

MICHIGAN SUGAR COMPANY • SUMMER 2017 VOLUME 31, ISSUE 2



THE NEWSBEET

*Looking Back at the
2016 Growing Year
Pushing Forward
into a Bright Future*



ALSO IN THIS ISSUE:

RESEARCH UPDATES: HERBICIDE RESISTANCE ON THE HORIZON
2017 MICHIGAN SUGAR QUEEN & COURT
ANNUAL SCHOLARSHIPS AWARDED
COMMUNITY CORNER: MICHIGAN SUGAR TRAILS SUCCESS



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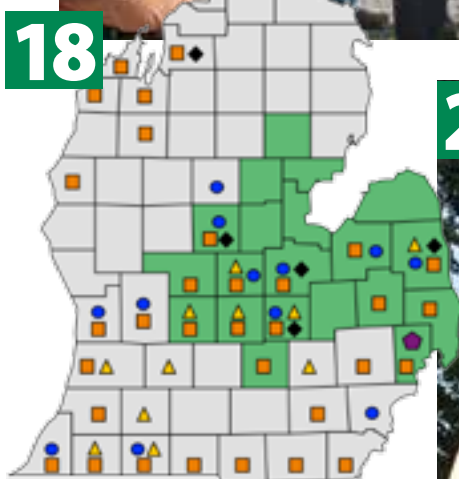
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“While the 2016 crop is one we would like to put out of our memory, there are many valuable lessons to be learned from it. We have responded well from previous challenges and I expect we will do the same this time.”

ROOT OF THE BUSINESS

by Mark Flegenheimer, President and Chief Executive Officer

CHANGES IN THE FACE OF CHALLENGES

The 2016 crop was one of the most disappointing crops we have had in recent memory. The payment to shareholders was not at a level which is sustainable. Sugar content and overall sugarbeet quality were extremely low and storage conditions were very challenging. Frankly, it is a crop we would like to forget about.

Rather than forgetting about the 2016 crop, we have the opportunity to learn many lessons from last year's challenges that will make us a stronger, better cooperative for years to come. The low beet payment was caused by two main factors: 1) low sugar prices 2) poor quality.

Sugar prices in the United States are primarily influenced by weather and the government.

We cannot control the weather — whether certain growing regions have a bumper crop or disaster is beyond our ability, influence, or change. When a major hurricane or freeze damages a large growing area, we often see an uptick in prices as supply disruptions impact certain customers. Conversely, when large producers have ideal weather and record production they can push prices lower as they market their crop.

The other major factor impacting our prices is how well, or poorly, the U.S. government runs the sugar program and enforces our trade laws. Over the last few years, Mexico had dumped massive quantities of low priced, subsidized sugar into our market and our government had been very slow to implement corrective actions. Through our consistent pressure on the government and help from our legislative champions the United States recently negotiated and signed a new trade agreement with Mexico which stops this massive influx of cheap sugar. Having legislators who understand our industry and are willing to go to bat for us takes a large amount of time and money. As a cooperative, we spend a lot of time educating our elected officials about our industry. We often host legislative tours on shareholders' farms and at

our factories. We also frequently travel to Washington, D.C., to visit with and inform the staff members of our representatives about the nuances of our industry. These opportunities would not be possible if we did not have a robust and active PAC. Shareholder and employee contributions to our PAC allow us direct access to our congressional offices. While issues in D.C. do not get fixed as quickly as we would like, we often can get issues and concerns addressed. Unlike the weather where we have no ability to change it, government policy and actions are something we can and do influence. Our PAC is a critical tool we must maintain so we can be effective in Washington, D.C.

The other major factor that negatively impacted our payment for the 2016 crop was beet quality. While weather played an important part in hampering sugar content and purity, there are a number of other factors that also hurt our results. To just “blame it on the weather” would be a huge mistake and a missed learning opportunity. As the climate continues to be erratic, we must adapt to this new reality. New more aggressive spray programs need to be followed, better more resistant seed varieties must be developed, and innovative pile storage techniques are required as we adjust to different and unique weather patterns. Michigan Sugar Company's Agriculture Department is working diligently to develop, research and deploy new programs to enhance sugarbeet quality. Our shareholders have always been willing to change their agronomic practices to enhance their returns. Working cooperatively, we will get beet quality back on track, which will allow payments to growers to return to sustainable levels.

While the 2016 crop is one we would like to put out of our memory, there are many valuable lessons to be learned from it. We have responded well to previous challenges and I expect we will do the same this time.

Good luck with your 2017 crop, I hope you have a safe and bountiful harvest. ■

“We should all recognize that our company continues to evolve through a cooperative process and we should all have “faith” in our practices and our execution of our plans. Whether it is on farm practices or management of company processes, we have to have faith that we are doing the right things in the right manner.”

HAVING THE FAITH TO KEEP MOVING FORWARD

by James Ruhlman, Executive Vice President

Through recent conversations with many of our shareholders, the word that comes up time and time again is “hope.” Hope that Cercospora leafspot does not invade our crop again; hope that sugar prices escalate; hope that this year’s crop will store better; and hope that all crops see better economic returns.

The word “hope” allows us to move forward. It puts us in an emotional state that does not allow us to give up. It is a catalyst for our intellectual and physical beings to engage in actions that prepare us for the worst, yet “hope” for the best. Hope is certainly among us as we look at the 2017 crop.

As we hope for this year’s crop to produce an abundant yield with high sugar content, we all need to be diligent in our agronomic practices, we need to keep our eye on the ball, and we need to communicate with each other. Our growers should be commended for their efforts in getting our crop in the ground. It was a cold, wet spring and planting conditions were not ideal. Many acres were planted later than we would have liked, and some that did get planted faced the challenge of emergence due to heavy crusting. Tough decisions were made on whether to replant or wait for a rain. Coupled with these challenges were the weather conditions of high winds in early-mid June and flooding in late June. Through it all, we have over 150,000 acres to harvest, which sets the stage and the potential for a bountiful harvest in late October.

There will be times this summer and fall when we will again be faced with challenges and tough decisions — it might be disease; it might be an abundance or lack of rainfall; or it might be temperatures. When influences like these creep into an unstable economic environment, we can sometimes overreact. Back in the late 90s, I had the opportunity to sit in on a number of conference calls with our parent company, Savannah Foods & Industries, and when times got tough, a gentleman by the name of Ben Oxnard always calmed us by saying, “There is always time to panic later.” That phrase stuck with me throughout my career and in most cases, panic never came, and the time spent worrying was avoided. This leads us to the word “faith.”

We should all recognize that our company continues to evolve through a cooperative process and we should all have “faith” in our practices and our execution of our plans. Whether it is on farm practices or management of company processes, we have to have faith that we are doing the right things in the right manner. To doubt is easy — to give up is easier. To have faith and hope is harder, but the returns are much greater! ■



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Addressing Issues in Agriculture

by Ray VanDriessche
Director of Community and
Government Relations



WHAT'S FACING OUR LEADERS IN AGRICULTURE

THE 2018 FARM BILL • Farm Bill discussions officially started with Field Hearings held by Senate Ag Committee Chairman, Senator Pat Roberts, in Kansas, late February followed by a Field Hearing held at the Saginaw Valley Research Farm hosted by Ag Committee Vice Chair Senator Debbie Stabenow on May 6. At the May 6 hearing, Michigan Sugar Company Chairman, Richard Gerstenberger, who also serves as Vice President of the American Sugarbeet Growers Association, testified on behalf of the sugar industry and did an outstanding job of highlighting the key sugar policy issues that need to be addressed in the next Farm Bill. Senators Roberts and Senator Stabenow stated they believe that they will be able to have the next Farm Bill passed before the current Farm Bill expires on September 30 of 2018. One of the biggest hurdles to getting the Farm Bill passed on a timely basis will be the debate of the budget cuts proposed by the Trump Administration. The proposed budget includes major cuts to the Supplemental Food and Nutrition Program (SNAP) of \$193 billion and cuts to the farm program portion of the budget of more than \$38 billion over ten years with supplemental crop insurance funding taking the biggest hit at \$28.56 billion. The cuts to the agriculture portion of the Farm Bill would be in addition to the reduction of over \$24 Billion that was agreed to in the 2014 Farm Bill, which leaves no room for the additional budget cuts currently being proposed.

SECRETARY OF AGRICULTURE SELECTION • The sugar industry, along with the majority of agricultural commodities and organizations, were very pleased with the pick of Sonny Perdue as the Secretary of Agriculture. Representatives from Michigan Sugar Company, as well as our industry representatives in Washington D.C., are looking forward to working closely with Secretary Perdue and Congress as the Farm Bill is crafted and Trade agreements are negotiated.



Ray VanDriessche, Michigan Sugar Company's Director of Community and Government Relations, is also a third-generation farmer in mid-Michigan. He travels to both Lansing and Washington D.C. often to follow and advise on political activity that will affect agriculture in Michigan.

U.S./MEXICO SUSPENSION AGREEMENTS DISPUTE SETTLEMENT •

On June 6, U.S. Secretary of Commerce, Wilbur Ross, announced that a deal "in principle" had been reached between the U.S. and Mexican governments to settle the dispute brought by the U.S. sugar industry in connection with the Suspension Agreements. Although the revised agreement did address the majority of the issues with Mexico over-supplying the U.S. market with "refined sugar," the U.S. industry expressed to Secretaries Ross and Perdue that a "loophole" remained and our industry could not support the "preliminary agreement." The remaining issue centered on additional sugar, if needed, to supplement consumption demands based on the April 1 USDA WASDE (Supply & Demand) report. The "preliminary agreement" would allow Mexico to supply the additional needs post April 1 with sugar that could go directly to a customer and avoid further refining, which was the primary basis for the dispute in the first place. The U.S. sugar industry continued to work with Secretaries Ross and Perdue on the technical details of the agreement and on June 15 the Department of Commerce announced that Mexico had agreed to a "tightened" deal on the Suspension Agreements which was then formally backed by the U.S. sugar industry.

TAXES ON SUGAR SWEETENED DRINKS • Although currently at a slow pace, efforts to pass soda and sweetener tax legislation are gaining momentum. A report released by Tufts University on June 7 states, "Out of 11 initiatives since 2012, seven U.S. municipal or county jurisdictions have adopted excise taxes to reduce the consumption of sugar-sweetened beverages, but no such taxes have been passed at the state or federal level. A Soda Tax Initiative in Santa Fe which proposed a two-cent per ounce tax on sugar-sweetened beverages in a special election was defeated by a wide margin. Five U.S. cities and Cook County, IL (Chicago) approved such initiatives in the past six months."

MSCG PAC UPDATE

RECOGNITION OF FEDERAL AND STATE LEGISLATOR SUPPORT •

The Michigan sugar industry is well represented by those legislators who go the extra mile to support Michigan Sugar Company, its growers, employees and the many ancillary jobs that are connected with the production, processing and distribution of sugar. We consider legislators who go the extra mile to be industry champions. Our Congressional champions are Senator Stabenow, Senator Peters, Congressman Kildee and Congressman Moolenaar. They have been and are very proactive with issues such as the Farm Bill discussions, the U.S. Mexico Suspension Agreement, the Waters of the U.S. Act, Excise Taxes on Sugar Sweetened Drinks and sending support letters in connection with grant applications just to name a few. We have other federal and state legislators who are also very supportive that space in the article will not allow me to mention. **Your support of the Michigan Sugar Company Growers PAC supports those legislators who support our industry. Thank you for your contributions!** ■

MSU COLLEGE OF AGRICULTURE AND NATURAL RESOURCES HONORED RAY VANDRIESSCHE

Ray VanDriessche, Michigan Sugar Company's Director of Community & Government Relations, was the recipient of the Distinguished Service Award from the College of Agriculture and Natural Resources (CANR) at Michigan State University (MSU) on March 7.

VanDriessche was one of three individuals who were recognized with the Distinguished Service Award, which is given to individuals or partners who have made outstanding contributions to Michigan's agriculture and natural resources industries, and who possess high standards of integrity and character and positively reflect and enhance the prestige of the CANR. They demonstrate a commitment to MSU and the CANR by continuing outstanding levels of leadership and volunteerism at the state, national or international level.

VanDriessche grew up on a family farm in southeastern Bay County and farmed full-time in a partnership with his brother, Gene, from 1967 until 2005, at which time he went to work full-time for Michigan Sugar Company as the Director of Community & Government Relations.

VanDriessche became a member of the Monitor Sugarbeet Growers Association Board of Directors in 1986 and served as president for 10 years, then served as Executive Director of the Monitor Sugarbeet Growers Association until Michigan Sugar Company and Monitor Sugar Company merged in October of 2004. He has served on the Board of Directors of the Ameri-

can Sugarbeet Growers Association since 1991 and was president in 2001 and 2002.

In past decades, sugarbeets were big business for Michigan. But because of disease and pest problems and declining production in the mid- to late 1990s, many farmers were considering the switch to more profitable crops.

VanDriessche and Michigan Sugar Company contributed to efforts to resurrect the sugarbeet industry by working with producers, university researchers and MSU Extension to create the Michigan Sugarbeet Advancement Program. In addition to this program, Ray pushed for the establishment of an MSU Extension educator position devoted to sugarbeet production.

He has also worked closely and cooperatively with MSU Extension, AgBioResearch and the College of Agriculture and Natural Resources to develop the Saginaw Valley Research and Extension Center near Frankenmuth.

The Michigan Sugarbeet Advancement Program's efforts in research, development and education have developed improved production practices leading to increased yields and higher sugar content. As a result, Michigan is now the nation's third or fourth leading sugarbeet producer, depending on the year.

In 2014, VanDriessche was presented with MSU Extension's Key Partner Award for his role in advanc-



ing Michigan's sugarbeet industry. This award, granted by the MSU Extension director, recognizes individuals, organizations, media, special MSU programs and government officials for outstanding contributions to establishing, bettering or stimulating Extension programs.

He is still involved in the family operation and helps out on the farm during the peak busy seasons. Ray and his wife, Geri, have two daughters and two sons. Ray's two sons are now part of the family farm operation. ■

CREDIT: Michigan State University College of Agriculture & Natural Resources, February 15, 2017.



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**NEW FEATURES
FOR 2017!**





REFLECTIONS ON A CAREER OF CHANGE & GROWTH

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

It is hard to believe that I have been working with Michigan State University Extension for 37 years; the last two decades as the Director of the Sugarbeet Advancement research and education program. It is amazing how fast time goes and what has been accomplished. In that time span, over 400 on-farm research trials were conducted in conjunction with hundreds of educational programs. It has been exciting to watch the sugar industry change, grow and flourish. Knowing that the Sugarbeet Advancement program has played a role in this development has given me a great sense of pride.

On July 1, I will be retired in an attempt to downshift my activities and redirect my efforts to a new set of priorities that include my "bucket list." This will include less deadlines but more travel, grandchildren, and hobbies such as wine-making, hunting and fishing. In different ways, I hope to stay involved with the Michigan sugar industry since it has become part of my makeup. I look forward to keeping in touch with friends I have made over the years. I have had a blessed career and feel fortunate to work with such an innovative group of producers. There is no doubt, if I had to do it over again, I would take the same career path.

Sugarbeet Advancement started in 1997 in partnership with MSU Extension as a three-year trial effort. The industry was assessed a nickel per ton to fund the effort. The program's emphasis was on grower applied field research and education. In the beginning it was a difficult industry to work with. Attitudes of both company personnel and growers were poor. Return on investment was small or non-existent. There was a definite lack of trust between two competing companies and grower groups, along with a plethora of production problems. The industry could only be described as "at risk". Often I felt like the mediator between the Company's recommendations and producers' suggestions. In truth, neither side listened well. Trying to straddle the fence

can be painful at times. Over time, with the help of the non-biased approach of Michigan State University Extension and development of the Cooperative, the industry began to work together with a common goal. Production problems in the industry were addressed one by one. These efforts have set the standard for dry land sugarbeet production with an impressive annual yield increase of 0.6 ton per acre, along with setting the industry standard for high quality. Had it not been for the leadership of both Richard Leach, Jr., designing the Sugarbeet Advancement program, and John Spero serving as the first chairman, things could have been much different.

I would like to thank all the trial cooperators we have had over the years. They allowed us to conduct research on their farms, which often included a significant time commitment. This research produces the valuable information that moves the industry forward. Working closely with Jim Stewart at Michigan Sugar, and his research group, has allowed us to pool our research data and strengthen our recommendations and educational programs. The sugarbeet research efforts from USDA, Michigan State University, University of Guelph, Michigan Sugar Company and Sugarbeet Advancement, is second to none. This research is critical to address both short-term and long-term issues that affect the industry. Thank you to the Michigan Sugar Board of Directors and the company leaders for recognizing the need and financially supporting research and education programs. Individual gratitude goes to Chairman Richard Gerstenberger for always taking the time to help resolve issues and give vision to the SBA program. ■



Steve Poindexter is the newly-retired Senior Sugarbeet Educator with Sugarbeet Advancement, MSU Extension. Steve was with the Extension since 1980 and served as Director of Sugarbeet Advancement since 1997.

SPRAY CLINICS 2017: THE RIGHT SPRAY ON THE RIGHT DAY IN THE RIGHT WAY

by Corey Guza, Ph.D., Director of Agronomy

TIPS FOR LEAFSPOT SUCCESS IN 2017

Start on Time

Starting on time is critical to stay on track.

Reapply on Days or DSV's

Whichever comes first.

Consider the Weather Forecast

Applying early is better than applying late!

Apply to Field Edges Early

In many cases, disease has been observed on field edges first.

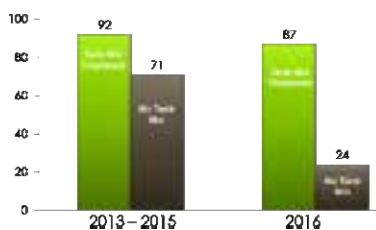
Rotate Modes of Action

Rotating chemistry can help reduce fungicide resistance (common in sugarbeets).

Always Tank Mix

With an EBDC or Copper.

Cercospora Leafspot Control with Tank Mixes



Add Proper Adjuvants

MSC research has demonstrated improved disease control with proper adjuvants.

Set up the Sprayer Properly

To ensure proper pressure, droplet size, and drift control.

With the challenges growers faced managing leafspot disease in 2016, Michigan Sugar Company hosted spray clinics focused on ideas to maximize the efficacy of fungicide spray applications. Growers were updated on the current disease situation, spray programs and ideas were reviewed, and spray techniques were demonstrated. With heavy late-June rains, growers were encouraged to begin their programs as quickly as the fields allowed. Timely applications, depending on their selected variety, field location and DSV accumulation, will be needed in 2017 to ward off disease with challenging weather conditions.

Proper selection of spray nozzles is critical for maximizing fungicide effectiveness. Nozzles should be selected that produce fine or medium droplets. Spray pressure (PSI) and water volume (GPA) also have an effect on droplet size and spray coverage. Increasing the pressure will generally create finer droplets. Growers spray at a wide range of speeds. If sprayer speeds are slower (less than 8 mph), finer droplets will generally land on the leaf surface with more accuracy. If speeds are greater than 8 mph, sprayers should be set up to apply more medium-sized

droplets which will help the spray hit the leaf surface.

A number of good quality nozzles are available to select from to help maximize spray quality. The "right" nozzle depends on the sprayers' capabilities, including how much pressure can be produced and how fast the sprayer can travel in the field. Michigan Sugar Company demonstrated five nozzles at the spray clinics that are generally considered good for spraying fungicides for leafspot. Michigan Sugar Company growers have been using some of these nozzles as well. The nozzles demonstrated were Teejet XR flat fans, Turbo Teejets, Twin Turbo Teejets, Greenleaf TADF's and John Deere/Hydro 3D. Set up properly, all of these nozzles can be effectively used for spraying fungicides. The main thing to consider when selecting a nozzle is that the nozzle is sized properly for the pressure targeted. For example, Teejet XR flat fans generally produce too many fines when used over 80 psi. Turbo Teejets generally work very well at 100 psi. One thing that was observed at the spray clinics is that if the Greenleaf TDAF or 3D nozzles were sized too large for the pressure and volume of water





TAKE A LOOK! A video of Michigan Sugar's Spray Clinics can be found on Michigan Sugar Company's YouTube channel <https://youtu.be/B846Gjdfjal>.

being applied, thus resulting in water droplets that were too large for adequate leaf coverage.

Also demonstrated was the use of a nozzle designed for application of systemic herbicides. While that nozzle was perfect for that purpose, it was less than ideal for fungicide applications. Growers should try to pick nozzles that are ideal for fungicides when applying fungicides. This is especially true when using contact fungicides, such as Super Tin, EBDC and copper which are very important products for managing disease.






Growers invest a significant amount of money in fungicides for managing leafspot. Applying these fungicides in a way that will maximize their effectiveness can increase the return from the investment by improving disease control and sugarbeet yield. ■



Dr. Corey Guza is the Director of Agronomy at Michigan Sugar Company. He works with staff to identify research opportunities, evaluate data and assists field consultants and growers with educational training and support. Corey rejoined the company in 2016.

NOZZLES

These nozzles are designed to spray a medium to fine droplet, and have been tested by our Research team. The best spray results found by our extensive testing were with the nozzles shown below.

	Turbo Teejet www.teejet.com	<ul style="list-style-type: none"> Will operate under a wide range of pressures
	Turbo Twinjet www.teejet.com	<ul style="list-style-type: none"> Operates at 2 angles of spray application Will operate under a wide range of pressures
	XR, XRC Teejet www.teejet.com	<ul style="list-style-type: none"> Operates best at lower pressures
	TurboDrop (TADF) www.greenleaftech.com	<ul style="list-style-type: none"> Dual angle spray application Operates well under a wide range of pressures Very good droplet precision
	Hypro 3D www.hypro-eu.com	<ul style="list-style-type: none"> Dual angle spray application Precise application pattern





RESEARCH UPDATE

IS THERE VALUE FOR GROWERS TO INPUT DATA INTO THE CROP RECORDS SYSTEM?

by David Pratt, Chief Agronomist

First of all, be assured that individual data entered into the crop records system is never shared with other growers. Your data becomes a part of the overall data set that can be a very useful tool for not only you as a grower, but for the Cooperative that you own.

Growers have heard it said before, but the reality is there is the potential for 150,000 acres of research that we do not have to conduct or spend money on to gather extremely valuable information to answer questions that are asked. In many cases, the data we collect through crop records, may not only answer new questions, but validate research that Michigan Sugar Company, universities, or other sources, have conducted to reassure us that the results were correct and growers are doing the right thing.

Sometimes individual growers do not want to share a production management input that they feel may give them an advantage over other growers. Considering the big picture, if Michigan Sugar Company were to identify a production practice through crop records that can benefit everyone, the Cooperative will become more profitable and the payment for that individual will become larger.

Managing leafspot may be a good example of information sharing that benefits everyone financially, if the best practices are shared. Financially, individuals will make more money with a higher beet payment. If too many growers are struggling with adequate control of leafspot and the sugar content goes down, less sugar can be extracted from the beets. Beets that have leafspot also do not store as well and as a result the beet payment is lower and unfortunately everyone loses from past leafspot management.

At Michigan Sugar Company's winter meetings, data was used from crop records to evaluate how different management practices impact yield, sugar content,

and profitability. The data was presented at grower meetings to either reassure growers that what they are doing is the best practice or help them to make adjustments for next year.

For example, we often get asked, "What is the most common rotation as far as what crop is planted in front of beets?" Based on the data from crop records, corn had the most acres for a previous crop followed by wheat (with a cover crop), with soybeans in third (Figure 1).

Then the next question commonly asked is, "How do beets respond following those crops?" Based on data from grower records, it appears beets following wheat yield the best, followed by cucumbers or alfalfa (Figure 2). The take-home message from the data may be to consider not following a soybean crop if at all possible, which makes sense due to the fact they share some disease and potentially nematode pressure. This is an example of how the crop record data may be confirming what we suspected but did not know for sure.

The next logical question is, "How does the previous crop affect sugar content?" Based on data from crop records, it appears that beets following corn have the highest sugar content, followed by wheat and dry beans (Figure 3). There seems to be a common theme in that beets following soybeans appear to be at a disadvantage with both yield and sugar content being lower when compared to other crops commonly grown in the rotation.

Since leafspot has been a serious concern the last two years and unfortunately is unlikely to go away soon, here is one more example of how we can extract data from crop records to answer important questions that affect the beet crop and ultimately the profitability of the Cooperative.



To make crop records easier to enter, the "Spray Program" tool was developed. Growers can pre-enter their spray plan. Once the spray plan is entered, approved growers can click on "Spray It" and the application will be entered into crop records automatically.

Figure 4 illustrates that as the severity of disease increases from left to right (1=very low to 9=very severe), the yield trend is definitely down, on average, over three tons per acre with a severe leafspot infection.

Again the next logical question is, "How does leafspot infection affect sugar content?" As Figure 5 illustrates, as disease increases, sugar content decreases by up to 1.5 percent. The decrease in sugar percentage ultimately reduced the recoverable white sugar per ton (RWST) by up to 22 pounds per ton when the infection level goes from very low to severe (Figure 6).

There is a lot of information that can be retrieved from accurate crop records that can be a very positive benefit to Michigan Sugar Company and ultimately the grower.

Thanks to all of you who have entered data in the past and hopefully will continue to do so in the future. ■



David Pratt is Chief Agronomist at Michigan Sugar Company. He works with shareholders on agronomic practices. David joined the Company in 2015.

Figure 1. Previous Crop by Acres

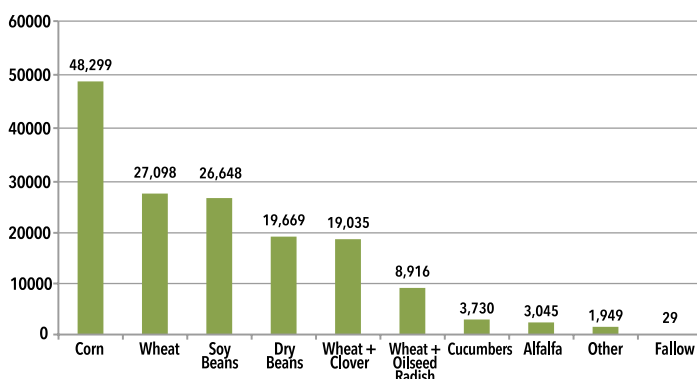
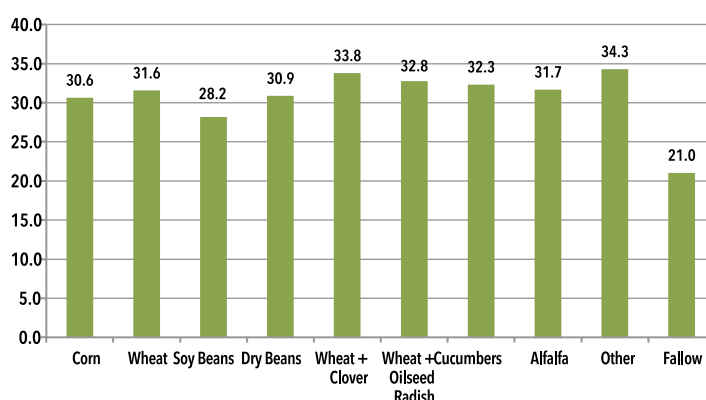


Figure 2. Yield by Previous Crop



CERCOSPORA RATING SCALE

1-2 = Very Good • 3 = Beginning of Economic Damage • 4 = 10% Leaf Damage
5 = 25% Leaf Damage • 6 = 50% Leaf Damage • 7 = 75% Leaf Damage
8 = Up to 90% Leaf Damage • 9 = Complete Burndown

Figure 3. % Sugar by Previous Crop

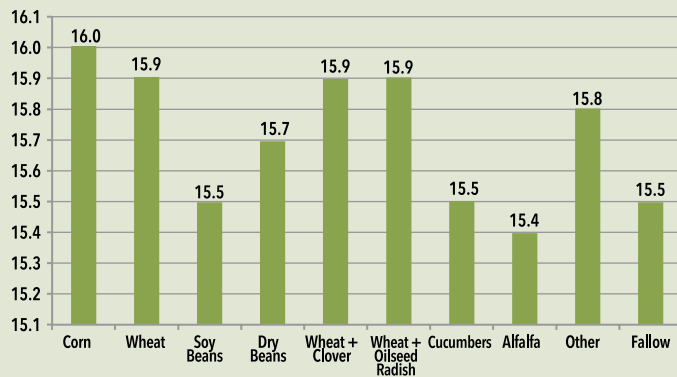


Figure 4. Yield by Leafspot Rating

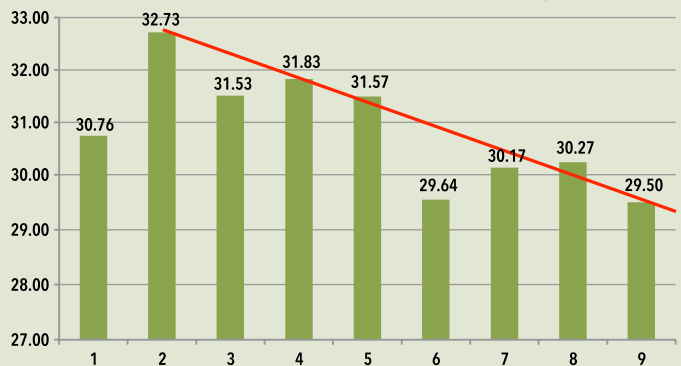


Figure 5. % Sugar by Leafspot Rating

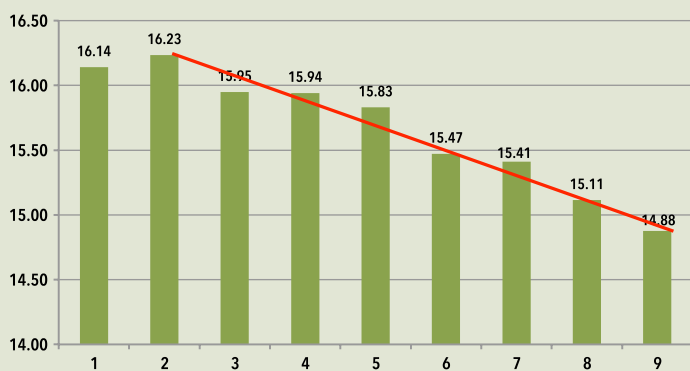
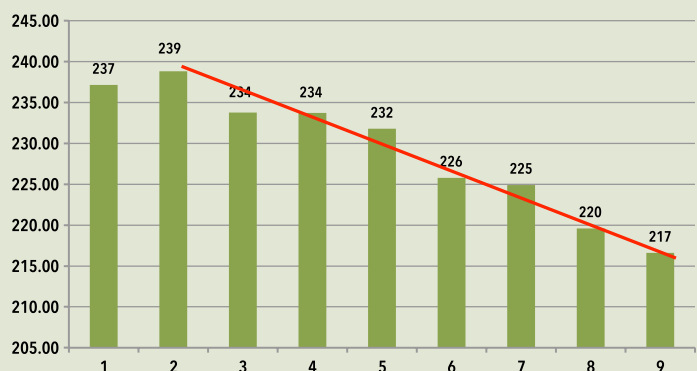


Figure 6. RWST by Leafspot Rating

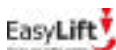


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APPLYING FACTORY LIME WILL INCREASE PROFITS

by Jim Stewart, Director of Research

Soils naturally become more acidic over time due to rainfall, the use of ammonium-based fertilizers and the breakdown of organic matter. Sugarbeets, corn, soybeans and wheat grow well in slightly acidic to neutral soils (pH levels between 6 and 7.5). Factory lime is utilized by growers to maintain proper soil pH levels. Three tons of factory lime will raise soil pH by approximately one third point (e.g., from 6.5 to 6.8). Liming soils also improves soil structure, helps alleviate soil crusting and has been shown to increase sugarbeet emergence in Michigan. Factory lime is also a valuable source of nutrients and provides protection from root rots.

Plant nutrient availability fluctuates with changes in soil pH (Figure 1). In general, macro-nutrients are most available to plants when the pH of the soil is near neutral (6.5 to 7.5 pH). Micronutrients are more available in slightly to moderately acidic soils (5.0 to 6.5 pH). Micronutrient toxicity can be a problem if the soil pH gets too low.

Factory lime is a byproduct of the sugar purification process. Limestone rock (calcium carbonate) is burned to produce carbon dioxide and calcium oxide which are injected into the process at different points. Calcium carbonate then reforms and precipitates out of the juice, taking with it impurities such as calcium, phosphorus, potassium, sodium, nitrogenous compounds and micronutrients. Factory lime contains approximately 8% organic matter.

Research conducted in Michigan comparing lime rates of 0, 2, 4, 6, 8 and 12 tons per acre illustrate the benefits of applying factory lime (Table 1). In general, lime rates over 6 tons per acre are not recommended in Michigan; however, high lime rates are beneficial in areas of the Red River Valley where *Aphanomyces* root rot is a significant problem.

In the Michigan Sugar Company trials, factory lime increased net grower income by about \$100 per acre, yields by 2 tons per acre, quality by 5 pounds of recoverable sugar per ton (RWST) and sugarbeet emergence by 5 percent. Higher lime rates provided more improvements; however, 4 to 6 tons was nearly as good as 8 to 12 tons of lime per acre. Soil pH levels were increased from 7.1 to an average of 7.6 with 4 to 6 tons of factory lime per acre. Applying factory lime decreased the level of manganese in plant petioles; however, yields were still higher with lime applications. Applying manganese at planting (2 X 2) or early post-emergence will increase manganese uptake.

Other studies indicate that lime applications increase soil pH much more in acidic soils than in alkaline soils. A comprehensive research project in the Red River Valley showed that applying factory

lime at a rate of 10 tons per acre to acidic soils (pH 5.5), neutral soils (pH 6.5-7) and alkaline soils (pH 8) increased the soil pH by 2.5, 1.3 and 0.3 points, respectively.

To summarize, the pH of soils declines over time and factory lime applications are needed to maintain the proper pH level of soils. The high level of calcium in lime improves soil structure and helps prevent soil crusting. Factory lime contains significant levels of plant nutrients and organic matter, and the nutrient value exceeds the cost of lime applications. More importantly, factory lime will increase net grower income and should be a part of growers' management practices. ■



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 since 1999.

Figure 1. Availability of essential nutrients based on soil pH
Source: Michigan State University

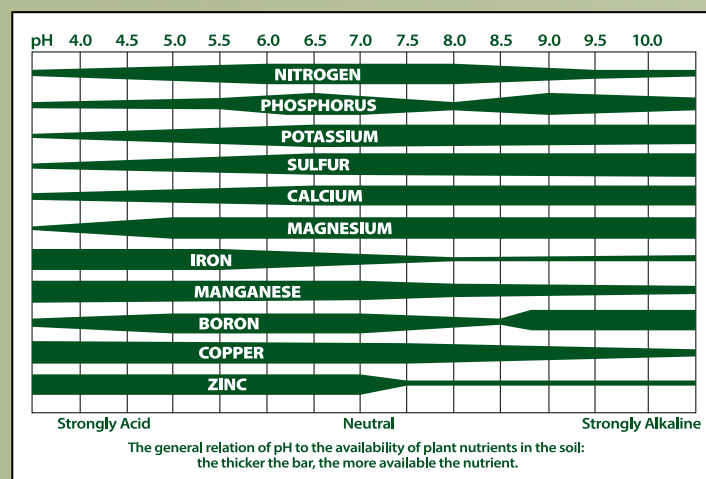


TABLE 1. AVERAGE OF 9 LIME TRIALS CONDUCTED BY MICHIGAN SUGAR COMPANY, 2012-2014

SPENT FACTORY LIME RATE*	\$ / ACRE (NET)	RWSA		RWST		TONS / ACRE		SOIL PH		PPM MN PETIOLES		BEETS / 100 FT	
12 Tons / Acre	\$1,549	a	7749	a	261	ab	29.6	a	7.9	13	d	200	a
8 Tons / Acre	\$1,533	a	7642	a	261	abc	29.1	ab	7.8	13	cd	198	ab
6 Tons / Acre	\$1,519	ab	7569	ab	263	a	28.6	bc	7.8	14	c	196	ab
4 Tons / Acre	\$1,487	bc	7392	bc	260	abc	28.2	c	7.6	16	b	193	bc
2 Tons / Acre	\$1,471	c	7312	c	260	bc	28.1	c	7.5	17	b	193	bc
0 Tons / Acre	\$1,413	d	6964	d	258	c	26.8	d	7.1	22	a	188	c
Mean	\$1,495.40		6964.5		257.9		26.83		7.10		21.7		188.0
LSD 5%	44.9		215.6		2.99		0.75		0.09		1.1		5.6
CV %	7.9		7.6		3.0		7.0		3.1		19.1		7.6
Trt. Prob (F)	0.0001		0.0001		0.0001		0.0001		0.0001		0.0001		0.0007

Means followed by the same letter are not significantly different (Duncans New MRT)

*Lime applied the fall before planting sugarbeets

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MAJOR HERBICIDE-RESISTANCE ISSUES MAY BE AROUND THE CORNER FOR MICHIGAN SUGARBEET FARMERS

by Christy Sprague, Ph.D., Weed Extension Specialist,
Department of Plant, Soil and Microbial Sciences
Michigan State University

The commercialization of Roundup Ready sugarbeets was one of the greatest advancements in weed control for sugarbeet growers. Excellent weed control without crop injury and greater flexibility in application timings were major benefits of this system compared with traditional weed management practices. In fact, since the commercialization of Roundup Ready sugarbeet, Michigan sugarbeet yields have been at an all-time high; however, as with any system that seems perfect, at some point Mother Nature catches up and provides challenges. Currently, we are just at the beginning of dealing with some of these weed management challenges in sugarbeet. Herbicide-resistant weeds, including glyphosate- and multiple-resistant weed species, are the greatest threats to this system. Understanding the distribution of current glyphosate- and multiple-resistant weeds and implementing strategies to help manage and delay the further spread and evolution of these weeds will be important to protecting the overall sustainability of Michigan's sugarbeet industry.

GLYPHOSATE/MULTIPLE-RESISTANT WEEDS IN MICHIGAN

To date, there are five different weed species in Michigan that have been identified as resistant to glyphosate. These weed species include: horseweed (marestail), common waterhemp, Palmer amaranth, common ragweed, and giant ragweed (**Figure 1**). Many of these populations are not only resistant to glyphosate (Group 9), but are also resistant to the ALS-inhibiting herbicides (Group 2), therefore they are multiple resistant. In fact, in Michigan we currently have one population of Palmer amaranth that has evolved resistance to three different herbicide site of action groups; 2, 9, and 5 (atrazine). The loss of these herbicides as effective tools and the loss of several registered herbicides once used in sugarbeet makes managing these weeds in sugarbeets extremely difficult.

HORSEWEED (MARESTAIL)

Glyphosate and in some cases multiple-resistant horseweed is currently the biggest herbicide-resistant weed problem for Michigan sugarbeet farmers. This winter/summer annual weed has initial emergence in the fall and early spring; however, over the last several years we have observed continued emergence of horseweed seedlings throughout the growing season making horseweed management increasingly difficult. While there are no perfect options for horseweed control, it is the one glyphosate-resistant weed species that we may have a better chance managing in sugarbeet. From 2014 to 2016, we conducted several field trials that examined different horseweed management strategies. From this research we know that we can have good control of glyphosate-/multiple-resistant horseweed with Stinger (Group 4); however, control with Stinger is rate and size dependent. To effectively manage glyphosate-/multiple-resistant horseweed it is important to follow the current recommendations.

- Plant sugarbeet into a horseweed-free seedbed.
- i.e., tillage, Gramoxone, Liberty, etc.
- Apply Stinger tank-mixed with glyphosate in at least two of the glyphosate applications. Good results have been observed with:
 - 3 fl oz/A followed by 3 fl oz/A of Stinger, or
 - 2 fl oz/A followed by 4 fl oz/A of Stinger
- The best horseweed control results have been with three applications of Stinger tank-mixed with glyphosate.
- 2 fl oz/A followed by 4 fl oz/A followed by 4 fl oz/A of Stinger

PRECAUTIONS: Stinger has a 45 day preharvest interval. It is also important to not exceed a total of 10.7 fl oz/A of Stinger per year and to be mindful of crop rotation restrictions.

PALMER AMARANTH AND COMMON WATERHEMP

Ten years ago, Palmer amaranth and common waterhemp were weeds that were rarely talked about in Michigan. While states in the Southern United States were dealing with glyphosate-resistant Palmer amaranth we didn't even have this weed in Michigan until about 2010. Also, while we did have some populations of ALS-resistant common waterhemp, this weed was rarely a problem in Michigan; however, over the last few years we have seen both of these weeds become more prevalent in Michigan fields. Most of these populations are glyphosate- and/or resistant to the ALS-inhibiting herbicides. Resistance issues combined with rapid growth rates, long emergence patterns, and high seed production of both of these pigweed species make them extremely difficult to control. From 2013-2016 we conducted research to identify potential control strategies for glyphosate/multiple-resistant Palmer amaranth. What we learned from this research was no treatment is 100% effective for Palmer amaranth control. Nortron applied preemergence can help reduce Palmer amaranth populations and residual layby soil-applied herbicides (i.e., Warrant, Dual Magnum, and Outlook) will be important components to an overall management strategy to reduce populations. Applying Betamix postemergence was an important component for control; however, currently there are no manufacturers of this product, so it is important that we try to come up with additional strategies to help manage this weed. Unfortunately, in some cases we may have to implement older mechanical strategies, such as cultivation and hand-weeding to help manage resistant Palmer amaranth populations. While control tactics will likely be similar for multiple-resistant common waterhemp, this summer we have a research trial examining different management strategies for common waterhemp control.

Control of both Palmer amaranth and common waterhemp with herbicides alone in sugarbeet will be difficult. While we have been focusing on trying to come up with management strategies in sugarbeet and other crops, the best way to manage both common waterhemp and Palmer amaranth is to never let them become established. Proper identification of these weeds from many of our native pigweed species is critical. It is essential for all growers to scout for common waterhemp and Palmer amaranth in their fields. Palmer amaranth scouting efforts should be targeted in Roundup Ready fields that have been spread with manure in the past couple of years. If initial glyphosate applications are not controlling pigweed, it may be common waterhemp or Palmer amaranth. It is important to get confirmation of this early to allow for potential management with herbicides or hand-weeding prior to seed production. Remember one female plant of common waterhemp or Palmer amaranth can produce an average of 100,000 to 400,000 seeds. In many cases if these weeds are identified early in their first year of establishment there may only be a few plants scattered throughout the field. Early identification and removal of these weeds before they produce seed and are spread throughout the field is extremely important. To help with the identification of common waterhemp and Palmer amaranth, we have developed fact sheets and a video clip that can be found on our website <http://www.msuweeds.com/>.

COMMON RAGWEED AND GIANT RAGWEED

The most recent weeds confirmed resistant to glyphosate in Michigan are common ragweed (2014) and giant ragweed (2016). Most of the glyphosate-resistant common ragweed populations found in Michigan are also resistant to the ALS-inhibitors. Fortunately, due to the biology of the ragweed species, they tend to spread at a much slower rate than glyphosate-resistant weeds found in Michigan. Additionally, Stinger (Group 4) herbicide also has activity on these species. While we have not examined control strategies of glyphosate-resistant common or giant ragweed in sugarbeet, implementing strategies that use multiple applications of Stinger will likely be needed to control these weeds in sugarbeet.

PRACTICES TO REDUCE THE EVOLUTION OF 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 evolution 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.

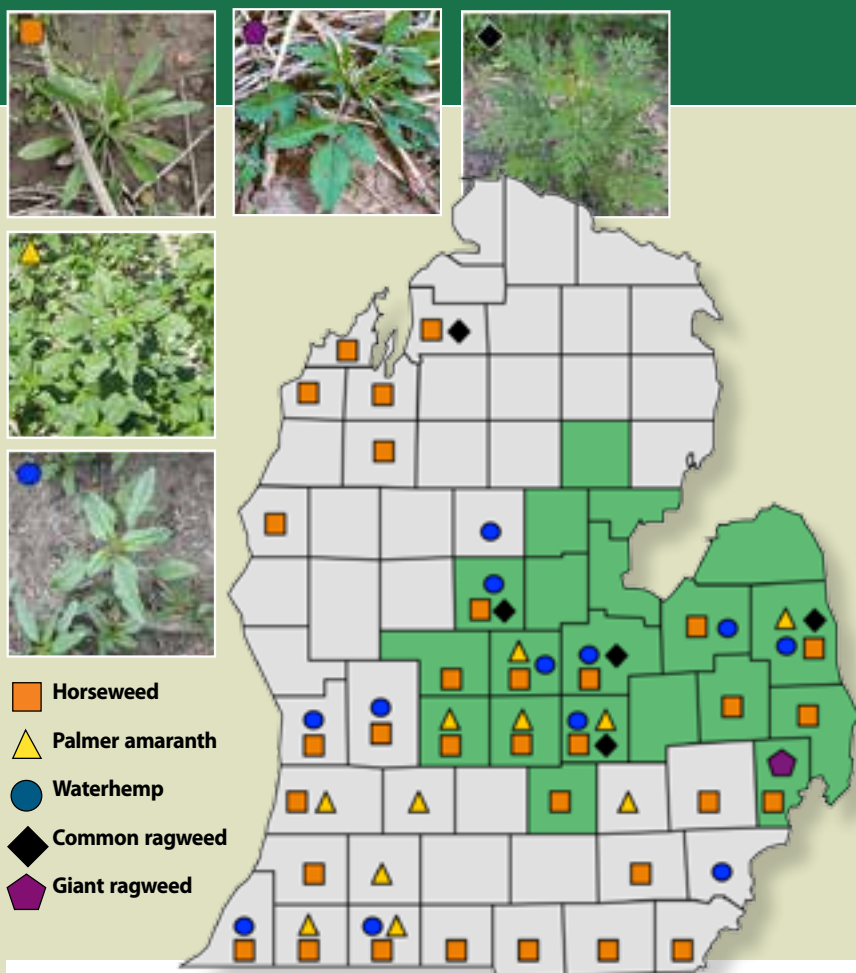
- **Rotate herbicides with herbicides that have different sites of action.** Herbicide labels now list a herbicide group number that refers to the site of action of that herbicide. Herbicides with different numbers have different sites of action. These herbicide group numbers can also be found in the MSU 2017 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. In Roundup Ready sugarbeets, tank-mixing Dual Magnum, Warrant, or Outlook with glyphosate will provide an additional herbicide site of action for control of grass and small seeded broadleaf weeds.
- **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.

FIGURE 1. Michigan counties with confirmed glyphosate- and/or multiple-resistant weed populations. Counties in green are part of Michigan's sugarbeet growing region.



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GMO SPOKESWOMEN WORK TO CULTIVATE FACTS, ERADICATE FICTION

by Elizabeth Taylor, Ag Communications Coordinator

As a mom, one of the most important jobs you have is to keep your children safe and healthy, and oftentimes with that comes the question of what to feed them — “Is the food I buy safe?” So much “information” is shared on social media that sometimes it is hard to know which stories are accurate. With all of the misinformation being distributed to the public, we felt it was important to educate our communities on the facts regarding GMOs and modern agriculture. In 2015, we asked Rita Herford and Allyson Maxwell, both of whom are members of our cooperative, to become GMO spokeswomen on behalf of Michigan Sugar Company.

When asked why Rita agreed to be a spokeswoman, she had this to say, “There is so much inaccurate information out there about agriculture (especially on social media) that people cannot sort the facts from fiction. I felt it was very important that a farmer was the one telling people about farming practices. We need to share our story – tell people why GMOs are so important to our farms. Until recently, consumers weren’t receiving any information from farmers, and I think that’s where we went wrong. Most people just want to know and understand why we do what we do.”

Rita and Allyson are passionate about farming, their families, and educating people on modern

farming practices. They have spoken at numerous events, helping to educate our communities about the safety of GMOs, food labeling, and how they are growing sustainable crops.

Rita Herford is a fifth generation farmer who lives in Harbor Beach, and farms with her parents and brothers at Gentner-Bischer Farms. She and her husband, Luke, have a one-and-a-half year old daughter, Alexis. Rita has a degree in Crop and Soil Sciences from Michigan State University.

When talking to Allyson, it is easy to see how passionate she is educating people about farming and food. “It is incredibly important to continue to educate consumers on why we use GE (genetically engineered) technology on our farms. Bad and misleading food marketing is rampant, confusing and trying to direct consumers away from the technology we use. People are spending more money at the grocery store due to (often meaningless) labels. Consumers should be able to make an informed choice at the grocery store; not one based out of fear. We need to keep talking about the many positives of using GMO technology with our friends, neighbors, community and beyond.”

Allyson Maxwell is the mother of two boys (Mason, 3 and Calvin, 1), a group fitness instructor, and helps on their family farm in Hope. Her

ABOVE, LEFT Allyson Maxwell (with her husband, Peter, and her boys, Mason and Calvin) is passionate about farming and educating people on modern farming practices; **TOP RIGHT** Rita Herford (with her daughter, Alexis) is a fifth-generation farmer and helps run the operations at Gentner-Bischer Farms with her parents and brothers. **TOP RIGHT** Melissa Lumley of Sarnia, Ontario, is the newest spokeswoman and will get the positive word out for GMOs in the Ontario growing region.

husband Peter manages the farm and is an independent sales agent for ACH Seeds. Allyson and Peter also help run Maxwell’s Pumpkin Farm in the fall.

Recently, Melissa Lumley of Sarnia, Ontario, has been trained as a spokeswoman for the Ontario growing region. We look forward to her contributions in getting the word out about GMOs.

We are always looking for events, expos and opportunities for Rita and Allyson to take part in. If you are interested in having our GMO spokeswomen speak, or know of an event they could attend, please contact Elizabeth Taylor at 989-686-0161. ■



Elizabeth Taylor is the Ag Communications Coordinator at Michigan Sugar Company. She joined the company in 2016, and works closely with the Agronomy Department to create and share meaningful information with its growers.

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Meet Darrin Siemen: One of Michigan Sugar Company's Innovative Young Farmers

Keeping up with the latest technology can be a daunting task when it comes to farming. Some of us are constantly chasing it, trying desperately to keep up. Then there are those who are always leading the way, embracing the latest technological advances as they become available.

Darrin Siemen and his wife, Barbara, are both graduates from Michigan State University. Darrin received a degree food industry and agribusiness management. Barbara received her degree in English. The pair met at MSU, married, and now reside in the Harbor Beach area in eastern Huron County. Darrin and Barbara have three children; Elliott, 14; Adrienne, 12; and Riley, 8. The family's newest member, Lady, is a cute six-month-old puppy. Darrin farms approximately 1,400 acres, with about 600 acres of corn, 330 acres of sugarbeets, 320 acres of alfalfa, and 120 acres of wheat. He and his father, Larry, together own about 350 beet shares. Darrin also milks about 340 dairy cows and feeds around 800 beef steers. With all of the diversity on their farm, they currently have nine employees to help with the workload. All family members also play a role in getting everything done.

Darrin has taken advantage of some of the latest technological advances in agriculture, both in the dairy and sugarbeet industries. Darrin has used a self-propelled harvester and cart for the last five years. In 2012, he rented a Holmer self-propelled harvester to harvest his early dig acres only. He already owned a ROPA cart, which he had previously used with their pull-type harvester. The problem was that the cart unloaded on the wrong side for their pull-type harvester. He then purchased a used ROPA harvester in 2013. This harvester has made it possible for Darrin and his father to harvest beets without any additional help. He is part of the Helena Valley Maus operation, and now has three sets of doubles on the haul during harvest.

The Siemens are currently constructing another dairy barn and installing their sixth robotic milker in their dairy operation. All milking is performed by robots at their dairy farm. Each cow chooses to milk several times each day, enticed by a tasty, pelleted snack. Most cows average just over three milkings per day.

Darrin credits the manure produced at his farming operation for a great deal of his success in his crop production. He also uses grid sampling for accurate fertilizer applications to areas of the field where it can be best utilized.

Darrin has been, and continues to be, extremely active in his community. He was recently elected to the East District Board where he currently serves on the PAC committee. He is a past member of the Huron County Farm Bureau Board of Directors where he served for



ABOVE, CLOCKWISE FROM TOP

Darrin Siemen, his wife Barbara (holding the newest family addition, Lady), daughter Adrienne and sons, Riley and Elliott.

nine years, three of which he served as president. Just last year, Darrin and Barbara were honored, having been selected to be Michigan Milk Producers Outstanding Young Dairy Cooperator. They both have been very busy in organizing an event to be held in Harbor Beach for a second year called "AgVenture Day" which will be held on August 12, 2017. This event features large farm equipment displays on the streets of downtown Harbor Beach. They also bus people out to their farm for tours during the event.

As you can see, the Siemen family is doing their best in their quest to be successful in the practice of farming by utilizing some of the latest technology available to agriculture. ■



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Brett Toth	Operations	Bay City
Jeremy Kuschel	Operations	Bay City
Genaro Juarez	Operations	Bay City
Daniel Gonzales	Operations	Bay City
Francisco Xavier	Operations	Bay City
Alex Demeter III	Operations	Bay City
Christopher Rohlf	Operations	Caro
Brian Enos	Operations	Caro
David Noble	Operations	Corporate
Daniel Swoffer	Operations	Croswell
William Deeg	Operations	Sebewaing
Mark Wilinski	P&W	Bay City
Shannon Watson	P&W	Bay City
Rolando Pena	P&W	Bay City
Steven Radeback	P&W	Bay City
Michael Alderson	P&W	Sebewaing
William Shenk	P&W	Sebewaing
William Lyman	P&W	Sebewaing
Edna Heidt	P&W	Sebewaing
Angela Prill	P&W	Sebewaing
Raymond Grider	P&W	Sebewaing
Chad Gaeth	P&W	Sebewaing

15 Years	Department	Location
Jeffrey Adamo	Human Resources	Corporate
George Painter	IS	Corporate
Lee Ringel	IS	Corporate
Donald Haynes	IS	Corporate
George Raymaker	Operations	Bay City
Justin Savino	Operations	Bay City
Ralph Fisher	Operations	Caro
Robert Grugel	Operations	Croswell
Robert Fuller	Operations	Croswell
Jody Morrell	P&W	Bay City

20 Years	Department	Location
Patti Bierlein	Accounting	Bay City
Chris Dutcher	Accounting	Sebewaing
Wayne Martin	Agriculture	Dover Center
Kirk Hilliker	Agriculture	Sebewaing
Julie Perry	Executive	Corporate
Craig Cadieux	Operations	Bay City
Dennis Nickel	Operations	Croswell
Darren Fritz	Operations	Sebewaing
Frederick Reinke Jr.	P&W	Bay City
Cheryl Ridenour	Safety	Corporate

25 Years	Department	Location
Randy Damm	Operations	Caro
Randy Joles	Operations	Caro
Lyn VanCamp	Operations	Croswell
Warren Donahue	Operations	Sebewaing
Robert Sherman	Operations	Sebewaing
Thomas Alexander	P&W	Croswell



A company is often only as good as its employees, and good businesses typically have employees stay long term. Every spring, Michigan Sugar Company hosts a service award ceremony to congratulate — and thank — these great employees for their length of service!

30 Years	Department	Location
Michael Murschel	Accounting	Corporate
Aaron Lutz	Agriculture	Bay City
Michael Golenberke	Agriculture	Croswell
David Neumann	Operations	Caro
Tim Frostick	Operations	Croswell
James Stephens	P&W	Caro

35 Years	Department	Location
Floyd Torzynski	Agriculture	Bay City
Michael Gies	Operations	Bay City
Calvin Ostrander	Operations	Caro
William Gough	Operations	Caro
Jeffery Stone	Operations	Croswell
Sherrie Geitman	Purchasing	Corporate

40 Years	Department	Location
Kent Graf	Agriculture	Caro
Michael Gies	Operations	Bay City

45 Years	Department	Location
Thomas Schlatter	Agriculture	Bay City
James Kurish	Operations	Caro

Ernest Flegenheimer Award 2017

Congratulations to this year's Ernest Flegenheimer Award winner, Senior Accounting Manager, Ann Kovacs! This special award is given each year to a current employee who shares the qualities of wisdom, character and integrity that Ernest Flegenheimer did when he led our company during the early 1960s through the early 1990s. Ann approaches her work every day with insight, humbleness and a commitment to putting others first. She gives sound, heartfelt advice to those around her — a true team player at Michigan Sugar Company.

Ann was honored during the Employee Service Awards at SVSU on May 17. This year, Michigan Sugar honored 105 employees for years of service ranging from 5 years to 45 years!

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53rd Michigan Sugar Queen & Court Crowned

by Barb Wallace, Advertising Specialist

Kayla Ratajczak of Munger is 'our' sweetest girl in Michigan this year!

She was crowned as the Michigan Sugar Queen at the annual Michigan Sugar Festival in Sebewaing on June 16. Kayla's court comprises of first runner-up Lauren Heberling of Sandusky and Madeline Kosecki of Kawkawlin as second runner-up.

Kayla, the daughter of Chris and Karla Ratajczak, is a 2015 graduate of Reese High School. She currently attends Saginaw Valley State University, majoring in history and minoring in English with the intent to become a middle school teacher.

First runner-up Lauren, is the daughter of David Heberling and Amber Heberling. Lauren is a 2016 graduate of Sandusky Junior/Senior High School and will be attending Michigan State University in the fall. Lauren will be majoring in agribusiness management with the intent to work with agricultural products or services.

Madeline, second runner-up, is the daughter of Gary and Katheryn Kosecki. Maddy graduated from John Glenn High School in 2016 and is currently attending Delta College. She is studying pharmacy and plans to become a pharmacist.

The Royal Court will be touring the state on the Pioneer Sugar float while making appearances in many local parades. Beginning with the Michigan Sugar Festival Grand Parade in June, they will also appear in the Lilac Festival parade on Mackinac Island as well as the National Baby Food festival parade. An appearance in the ever-popular Cheeseburger Festival in Caseville in August and the Richmond Good Old Days parade in Richmond in September.

Be sure to check the Pioneer Sugar website and Facebook pages for upcoming dates and times of appearances of this year's Sugar Queen and Court.

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

RIGHT The Michigan Sugar Queen (center), Kayla Ratajczak and her court, Madeline Kosecki on her left and Lauren Heberling on her right; **FAR RIGHT** Kayla has lived on her family farm in Reese, Michigan, and knows how to operate most of the equipment used on the farm!



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Students Awarded



Continuing and furthering education is important to Michigan Sugar Company and its growers. The Co-op, and a number of groups or districts of growers, are pleased to award annual scholarships that were created in recognition of the service of past board members and leaders of our industry. This year's deserving recipients are:

ALBERT FLEGENHEIMER MEMORIAL SCHOLARSHIP

Aaron Maust of Bay Port, Michigan. He is the son of Brent and Emily Maust, and a graduate of Laker High School. Aaron plans to attend Iowa State University to pursue agricultural studies.

Aaron Maust



GUY BEALS SCHOLARSHIP

Justine Roggenbuck, of Harbor Beach, Michigan. She is the daughter of Jim and Stacy Roggenbuck, and a graduate of Harbor Beach High School. Justine plans to attend Central Michigan University to pursue a career in speech pathology.

NEXT GENERATION SCHOLARSHIP

Ryan McKerrall of Chatham, Ontario. He is the son of Rob and Maureen McKerrall, and a graduate of Chatham Kent Secondary School. Ryan plans to study agriculture at the University of Guelph.

MICHIGAN SUGAR EMPLOYEE SCHOLARSHIP

Madison Diehl, is the daughter of Laura Diehl from the Michigan Sugar Company Bay City Factory. Madison will be a fifth year senior pursuing a chemical engineering degree at Michigan Tech. She is a 2013 graduate of Valley Lutheran High School. Angela Nimtz, is the daughter of Thomas Nimtz from the Michigan Sugar Company Sebewaing Factory. Angela is a graduating senior from Unionville-Sebewaing Area High School. She plans to attend Saginaw Valley State University to pursue a degree in psychology.

CENTRAL DISTRICT SCHOLARSHIP

Abbie Bauer of Vassar, Michigan. She is the daughter of Bryan and Kristine Bauer, and a graduate of Reese High School, with plans to attend Saginaw Valley State University, to pursue a mechanical engineering degree. Aaron Maust of Bay Port, Michigan. He is the son of Brent and Emily Maust, and a graduate of Laker High School, with plans to attend Iowa State University with a focus on agricultural studies.

BRIAN FOX MEMORIAL AGRICULTURE SCHOLARSHIP

Leah Bogaart is the daughter of Mr. and Mrs. Steve Bogaart, and is currently enrolled in the University of Guelph, Ridgetown Campus, in the associates agricultural diploma program where she has successfully completed her first year. Ryan McKerrall is the son of Rob and Maureen McKerrall, and will be attending the University of Guelph, Ridgetown Campus, pursuing an associate diploma in agriculture..

LOREN HUMM MEMORIAL SUGAR BEET GROWER'S SCHOLARSHIP

Spencer Brown is a graduate of Breckenridge High School, with plans to attend Delta College with dual enrollment at Michigan State University for agribusiness management. After completing his education, Spencer plans to return to his family's farm.

For more information on these scholarships, visit our website:
www.michigansugar.com/community/scholarships.



Justine Roggenbuck



Ryan McKerrall

Annual Scholarships



Madison Diehl



Abbie Bauer



Leah Bogaart



Spencer Brown

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MICHIGAN SUGAR TRAILS: A COMMUNITY SUCCESS STORY

by Zachary Branigan, Executive Director | Saginaw Basin Land Conservancy

In 2014, a local group of mountain bike enthusiasts in Bay City, Michigan, developed a network of trails on a vacant piece of land in the heart of the city. The property was owned by Michigan Sugar Company, although that was not known to them at the time. The property resides on an island in the middle of the Saginaw River known as the Middlegrounds. The Middlegrounds is a two-mile-long island in the center of a major river. While accessible by two bridges, and home to a park and small neighborhood, much of the island was long used for industrial purposes. As a result, the reputation of the island was one of mixed reviews in the community.

A local nonprofit organization, the Saginaw Basin Land Conservancy, connected with these mountain bikers and learned about their project. Conservancy staff researched the property and learned that it was owned by Michigan Sugar Company. Having enjoyed a previous relationship between the two organizations, Conservancy staff reached out to the Company to learn more. It did not take long to identify an opportunity to create something special and restore the island's place in Bay City.

The product of that relationship became known as Michigan Sugar Trails. Michigan Sugar Trails is an exciting project that brings 26 acres of natural surface, single-track trails to Bay City, in the center of the densely populated south side of town. The wooded land was perfect to create challenging and enjoyable trails, and the relationship between the land and the Saginaw River provided many opportunities for habitat improvement, a hallmark of the Conservancy's mission. The project was made possible when Michigan Sugar Company generously donated a lease on the property to the Conservancy, and supported that lease with a financial gift to empower the organization to begin its work. Additional support was realized from many partners, including companies and organizations large

and small from around Michigan. Financial and in-kind resources were collected until the Conservancy could transform the enthusiasts' trails into truly durable, exciting, safe, well marked, insured trails for the whole community to enjoy.

It took the building of many small bridges, routing of natural drainage flows, removal of invasive plants, tree trimming and grooming, as well as the installation of signs with maps and information about how to enjoy the amenities. The site has become a popular destination in the city, enjoyed by traditional trail users, such as bikers and runners, but also by fishermen looking for a private spot along the Saginaw River and birding enthusiasts searching for rare finds. Future plans for the project include the addition of new, more technical trail loops, which will vary in difficulty levels to appeal to riders of all skills and ages.

The Michigan Sugar Trails project is part of a larger initiative of the Conservancy and its partners, the Outdoor Urban Recreation (O.U.R.) Bay City project. O.U.R. Bay City is a series of planned projects throughout the city that enhance existing facilities for outdoor recreation and unites many community organizations. In addition to Michigan Sugar Trails, O.U.R. Bay City provided a revived natural area, a learning landscape for children, and a new canoe and kayak launch. Each of these urban outdoor access sites underwent critical improvements alongside Michigan Sugar Trails, providing a turnkey network of new outdoor recreational resources in Bay City.

Michigan Sugar Trails would not have been possible without the vision and generosity of its namesake. The project allowed the Saginaw Basin Land Conservancy to leverage funds and create a new, energetic interest in outdoor recreation, and re-establish a community's relationship with nature. ■

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Brad Alvesteffer biking on the Michigan Sugar Trail located in Bay City.

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- Winter 2017/2018 Breakfast Series
- 2018 Spring Event

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