

MICHIGAN COUNTRY LINES

Keeping Soil Healthy

Gypsum's Role In Agriculture
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Plus!

2015 Reliability Goal Met

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POSTMASTER: SEND ALL UAA TO CFS.

Association officers are **Robert Kran**, Great Lakes Energy, chairman; **Mark Kappler**, HomeWorks Tri-County Electric, vice chairman; and **Eric Baker**, Wolverine Power Cooperative, secretary-treasurer. **Craig Borr** is president and CEO.

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Please notify your electric cooperative.
See page 4 for contact information.

IN THIS ISSUE

ON THE COVER*

Healthy soil is crucial for farmers, and when key nutrients like sulfur are lacking, crops won't thrive. Electric co-op member and farmer, Brian Stratton, is adopting new agricultural fertilizer technology from coal fired power plants to feed his soil with much needed sulfur made from pelletized gypsum.

**Some co-op editions have a different cover.*

IN YOUR WORDS

Question Of The Month—We Asked, You Answered.

Last month, we asked electric co-op members a question: If you could only have one meal for the rest of your life what would it be? Thank you for all the responses. Here are some answers from our members...

"The meal I would eat for the rest of my life would be pizza because it can come in many different shapes and flavors."

"Chicken, sweet potatoes/squash, vegetable salad, strawberry shortcake (biscuit) and chocolate milk."

"Two poached eggs, two strips of crisp bacon, two slices of whole wheat toast, fresh squeezed orange juice and coffee."

Our new Question of the Month is:

What is the best compliment you have ever received?

Please submit answers to countrylines.com by March 1.

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A Brighter, Cleaner Energy Future



Steve Boeckman
Great Lakes Energy
President/CEO

Renewable energy. Clean energy. Alternative energy. Green energy. Energy has been debated at the federal and state levels, and maybe even in your living room. I know it has been in mine.

But it's a very important discussion for you, your family, and to your electric co-op.

I guess in the end, it doesn't really matter what you call it. What's important is that your electric co-op is doing something about it!

By the end of this year, about one-third of the electricity you receive is expected to come from clean, renewable energy sources. Wolverine Power Cooperative, our power supplier, invested in additional wind generation being developed in Michigan's Thumb area that is expected to be completed later this year. This will increase Wolverine's supply of wind energy from 50 to just over 350-megawatts (MW)*.

Since 2007, when Wolverine invested in Michigan's first commercial wind farm, wind energy costs have declined, making it more competitive with other energy sources. Today's commercial wind turbines are bigger and reach higher into the sky where winds are steadier and stronger. Other technological advances have increased their efficiency and lowered costs, too.

The ever-increasing amount of renewable energy in Michigan still requires reliable backup generation. However, Wolverine's new Alpine Power Plant, located near Gaylord, will be able to more easily provide this for our members. The 432 MW natural gas-fired plant, which is expected to be operational this year, will meet the future electric capacity needs of Great Lakes Energy and Wolverine's other member co-ops well into the future.

The Alpine Power Plant will be built with existing funds and is expected to have no rate impact on Great Lakes Energy members.

Over the long-term, Wolverine is positioned to provide us with affordable power for at least the next eight to 10 years. We may see some small increases over this time, but we will not be "captive" to rising power costs on the open market.

We're also working to keep your costs affordable for the short-term. The "PSCR factor" on your bill reflects power supply cost fluctuations. Thanks to the hard work of our power supplier, there will be no increase in the PSCR factor in 2016.

Energy is important to us, it's our business. And although you may not be talking about energy as much as we are, we know it's important to you and your family. Thanks for being a co-op member. ■

*A megawatt is 1 million watts. It's the amount of energy 1,000 electric space heaters would require if they each used 1,000 watts at the same time.

Dial 2-1-1 For Payment Help

Find help paying your utility bills this winter by dialing 2-1-1.

It's a free community health and human services information and referral service that connects eligible residents with energy payment assistance help, and much more. By simply dialing 2-1-1, available 24/7, callers are connected with a trained, caring professional who will confidentially assess their situation, identify their needs and refer them to local resources for help.

Although it varies by location, local resources include basic needs such as food, housing, shelter, temporary financial assistance, transportation, utility assistance, and more. In addition, local resources include mental health care and counseling, health care, individual/family life assistance and other services.

If you should experience trouble accessing 2-1-1, you can do a search for the closest 2-1-1 provider in your area by visiting 211.org.

Please remember to review our Energy Optimization programs, too, for energy efficiency rebate offers. Visit michigan-energy.org for details or call 877-296-4319.

Helping our members with their energy costs is another way we're looking out for you. ■



A Cooperative Benefit

Great Lakes Energy members received capital credit refunds in December 2015, including local businesses on our lines.

James Bartlett, president/general manager of Nub's Nob Ski Resort (left), accepts a \$9,701 capital credit refund check from GLE's Joe McHugh. Refund amounts were given as bill credits or checks, and were based on electricity purchases made by members in 2014 or 1990, or both.

As a member of an electric cooperative, you're entitled to a share of the margins earned by Great Lakes Energy. Since 2003, your cooperative has issued over \$46.1 million in capital credit refunds to members. It's another part of the cooperative difference. ■



Robert Kran

Who Are Your Co-op's Directors?

The directors of your electric cooperative are Great Lakes Energy members just like you.

Robert Kran is the third generation to farm the land near Free Soil purchased by his grandfather in the 1920s. For 35 years, Kran and his wife, Betty, operated the family dairy business, expanding it to 180 milk cows and 650 acres of cropland. He was also a director of the Michigan Milk Producers Association for 15 years—including six years as vice president—representing dairy farmers in western Michigan.

In 2014, they sold their dairy herd and now help their neighbor raise young cattle. They also continue to grow corn, alfalfa, wheat and oats on 600 acres.

In addition to serving on the Great Lakes Energy board, he is chairman of the Michigan Electric Cooperative Association board, is on the Mason County District Library board, and is a Free Soil Township trustee. The Krans are members of St. John Cantius Church.

As a business owner, Kran knows the importance of providing a quality, affordable product backed by good service. He feels the same way about his role as a Great Lakes Energy director. That's the cooperative difference. ■



Keeping Your Pets, Energy Budget Comfortable!

By Patrick Keegan

Pet owners often assume their indoor pets want the same level of cooling and heating as the rest of the family. However, most dogs and cats can be comfortable with a wider range of temperatures.

Those with unique pets, like birds or lizards, may need to keep them in warmer environments. Consider moving these pets to a room that can be kept warm easily, but note that this may change over the course of a year.

Pet doors are popular, but they can also be a major air leak that drives up your energy use. When purchasing a pet door, make sure it has energy-efficient features, such as thick construction, weather sealing and the ability to be closed off when not in use. Some newer models have magnet or battery locks: a small magnet or sensor on your pet's collar opens the door, and the rest of the time, the door is shut tight, keeping out other critters—as well as blowing wind and snow!

Some people also leave the TV or radio on while they're away, thinking that the voices will keep their pets from being bored (and destroying their shoes!). However, there are other ways to keep your pooches and kitties entertained. Exercising your pet when you're home and giving them a variety of toys or a nice perch to see out a window when you leave will be more entertaining and less energy

intensive than a TV. If you must leave something on when you're away, try soothing, calm music instead of a blaring TV.

We all love our furry family members, but remember, keeping them comfortable doesn't mean you have to pay more on your monthly bill. ■

Here are a few tips to keep your pet comfortable without cranking up the thermostat:

- A cozy, insulated doghouse might be all your outdoor dog needs, except on the very coldest days.
- Make sure that your indoor pet has a warm place to sleep, like a pet bed with a blanket. Consider giving him a few sleeping options throughout your home in different temperature zones, so your pet can adjust his comfort as needed.
- If you have a very drafty home or an older pet who may appreciate more warmth, a heated pet bed or bed warmer will use far less energy than running your central heating higher all day. This solution can also be good for those who keep their pets in the garage and worry about them staying warm enough. Instead of heating a large, uninsulated space, provide a nice warm bed!



DANGER! Outlet Overload

Every year, U.S. fire departments respond to an estimated **25,900 home electrical fires**. These fires cause an estimated **280 deaths, 1,125 injuries** and **\$1.1 billion in property loss**.

Thirty-nine percent of home electrical fires involve outlets and receptacles, and other electrical wiring.

To ensure safety, you should only use about 80 percent of the available current for each electrical outlet in your home.

Are you overloading outlets?
Use this formula to find out:

$$\text{WATTAGE/VOLTS}=\text{AMPS}$$

Example:

Let's say you are using 2,000 watts of power (for one outlet). Divide the watts by the volts in your home (typically 120), and you come up with 16.6 amps of current being used. With a 20 amp electrical outlet, you are using about 80 percent of the available current.

Energy Savings For Farmers, Agribusinesses

Farmers: Are you tired of high energy bills eating up your budget? Reducing the amount of electricity used to power your equipment is a smart way to eliminate energy waste and unnecessary costs. The Great Lakes Energy Cooperative's Energy Optimization program offers rebates toward a wide range of energy efficiency improvements which could add up to big savings.

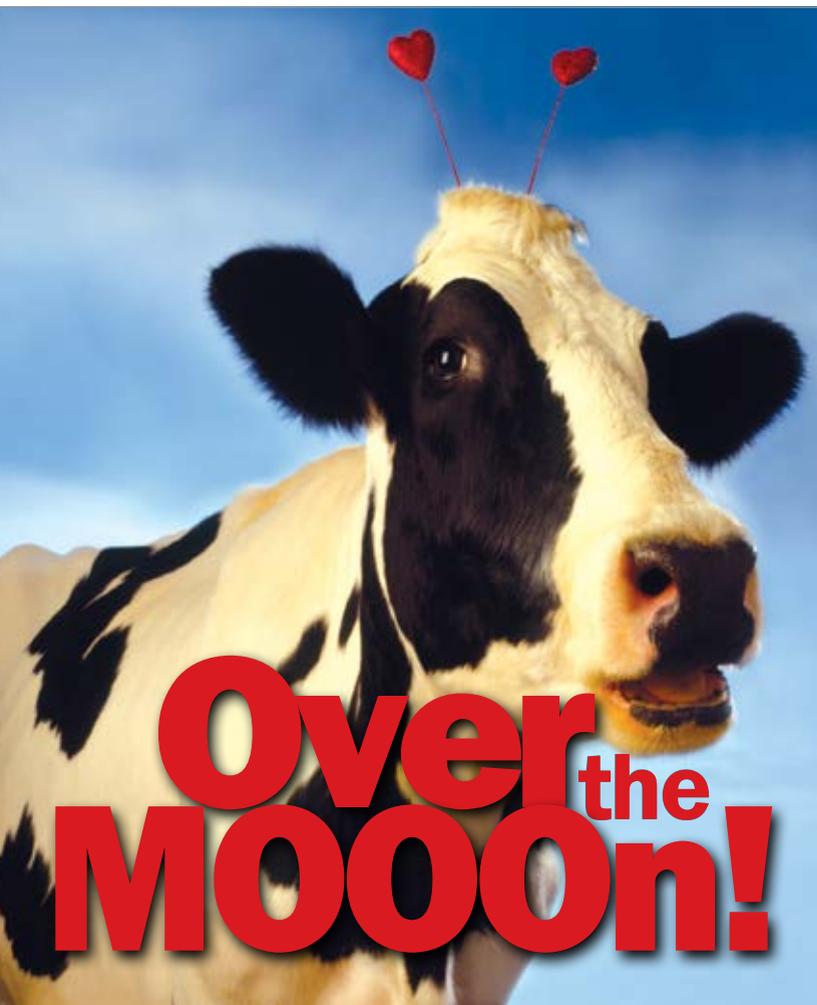
Farm Energy Audit: The Energy Optimization program has partnered with the Michigan Farm Energy Program (in conjunction with Michigan State University Extension) to offer a **\$500 rebate** toward the cost of a farm energy audit. The audit will help you identify where and how to implement practical, energy-saving alternatives to outdated, inefficient equipment.

Rebates for Energy Efficient Products and Equipment: Receive cash back when you purchase and install energy efficient measures such as low-energy livestock waterers, fans and controls, milk-handling equipment, variable speed pumps and controllers, dairy refrigeration tune-ups, lighting upgrades, variable frequency drives, and more.



Rebates for Custom Projects: Have an energy efficiency project in mind, but don't see it on our list? The Energy Optimization program provides rebates for innovative and unique energy efficiency projects designed to meet specific needs, such as long-day lighting systems, milk harvesting and cooling equipment, controlled atmosphere storage room upgrades, and more.

These are just a few of the energy-saving offers currently available for Michigan agribusinesses. View all farm service incentives at michigan-energy.org or call **877.296.4319** for details. ■



Over the MOON!

Fall In Love With Energy Efficiency

We know how hard Michigan farmers work just to keep the lights on. That's why the Energy Optimization program offers rebates for energy-saving upgrades—for everything from lighting, to pumps, compressors, irrigation, fans, and more. You'll be hooked when you see how saving energy improves your bottom line!

ENERGY TIP: Discover the most effective ways to start saving with a farm energy audit. Act now to receive a \$500 rebate!

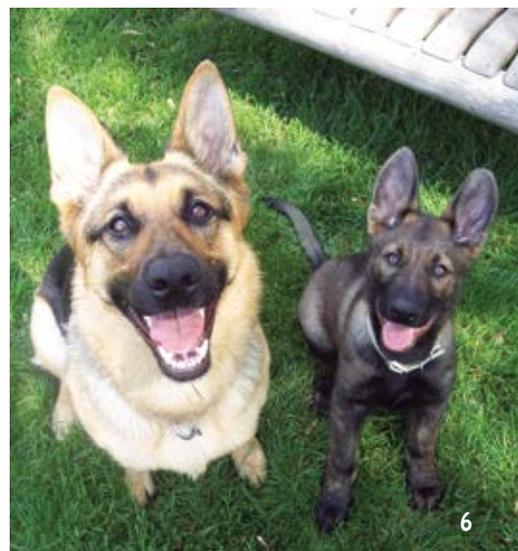
ONLINE: michigan-energy.org

PHONE: 877.296.4319



Energy Optimization programs and incentives are applicable to Michigan service locations only. Other restrictions may apply. For a complete list of participating utilities, visit michigan-energy.org.

Talented Members Share 'Cute Pets' Photos



Enter The 'Pay My Bill' Photo Contest!

Great Lakes Energy members whose photos we print in *Country Lines* will be entered in a drawing and one lucky member will win a credit (up to \$200) on their December 2016 energy bill. Upcoming topics include **"Birds of Beauty,"** due **Feb. 15** for the April issue and **"Saluting Our Armed Forces,"** due **March 15** for the May issue. Visit gtlakes.com/photocontest to submit your high resolution digital photo, read contest rules, and see upcoming themes for 2016. We look forward to seeing your best shot!

1. This little guy has so much personality.
Photo by Brian Head, of Gaylord.
2. Our daughter and her horse, Cisco, who had just been given his medicine, which gets stuck to the roof of his mouth and created a big smile. *Photo by Brenda McCormick, of Kalkaska.*
3. Our pet ferret, Jackson, playing in his tube.
Photo by Lenora Jacobson, of Freesoil.
4. Buttercup and Freddy hanging out.
Photo by Janet Baker, of Shelby.
5. Hi! My name is Mr. Bacon and I am a pot belly pig. Winter is fun, but acorn season is better. *Photo by Lucinda Shafer, of Hart.*
6. When they're working, Police K-9 dogs, Mishka and L.T., are focused on catching the bad guys; but at home, they're more interested in the toy I have balanced on my head!
Photo by Jennifer Creswell, of Grayling.

SIMPLY...GLUTEN-FREE

These recipes show how delicious and easy a gluten-free diet can be.



Chocolate Devil's Food Cupcakes

Laura Harrand, Traverse City

- 1 c. boiling water
- 1 c. gluten-free unsweetened cocoa powder
- 1 c. brown rice flour
- ½ c. sweet sorghum flour
- ½ c. potato flour
- 2 t. baking soda
- 1 t. guar gum
- ½ t. salt
- 2 c. granulated sugar
- 8 T. (1 stick) salted butter, at room temp
- 2 eggs, at room temp
- 1 t. gluten-free vanilla extract
- 1 c. low-fat buttermilk
- icing of your choice

Preheat oven to 400°. Line a 12-cup muffin tin with cupcake liners. In a large bowl, whisk the hot water and cocoa powder together. In another large bowl, stir together the brown rice flour, sorghum flour, potato flour, baking soda, guar gum and salt. Add the sugar and butter to the cocoa mixture. With an electric mixer on high speed, beat until a smooth shiny mixture forms, about 30 seconds. Then beat in the eggs and vanilla on low speed until incorporated. Add half of the flour mixture and beat on low speed just until combined; there may be dry spots. Add ½ c. of the buttermilk, mixing on low speed just until incorporated. Repeat with the remaining flour mixture and the remaining buttermilk.

Fill each muffin cup $\frac{3}{4}$ full with the batter. Reserve the remaining batter and fill four more cupcake liners; set aside. Bake for 15–20 minutes, until the centers of the cupcakes are firm to the touch. Remove the cupcakes from the muffin tin and let cool completely on wire rack. Repeat with the remaining batter. Once the cupcakes are cooled, use a small spatula or butter knife to ice them with your choice of icing. Store in an airtight container in the refrigerator for up to five days.

Almond Butter Quinoa Blondies (pictured)

Jan Anglebrandt, Gaylord

- ¼ c. unsalted butter, softened
- ¾ c. smooth or crunchy natural almond butter
- 2 lg. eggs
- ¾ c. packed light brown sugar
- 1 t. vanilla extract
- ¾ c. quinoa flour (see tip below*)
- 1 t. baking powder
- ¼ t. salt
- 1 c. semisweet chocolate chips

Preheat oven to 350°. Line an 8-inch-square baking pan with parchment paper (or foil), allowing it to overhang the opposite ends slightly. Coat with cooking spray. *To make your own quinoa flour, grind raw quinoa into a powder in a coffee grinder or blender.

Beat butter and almond butter in a mixing bowl with an electric mixer until creamy. Beat in eggs, brown sugar and vanilla. Whisk quinoa flour, baking powder and salt in a small bowl. Mix the flour mixture into the wet ingredients until just combined. Stir in chocolate chips. Spread the batter evenly into the prepared pan. Bake until a toothpick inserted into the center comes out with just a few moist crumbs on it, 25 to 35 minutes. Do not overbake. Let cool in the pan for 45 minutes. Using the parchment (or foil), lift the whole panful out and transfer to a cutting board. Cut into 24 squares. Let cool completely before storing. Makes 24 blondies.

Red Lobster Style Cheese Biscuits

Christine Server, Afton

- ⅓ c. shortening
- ½ c. potato starch
- ¾ c. cornstarch
- 1 ¾ t. xanthan gum
- 1 T. baking powder
- ¼ t. baking soda
- ¾ c. milk
- ½ t. salt
- 1 T. sugar
- ½ c. shredded cheddar cheese
- ¼ c. softened butter
- ¼ c. melted butter
- ½ t. garlic powder

Preheat oven to 375°. In a large bowl, mix together the shortening, potato starch, cornstarch, xanthan gum, baking powder, baking soda, milk, salt and sugar. Add shredded cheddar cheese and softened butter. Pat into ½" thickness on cornstarch covered board. Cut into round shapes. Bake on lightly greased sheet for 12–15 min. As soon as baking is completed, brush with a mix of melted butter and garlic powder.



Roasted Cabbage Steaks

Barbara Olson, Middleville

- 1 head of organic green cabbage, cut into 1" thick slices
- 1½ T. olive oil
- 2–3 lg. garlic cloves, smashed
- kosher salt
- freshly ground black pepper
- spray olive oil or non-stick cooking spray

Preheat oven to 400° and spray a baking sheet with non-stick cooking spray. Pull outer leaf off cabbage, and cut cabbage from top to bottom (bottom being root) into 1" thick slices. Rub both sides of cabbage with smashed garlic. Use a pastry brush to evenly spread the olive oil over both sides of the cabbage slices. Sprinkle each side with a bit of kosher salt and freshly cracked black pepper.

Roast on the middle rack for 30 minutes. Carefully flip the cabbage steaks and roast for an additional 30 minutes until edges are brown and crispy. Serve hot and enjoy! *"I usually serve this with potatoes and carrots sautéed in vegetable broth with some caraway seed sprinkled in. This is a simple side dish worthy of a dinner party, and couldn't be easier to make."*

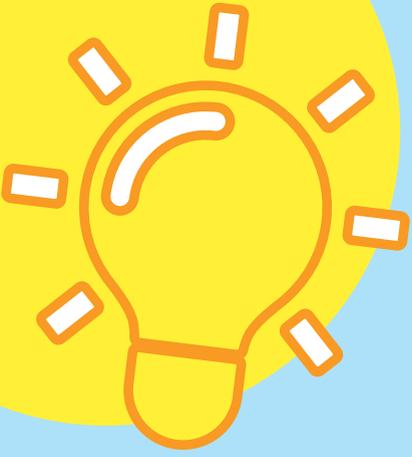
SUBMIT YOUR RECIPE!

Thanks to all our readers who send in recipes. Please send in your favorite "Snacks and Appetizers" recipes by **March 1** and "Quick and Easy" recipes by **April 1**.

Enter your recipe online at countrylines.com or send to (handprint or type on one side, please): *Country Lines Recipes*, 201 Townsend St., Suite 900, Lansing, MI 48933. Please note the co-op from which you receive your electric service.

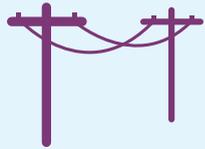
A RECIPE WINNER EVERY MONTH!

Contributors whose recipes we print each month will be entered in a drawing and *Country Lines* will pay the winner's electric bill with a \$50 bill credit! A winner will be selected every month.



We're Keeping the **Lights On**

Reliable service means fewer power outages. We're making improvements to provide you with better service.



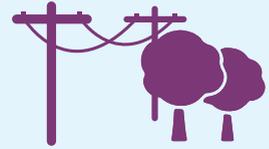
More Power Line Protection Devices



New Technology



Major Power Line Improvements



Aggressive Tree Maintenance

What hinders our progress?



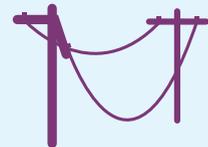
Storms



Man-made Accidents



Animals



Equipment Failure

AVERAGE OUTAGE MINUTES YEARLY COMPARISON



OUR YEARLY GOAL:
UNDER 182.1 MINUTES

We did it!



Your Touchstone Energy® Cooperative 

Looking Out for You

People Fund Contributors Are Winners

Did you know we award \$100 billing credits to Great Lakes Energy members who support the People Fund? Six winners are randomly selected each June and December.

Several generous People Fund supporters recently became winners. See the list of members who received a \$100 bill credit on this page.

You Can Be A Winner, Too

Current People Fund supporters and any member who becomes a People Fund contributor before the next drawing on June 1 are eligible to win.

People Fund contributors allow Great Lakes Energy to round up their electric bills to the nearest dollar each month. The rounded-up amounts, which average less than 50 cents a month, are used to award grants to local charities and community groups, such as food pantries, senior citizen centers and youth programs.

Great Lakes Energy relies solely on your voluntary contributions to support the People Fund. In 2015, People Fund directors awarded nearly \$206,294 in grants to charitable and community organizations throughout our 26-county service area.

For a complete list of 2015 grant recipients, visit gtlakes.com and click on the "Your Community" section.

Gifts are provided by Great Lakes Energy and do not involve the use of any People Fund round up money.

Don't miss your chance to be the next winner! Call our office or visit gtlakes.com to sign up today. ■

Congratulations to our winners!

Thanks for your ongoing support of the People Fund.

- Harry A. Ghent, Tustin
- Shan R. Valentine, Johannesburg
- Kenneth L. Dreyer, Pierson
- Jill Stickney, Custer
- Robert L. Haskins, Mancelona
- Donald L. Strube, Fremont



The HeadWaters Land Conservancy in Gaylord was one of the local organizations helped by a People Fund grant last year.

Access To Rules & Rates

Please be advised that the following information is available to Great Lakes Energy members:

1. Complete rate schedules;
2. Clear and concise explanation of all rates that the member may be eligible to receive;
3. Assistance from the cooperative in determining the most appropriate rate for a member when the member is eligible to receive service under more than one rate;
4. Clear and concise explanation of the members' actual energy use for each billing period during the last 12 months.

The information can be obtained by visiting gtlakes.com or contacting Great Lakes Energy at 1-888-485-2537.

Brian Stratton is a third generation farmer in Vestaburg, MI, and a member of HomeWorks Tri-County Electric Cooperative.



Keeping Soil Healthy

Gypsum's Role In Agriculture And Electricity

By Jeannine Taylor

We can grow more food, but we can't grow more land. So, how do we protect our planet and get the most out of every acre? It starts with healthy soil. Soil is everything to a farmer. It houses the nutrients, minerals and water for crops to grow. Essential nutrients like nitrogen, phosphorus, potassium, magnesium, calcium and sulfur are the life-blood of every plant and are crucial to their survival. When the soil is lacking any of these key nutrients, a farmer's crops will know it.

Brian Stratton knows this all too well. Stratton is a third generation farmer in Vestaburg, MI, and a member of HomeWorks Tri-County Electric Cooperative. His family began farming the area in 1909, and Stratton continues to cultivate the soil—over 800 acres of it. His crops, mainly white winter wheat, dry edible beans and corn, help feed people in the United States, but also in places like Italy, Spain, China and Pakistan.

Stratton leases 80 acres of farmland from Wolverine Power Cooperative near its Vestaburg Power Plant. He started farming this ground in 2010, planting his rotation crops as well as rye and switchgrass wildlife plots. After testing the soil, he found that it was low in calcium and sulfur. "With low calcium

and sulfur levels, you aren't going to be able to take advantage of the nutrients that are there," Stratton explains. "You've got to have all these things balanced as much as possible for the whole system to work efficiently."

So, why was the soil lacking sulfur? A big reason is because coal-fired power plants have greatly reduced sulfur emissions into the air. When the Clean Air Act Amendments were passed in 1990, coal-fired plants were required to reduce their sulfur dioxide emissions. Over time, new rules continued to decrease sulfur dioxide emission limits, ultimately requiring coal-fired plants to install environmental control equipment, such as scrubbers, to meet the new limits. An unintended result is that crops are no longer receiving sufficient sulfur from the atmosphere.

Coal-fired plant owners, such as the Ohio Valley Electric Corporation's (OVEC) Kyger Creek and Clifty Creek Plants, of which Wolverine is a partial owner, have spent over \$1 billion installing environmental controls to capture and remove sulfur dioxide emissions. A process known as flue gas desulfurization (FGD) scrubs the sulfur dioxide from the power plant exhaust by using a limestone slurry that contains calcium. The sulfur and calcium react to produce calcium sulfite, and then oxygen is added to create calcium sulfate, otherwise known as synthetic gypsum.

This high-quality gypsum is becoming a hot commodity for beneficial reuse in everything from wall board to soil amendment fertilizers. For a by-product like synthetic gypsum to be considered for reuse, it must provide a functional benefit to end users and meet or exceed the specifications of the virgin material that it is replacing.



OVEC's synthetic gypsum used to manufacture soil amendment fertilizer.

In fact, the Michigan Department of Environmental Quality (MDEQ) is a strong supporter of beneficial reuse programs. Duane Roskoskey, with MDEQ's Office of Waste Management and Radiological Protection, said they promote the beneficial reuse of industrial by-products such as FGD, coal ash, cement/lime kiln dust, foundry sand and paper mill sludge. "Since 2009, the amount of industrial by-products reused in Michigan has more than doubled to over 900,000 tons per year," Roskoskey explains. "The MDEQ recognizes the benefits of adding FGD to agricultural soils—FGD contains both calcium and sulfur, which are needed micronutrients, for most crops." Over 36,000 tons of FGD were reused in Michigan in 2014.

Gabe Coriell, OVEC's senior environmental specialist, and a part-time farmer, did a great deal of research on synthetic gypsum and its potential for beneficial use. He contacted professors at Ohio State University, who had performed studies on synthetic gypsum and its role as a soil amendment, to learn about their findings. He also contacted professionals that were using synthetic gypsum and learned that it was successfully conditioning the soil by adding the level of sulfur and calcium needed for better plant growth. Finally, Coriell talked to several companies who market synthetic gypsum products and found an established one which had a set of specifications required for its products.

Coriell decided to work with Charah, a company based in Louisville, KY, that provides coal combustion product management and power

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OVEC's synthetic gypsum being loaded for transport to Charah to make SUL4R-PLUS Fertilizer.

Clearing The Way For Reliable Service

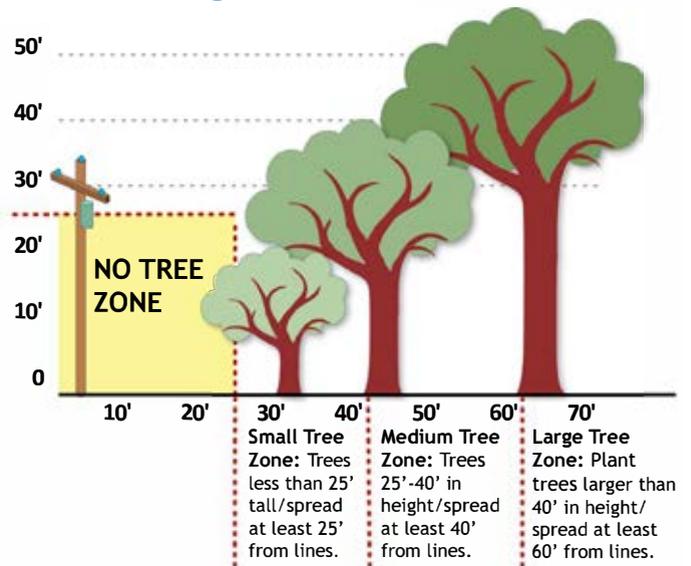
Contracted tree-trimming crews this winter will begin removing trees and limbs near power lines throughout the Great Lakes Energy service area.

The work is part of the cooperative's annual vegetation management program to improve electric service reliability and safety. About \$3.8 million will be invested in 2016 to re-clear trees along 1,302 miles of power line rights-of-way (ROW) in 21 counties and 90 townships.

Great Lakes Energy members will be notified by post card, email and phone if ROW re-clearing work is scheduled in their area. Please be sure we have your current billing address, email address and primary phone number for your service location. This will help ensure we are able to reach you.

Tree-related power line damage is a major cause of outages. Re-clearing of the co-op's entire power line distribution system is performed on six- to seven-year cycles. The amount of trimming to maintain adequate power line clearance depends on the tree type, location and growth, and line voltage size. In addition to weak and dying trees, healthy trees may need to be trimmed or removed if they pose a threat to your electric service.

Tree Planting Guide



Please see the list on this page for areas where contracted crews will work this year.

Have questions? Contact our Vegetation Management Department at 888-485-2537, ext. 8221 (central and south counties) or ext. 1295 (north counties). ■

Areas Scheduled For Re-clearing

Re-clearing of vegetation along Great Lakes Energy power lines is scheduled this year in these counties and townships:



Contracted tree-trimming crews are again working this year to remove trees that pose a threat to power lines.

Allegan: Leighton, Wayland

Antrim: Banks, Central Lake, Elk Rapids, Forest Home, Mancelona, Milton, Torch Lake

Barry: Carlton, Hastings, Irving, Rutland, Thornapple, Yankee Springs

Charlevoix: Charlevoix, Eveline, Marion, Norwood

Cheboygan: Burt

Emmet: Bear Creek, Bliss, Carp Lake, Center, Cross Village, Little Traverse, Maple River, McKinley, Pleasantview, Readmond, Springvale, Wawatam

Grand Traverse: Fife Lake, Union

Kalkaska: Bear Lake, Boardman, Excelsior, Garfield, Kalkaska, Oliver, Orange, Rapid River, Springfield

Kent: Nelson, Spencer, Oakfield

Lake: Chase, Dover, Ellsworth, Lake, Pinora

Manistee: Stronach

Mason: Amber, Custer, Free Soil, Meade,

Sheridan, Sherman, Victory

Mecosta: Aetna, Austin, Big Rapids, Deerfield, Mecosta

Missaukee: Bloomfield

Montcalm: Maple Valley, Pierson

Montmorency: Albert, Vienna

Newaygo: Beaver, Big Prairie, Goodwell, Troy

Oceana: Benona, Colfax, Elbridge, Ferry, Grant, Hart, Leavitt, Shelby

Osceola: Burdell, LeRoy, Lincoln, Richmond, Rose Lake

Otsego: Charlton, Chester, Otsego Lake

Wexford: Liberty

See Us At The Home Shows

Northern Michigan Regional Home Show

March 11 & 12

North Central Michigan College, Petoskey

Home & Garden Show

March 18-20

Little River Casino Resort, Manistee



Visit the Great Lakes Energy booth at the home show nearest you.

Stop by and speak to a representative to learn more about Energy Optimization programs designed to save you energy and money.

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Keeping Soil Healthy

Continued from page 15

plant support services for the coal-fired electric utility industry. While Charah has been around since 1987, they just recently began manufacturing a product called SUL4R-PLUS® Fertilizer, a patent-pending pelletized calcium sulfate product made from synthetic gypsum. "Charah may be new to gypsum," Coriell says, "but they've been in business a long time and have an innovative product that is very attractive. They have a newer process in the market and it is working."

Stratton agrees. He has been using SUL4R-PLUS Fertilizer on his crops and is currently participating



Charah's pelletized SUL4R-PLUS Fertilizer.

in a yield study with Charah to gather data and measure its effectiveness on the property he leases from Wolverine. "I like the pelletized product because it's a much friendlier product to handle," Stratton says. "It spreads more evenly and you don't have the dust to contend with." Results from the first year's use are coming in and, despite a heavy dose of rain that caused root rot to his cranberry beans, the yield results look promising.

With the new products on the market today, like SUL4R-PLUS, Stratton says his crops are getting the same sulfur they used to from the atmosphere, but now it's through a different route. The key is to replenish the nutrient levels in the soil so plants can achieve maximum growth. "With farm crop plants, it's the same as with our own bodies," Stratton explains. "The more attention you pay to your own nutrition, the healthier you're going to be. It's no different for a plant." ■

Jeannine Taylor is communications and member relations director for Wolverine Power Cooperative.

Five Benefits Of Gypsum

1. Source of calcium and sulfur for plant nutrition.

Plants are becoming more sulfur-deficient, and the soil is not supplying enough of it. Gypsum is an excellent source of sulfur for plant nutrition and improving crop yield.

Meanwhile, calcium is essential for most nutrients to be absorbed by plant roots.

2. Improves acid soils and treats aluminum toxicity.

One of gypsum's main advantages is its ability to reduce aluminum toxicity, which often accompanies soil acidity, particularly in subsoils. Gypsum can improve some acid soils even beyond what lime can do for them, which makes it possible to have deeper rooting with resulting benefits to the crops.

3. Improves soil structure.

Soil needs a certain mass to give it a favorable structure for root growth and air and water movement. Gypsum has been used to improve this aggregation in soils.

Soluble calcium also enhances soil aggregation and porosity to improve water infiltration.

4. Improves water infiltration.

Gypsum also improves the ability of soil to drain and not become waterlogged due to a combination of high sodium, swelling clay, and excess water. Adding gypsum also allows water to move into the soil to stimulate plant growth.

5. Helps reduce runoff and erosion.

Agriculture is one of the major contributors to water quality, with phosphorus runoff the biggest concern. Gypsum helps to keep phosphorus and other nutrients from leaving farm fields.

Below: Charah's state-of-the-art manufacturing facility.



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