Being progressive has always been a mainstay for the family farm and has attributed to improving the sugar industry in the Ruth area and beyond.

CENTRAL DISTRICT:
T.L. Bushey Farms, L.L.C.

T.L. Bushey raises approximately 650 acres of sugarbeets, plus corn, alfalfa, and dry beans on 2,200 acres of land in northern Huron County. His brother, Mike Bushey, is the farm manager, as T.L. has a full-time position with Gemini Group, Inc., as their financial officer.

Bushey Farms started growing sugarbeets in 1994. To increase their sugar per acre, they planted in 22-inch rows. This past year, several of their sugarbeet fields yielded over 20% sugars. One field topped 328.22 pounds of sugar per ton.

The Busheys began harvesting their sugarbeet crop on the first day of delivery in the Meade area. Their high sugar field was harvested the Friday following the first day of harvest. On Monday, that harvested field was picked up with a Maus and delivered to Sebewaing.

As you know, the fields were very dry at the time of early delivery. The lack of rain during this period helped them attain an extremely high sugar content.

Clockwise from top:

Mike Roggenbuck, Helena Farms; John P. Burk with his fiancée, Rachael Richards; Mike Bushey accepting the award for T. L. Bushey from Central District President, Brian Rayl.

WEST DISTRICT:
John P. Burk, L.L.C.

John P. Burk is the fourth generation farmer in the Burk family. John has taken home the prize for having produced the most sugar per ton in the West District for Crop Year 2011. He produced a crop of 20.76 tons per acre, with a 21.5% sugar, and a clear juice purity of 95.32. That equates to 323.64 pounds of sugar per ton.

John farms six miles west of the Bay City factory. His crop rotation is dry beans, wheat, corn, soybeans, and sugarbeets. He applied 100 pounds of potash in the Fall of 2010 and disc-ripped it in. In the spring, he applied 10 gallons of 10-34-0 fertilizer and five gallons of 28% Nitrogen with two quarts manganese and one quart boron with the planter. He came back early in June with an additional 25 gallons of 28% Nitrogen.

His variety of choice for this field was American Crystal RR827. The field was planted on May 6 with a population of 52,000 seeds per acre. He used six ounces of Quadris in furrow at planting time to help control Rhizoctonia and came back with 10 ounces at the six- to eight-leaf stage. For weed control, the field was sprayed three times with Roundup® and twice with Eminent and Headline for Cercospora leafspot control. The field was harvested and delivered to Bay City on October 18.

John is also a believer in cover crops. He follows all of his wheat with oilseed radish as his cover crop and after beets he spreads rye in the field.

Congratulations, John!

MICHIGAN SUGAR YOUTH SUGARBEET PROJECT

Designed specifically for youth in the sugarbeet producing areas of Michigan, the Youth Sugarbeet Project seeks to promote education and interest in sugarbeets. The program is for all youths who wish to participate in a supervised sugarbeet project sponsored by Michigan Sugar Company and offers opportunities to earn awards and recognition and opportunities for scholarships. For more information, visit www.michigansugar.com/about/youth.php

2011 Youth Project Awards

EAST DISTRICT

The East District held their Youth Sugarbeet Project Awards Banquet on January 9, 2012. There were 23 participants in this season's project, resulting in five Premier Award recipients and two Prestige Award recipients. The awards banquet was held at Woodland Hills Country Club in Sandusky.

Shaun Roggenbuck, a senior at Harbor Beach High School, was the master of ceremonies for the evening. Shaun and his sister, Krista Roggenbuck, received top honor Prestige Awards. Shaun and Krista's parents are Doug and Debbie Roggenbuck.

The Prestige award gifts were wall plaques with a beet knife, leather padfolios, and logo beach towels.

Those receiving Premier Awards were Matthew Leen, Lauren Maurer, Julie Maurer, Heather Gentner, and Rebecca Balcer. The Premier award gifts were leather padfolios and logo beach towels. All participants received a four-in-one blanket/poncho for their efforts put forth in the program.

Shaun Roggenbuck (above)
Krista Roggenbuck (right)

CENTRAL DISTRICT

The Caro Area Youth Project of the Central District had 35 participants for the year 2011. There were seven leaders directing three clubs. The Tuscola Beetniks were led by Viola and Gordon Bierlein with help from Ashley Bierlein and Genevieve Hecht. The Pioneers were led by Jason Hecht. The 4-H Achievers were led by Carl and Lisa Bednarski. There were two Prestige winners, Abigail Hecht (parents Jason and Hope) and Michael Bednarski (parents Carl and Lisa). There were seven Premier winners, Hans Bierlein, Willie Keinath, Heidi Bierlein, Jessica Hecht, Courtney Reinbold, Samatha Hecht, and Eric Schian.

The Sebewaing area Youth Project of the Central District had 53 participants for 2011. There were four Prestige winners: Erica Gremel and Grant Gremel (parents Joel and Lyndsay); Joe Lutz (parents Matt and Terri); and Luke Harrington (parents Gene and Wendy). There were also 11 Premier winners: Nicole Bauer, Jed Bushey, Isaac Elston, Brent Heleski, Connie Heleski, Nathan Krohn, John Lutz, Aaron Maust, Emma Maust, Adam Retford, and Travis Roestel.

All participants received a four-in-one blanket/poncho. Premier winners received a leather padfolio and a logo beach towel, while Prestige winners received a plaque, leather padfolio, and a beach towel.

The participants were required to attend local club meetings, display sugarbeets at the local county fair, attend the test and interview field day at the research farm, or do any makeup sessions they may have missed, and they were treated to a fun daytrip to Greenfield Village and the Henry Ford Museum, in Dearborn.

The final activity for the year was the annual banquet, held January 18 at the Brentwood in Caro. It featured all the winners from the Central District and the video clip of what farming has been over the years. This is the same clip that was shown at the 2011 annual shareholder meeting.

Left to right: Joe Lutz, Grant Gremel, Erica Gremel and Luke Harrington

Abigail Hecht (left)
Michael Bednarski (below)

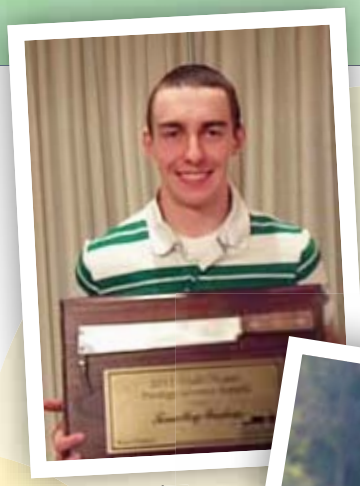
WEST DISTRICT

The 2011 Annual Youth Project Awards Banquet was held on January 4 at the Trillium Banquet Center in Saginaw. This year, 28 students were involved in the project which resulted in seven Premier Grower Awards and two Prestige Grower Awards.

Scoring for the award winners was based on a written test, interviews by company personnel, project books with a written story, District Agricultural Day attendance, and county fair participation. All participants received great prizes with the Premier and Prestige receiving special awards. Premier Grower Award recipients were Logan Crumbaugh, Hunter Hrabal, Lance Frahm, Bryce Frahm, Kelly Hecht, Amy Hecht, and Steven Merrell. Those receiving the top honors of the Prestige Grower Awards were Kyle Crumbaugh (parents Clay and Christine) and Timothy Frahm (parents Eric and Teresa). The night was topped off by a great meal and a number of participants reading their written stories.

This past year, activities for our Youth Project participants included an educational morning at the Saginaw Valley Research and Education Center. This was new this year and worked out well for us to use this facility for the summer event. Students received information on weed identification, sugarbeet cyst nematode issues in beets, Rhizomania, Rhizoctonia, and Cercospora. Participants were also given their written test and interviewed by the local field staff.

The Summer Fun Day was held on June 22 at Detroit's Ford Museum and Greenfield Village. Over 200 attendees (participants and family members) experienced a day filled with historical and educational information. This was a nice trip for the kids to see the tools and equipment used over 100 years ago in the area. Sometimes, it is great to see things from the past so we can appreciate what we have today even more.



Timothy Frahm

Kyle Crumbaugh

Aerial Applications:

Critical for Disease and Pest Control

by Julie Perry, Executive Assistant, Administration

Being an avid watcher of old movies, I remember the excitement of the scene with the crop dusting plane in the classic Alfred Hitchcock thriller, "North by Northwest." So, when the subject of writing an article about and interviewing a real pilot who does aerial application, I jumped at the opportunity. While Trennis Vaughn of Vaughn's Flying Service has probably not appeared in any classic movies, he is well known in his field.

Trennis' warm Southern accent gives away that he was raised in Louisiana. He farmed right out of high school, attended college, and met and married his wife, Sherry, in 1993. He began flying in 1989, but started crop dusting potatoes in 1997.

Trennis' turbo prop, jet engine plane is his third craft, built in Albany, Georgia, with 750 hp and a 510-gallon (application) tank that flies 140 mph. He is always working at making his aircraft more efficient. Fall is repair and maintenance time, continuously preparing for the next summer. Trennis has received his IA (Inspection Authorization) rating as a licensed A&P (aviation) mechanic; the highest level of maintenance certification.

To become an aerial applicator, you first need a commercial license to fly, work with another applicator for several years, and become licensed by the Department of Agriculture. You are subjected to frequent Federal Aviation Administration (FAA) reviews, inspections, and observations. The Department of Agriculture offers continuing educational "units" in the fall, covering safety, regulations and industry education. The training is very specific and has a three-year cycle.

Since September 11, there is increased security and oversight by the FAA, with safeguards and rules in place that pilots must adhere to, such as required installation of a remote master switch that cannot be started by just anyone, and Temporary Flight Restrictions (TFRs), which can also be "moving" restrictions, should any high-ranking officials be in the area in which you plan to fly. Trennis has special GPS equipment on board that assists him with these "no-fly zones."

Plat books and maps are used to plot the course. Trennis uses Agsync software, loading fields into the program and into the plane. Flow control gives the exact acres. Digitized fields, via the PLSS (Public Land Survey System) used in Tuscola County, offers him the ability to make a more precise and consistent application of the products. Imaging and GIS systems improve logistics, efficiency, and profitability for aerial applicators, retail providers, and growers.

Spray application, from the air, is a very exact method; leaving buffer zones around houses, overlapping when you're spraying rows (you want some overlap in each direction), using touchscreen GPS guidance with flow control regulates the application according to aerial speed. The pace is typically 100 acres/hour, sometimes better or worse, at 140 mph. On average, he sprays approximately 1,500 acres per day, and up to 2,000 acres on a good day.

Aerial application has many benefits over traditional application. First, aerial applicators can treat crops faster. This is critical for disease and pest control. Aerial application is also the most economical way to cover large areas and is dependable even during wet soil conditions. Also, since there is no contact with crops, there is no compaction or fungal spore spreading. The potato industry folks are strong believers in the benefits of aerial application of fungicides. Corn growers tell Trennis that they have witnessed a stronger stand and the fungicide has helped with white mold control. Also in a wet spring, some wheat growers had not applied urea due to freezing. They have reported losing two bushels of wheat per acre, just by driving equipment over the ground.

When pests or disease threaten a crop, timeliness is critical, especially with sugarbeets. Aerial application is often the fastest means of getting the necessary protection products to the affected crop. Not widely used in Michigan, but sugarbeets in the Red River Valley regularly get aerial application of fungicides. It can also be the most economical, as less fuel is used. And it can be more environmentally friendly, too, as its use reduces soil erosion by as much as 90 percent, by assisting no-till or minimum till operations which preserve the integrity of the soil.

Aerial application is the number one means of applying fungicides to corn and remains a nearly equally important service for soybeans, wheat, potatoes, and

Trennis Vaughn of Vaughn's Flying Service inspects and preps his plane prior to a flight to treat some nearby crop fields.

numerous other crops. As the disease control and plant health segment has grown over the past years, the visibility of aerial application to those unfamiliar with agriculture has also grown.

Fungicides are the most frequently sprayed (80%) by Trennis; no herbicides, and rarely insecticides. Rates run approximately $8.50-$9.50/acre, plus the cost of the chemical, depending on the cost of fuel. Pilots have to purchase their fuel at the airports.

On the downside, there is the potential for drift, but Trennis tries to limit wind velocity by making observations before any application is made. Also, the EPA requires permits when spraying near bodies of water, and in the very near future, permits will be required when spraying near ditches or mud holes in fields.

Trennis and Sherry Vaughn have four children; Victoria (16); Luke (14); Lauren (9); and Mark (6). Victoria and Luke assist in the field mapping, but all the children have responsibilities in the business, no matter how big or small. Their family calls LaGrange, Indiana, home, and Trennis is licensed in ten states, but spends a good deal of his time in the Caro, Michigan, area. That's the beauty of air — you can cover a lot of ground very quickly!

You can contact Vaughn's Flying Service at (989) 672-7700 or (989) 551-7700.

Julie Perry is the Executive Assistant of Administration at Michigan Sugar Company and has been with the company for 14 years.

Wind Energy Development Impacts Everyone.

Landowners and growers should educate themselves when making decisions about turbine projects in their areas. Aerial applicators can treat large areas of land quickly and safely, and reach areas where ground equipment cannot, but their jobs become more challenging with each wind turbine that is erected. Towers should be marked and lit to protect aircraft operators of all kinds, whether it be for agricultural use, medical or firefighting. Use careful foresight so growers don't lose the option of aerial spraying in the future.

Ray's Ramblings

THEN AND NOW:

Ten Years of Progress

by Ray VanDriessche, Director of Community and Government Relations

The year is 2002…

Michigan Sugar Company, owned by Imperial Sugar Company of Sugar Land, Texas, is in the process of being purchased by the growers. Monitor Sugar Company, owned by Illovo Sugar Company of South Africa, will soon follow in the same path. Sugarbeets are still grown in Fremont, Ohio, and in the Blissfield area. There are five sugarbeet factories in the state of Michigan processing approximately 3.6 million tons of sugarbeets from 190,000 acres, with an average yield of 19 tons per acre, grown by 1,400 growers. Company management and grower representatives sit on opposite sides of the table negotiating a grower contract with both sides, seemingly, not fully understanding the other's business. The total grower payment from the 2001 crop is $37.51 per ton and, according to MSU, the cost to raise an acre of sugarbeets is estimated at $558.25. The cost of a new six-row beet harvester is $70,000, the cost of a new 180 HP tractor is $95,000 and the retail price of gasoline is $1.36 per gallon, and diesel is $1.26 per gallon.

The Farm Bill is up for renewal, the U.S. sugar market is oversupplied, the average wholesale price of refined sugar is $ .23 per lb. and sugar is being forfeited back to the government in lieu of paying back the USDA Commodity Credit Corporation (CCC) loans. Growers have been asked to destroy acres of sugarbeets through the USDA Payment in Kind (PIK) program to help reduce sugar inventories in an already severely oversupplied market. Mexico has a $.10 a bottle soda tax on soft drinks sweetened with high fructose corn syrup (HFCS) to keep U.S.-produced HFCS out of their sweetener market. Mexico is allowed to import only 250,000 tons of sugar into the U.S., duty free.

The year is 2012…

Michigan Sugar Company, the sole sugar company in Michigan, is now a cooperative owned by nearly 1,000 growers. Sugarbeets are no longer grown in Ohio or the Blissfield area. There are four sugarbeet factories in the state processing approximately four million tons of sugarbeets from 162,000 acres with an average yield of 25 tons per acre. A company-wide average yield of 28.9 tons per acre, in 2008, has established a new high-yield benchmark and the Cooperative is "on the road" to a 19% sugar content. Twelve grower-shareholders and one outside (non-grower) director make up the Board of Directors, and company management and the growers have a much improved understanding of production as well as the processing and marketing side of the business. The total gross payment received from the 2010 crop was $71.26 per ton, with a base payment to the grower of $65.11, after deductions of retains and early delivery premium. According to MSU, the estimated cost to raise an acre of sugarbeets in 2011 was $910 per acre. The cost of a new six-row beet harvester is $165,000, a new 180 HP tractor is $160,000, and the retail price of gasoline is $3.53 per gallon and diesel is $3.86 per gallon.

The Farm Bill, up for renewal, will see drastic changes to traditional subsidy programs while the sugar policy continues to be a no-cost program. The U.S. sugar market is seeing an increase in demand due to conversion from HFCS to sugar in a variety of soft drinks and food items. Demand continues to be strong and the FY 2011 wholesale price of refined sugar was $.45 per lb. Mexico has unrestricted and duty-free access to the U.S. sugar market and has exported an estimated 1.5 million tons of sugar in FY 2010/2011.

If the sweeping changes in the last decade are any indication of the next ten years, fasten your seatbelt tight and hang on for the ride! ■

CLEAN FIELDS WITH MORE CONTROL

Increased efficiency and reduced labor **saves time and improves profit potential.**

More flexibility, simplicity and dependability.

Proven crop safety of the Roundup Ready® system.

Broad spectrum weed control.

genuity®

ROUNDUP READY® SUGARBEETS

VISIT YOUR SEED REP OR GENUITY.COM

EVERY BEET MATTERS TO US, BECAUSE EVERY POUND OF SUGAR MATTERS TO YOU.

For Genuity® Roundup Ready® Sugarbeets in the U.S.: On February 8, 2011, the U.S. Department of Agriculture (USDA) published its decision to implement interim measures of deregulation with conditions for the planting of Genuity® Roundup Ready® Sugarbeets root crops, and of planting under USDA permit for Genuity® Roundup Ready® Sugarbeets seed crops. **Genuity® Roundup Ready® Sugarbeets can only be sold, transported and planted in compliance with the conditions imposed by USDA and as set forth in mandatory compliance agreements with USDA, which must be in place prior to transport or planting.** Growers must comply with the Monsanto Technology Stewardship Agreement (MTSA) Amendment and the Genuity® Roundup Ready® Sugarbeets Technology Use Guide (TUG) Addendum on www.Genuity.com.

ALWAYS READ AND FOLLOW IRM, WHERE APPLICABLE, GRAIN MARKETING AND ALL OTHER STEWARDSHIP PRACTICES AND PESTICIDE LABEL DIRECTIONS. Details of these requirements can be found in the Trait Stewardship Responsibilities Notice to Farmers printed in this publication.

PIONEER • BIG CHIEF
MICHIGAN SUGAR

PRSRT STD
U.S. POSTAGE
PAID
LANSING, MI
PERMIT NO. 75

THE NEWSBEET
Winter 2011-2012

Michigan Sugar Company
2600 South Euclid Avenue
Bay City, MI 48706

Address Service Requested

Mixed Sources
Product group from well-managed forests, controlled sources and recycled wood or fiber
FSC