

Preserving Quality





By Mark Flegenheimer, President and CEO

With the arrival of harvest, we are blessed with another tremendous crop. This year is likely to be another record breaker in terms of yield –

our old record is 23.6 tons per acre. A combination of factors has made these increasing yields a reality.

First, new seed varieties are providing excellent results. Roundup Ready® beets were planted on nearly 50 percent of our shareholders' acres. This has allowed those plants to grow with no herbicide injury and little or no pressure from weeds. Also, new nematoderesistant varieties have given growers a tool to overcome a yield-reducing pest. Second, innovative agricultural practices are being researched and widely utilized. Growers are using new techniques and technology including GPS-guided equipment, stale seed bed planting, narrow rows, BeetCast and grid sampling. Finally, Mother Nature has been very kind to our crop this year. Abundant summer moisture coupled with sunny days and an early planting has allowed our crop to flourish. A 24-plus ton crop may now be the norm, in Michigan, with these new and ever-improving varieties, enhanced agronomic practices and decent weather conditions.

Sugarbeets have again shown their resilience during this growing season. During the frequent

and sometimes heavy rains, beets have utilized that moisture well while other, more delicate, crops have been damaged. With record-high crop prices, we needed an excellent beet crop to remain competitive – it appears we have just that type of crop for the upcoming harvest.

Storing and processing the crop effectively and efficiently will be our focus in the coming months. This year we are going to test the benefit of covering some of our vented beets. Also, we are going to implement a night delivery program at some of our locations. We are optimistic that these new practices will allow us to receive and store our beets better and faster.

Competing crop prices across the United States greatly reduced the acreage planted to sugarbeets this past spring, which has drastically reduced supply. Also, the refinery explosion in Savannah has further constrained sugar availability. Simultaneously, we have seen a nice uptick in sugar consumption. This combination of events (lower supply and increasing demand) has strengthened sugar prices. With soaring input costs on the farm and similarly high operating costs in the factories, higher sugar prices were sorely needed.

It is nice to see such a beautiful crop of beets growing while knowing that sugar prices in the marketplace are at respectable levels.

Have a safe harvest. 🐴

TABLE OF CONTENTS

Root of the Business2
2008 Crop Update
2008 Farm Bill
Night Delivery Opportunity6
Sugarbeet Pile Storage in North America8
Topping Too Far Ahead — "Don't Do It" 10
Evaluating Sugarbeet Varieties for Storability14
Variety Storage Facility16
New Technology20

2008 Roundup Ready® Weed Control Update 23
Crop Records
Steve Pointdexter Tribute
Packaging Update30
Grower in the News 32, 33
2008 Scholarship Awards
2008 Michigan Sugar Queen35
Ray's Ramblings 36
Summer 2008 Youth Project Trip

Cover: Sugarbeet harvest on Alan K. Shaw Farms, Inc.





By Paul Pfenninger, Vice President of Agriculture

As harvest begins, the current sugarbeet crop can be characterized by two words "Roundup Ready®." Growers planted Roundup Ready seed

in up to 50 percent of Michigan Sugar Company's sugarbeet acreage in 2008. The new Roundup Ready varieties have met expectations in terms of emergence and weed control. Disease management has been the focus of sugarbeet growers in 2008, since the Roundup Ready varieties are more susceptible to Cercospora leafspot.

Acreage in 2008 is lower than previous years. The Board of Directors decided, in January, to reduce sugarbeet acreage by eight percent. The potential to produce more sugar than could be sold through the Farm Bill, as a result of a great 2007 crop and campaign that created blocked stocks, helped influence the Board's decision to reduce acres. It was impossible back in January to predict the 2008 crop, but by using a two-year average of 23.6 tons per acre, with an 18.1 percent sugar and a one-year RWST of 265, everyone felt the eight percent reduction was where Michigan Sugar Company needed to be.

THE NEWSBEET FALL 2008 • VOLUME 22, NO. 2

NEWSBEET TECHNICAL ADVISORS:

Managing Editor: Paul Pfenninger, Vice President—Agriculture Editor: Corey Guza, PhD, Agronomist Contributing Editor & Photographer: William Gough, Factory Manager—Caro Assistant Editor: Julie Perry, Executive Assistant—Administration Advertising: Sally Martin, Executive Assistant—Agriculture

THE NEWSBEET PUBLISHED BY MICHIGAN SUGAR COMPANY

Corporate Agricultural Office, 2600 S. Euclid Ave. Bay City, MI 48706 • www.michigansugar.com

COMMUNICATIONS SHOULD BE ADDRESSED TO:

Editor, *The Newsbeet*, 2600 S. Euclid Ave., Bay City, MI 48706 Email: editor.newsbeet@michigansugar.com

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. Our first field was planted on Monday, April 7, and the planting season began in earnest on April 21. By the end of April, nearly 100 percent of our acres were planted. The planting season was dry, but the crop was looking pretty good until a heavy frost on April 30 nipped a few low-lying fields and replanting was necessary. In total, 5,857 acres (four percent) were replanted by the June 15 deadline. We did have 2,585 acres at risk which did not get planted. This reduced our planted acres even more. As the deadline of August 1 approached for FSA certification of acres, the following summary of acres was reported:

145,744
5,857
+/- 600
+/- 145,000

Despite the reduced acreage, the 2008 crop has great potential. The crop emerged quickly, weed control was excellent and once June arrived, the timely and very beneficial rains began to occur almost on demand. The crop responded with full canopy and row closure by June 21, the longest day of the year. We began to receive a few heavy thunderstorms in late June and early July, but damage to the beet crop was minimal. As August approached, the beet crop had ample moisture and very few days of stress from heat or lack of precipitation.

Expectations are running very high on a very good looking beet crop as harvest approaches. Growers are talking about their "best beet crop ever." With the high optimism of the 2008 crop and the possibility of 25 ton per acre average yield, our attention turned to a starting date for harvest.

Even though our acreage has been reduced, we still have the potential to produce 3.5 million-plus tons of sugarbeets which will create a 170-day campaign and keep us slicing through February. For every ton per acre over 23.6 tons, we will create another seven days of slice.

Wouldn't it be great to produce the same (or more) sugar with the reduced 2008 crop as we did with the 2007 crop? With the improved marketing potential, we can only do our best to fulfill the expectations created during the summer months of the 2008 crop year.

2008 FARM BILL, A NEW ENVIRONMENT FOR THE SUGAR INDUSTRY



By Ray VanDriessche, Director of Community & Government Relations

We have all read many articles about the long and contentious process that, in the end, resulted in an unprecedented and overwhelming two-time override of the Presidential veto of the farm bill by both the House and the Senate. It is obvious by the message sent to the Administration by both parties that the time to get the farm bill passed was long overdue and that the farm bill sent up to the President was right for the current environment. The passage of the 2008 Farm Bill creates a new and exciting environment for the future of the sugar industry. Couple the new farm bill with a trend of increasing consumption and rationalization in the industry and it provides for unique opportunities in the years to come.

The sugar provisions in the 2008 Farm Bill set the stage for stabilizing the sugar industry and enabling sugar to be competitive with other commodities.

The creative thought process in developing new sugar provisions in the 2008 Farm Bill that are beneficial for the sugar industry and consumers alike, and supported by a diverse group of legislators, is no small accomplishment. Many thanks to Luther Markwart, Executive Vice President, American Sugarbeet Growers Association,

THE KEY ELEMENTS THAT HAVE CHANGED FOR SUGAR IN THE NEW FARM BILL ARE:

- The first loan rate increase since 1985, the three quarters of a cent per pound increase will be - phased in one quarter of a cent per pound, per year, over three years 2009–2011. This helps to offset increased cost of inputs on the farm and at our processing facilities.
- A Sucrose to Ethanol provision that allows the Secretary of Agriculture to keep the market in balance by removing surplus sugar caused by excessive imports due to trade agreements. The excess sugar could be sold by the Commodity Credit Corporation to be blended into ethanol facilities or by other means to effectively remove sugar from the human consumption market which saves tax dollars by eliminating forfeiture costs.
- Tariff Rate Quota of foreign importers managed on a "market needs" basis. The Secretary of Agriculture is required to set the TRQ at the minimum quantity of trade obligations for the first six months of the fiscal year. The minimum quota could then be increased April 1 if the market needs additional imports to satisfy consumption needs and provide ample supplies to consumers and food manufacturers. If there is an emergency shortage, such as the 2006 hurricanes, the USDA could increase import quotas before April 1.
- Sugar marketing allocations to domestic processors set at a minimum of 85 percent of U.S. consumption. This provision eliminates shrinking of the domestic market caused by continually increasing imports through new trade agreement negotiations.

Jim Johnson, President, U.S. Beet Sugar Association, and their staffs, for their dedication and long hours spent working in conjunction with their cane industry counterparts educating and coordinating policy with legislators on Capitol Hill. Also, thanks to the grower representatives who met with their legislators, both in the local districts and on Capitol Hill, to deliver the grassroots message of the impact to their family farms. Congratulations on a job well done!

INTERNATIONAL TRADE: U.S.

sugar industry representatives continue to keep the lines of communication open with our Mexican counterparts as the market transitions to open borders and one North American sweetener market. It is apparent from our discussions that there are viable options to keep the market in balance that will be examined again after the November elections are over. In addition, a large portion of the U.S. sugar processors

are in the process of establishing an export trading company through which sugar can be shipped into Mexico, if market conditions in the U.S. should warrant it. Due to the current increased cost of high fructose corn sweetener, the expected displacement of sugar in the Mexican soft drink industry has not taken place and as a result Mexico has not shipped the volume of excess sugar to the U.S. market as earlier predicted. On July 29, after seven years, WTO negotiations failed after trade Ministers struggled to close differences on subsidies amounts and import tariffs. The primary concerns for the U.S. sugar industry

in the discussions were additional sugar import access volume and a reduction of support programs by 60 percent. Many believe that talks will not resume until 2010, when most of the current leadership of the countries involved in the discussions will no longer be in office. Others are hoping to restart the talks immediately following the November elections in the United States.

UPCOMING ELECTIONS: It is obvious that we would not have the benefit of a new farm bill and a positive environment for the sugar industry if it were not for the support of our legislators. It took a bipartisan effort to forge a farm bill package that would keep U.S. agriculture viable and the leading provider of food for the world. An unusually large number of congressional legislators have announced that they do not intend to run for office again with the majority being from the Republican side. On the state level, due to term limits in Michigan, the turnover of state representatives this election cycle will be dramatic. With this in mind, it is particularly important that you study federal and state candidate information very carefully before you vote. Remember, one vote can make the difference. Your vote may be the one!



NIGHT DELIVERY OPPORTUNITY



By Paul Pfenninger, Vice President of Agriculture

Have you ever thought how it

would feel if you could harvest and deliver beets without long lines and wait times? We believe the time has arrived for us to look at and prepare for delivery on a 24-hour basis at Bay City, Sebewaing, and Caro.

Does this mean you need to harvest every hour the receiving station is open? - No. We are looking for farm operations that might be able to work a "night shift" and deliver beets between the hours of 11:00 p.m. and 7:00 a.m. Some larger operations are considering two 12-hour shift operations while others are considering a 14-hour shift which would eliminate some of the busiest hours between 1:00 in the afternoon and 9:00 in the evening. The hours you deliver are up to you as long as you deliver through the night. Growers not signed up for night delivery will not be allowed to deliver beets during the overnight shift. Only growers

WHAT ARE THE ADVANTAGES TO A GROWER WHO WOULD COMMIT TO A "NIGHT SHIFT" DELIVERY?

- · No waiting in lines
- Less traffic on roadways
- Fewer trucks needed to keep harvesters busy
- · Harvest completed in a shorter period of time
- Reducing the current 16–18 hour days to 12–14 hour days and getting more done in this shorter period of time
- More efficient harvest

WHAT ARE THE ADVANTAGES FOR YOUR COOPERATIVE?

- Piler efficiencies
- Cooler beet temperatures
- No need to open and close gates.

participating in this program will be issued tickets, which will work during the 11:00 p.m. to 7:00 a.m. period.

Bottom line, if you commit to harvesting through the night, the Co-op will commit to making this program work by keeping enough pilers open to eliminate wait times.

It could work for you and it will work for the Co-op. Most

sugarbeet co-ops in the United States harvest on a 24-hour basis and they are very efficient. We can become more efficient in our receiving operations if we can utilize our pilers 24 hours per day.

Question: Can you commit to a "night delivery"? Give us a call and help us develop a program that will create a win-win situation for Co-op members and your cooperative.

EARLY, EASY, EFFECTIVE WEED CONTROL THAT PRESERVES YOUR YIELD POTENTIAL. WHAT COULD BE SWEETER?

IT'S EVERYTHING YOU WANT IN SUGARBEETS. Unsurpassed, broad-spectrum weed control in the Roundup Ready[®] System. Broader application timing/window for both crop and weeds. Excellent crop safety at all growth stages. No carryover or crop rotation restrictions. And it works without soil incorporation.

SEE YOUR DEALER ABOUT ROUNDUP READY SUGARBEETS.



ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® agricultural herbicides. Roundup® agricultural herbicides will kill crops that are not tolerant to glyphosate. Roundup® and Roundup Ready® are registered trademarks of Monsanto Technology LLC. ©2008 Monsanto Company. [35153-1 jct 8/08

SUMMARY OF SUGARBEET PILE STORAGE



By Corey Guza, Agronomist, PhD

Improving sugarbeet quality through storage is not unique to Michigan Sugar

Company. The technique of ventilating sugarbeets has been well tested in other areas prior to testing and implementing pile ventilation in Michigan. In an effort to improve profitability, many sugarbeet companies have initiated some type of pile storage management. Improvements in pile storage and sugarbeet recovery have ranged from splitting piles to refrigerated storage sheds.

The areas that store sugarbeets most resembling storage conditions in Michigan and Ontario are Amalgamated Sugar Company, in Oregon and Idaho, and Rogers Sugar Company, in Alberta. Both of these cooperatives ventilate sugarbeets instead of freezing sugarbeets. Ventilating sugarbeets requires maintaining pile temperatures at approximately 34°F. Michigan Sugar, Amalgamated Sugar and Rogers Sugar Companies all ventilate sugarbeets since temperatures are not cold enough to freeze and maintain frozen sugarbeet piles.

PACIFIC NORTHWEST

Amalgamated Sugar Company generally begins receiving beets in mid-September. They process fresh beets until early November when harvest is finished. After harvest, they start to process beets from long-term storage piles. This includes splitting piles and removing the top and shoulders of piles. In February, processing of ventilated sugarbeets begins. First, ventilated sugarbeets without covers are processed. Then ventilated sugarbeets with covers are sliced. By March 1, pile recovery moves "indoors" to large storage sheds. Campaign ends just after mid-March.

ALBERTA, CANADA

Rogers Sugar begins harvest in early October. They process unventilated sugarbeets until the second week in February. They then process ventilated sugarbeets without covers until the end of campaign which is typically March 1.

MINNESOTA - NORTH DAKOTA

In areas where freezing sugarbeets is possible, campaigns generally run longer. In the northern

region of the Red River Valley, American Crystal Sugar Company will process sugarbeets as late as early June. They begin to receive beets in late August and usually finish harvest by late October. Once they begin processing beets from the storage piles, the shoulders are removed first, then the rest of the pile. This process occurs until mid-March. Then passively ventilated piles, vent tubes in piles without fans, are processed. The final sugarbeets to be processed are the deep freeze piles. Deep freeze piles are cooled to 0°F when weather permits; this is usually for two weeks in December. Deep freeze piles are uncovered, covered, or stored in refrigerated sheds. Uncovered piles are processed first, followed by the covered piles. The refrigerated beets are then processed the last two weeks of campaign.

Minn-Dak Farmers Cooperative also freezes beets as a method of improving pile storage and improving factory efficiency. Harvest typically begins in early September. Piling for long-term storage starts on October 1. Piles without ventilation are typically split by January 1 along with piles that are ventilated passively. Passively ventilated piles are typically oriented east and west to allow strong north and south winds to blow into the tubes. Passively ventilated beets are processed by mid-February. Piles that are ventilated using forced air may be covered or uncovered. Uncovered piles are processed first followed by the covered piles. Piles ventilated with forced air are typically removed by mid-April. The final stretch of campaign will run to the end of April. Sugarbeets processed at that point are taken from insulated storage sheds. The last beets that are removed from the sheds have covers placed on top of the beets to keep the cold temperatures in the pile.

Southern Minnesota will begin harvest in mid-September and process beets until early April. Typically, storage piles are split

Weather conditions at a storage site have the greatest impact on storage and will determine how to best store sugarbeets.

lengthwise, down the middle, and then processed. Prior to 2007, uncovered, frozen beets were processed starting March 1. Southern Minnesota Beet Sugar Cooperative began covering some of the frozen piles in 2007.

PLAINS

Western Sugar Company has a program of removing shoulders soon after harvest is complete. Piles processed after January 1 have lime and straw applied to the top and sides of the pile to help improve pile storage.

Sidney Sugars, Inc., is anticipating a smaller campaign than normal

in 2008, which will change the approach to pile storage. Typically, harvest begins October 1 and is finished before November. Piles for long-term storage are leveled and coated with lime. Sugarbeet piles are maintained at 34°F using both passive and forced air ventilation. Ventilating sugarbeets using passive ventilation has been a successful method of storing beets due to the cool but not too cold weather conditions in Sidney, Montana. Forced air ventilated sugarbeets are typically processed the last two weeks of campaign, which is typically finished in early February.

CALIFORNIA

Sugarbeets in California are generally processed soon after harvest. Opportunities for sugarbeet storage are limited due to warm weather conditions.

Many techniques are used to maintain sugarbeet quality while maximizing factory efficiency. Weather conditions at a storage site have the greatest impact on storage and will determine how to best store sugarbeets. In areas with mild winter temperatures, maintaining sugarbeet piles at 34°F is the most effective practice. In areas where winter temperatures are consistently near 0°F for two weeks or more, freezing sugarbeet piles is the best option. Regardless of where sugarbeets are grown and stored, maximizing sugarbeet quality and improving factory efficiency is the top priority in a sugarbeet pile management program. 🐴

TOPPING TOO FAR AHEAD – "DON'T DO IT"



By Greg Dean, Agronomist, Amalgamated Sugar Company

There are many reasons growers top or defoliate too

far ahead. Some reasons are valid, while others are not. Topping more than you will dig in a day is not advisable. Growers wanting to maximize profit should begin and end the day harvesting sugarbeets less than 30 minutes behind the defoliator. This concept is most critical during the hot and cold parts of harvest. Since we cannot predict the days it will be too warm or too cold to defoliate ahead, it is much easier to develop the practice of staying caught up with the defoliator at all times. By not defoliating, sugarbeet tops remain on, insulating and protecting the sugarbeet roots from hot and cold temperatures.

Topping ahead during hot and cold parts of the harvest season can be very damaging. The sugarbeets shown in Picture 1 are an example of beets received when air and sugarbeet temperatures were too high. These sugarbeets had only been in the pile for about ten days. The picture clearly shows beet juice running out of the bottom of the pile. What went wrong? The ambient air and sugarbeet temperatures were too high. Some growers were topping too far ahead. This resulted in sugarbeets that would not store long enough to be processed.



Picture 1 (Top): Beets juicing after piling too hot. Picture 2 (Bottom left): Sinking areas on the beet pile with steam escaping. Picture 3 (Bottom right): Beets steaming and molding after being piled frozen.

The sugarbeets in Pictures 2 and 3 are examples of sugarbeets received when the beets were too cold. After three days of extreme frost without tops, then thawing out, the sugarbeets were delivered and piled. The pictures were taken about 15 days after the sugarbeets had been piled. The pile was starting to sink and there was a large amount of steam coming out of the top of the pile. There was also a lot of mold, as seen in Picture 3. Sugarbeets in the field, without tops, allow frost to penetrate the roots deeper than if the tops were

FIGURE 1

left on. Sugarbeets without tops do not recover after frost damage the same as sugarbeets that have the tops left on. The results are the same as hot weather damaged sugarbeets; there is a very limited storage life.

Sugarbeets in storage lose sugar through respiration. Under normal storage conditions, the rate of respiration is one guarter of a pound of sugar per ton, per day. For every 15 degree increase in temperature, the rate of respiration doubles. Assuming that beets stored in a sugarbeet pile at 38°F have the normal rate of respiration and we increased the temperature by 15 degrees to 53°F, the respiration rate would double to one half of a pound per ton, per day. If the temperature is increased an additional 15 degrees to 68°F, the respiration loss would double again to one pound per ton, per day. At these rates of increase it doesn't take long before steam is coming out the top of the pile and sugarbeet juice is running out the bottom (Pictures 1, 2, and 3).

During the Fall of 2003, we used data loggers to collect temperature information near the Reverse, Idaho, Receiving Station. We collected temperatures in 30minute intervals, from late September until mid-November, in sugarbeets that were topped and in beets that had tops on. We collected ambient air temperatures along with temperatures two inches down from the crown in topped and untopped beets. This was done by boring a hole into the sugarbeet. The thermocouple



was located approximately in the center of the sugarbeet two-inches down into the crown. The blue line in Figure 1 shows ambient air temperature from 10 AM on October 31, 2003, through 10 PM on November 1, 2003. Please note that the temperature peaked at approximately 2 PM on both days (about 41°F), and the high to low and low to high was about a 29-degree change each way.

The red line in Figure 1 represents temperatures in sugarbeets that have been topped. The high temperatures peak at approximately the same time of day. The temperatures in beets with no tops peak out at about 62°F on the first day and 58°F on the second day. This is a full 20 degrees higher compared to the untopped beets (Figure 1 green line). This is signifi-

cant, especially since respiration rates double every 15 degrees. It is apparent that the sun is radiating down on the sugarbeet causing it to become much warmer than it would have been if the tops had been left on. To the other extreme, overnight, topped beets reached a low of approximately 22°F. The high to low and low to high the next day was a 40 degree temperature change compared to a 13.5 degree change in the untopped beets. Compare this to the 29degree change of the ambient air temperature.

The green line in Figure 1 represents sugarbeets not topped. The temperatures of sugarbeets with their tops on do not fluctuate as much as when tops are removed or as much as the air temperature. Sugarbeet tops help

TOPPING TOO FAR AHEAD – "DON'T DO IT" (CONT'D.)



Picture 4. Straw shredder

insulate the sugarbeet root from the heat of the sun and from the frigid air temperatures. In cold temperatures, sugarbeets with their tops on were 14°F warmer than the outside air temperature and 6°F warmer than beets without tops. When the air temperature is cold, beets having tops on are significantly warmer, causing less frost damage. Frost damage in sugarbeets causes the sugarbeet to repair itself. Repairs cause the sugarbeets to respire. Respiration causes beets to use sugar and create heat. The increased heat causes more respiration therefore using more sugar, and creating even more heat, causing respiration rates to spiral out of control. Out of control respiration causes sugarbeets to spoil before they can be processed.

Figure 2 brings all the collected information together. It shows that beet tops do an excellent job of insulating and protecting sugar beets roots from the heat and the



Picture 5. The right side of the field demonstrates the proper height to flail beets with the straw shredder prior to topping.



Picture 6. Beets after using the straw shredder and defoliator.

cold. Combining this information with what is known about respiration, it can be concluded that the sugar lost to excess respiration could be minimized by harvesting beets that have not been defoliat-

Delivering sugarbeets cooler and without frost to the pile, helps to reduce respiration rates. This can be accomplished if growers do not defoliate ahead during times of heat or cold.

ed for long periods of time ahead of digging.

Delivering sugarbeets cooler and without frost to the pile, helps to reduce respiration rates. This can be accomplished if growers do not defoliate ahead during times of heat or cold. This does not mean the grower must dig slower, although it is one solution, there are other options. The Elwyhee District Growing Area growers have generally adopted the practice of using a straw shredder ahead of their defoliator (Picture 4). They started doing this as a result of problems with weeds at harvest. They have continued to use shredders because it allows them to go one to two gears faster with their defoliators. Defoliators can stay ahead without delaying the sugarbeet digger and without having to defoliate ahead.

They adjust the shredder about one to three inches above the crown of the sugarbeet (Picture 5). This allows the shredder to do most of the work. The shredder is also much cheaper to maintain than the defoliator. Growers are able to almost double the number of acres the defoliator covers between flail changes. Another benefit of the shredder is the fact that the beet tops do not ball up like they tend to do when all the tops are being rolled in the defoliator resulting in few, if any, plugups of the beet digger. One of my

FIGURE 2

sugarbeet growers mentioned that the additional tractor used about the same amount of diesel fuel as was saved on the defoliator tractor. The main advantage is that growers are able to do a better job of defoliating, stay ahead of the beet digger and not have to top ahead (Picture 6).

Sugarbeet profitability is impacted greatly by sugarbeet storage. Growers learning and applying knowledge of sugarbeet respiration, and not topping too far ahead, can have a positive effect on reducing sugar storage losses. Sugarbeet respiration rates can be minimized and profits maximized when growers do not top too far ahead. Remember, topping too far ahead, "DON'T DO IT."

0 0 8



EVALUATING SUGARBEET VARIETIES FOR STORABILITY



Randolph Beaudry and Wayne Loescher, Department of Horticulture, Michigan State University



In Scotland, potato farmers are faced with a new weed potatoes. In their five- to six-year rotation, the crop that follows pota-

toes is weedy with potato volunteers that survived the winter. It never used to be that way. Farmers pin the blame on warmer winters accompanying global warming.

How does the survival of potatoes in Scotland relate to sugarbeet storage in Michigan? Here in Michigan, temperatures have increased roughly 2°F since 1980, but during the winter months, that increase is more on the order of 4.5 to 5°F. A shorter, warmer winter presents significant challenges to long-term pile storage of sugarbeets because the metabolic activity of the beet roots and sugarbeet pathogens are highly responsive to temperature. So, during warm autumn and late winter days, an increase in the core temperature of the pile may drive metabolic activity and accompanying heat generation to such a level that the pile temperature spirals out of control, dramatically impacting sugar losses. Case in point, in the 2004 to 2005 season, the Michigan industry lost

approximately \$25,000,000 to pile breakdown, largely in response to elevated temperatures, respiratory activity, and decay.

Michigan Sugar Company and Michigan State University are evaluating sugarbeet cultivar roots to determine their sensitivity to temperature changes and to see if this response relates to storability and sugar recovery. At MSU, we are testing 19 to 20 varieties a year by holding them at low temperatures for about five months and occasionally exposing them to elevated temperatures to evaluate their response to a warming event. We measure the rate of respiration of the roots at 38, 50, and 68°F (3, 10, and 20°C). We evaluated each of four to six replicate samples from each variety for three or four successive days at the assay temperature. The temperatures were chosen to mimic ideal storage conditions (3°C), the common temperature conditions when roots are initially placed into storage and commonly encountered in winter piles (10°C), and an unfavorable storage temperature (20°C) typical of what occurs when ventilation is inadequate and heat is generated by high respiration rates and fermentation.

Under ideal conditions (38°F), we have found that respiratory activity resulted in a loss of 0.09 to 0.27 pounds of sugar per ton per day, which translates to approximately three to nine percent of the total sugar lost over the length of a 100-day campaign. At a slightly higher temperature

(50°F), the losses ranged from 0.2 to 0.57 pounds per ton per day or six to eighteen percent of the initial sugar present. At the excessively high temperature of 68°F, the losses were estimated to be between 0.37 and 1.37 pounds of sugar per ton, per day, or 12 to 49 percent of the sugar lost over the length of the campaign. It is important to recognize the rate of respiration and sugar loss doubles for every 10 to 15°F increase. Interestingly, the rate of sugar loss for a given temperature is calculated to increase as the season progresses as sprouts and decay utilize the stored reserves of the sugarbeets. We found that the rate of metabolic activity was slightly more than twice as high at the end of the storage period compared to the fall immediately after harvest.

The wide range in respiratory activity we found to be varietydependent. While most of the varieties we tested clustered at the lower end of the range of respiratory rates, one or two tended to be quite high, especially in the 2007 storage season. One variety, Beta 5833R, had a respiratory rate that was twice that of any other variety at all temperatures and at both the fall and the spring evaluations, but only for one year out of three. We noticed that the level of decay on this variety was significantly greater than for other varieties tested in 2007.

Despite efforts to determine if the respiratory rates related to recoverable white sugar, the correlations were poor. The poor relationship

likely stemmed from the fact that the respiratory rates, with few exceptions, were relatively similar. Further, the recoverable white sugar as a quality estimate only varied about five to seven percent. There was a modest relationship between respiratory rate and the rate of decay and sprouting, which was not surprising, considering the rapid respiratory rate of sprouts and decaying matter. Of the four varieties common throughout the four years, there was no apparent relationship between respiratory activity from one year to the next. Roundup Ready[®] sugarbeets did not respire at a higher rate than non-Roundup Ready beets.

After five months holding at 38°F, very few of the roots had appreciable sprouting or decay. This was in contrast to those roots we obtained from the piling grounds, which had considerable shoot growth and decay. Using a remote infrared temperature sensor, we measured the temperature of beet roots on the face of storage piles being disassembled for sugar extraction. We found internal pile temperatures of 50°F despite air temperatures in the 20s in mid-February. In 2007, we held roots at a constant 50°F and obtained levels of sprout growth and decay similar to those we found in the piles at the conclusion of the 2005, 2006, and 2007 campaign seasons.

Control of root temperature throughout the winter months in Michigan is by passive heat loss to the environment. Pile temperature is dependent on the rate of heat production, the ease with which heat can escape from the pile (ventilation), and the gradient between the pile temperature and the air temperature. As a consequence, those factors that drive up respiration enhance heat generation (e.g., sprouting and decay), further driving up pile temperature. Complicating the

Current efforts using forced ventilation of the sugarbeet storage pile should enhance the rate of heat removal and improve root storage and recoverable white sugar.

ability of heat loss from the storage pile is the fact that the temperature of the earth is roughly 50°F. Therefore, to reliably achieve pile temperatures below 50°F would be expected to be extremely challenging. As the sugar campaign progresses and the mean daily temperature increases, the reduced gradient in temperature between the pile and the air also exacerbates the temperature problem. In addition, warm late winter rains have the capacity to deliver extremely high quantities of heat into the storage pile and promote decay development at a time when beetroot respiration is at its highest. Those cultural tools that reduce root respiration, decay and sprout formation, and promote heat loss via ventilation should be incorporated into those piles destined for long-term storage.

The lack of distinct differences in the respiration rate of beet varieties suggests that variety would have little impact on pile temperature except in those instances where a particular variety (e.g., Beta 5833R, in 2007) respond in an unexpected manner to the growing or storage environment. Additional work we performed, but not reported in detail here, suggests that sproutcontrolling chemicals and reducing the damage caused by the rough nature of the mechanical harvesting process, can reduce respiration and accompanying heat generation significantly.

The data demonstrate that the metabolic activity of sugarbeets is highly temperature sensitive and that temperature control can have a profound impact on the behavior of the beet root. Simply reducing the mean pile temperature from 50 to 38°F has the potential to reduce sugar consumption via respiration and, as a result, heat generation. Current efforts using forced ventilation of the sugarbeet storage pile should enhance the rate of heat removal and improve root storage and recoverable white sugar.

VARIETY STORAGE FACILITY



By David Wishowski, Research Technician

Once most crops are harvested and put in the "bin,"

one can be relatively confident that with some management the crop will be there when it is time to get it out; however, that is not always the case with sugarbeets. Weather conditions for storing sugarbeets in Michigan and Ontario can be challenging. Michigan Sugar Company averages a 150-plus day campaign and stores approximately 2.5 to 3.0 million tons of sugarbeets per year. Knowing this, we have placed a large emphasis on storage research.

The key question when conducting storage research is how to develop a test that will be reliable and repeatable. In years past, Michigan Sugar Company has conducted a trial in a facility adjacent to the Carrollton factory. That facility required the use of outside air for cooling and heaters to warm the room. Humidity, an important parameter for pile storage, could not be controlled making it difficult to conduct a repeatable trial. Data accumulated from year to year was also difficult to compare due to varying storage conditions, making the trial unreliable.

Previously, samples of approximately 25 to 30 sugarbeets were kept from an Official Variety Trial (OVT) and were taken to Carrollton to be sorted. After sorting, one half of the sample was analyzed by Michigan Sugar Company at the Michigan Agriculture Research Laboratory (MARL). The other half was placed in a plastic bag and tied with a 1.25-inch piece of PVC tubing in the opening allowing for ventilation of the bag. The sample was stored for approximately 120 days. The storage room was cooled as much as possible, relying on outside temperatures. Twice during the storage period, the temperature in the room was increased and then cooled again in order to create stress on the beets. This stress caused some varieties to begin to rot and was beneficial because differences in how sugarbeets responded to stress in storage could be compared.



In 2007, after much planning by Michigan Sugar Company's research department, a new protocol was developed which will produce a reliable and repeatable trial. After the investigation, a decision was made to build a storage facility incorporating technology provided by Techmarck, Inc., the same company that helped design our pile ventilation. The new storage facility is a 20-foot by 30-foot insulated room that incorporates temperature sensors, humidity sensors, a Humicell, and computer software that can allow air intake from outside or allow recirculation of the air from the storage room. The Humicell will create over 95 percent humidity, allowing the beet samples to be stored in open three-quarter bushel vegetable crates, rather than in closed plastic bags. The plastic bags often allowed the beets to lie in condensation that collected which, created conditions that were not normal in storage piles. The new facility will more than double the capacity of the old room with the ability to house up to 1,000 samples. This will allow room for eight replications from two OVT locations, plus additional samples from other trials such as disease nurseries, to be stored.

The first trial conducted in the new storage facility will be from the harvest of 2008. Three years of trials will be conducted before data collected will be used for the Variety Approval Program. During this period, a final variety storage protocol will be developed and tested.



Controls for the new variety storage facility.



SUMMER RESEARCH



SUMMER RESEARCH

NEW TECHNOLOGY



By Lee Hubbell, Research Agronomist

The biggest news in 2008 is Roundup Ready® varieties. Not that

we are testing the technology, but the fact that the growers are finally able to plant glyphosate (Roundup) resistant varieties. The wait has been too long from when we first tested herbicide resistant varieties. The first year the technology was tested was in 1997. That first variety was not glyphosate resistant but glufosinate (Liberty) resistant. Liberty resistant varieties from BetaSeed were tested for four years. The first glyphosate resistant varieties were from Hilleshog. Our testing of this first generation of herbicide resistant sugarbeets ended in 2001 when the decision was made to not market herbicide resistant varieties at that time. This was a huge disappointment for growers and also the seed companies that had produced seed. Now years later, growers are able to use this exciting technology in sugarbeets where weed control is such a challenge.

Growing sugarbeets resistant to another herbicide, like Liberty, would be a valuable tool to help prevent weed resistance to glyphosate. Glyphosate weed resistance is a significant concern

POORLY DEFOLIATED BEETS % SUGAR					
	Complete Defoliation ¹	Poorly** Defoliated	Loss		
1989	16.55	16.15	.40		
1991	18.00	17.45	.55		
1994	18.44 18.00	17.96* 17.61	.48 .39		
1997	17.98	17.50	.48		
	Avera	ge Loss 0.46 %	% Sugar		
		RWST			
	Complete Defoliation ¹	Poorly** Defoliated	Loss		
1991	251.7	241.1	10.6		
1994	267.2 259.1	254.9* 249.4	12.3 9.7		
1997	259.8	247.8	12.0		
	Avera	ge Loss 11.15 lbs	s. Sugar/Ton		

1. All green material was removed by hand.

** Poorly Defoliated = all beets were poorly defoliated.

* Poorly Defoliated = one-half the beets were poorly defoliated.

and has been confirmed in other cropping systems. There may not be any glyphosate resistant weeds in the Michigan Sugar Company growing area now but they can occur unless growers use practices to prevent it. Glyphosate is effective and easy to use, but problems will develop if it is used year after year without other herbicides being used in the rotation. One approach would be planting a non-Roundup Ready crop one year or using another herbicide

one application with glyphosate on a Roundup Ready crop. The use of another herbicide would probably be easiest in a crop other than sugarbeets because of more herbicides being available. Growers planting dry beans, wheat, and cucumbers may help break the cycle of glyphosate use because they are not glyphosate resistant.

RWST EQUALS \$\$\$\$

As a cooperative, everyone realizes the importance of quality

TABLE 1



beets. More recoverable sugar per ton (RWST) reduces the cost per pound of sugar produced. Some recent variety changes have affected the RWST potential in the varieties. Rhizomania tolerant varieties first brought some lower RWST. This has improved and now the glyphosate resistant trait is changing all varieties. Many of the varieties with the Roundup Ready trait are lower in RWST. The varieties that have a higher RWST do not have the level of tolerance to Cercospora leafspot we have required here in Michigan. These traits and other resistance traits you may need, should be considered when selecting Roundup Ready varieties.

HARVEST INFORMATION – QUALITY

By harvest growers have done many things to help produce a good quality crop that will store well including; using the correct amount of nitrogen, controlling weeds, and controlling disease and Rhizoctonia crown rot. Is the job of producing quality complete? NO. Part of the quality can be lost by poor defoliation. A little extra effort during harvest can make better storage conditions and keep the quality that is there. This will allow the Cooperative to produce more sugar and return more dollars to the growers. There is a significant loss to poor defoliation (Table 1).

pH COMPARISON									
	Sandy Knoll (Poor Beets) vs. Fine Textured Soil in the Same Field								
	Growing		Soil To	st Loval	Growing		Soil To	st Loval	
	Of Beets	pН	Ca	Mg	Of Beets	pН	Ca	Mg	—
			lb/	acre				b/acre	
	Good	6.5	2160	200	Good	6.1	2320	192	
	Poor	5.3	610	15	Poor	5.0	457	15	
	Good	6.8	2240	336	Cood	6.8	3200	376	
	Poor	4.9	381	15	Poor	6.0	533	76	
	Good	7.4	2480	122	Good	6.4	3040	352	
	Poor	5.4	610	15	Poor	5.5	533	15	
	Good	6.0	2240	208	Good	7.7	3284	336	
	Poor	4.2	381	23	Poor	5.8	838	15	

Two things will help. One is defoliator maintenance. Replace paddles before harvest and again during harvest for large growers. The second factor is speed. Defoliating too fast will cause a loss of money.

PH DIFFERENCES

One soil additive that is still reasonable, if not cheap, to use is lime. Do not let lime be a limiting factor in your beet yield or other crops. Soils in the Michigan Sugar Company growing area generally have a higher pH, but even in these soils, the pH can decrease over time from nutrient removal and nitrogen application. Fields that are sandy and coarse textured tend to have a lower pH. There also will be sandy spots in many fields that will have a lower pH compared to the rest of the field (Table 2). Take soil samples to know the pH and also the nutrient levels in your fields. Sample the sandy coarse textured areas of a field separate from fine textured areas. Table 3 lists the desirable soil pH for some crops.

By applying lime where needed, production and profit can increase. Soil test results will also help to apply only the amount of phosphorus and potassium needed and not waste money. Calcitic lime

SUMMER RESEARCH

NEW TECHNOLOGY (CONT'D.)

is available at a low cost from the beet processing plants. If magnesium is needed for your soil it is best to use dolomitic lime. Sample now; applying lime in the fall has advantages. In the spring there is not much time before planting and fall application gives more time for the lime to react in the soil.

RESEARCH 2008

Michigan Sugar Company is conducting over 100 acres of research at 18 locations covering the growing area. This includes:

- Twenty-two first year Roundup Ready varieties.
- Three cyst nematode tolerant varieties, including one with glyphosate resistance.
- Evaluation of a new fungicide for Rhizoctonia crown rot control.
- Tank mixing other pesticides with glyphosate.
- A local nursery to rate cyst nematode tolerance in varieties.
- A Rhizoctonia nursery to rate tolerance in varieties.
- Evaluate spray tips to reduce drift.
- Evaluate a new fungicide for Cercospora leafspot control.
- Replant trial including different planting dates and plant populations
- Evaluate claim of increased production from a late strobilurin fungicide application.

			TABLE 3
DESIRA	ABLE SOIL PH C	ON MINERAL SOIL	
	Crop	pH Range	
	Sugarbeets	7.0 to 7.5	
	Corn	5.5 to 7.5	
	Beans	6.0 to 7.5	
	Soybeans	6.0 to 7.0	
	Alfalfa	6.3 to 7.8	
	Wheat	5.5 to 7.0	
	Potatoes	5.2 to 6.5	
P			

• Evaluate a seed treatment for cyst nematode control.

Official Variety Testing (OVT) includes 46 varieties in 2008, submitted under four different brands. The OVTs are evaluated for tons per acre, percent sucrose, percent clear juice purity, and emergence. Observations are made for other factors such as diseases, insects, and bolting. We are conducting eight OVTs, four Cercospora leafspot nurseries, two Rhizoctonia nurseries, and one cyst nematode nursery. Varieties are also evaluated for Aphanomyces, root aphid, Rhizomania and Rhizoctonia tolerance in trials conducted in other areas. Some varieties are also compared when the seed is space planted at about 4.5 inch spacing. For the first time we are comparing glyphosate resistant varieties to conventional varieties when space planted.

Sugarbeet varieties are in a fast changing period. The Roundup Ready trait is the first to come to mind. Three years ago we had only two Roundup Ready varieties being tested. By next year the only non-Roundup Ready varieties tested may be for nematode tolerance and possibly for Rhizoctonia tolerance. Until 1995, root aphids were not a problem in Michigan. Now all varieties claim tolerance to root aphids. Rhizomania was only found recently in Michigan and this year all varieties have Rhizomania tolerance. Aphanomyces tolerance is claimed in all but four varieties. There have been many changes in varieties including the traits we need to grow sugarbeets in Michigan.



2008 ROUNDUP READY® WEED CONTROL TRIAL UPDATE



By Jim Stewart, Director of Research

Growers have experience using glyphosate

(Roundup WeatherMax) in other Roundup Ready crops; however, with Roundup Ready sugarbeets things are a little different. The timing of herbicide application needs to be earlier to avoid yield loss from weed competition in sugarbeets compared to other crops. Growers would also like to tank mix fertilizers, insecticides and fungicides with glyphosate and apply these products to Roundup Ready sugarbeets. The products need to be tested for compatibility. Particularly with fungicides, the appropriate steps need to be taken to ensure nearby sensitive crops are not damaged from glyphosate drift. Research also needs to be conducted to ensure that tank mixtures will not have a negative impact on the crop.

PRELIMINARY RESULTS ROUNDUP READY TIMING TRIAL

Roundup WeatherMax was applied at 22 fl oz per acre with AMS at 17 lbs per 100 gallons of water at the following timings:

- 1. 2-leaf, 6-leaf and 10-leaf stage
- 2. 2-leaf and 6-leaf stage
- 3. 2-leaf and 10-leaf stage

- 4. 6-leaf and 10-leaf stage
- 5. 4-leaf stage
- 6. 10-leaf stage

Initial observations show significant sugarbeet stunting due to weed pressure from treatment six (tenleaf application). Sugarbeets also suffered from weed competition in treatment four when herbicide applications were delayed until the six-leaf stage. Weed control was excellent with treatments one, two and three. (all starting at the twoleaf stage) and marginal with two Roundup applications at the 6 and 10 leaf stages (Table 1). Single applications at the four-leaf or the ten-leaf stage were not adequate. The weed pressure in this trial was very high.

EFFECT OF ROW WIDTH AND PLANT POPULATION ON ROUNDUP READY SUGAR BEET

5813-08 Page: -

Hanting Date May 1 Assalization Date Freeds June 17 Provided by:

Project GREEEN

2008

SUMMER RESEARCH

2008 ROUNDUP READY® WEED CONTROL TRIAL UPDATE (CONT'D.)

ROUNDUP READY TANK MIX TRIAL

Roundup WeatherMax was applied to sugarbeets at 22 fl oz per acre and tank mixed with the following pesticides: Select Dual Magnum Outlook, Quadris, Proline, Headline, Eminent, Gem SC, Inspire, Super Tin, Topsin M + Penncozeb and Enable + Dithane. None of the tank mixes caused significant injury to the sugarbeets and no symptoms were visible in August. Ammonium Sulfate at 17 lbs per 100 gallons of water was added to each treatment.

MANGANESE/BORON TANK MIX TRIAL

Roundup WeatherMax was tank mixed with manganese sulfate and a chelated manganese liquid product in a small plot replicated trial. Solubor was also included in this trial. The chelated manganese product was superior to manganese sulfate. Manganese sulfate caused minor interference with weed control and also caused a little leaf speckling. The Roundup WeatherMax + Solubor treatment had similar problems (Table 2).

ROUNDUP READY SPRAY DRIFT EVALUATIONS

The following nozzle tips are being evaluated for spray drift with glyphosate applications in sugarbeets:

TABLE 1

		%	Weed Control	
Treatment	Sugarbeet Vigor (%)	Yellow Mustard	Common Lambsquarters	
1 Roundup* 2 lf, 6 lf, 10 lf	100	99	100	
2 Roundup 2 lf, 6 lf	100	98	100	
3 Roundup 2 lf, 10 lf	95	90	95	
4 Roundup 6 lf, 10 lf	70	89	94	
5 Roundup 4 lf	86	87	52	
6 Roundup 10 lf	55	79	74	
LSD 5%	9	7	15	

Sugarbeet vigor rating (%). Damage was due to weed competition. Weed pressure in untreated plots was very high (20 + weeds per square foot). *Roundup WeatherMax

TABLE 2

		%	Weed Control
Treatment	% Injury	R. Pigweed	C. Lambsquarter
Roundup*	1.2	100	100
Roundup + Manganese Sulfate	2.5	97	96
Roundup + Chelated Manganese	1.7	100	100
Roundup + Solubor	6.3	98	98
ISD 5%	2.8	15	2.5



- 1. Tee Jet Flat Fan XR
- 2. Tee Jet Air Induction
- 3. Tee Jet Air Induction XR
- 4. Turbo Tee Jet
- 5. Turbo Tee Jet Air Induction
- 6. Tee Jet Drift Guard

Also included are different spray pressures and two types of spray deposit aides (In-Place and Interlock). Data from these trials is not yet available.

ROUNDUP WEATHERMAX + UPBEET FOR VELVETLEAF CONTROL

Roundup WeatherMax at 22 fl oz per acre applied at the twoleaf, six-leaf and ten-leaf stage provided nearly 100 percent control of a heavy and uniform velvetleaf infestation in this small plot replicated trial. Adding UpBeet at 0.5 oz per acre did not improve velvetleaf control.

ROUNDUP WEATHERMAX + STINGER FOR VOLUNTEER ALFALFA CONTROL

Roundup alone gave 90 to 95 percent control of volunteer alfalfa in this small plot replicated trial. The addition of Stinger to Roundup WeatherMax improved alfalfa control to nearly 100 percent. The best treatment (sugarbeet injury and alfalfa control) was Roundup WeatherMax at the cotyledon stage, four-leaf stage and eight-leaf stage with Stinger (2 oz) at the cotyledon stage and Stinger (6 oz) at the four-leaf stage. This provided 100 percent alfalfa control and gave only minor early season injury which did not last into mid season. Adding 4 oz of Stinger at the cotyledon stage or 8 oz of Stinger at the two to four-leaf stage caused noticeable sugarbeet injury.

EVALUATING RHIZOCTONIA RESISTANT ROUNDUP READY VARIETIES SPRAYED WITH GLYPHOSATE

USDA Researchers have found evidence that when Roundup Ready, Rhizoctonia resistant varieties were sprayed with glyphosate, Rhizoctonia resistance was affected. This work was conducted in greenhouses. We have established four field trials in 2008 to test this hypothesis. Two of the trials are small plot replicated trials and two are large plot replicated strip trials conducted in cooperation with Sugarbeet Advancement. We used the Roundup Ready Rhizoctonia resistant variety HM 27RR for these trials. Half of the plot area has been treated with Roundup WeatherMax and the other half has not been treated. Dead beets from Rhizoctonia crown rot will be counted to determine if there are more dead beets in the Roundup WeatherMax treated area due to Rhizoctonia crown rot. The fields chosen were known to have Rhizoctonia crown rot problems.

Data from these trials will be available mid-winter.



CROP RECORDS, AN OPPORTUNITY FOR IMPROVEMENT



By Corey Guza, Agronomist, PhD

Growers generally have a method of recording what occurs on their farms. It may be a

notepad that fits in their back pocket or a laptop notebook that can be plugged into a GPS. Whatever method a grower uses, recordkeeping is an important way to determine which management practices are worth keeping and when it is best to try something new. Sugarbeets are a crop that requires good management to achieve a top return on investment. There are many ways to maximize return and how each grower accomplishes that goal can be different. For example, some growers would rather manage disease through variety selection while others would prefer to apply a fungicide.

Sorting through the most economical way to produce sugarbeets on an individual farm and field can be a challenge, especially with the rapid changes that are occurring in the industry. Starting with seed selection, there are multiple varieties with numerous characteristics to choose from, including herbicide resistance. The higher cost of fertilizer makes it even more critical to match fertilizer requirements to field conditions. Improving sugarbeet quality though best management practices is an important component to maximizing factory efficiency and the beet payment.



Figure 1: www.michigansugar.com

Michigan Sugar Company has been tracking grower production information for many years. While this information is very useful analyzed over the entire growing region, it was difficult to recognize trends or production practices that were implemented locally that resulted in improvements in sugarbeet production. To address this issue, a new web-based recordkeeping program has been developed by Michigan Sugar Company. The goal is to produce accurate information for individual growers while identifying production practices that would benefit all Michigan Sugar Company grower-owners.

This new record-keeping system is a web-based program which allows growers and agriculturists to enter information live via the internet. The sooner information can be recorded the more accurate it becomes and accurate information is critical to decision making. As more information becomes available it can be tied to the harvest information that is currently available on the Michigan Sugar Company website. Growers who decided to deliver their sugarbeets on the field level in 2008, can have yield and quality information directly tied to production practices in that field. This information can be used to find trends in production practices that lead to greatest productivity.

To access crop records, login to the Michigan Sugar Company website www.michigansugar.com (Figure 1). Click on Login and enter your login and password. Once in the password protected portion of the website, click on the Crop Records tab (Figure 2). The Crop Records tab will show the list of fields that were setup at the time of contracting. Click on manage records and a series of tabs will be listed showing information on fields, planting, insecticides, fertilizers, herbicides, fungicides and problems (Figure 3). By clicking on the add information or edit links on the individual tabs, crop records can be changed and updated. By editing field information, soil type, soil test, erosion



Figure 3: Manage Records.





Figure 4: Main page.

control and tillage information can be entered in the data base. Planting information that can be recorded includes date, seed variety, seed spacing and seed depth. If an insect pest is present in the field and an insecticide application is required, click on add insecticide. A drop down menu with the insect, insecticide, and placement will be available and the rate of insecticide can be entered. The herbicide and fungicide information can be entered using the same format as the insecticide information. Fertilizer information can be added by entering the pounds of

actual nutrients applied to the field or the fertilizer analysis. As more growers enter information and provide feedback as to how to improve crop records, updates will be made to the website.

In addition to Crop Records, growers will find other useful information available when they login to www.michigansugar.com. The Main tab contains agricultural update information in addition to sugar industry news, the coffee shop bulletin board, exchange, lime coupons and agriculture information (Figure 4). The Reports tab contains grower reports that

include harvest and payment information (Figure 5).

Prior to harvest, only five percent of Michigan Sugar Company's producers had filled out their crop records on the website. As growers have the opportunity, please fill in the information. The data can be used to improve productivity on individual farms and will be used to improve the efficiency and profitability of Michigan Sugar Company's shareholders. If growers have specific questions as to how to use crop records they should contact their agriculturist. 🐴

STEVE POINDEXTER: LEADER, LIAISON AND ALL-AROUND SUGARBEET EXPERT



By Larry G. Olsen, MSU Extension State agriculture leader

In the mid-1990s, Michigan's sugar-

beet industry was on the brink of destruction. Low yields and an uncertain marketing relationship left farmers looking for profitable solutions. That's when Steve Poindexter stepped in.

Though his humbleness would never allow him to admit it, Steve is the sugarbeet industry's knight in shining armor. He helped create the Sugar Beet Advancement Committee (SBA), a network of producers, educators and industry representatives who generate research and utilize education to enhance productivity and profitability of the Great Lakes sugarbeet industry. Thanks to funding from Michigan State University's Extension Service and Agriculture Experiment Station and the sugar companies, the SBA has helped form a tighter partnership between the industry and Michigan State University.

When the SBA was formed, the industry was fragmented and lacked trust between the growers and the sugar companies. Steve, who already had a 17-year history as an Extension educator and a straight shooter, brought the industry together through his leadership and dedication.

"Steve has taken the concept of the university-industry partnership and put it into practice," says Doug Buhler, MAES associate



Larry Olsen, Steve Poindexter, and Tom Coon, Director, MSU Extension.

director and Project GREEEN coordinator. "He has developed a model for successful partnerships."

Tom Coon, director of MSU Extension, calls Steve a pioneer who has created an entirely new approach to integrating research and Extension services that focuses on a particular commodity sector.

"Steve has demonstrated tremendous benefits to Michigan's sugar industry by identifying the research needs, assembling an appropriate team of scientists, and then delivering the outcomes of those findings to growers and processors to improve their productivity and efficiency," Coon says. "This model led the way for us to partner with Purdue to hire an irrigation educator and with Ohio State for a vegetable educator. Several commodity groups have partnered with us to fund similar positions that benefit their respective industries."

GOOD COOPERATION EQUALS GOOD YIELDS

A 2006 survey found that the SBA was the most preferred, widely used and credible source of information for all respondents. Because of the SBA's researchbased recommendations, growers are increasing their profitability by using primed seeds, planting earlier, decreasing seed spacing, reducing nitrogen rates, changing to more effective herbicide programs and using oilseed radish as a trap crop for nematodes. In addition, growers are saving \$20 to \$136 per acre by using BeetCast to time fungicide applications for better control of Cercospora

leafspot. As a result, average yields have increased by five tons per acre in the past ten years.

EXPERTISE IS REWARDED

Poindexter's leadership has not gone unnoticed. Earlier this year, he was honored with the MSU Distinguished Academic Staff Award for his outstanding contributions and history of excellence. Last fall, he received the Partnership Award for Effective and Efficient Use of Resources from Cooperative State Research, Education and Extension Service (CSREES).

MSU Extension will continue to support Poindexter and the SBA while it celebrates the industry's bright future, and we applaud Steve for leading the great teamwork between Michigan Sugar Company agronomists, researchers, agriculturists and growers.

WHAT THE SBA DOES FOR YOU

Steve's fingerprints are all over the SBA's research and education programs. Here's a look at what he does for the SBA:

- Coordinates several field days annually that give growers a firsthand look at test plots.
- Has facilitated the Bean and Beet Field Day at the Saginaw Valley Bean and Beet Research Farm since 1981.
- Has conducted yield variety trials for the past 15 years.
- Coordinates Sugarbeet Seed Week, a joint effort among sugarbeet seed companies, Michigan Sugar and the SBA that allows growers to get all their beet planting information in one fell swoop.
- Has chaired the Bean and Beet Symposium for the past 12 years. More than 700 producers attend the largest indoor trade show and education event in central Michigan.
- Coordinated the first (of many, we hope!) Sugarbeet Diagnostic Field Day.
- Helps growers conduct field-scale demonstrations that are featured in an annual on-farm research and demonstration report.
- Distributes timely pest management information via tip cards, newsletters and websites.



PACKAGING UPDATE - AUGUST 2008



By David Noble, Vice President, Operations

A key strategy and long-term commitment to support a healthy beet pay-

ment is to increase the volume of value-added products. Sugar prices rise and fall over time due to market conditions, but sugar packaged as grocery products, and in other packages, always carry a positive margin over sugar sold on a bulk basis to the large food manufacturers. Michigan Sugar Company is ideally located to take advantage of the consumer and packaged sugar market. There are approximately 30 million people in Michigan and bordering states, plus we are the eastern-most beet sugar company with the lowest transportation costs to the large eastern-state populations.

The warehouse exterior at Bay City may look much the same as it did a year ago, but inside several significant investments have been made to increase grocery product output as well as reducing costs of our industrial and grocery packaged goods. Last September, three consumer packaging lines and palletizing equipment were transferred from Fremont to Bay City. This consolidation created flexibility to switch volume between the four, five, and ten-pound products based on the number of machines dedicated to each size. This equipment also eliminated the need to hand stack bales of products on pallets. Customers



can now source all their product needs from one location instead of shipments (and added costs) from different states.

These former Fremont machines are currently the primary source of bags for display-ready pallets. Major retailers, such as Meijer, have shifted to using palletized commodity products which can be placed directly in the grocery aisles. Extra store handling and shelf-stocking costs are avoided and customers can take bags directly off the pallet.

To match the increased demand for display pallets, a new robotic palletizer has been installed in Bay City this summer as part of the 2008 capital plan. This system is highly flexible and can handle all sizes of grocery bags. The project included a new enclosed bridge between the warehouses to house two conveyors for bag transfer, several hundred feet of conveyors, the robot and a stretch wrapping machine. It was literally a year in the making as equipment was specified, sourced, tested, installed and tested again. Extensive work was done between engineering, marketing and packaging staff to determine the right stack pattern for stability and even the right paper finish on the bags so the robot arm could get the right "grip" without crushing the sugar.

During the last 18 months, an automated industrial bag line and palletizer was put into service. This new equipment was never activated by the previous owner of the Bay City factory, as sugar conveying problems had stymied the project. An innovative solution was designed by our engineering department to overcome the troubles which had stalled the use of this state-of-the-art equipment.

On top of all the changes this past year, yet further change is coming in October with the installation of a new, higher-speed grocery bagging machine. One of the existing six machines will be replaced with a single machine with three times the capacity. Not only will it provide a major jump in output, it has the flexibility to allow 20–30 minute changeovers between different bag sizes versus the current eight-hour impact.

Adding and changing equipment are major events and involve a wide range of people from many departments and backgrounds to ensure successful implementation. The equipment changes are highly visible and evident, but the most important changes within packaging are by the people themselves. Starting in July, the packaging department in Bay City moved from a three-crew to a four-crew shift system to become a 24-hour, year-round business. During the summer, technicians from the packaging department traveled to the robot supplier for training and to disassemble it so they could reassemble it in Bay City. So, as the equipment changes and the business demands for higher volumes of grocery products increases, the people are also adapting to support company strategies.

As a shopper reaches for a bag of Big Chief or Pioneer Sugar at the local grocery store, their primary concern may be in knowing

Dow AgroSciences

they are receiving a quality product at a good price. They may not realize the long-term efforts and Co-op investments behind the scenes that deliver that bag day after day, but Michigan Sugar is taking those steps, and its employees are delivering the change that will allow the company to continue its expansion of business with leading retailers. This, in turn, will allow Michigan Sugar Company to deliver a higher return to its members and assure a healthy future for growers, employees, and customers as the Co-op progresses through its second century. 🐴

Can *Cercospora* resist your fungicide program?

Cercospora Leaf Spot (CLS) resistance management is more important than ever with all the chemistries used to protect your sugarbeets. Choose the tank mix "resistance-breaker."

- Dithane[®] Enable[®] 2F Rainshield + fungicide + COC
- Economical disease protection for sugarbeets, including Roundup[®] Ready varieties.
- Maximum protection against leaf diseases, including *Cercospora* leaf spot.

Always read and follow label directions. ©Dithane and Enable are trademarks of Dow AgroSciences LLC. ©Roundup Ready is a registered trademark of Monsanto Company. www.dowagro.com www.DithaneFungicide.com www.EnableFungicide.com





By Paul Wheeler, Agriculturist

Innovative and forward-thinking are two adjectives that can be used to

describe Gentner Dairy, in Minden City, Michigan. Gentner Dairy is a family partnership that started in the 1930s and is now owned and operated by Keith and Joann Gentner, Mark and Colleen Gentner, and now a fourth generation has started on the farm with Keith and Joann's son, Dale, Keith and Mark's grandfather, Bernard Gentner, started the original farm with 80 acres and three to four milk cows. Keith's parents, James and Marie, started farming in 1960 on an additional 80 acres and continued to expand the cow herd. In the early 1980s Gentner Dairy milked 300 cows and consisted of 800 acres. Marie milked cows while James worked in the fields with the help of their children; Keith, Mark, Dave, Rodney, and Melinda. After Keith and Mark graduated from high school, they started farming with their dad.

Keith and Mark continued to expand the operation. In 1992, Keith and Joann bought their first farm. In 1998, Gentner Dairy consisted of 1,000 acres and 300 cows. Despite making improvements to the dairy, such as adding a milking parlor and storage silos, margins were tight for the dairy operation. At that time, the Gentners decided to diversify their farm operation by growing sugarbeets. "The price of milk was down, manure was avail-



Dale, Justin, Eric, Evan, Lance, Joann and Keith Gentner.

able and sugarbeets seemed like an interesting crop," said Keith.

Despite not having a long family history of growing sugarbeets, except for Joann who grew up on a sugarbeet farm, the Gentners jumped right in. In 1998, they started with 300 acres of sugarbeets planted with a 30-inch, 12row 1770 John Deere planter and a 692 Art's-way harvester. In ten short years, a lot has changed.

Gentner Dairy currently consists of 2,400 acres, with 600 acres of sugarbeets between Keith, Mark and Dale. In 2006, they converted from a 30-inch row spacing to 22inch rows by purchasing a 48-row John Deere planter. In 2007, they purchased a 12-row 6812 Artsway harvester and expanded the bin to include the option of unloading from either side of the harvester, a modification that Joann terms "the batwing." They apply herbicides and fungicides using two sprayers with 90-foot booms. This year, the Gentners adopted RTK technology to help guide their equipment. GPS soil testing is a standard practice on their farm, along with planting sugarbeets in a "stale seedbed." Keith's philosophy is, "When the

ground is fit, we should be going." Stale seedbed planting preserves moisture and allows planting to begin earlier than if they had to till the ground in the spring.

Gentners switched to narrow rows to encourage rapid canopy development, which improves weed control and water use efficiency. They have realized significant improvements in sugar content and quality in their sugarbeets as well as corn yield increases. They like 22-inch rows for dry beans due to increased yields, compared to 30-inch rows and less white mold, compared to 15-inch rows. Gentner Dairy made a slow transition to 22-inch rows to keep their costs minimal. They started with tractors and tires then, and as they updated equipment, purchased the 22-inch row planter and harvesting equipment.

In addition to Dale, Keith and Joann's sons, Lance, who attends CMU, and Evan, who attends Delta College, help on the farm. Mark and Colleen's sons Justin and Eric, are a big part of the farm, along with children, Kayla and Scott. Their family's hard work ethic is best expressed by their farm motto, "Gentner Done!"





By Ronald Meyer, Agriculturist

Dan Weiss has been farming his whole life around the Gera area.

With the help of his dad, Victor, Dan farms about 550 acres, consisting of wheat, soybeans, corn and sugarbeets. About ten years ago, Dan switched his corn, soybeans and sugarbeets from 28inch rows to 20-inch rows. When asked why he made the switch to narrow rows, he said he wanted to obtain a higher yield. Dan made the switch slowly first getting a tractor that had 320 metric tires. Then he purchased a used harvester and changed it over to a 20-inch row spacing. He also purchased a used planter and narrowed the row spacing to 20-inch rows. By buying used equipment and making modifications, he was able to make the change with the least cost to his operation. With 20-inch rows, Dan plants his beets at a six-inch spacing which, results in a plant population of about 54,000 plants per acre. He tried higher populations and found that he lost a lot of sugarbeets through the harvester. Dan found that narrow rows are also more forgiving and can produce a good crop at lower populations. With 20-inch rows, he can get good yields with a final population of 50 to 60 beets per 100-feet of row during years when sugarbeet emergence is not as good. He also feels fertilizer use is more efficient with narrow rows, because the sugarbeets



Dan Weiss in his stale seed bed sugarbeet field south of Gera.

pick up more fertilizer between the rows quicker than with wider rows. After changing to 20-inch rows, Dan picked up about two percentage points of sugar and two tons per acre in his beet crop. In his other crops, he has also increased production by 25 bushels of corn while the soybeans have stayed the same. The only disadvantage he has noticed with narrow rows is that it is more difficult to drive between the row during spaying and cultivating.

After changing to narrow rows, Dan was looking for new ways to increase profitability so he decided to experiment with planting his beets in a stale seed bed. In the fall, he plows down wheat stubble and then flattens out the field. The hard part is getting this done when it is a wet fall. Dan said the most important thing with a stale seed bed is to have it smooth in the spring because the ground is firm and the planter will bounce if the field is too rough. To control weeds in the fall, Dan sprays Roundup as a burndown treat-

ment. He has seen many advantages to the stale seed bed. There are no tractor tracks in the spring. The ground is mellower and there are less crusting problems. One of the things he has to watch for is planting on a stale seed bed when it is too wet. On occasion, the surface of the field is dry enough to drive on, but it can be too wet underneath causing him to wait a couple more days to plant the field. Another advantage with a stale seed bed is that there is more moisture in the ground to germinate the sugarbeet crop and it has less crop residue to inhibit warming of the soil in the spring. In the past, Dan has tried some no-till sugarbeets, but has noticed more insects, especially following soybeans in the crop rotation; therefore, he is not no-till planting sugarbeets at this time. By switching to narrow rows and planting sugarbeets in a stale seedbed, Dan has a more uniform plant population and has increased yield and quality from his sugarbeet crop.

2008 SCHOLARSHIP AWARDS

ALBERT FLEGENHEIMER MEMORIAL SCHOLARSHIP

The recipient of this prestigious award must be an outstanding individual who has shown leadership abilities in the academic field and in extracurricular activities. This year's recipient is Danelle Albosta from southern Saginaw County. Dana performed well in the academic area, where she achieved a 3.984 grade point average at Chesaning High School, and has participated in numerous extracurricular activities.

At her high school, Dana has been involved in the National Honor Society, student council and participated in varsity soccer for three years. Away from school, she has been treasurer and president of her local FFA and has been treasurer of the Regional III FFA. She has also competed in the 4-H/Youth Project for five years and during that time received the Prestige Grower Award three times and the Premier Award once. Dana also won several FFA leadership contests.

Community service is also a large part of Dana's life. She has helped with local blood drives, breakfast with Santa, and helped organize the Daddy-Daughter Dances at her school. Dana is also active in her church's youth group and has been on three mission trips to Minnesota, North Carolina, and Mexico.

College plans include attending Central Michigan University and acquiring a double major degree in finance and accounting. Dana's career objective is to become a



Danelle Albosta



Eric Sneller



Jesse Grekowicz

financial advisor. Her parents are Bruce and Lori Albosta.

PHIL BRIMHALL SCHOLARSHIP

Eric Sneller from Pigeon was awarded the Phil Brimhall Scholarship. Eric graduated from Laker High School this past year and will attend Michigan State University in the fall. Eric will be studying animal science at MSU. He plans to work in the dairy industry after he graduates from college. Eric has participated in the Michigan Sugar Company's Youth Project for ten years and has been a prestige and premier award winner. He has also been heavily involved with several competitions in the dairy industry around the nation. He has held many leadership roles in the organizations that he has been involved. During his high school years, he also played soccer and bowled. Eric's parents are Darwin and Kathy Sneller.

JESSE GREKOWICZ EARNS THE GUY BEALS MEMORIAL SCHOLARSHIP IN 2008

This year's recipient of the Guy Beals Memorial Scholarship is Jesse Grekowicz from Harbor Beach. Chris and Michelle Grekowicz are Jesse's parents, and he is the second oldest of four children. The Grekowiczs are sugarbeet growers and farmers in the Harbor Beach area.

Jesse received the highest quantity of points of the entire East District Youth Sugarbeet Project in 2007 which earned him this distinctive \$500 academic scholarship. His involvement in the Sugarbeet Project has been for the past ten years. With his hard work in the Project, he was selected to do a project presentation on December 12 before a large group of company shareholders at their East District meeting and was the Master of Ceremonies at the 2007 Croswell Sugarbeet Project Awards Banquet.

Jesse graduated from Harbor Beach High School in June 2008. Jesse was very active throughout his high school years, participating in several sports and various other activities.

Jesse plans to attend Saginaw Valley State University in the fall of 2008, working toward a degree in computer science.

AND THE SWEETEST GIRL IN THE WORLD IS...

At the 44th Annual Michigan Sugar Festival, the 2008 Michigan Sugar Queen, Rebecca Doerr of Cass City, was crowned. Rebecca, 18, is a recent graduate from Cass City High School and the daughter of David and Janice Doerr. **Representing Michigan Sugar** Company and the sugarbeet industry, Rebecca has already had an enjoyable day at the state capitol. State Representative Terry Brown invited Rebecca and her family to Lansing where she spent the day as the "queen." With the guidance of Ray VanDriessche, Michigan Sugar Company's Director of Community and Government Relations, she was introduced to many state representatives and senators throughout the day. She even had her picture taken with Governor Granholm and the Stanley Cup! Rebecca is looking forward to all the parades she and her court will be participating in this summer before she attends Delta College in the fall to study dental hygiene.

Crowned as the Michigan Sugar First Runner-up is Ashlyn Gurley, 18, of Burt. Ashlyn, daughter of Ruby Gurley, graduated in the top ten of her class from Chesaning High School in 2007 and attends Maryville College, in Tennessee, where she is majoring in political science with a goal to become an attorney.

Tara Binder, 19, of Unionville, was crowned the Michigan Sugar Second Runner-up. Tara, the daughter of Paul and Shelly Binder, graduated from Unionville-Sebewaing Area High School in



Michigan Sugar Queen, Rebecca Doerr, Ashlyn Gurley, and Tara Binder.

2007. Tara currently attends Baker College pursuing a degree in business administration.

You can visit with the queen and court as they attend parades and festivals throughout the year. Please check the Calendar of Events on the Michigan Sugar Company website for the dates (www.michigansugar.com).

Congratulations to the 2008 Michigan Sugar Queen and Court.



Rebecca Doerr, 2008 Michigan Sugar Queen







By Ray VanDriessche, Director of Community & Government Relations

Hardly a day goes by without seeing something in the press about what is to blame for the higher cost of food, not only in the U.S., but around the world. More often than not the "food to fuels" theory is being bounced around as the culprit in response to higher commodity prices paid for corn, soybeans and wheat.

It is obvious there are a number of reasons for the increased costs to feed our families and recently there has been a tremendous amount of research by the U.S. Department of Agriculture, the U.S. Department of Energy, and farm organizations such as Farm Bureau, to clearly identify what is causing the spike in prices.

A review of some of the key findings from the testimony presented to the Senate Committee on Energy and Natural Resources in June as well as research materials provided by Farm Bureau and the American Sugar Alliance helps address misconceptions by the media and consumers. The following excerpts have been taken from the resources mentioned above.

During the first four months of 2008, the Consumers Price Index for food and beverages increased about 4.8 percent, with increased ethanol and biodiesel consumption of commodities accounting for about four to five percent of the



total increase.' While increased biofuels production is partially responsible for the increases in corn and soybean prices, many other factors have also contributed to the sharp increases in prices.

- Higher incomes, population growth, and depreciation of the U.S. dollar are increasing the demand for processed foods and meat in rapidly growing developing countries such as India and China. These shifts in diets are leading to major changes in international trade.
- Drought and adverse weather have affected grain production in Australia, Canada, Ukraine, the European Union,

and the Untied States in 2007/2008. These weather events have depleted world grain stocks.

- Many exporting countries have put export restrictions in place in an effort to reduce domestic food price inflation and in some cases food shortages.
- Higher energy prices increase producer's costs for fertilizer, and fuel, reducing the incentive for farmers to expand production in the face of record high prices. These costs are eventually passed on to consumers in the form of higher retail prices. USDA Economic Research Service data shows that for every one

dollar spent on food in the United States, 19 cents is attributed to the upfront costs of farming. The remaining 81 cents covers costs associated with food processing, wholesaling, distributing and retailing.¹

When looking at the farmer's share of common food items, according to Michigan Farm Bureau², we should consider these examples:

- Corn today sells for about \$5.50 per bushel. An 18ounce box of cornflakes contains 12.9 ounces of milled field corn; so the actual value of the corn in that 18-ounce box of cereal is 7.9 cents. The cereal, however, sells for about \$3.30 at the grocery store, so the farmer's retail share is a mere two percent.
- In the bread aisle, a 20-ounce loaf of bread sells for \$1.78. At a going rate of \$9.10 for a bushel of wheat, a farmer receives about 16 cents for the wheat used to produce the loaf, or only nine percent of the retail price.

The American Sugar Alliance Sugar Price Survey (August 2008) states that in an Almond Joy Hershey



candy bar that sells for 90 cents, the cost of the ingredient sugar is only .012 cents. In Jelly Belly Sours Jelly Beans that sell for \$3.19, the cost of the sugar is only .07 cents. Dove Miniatures Ice Cream Bars (Mars, Inc.), which sell for \$4.69, the cost of the sugar ingredient is only .043 cents.³

From field to factory, to distribution points, and to retail stores, all sectors of the food chain are severely impacted by the record high price of fuel, which is eventually passed on to the consumer. Please take advantage of the extensive research provided to combat the misinformation that we see so often in the press. The graphics included in this article illustrate the true picture of rising food prices.

SOURCES:

1 American Farm Bureau Federation – Backgrounder on Food Prices (May 2008) 2 Michigan Farm Bureau: Food for Thought – A Resource Guide for Reporting on Food Prices, Supplies (April 2008) 3 American Sugar Alliance: Sugar Price Survey (August 2008)

2008 SUGARBEET YOUTH PROJECT SUMMER TRIP TO MICHIGAN'S ADVENTURE

Early on the morning of June 24, air-conditioned tour buses arrived at various locations around the Thumb of Michigan to pick up the Michigan Sugar Company Sugarbeet Project participants and leaders. Transporting everyone to Muskegon for a full day of fun at Michigan's Adventure Amusement Park was their charge. It was a nice scenic ride through the country on the way over and a lot of nice sugarbeets were seen along the way.

The buses left between 7:30 and 8:00 AM. Arrival time was just before 11:00 AM when the gates at the park opened. The group was given instructions to be back at 6:00 PM for the return trip home. That seemed like a long time to be in the park, but once inside, the time flew by.

The group spread out and some headed for the roller coasters. while others went to the water park. The weather was sunny and warm. The water was a bit on the cool side, but most people didn't mind. The waiting lines were very short for most rides and you could walk right back around and go again almost immediately, with the exception of the Snake Pit and Funnel of Fear waterslides. The wave pools were a lot of fun or you could just lounge by the water, if so inclined. There were rides, waterslides and play areas for kids of all ages. If you liked coaster rides it was great, because of the short lines.

There were numerous places to eat at the park and most took a short break to grab something. Soon it was 6:00 PM and time to



(Top) 2008 summer trip to Michigan's Adventure. (Bottom) Some of the participants recognizing the sponsors for the event.

board the buses for the homeward trip. One bus had trouble with its air conditioner, so part of the group had to wait about 20 minutes for a replacement to arrive. The buses made stops at several fast food restaurants on the return trip for supper arriving back in the area by 10:30 PM. It was a great day enjoyed by the 190 who attended and on top of that the weather was just perfect, too.



CELEBRATE YOUR INDEPENDENCE!

As Michigan Sugar's major supplier of Roundup Ready[®] Sugarbeet seed, we were pleased to cover all of your RR replant needs in 2008. And, we are dedicated to delivering all of your orders in 2009. Thank you for your business today and the opportunity to earn it tomorrow.

Call Doug Ruppal at 989-691-5100 or visit www.hilleshog-us.com to learn more on how we can help you plant for your better future.



Plant for it!

1-800-331-4305

A BRAND OF SYNGENTA

THE NEWSBEET

Fall 2008 Michigan Sugar Company 2600 S. Euclid Ave. Bay City, MI 48706

Address Service Requested

PRSRT STD US POSTAGE PAID LANSING, MI PERMIT #75

