A Touchstone Energy® Cooperative

H-D ELECTRIC
SEPTEMBER 2023 VOL. 24 NO. 5

COOPERATIVE CONNECTIONS

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What Makes Cooperatives Different

Matt Hotzler
Manager

Recently, I was asked what makes electric co-ops different than other types of utilities. This month, I thought I'd share my answer.

Because we're a co-op, we operate differently than other utilities. H-D Electric Cooperative's decisions are made locally by directors who live here in our community. Everyone who pays to receive electricity from the co-op is a member. When you pay your electric bill each month, your money stays here – to pay for the electricity used or to improve our local system to strengthen service reliability. The money you pay the co-op doesn't end up in the pockets of shareholders from who knows where. We're a co-op, and we exist to provide a service to you, our local members.

As an H-D Electric Cooperative member, you are a vital part of the Cooperative as you can provide feedback. We encourage you to attend the annual meeting held each March, where you can ask questions and vote in director elections. Our success lies in your satisfaction, so we hope to engage and listen to what you have to say.

Because you're part of an electric cooperative, you can count on our team to maintain local jobs, at-cost electricity, and first-class service, no matter what the economy—and supply chain issues–throw at us.

H-D Electric strives to keep our costs as low as possible so we can keep more money in your pocket. We want to help you maximize the value you can get from our services and offerings. For example, we can help you with ideas to save on energy bills through our energy audit program and efficient heating equipment rebates.

Please know that you—the members of H-D Electric Cooperative —are at the heart of everything we do. Co-ops adhere to seven guiding Cooperative principles that reflect core values of open membership, democratic member control, economic participation, autonomy and independence, education, cooperation among cooperatives, and concern for community.

We exist to serve you and provide the quality, reliable, friendly service you expect and deserve. While we have grown, we are still driven by the same guiding principles to serve our members. This co-op was created for you, the members, and we are Powerful…Together!

As we continue to be out during the summer and into the fall months, continue to look for anything unusual or out of place on H-D Electric's equipment, and if you see anything make sure to call us so we can check it out and make any necessary repairs. Stay Safe!

COOPERATIVE CONNECTIONS
H-D ELECTRIC

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Design assistance by SDREA.

Use a generator safely

Portable or permanently installed standby generators can come in handy during long-term power outages. However, if you do not know how to use them properly, they can be dangerous. Contact a qualified vendor or electrician to help you determine what generator is best suited to your needs. Before using, read and follow manufacturer's instructions.

If you are installing a permanent generator, it must have a transfer switch. The transfer switch prevents energy from leaving your generator and going back onto the utility electrical equipment, when it could be dangerous to a lineman or others near downed power lines, a process known as "back feed." A qualified electrician should install your generator and transfer switch.

Safe Electricity has the following tips to use portable generators safely:

- Operate it outdoors in an area with plenty of ventilation. Never run a generator in a home or garage. Generators give off deadly carbon monoxide.
- Do not plug a generator into the wall to avoid back feed. Use heavy-duty extension cords to connect appliances to the outlets on the generator.
- Turn the generator on before plugging appliances to it. Once the generator is running, turn your appliances and lights on one at a time to avoid overloading the unit. Remember, generators are for temporary usage; prioritize your needs.
- Generators pose electrical risks, especially when operated in wet conditions. Use a generator only when necessary when the weather creates wet or moist conditions. Protect the generator by operating it under an open, canopy-like structure on a dry surface where water cannot form puddles or drain under it. Always ensure your hands are dry before touching the generator.
- Be sure the generator is turned off and cool before fueling it.
- Keep children and pets away from portable generators. Many generator components are hot enough to burn you during operation.

Safe Electricity suggests these safety guidelines and basic operating instructions be posted in the home and with the generator.

Operating Statistics:

	June 2022	June 2023
Meters Served	3,757	3,792
Amount Collected	$975,322	$1,069,347
Avg. Bill	$259.60	$282.00
Avg. kWh-Hour	2,060	2,464
Avg. kWh-Hours Purchased	8,997,950	10,021,671
Kilowatt-Hours Sold	8,491,375	9,341,617

No One Can Take Your Place

National Farm Safety and Health Week Sept. 17-23, 2023

The 2019 data for the U.S. Bureau of Labor Statistics indicates that the agricultural sector is still the most dangerous in America with 573 fatalities, or an equivalent of 23.1 deaths per 100,000 workers.

Fall harvest time can be one of the busiest and most dangerous seasons of the year for the agriculture industry. For this reason, the third week of September has been recognized as National Farm Safety and Health Week.

This annual promotion initiated by the National Safety Council has been proclaimed as such by each sitting U.S. President since Franklin D. Roosevelt in 1944. National Farm Safety and Health Week is led by the National Education Center for Agricultural Safety (NECAS), the agricultural partner of the National Safety Council.

Did you know?

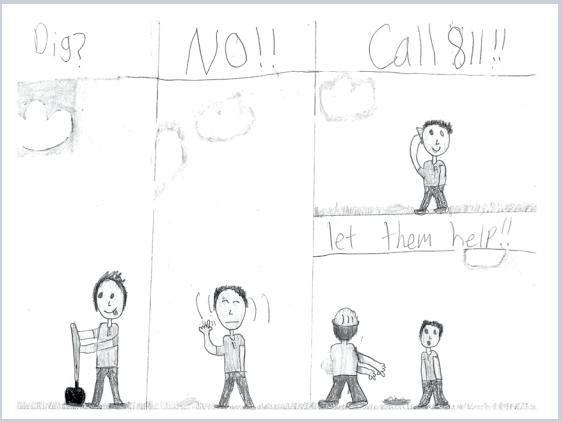
- Rural roads pose special dangers especially during harvest season. Watch out for slow-moving farm vehicles and be informed, aware, and patient while sharing rural roadways.
- Farm stress is real, and many things like weather events, tragedies, market uncertainty, or diseases can tip us out of our comfort zone.
- Every day, about 33 children are seriously injured in agricultural-related incidents.
- Hazardous gasses on farms can be found in silos, manure storages, grain bins, and other confined spaces. Be in the know about hazardous gasses and where they can be found on farms.

Farm and ranch life can be demanding and stressful. Over the past several years, it has reached a critical stage for the folks who grow America's food with COVID-19 pandemic impacts on top of natural disasters, extreme weather events, financial pressures due to fluctuating commodity prices, labor shortages, trade disruptions and a long list of other factors. Given these ongoing challenges, it's no surprise that more farmers and farm families are experiencing stress and mental health concerns.

Today, safety professionals still use this promotional week to remind those working in our nation's most dangerous industry to be careful. Agriculture's death rate is why farmers and ranchers must use safe farming practices during harvest and throughout the year.

South Dakota's electric cooperatives urge our agricultural producers to make better safety and health decisions this harvest season and during the next year. Join us in promoting safety during the 80th annual **National Farm Safety and Health Week Sept. 17-23, 2023**.

During this time, please encourage others to adopt safe practices and behaviors as we prepare to prevent injuries during this harvest season.



Call 811!

Evey Hinrichs, Age 9 3/4

Evey Hinrichs advises people it's not safe to dig before calling 811. Evey is the daughter of Kelby and Carrie Fey from Aberdeen, S.D., members of Northern Electric Cooperative.

Kids, send your drawing with an electrical safety tip to your local electric cooperative (address found on Page 3). If your poster is published, you'll receive a prize. All entries must include your name, age, mailing address and the names of your parents. Colored drawings are encouraged.

DIPS AND SPREADS

SPINACH DIP

Ingredients:

- 16 oz. sour cream
- 1 cup mayonnaise (must be mayo)
- 1 pkg. frozen chopped spinach, thawed and drained
- 1 can water chestnuts, chopped
- 1 tbsp. minced onion
- 1 tsp. season salt
- 1/2 tsp. Accent
- Dash of Worchestershire sauce
- 2 dashes of hot sauce

METHOD

Serve with Club or Ritz crackers.

Linda Hubbard
Rapid City, S.D.

CREAMY CINNAMON DIP

Ingredients:

- 1 pkg. (8 oz.) cream cheese, softened
- 1 container (8 oz.) sour cream
- 1/4 cup packed brown sugar
- 2 tbsps. milk
- 2 tsps. ground cinnamon
- 1 tsp. all natural pure vanilla extract

METHOD

Beat all ingredients in medium bowl with electric mixer on medium speed until well blended. Spoon into serving bowl. Cover.
Refrigerate until ready to serve. Serve with fresh fruit slices, cookies or pound cake or angel food cubes.

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CARAWAY CHEESE SPREAD

Ingredients:

- 1 container (12 oz.) Cheddar cheese spread, at room temperature
- 2 tsps. minced onions
- 1 1/2 tsps. whole caraway seed
- 1/2 tsp. Lawry's® Seasoned Salt

METHOD

Mix cheese spread and seasonings in medium bowl. Cover.
Refrigerate at least 2 hours to blend flavors.
Serving Suggestion: Serve with assorted vegetables such as celery sticks, cherry tomatoes, jicama sticks, carrot sticks, endive leaves, and/or assorted crackers.

mccormick.com

Please send your favorite recipes to your local electric cooperative (address found on Page 3). Each recipe printed will be entered into a drawing for a prize in December 2023. All entries must include your name, mailing address, phone number and cooperative name.

Energy Efficient Windows

Miranda Boutelle
Efficiency Services Group

Q: : My windows are old and drafty, and I'm thinking about replacing them. Can you recommend a few options I should consider?

A: Upgrading or improving your windows is an important component of your home's energy efficiency. According to the Department of Energy, heat gain and loss through windows consumes 25% to 30% of residential heating and cooling energy use.

Start by identifying the kind of windows you have. Are they single pane or double pane? Looking closely at the window's edge, you can see the number of windowpanes. Are the frames metal, wood or vinyl? Some manufacturers etch the make and model numbers in a corner of the glass, so you can look up the manufacturer for more information.

Single-pane windows and double-pane windows with metal frames are the least energy efficient. The lower the efficiency of your existing windows, the higher the potential for energy savings.

There are several options for improving your windows, ranging from replacement windows to storm windows to budget-friendly repairs.

Window Efficiency

Several components can make windows more efficient. High-quality frame materials insulate and reduce heat transfer. Two or more panes of glass with space in between (filled with air or gas) improve the window's insulation capability. Warm edge spacers hold the panes of glass the proper distance apart and help insulate the edges of the panes. Low-emissivity coatings applied to the glass can reflect infrared light, keeping the heat in during the winter and out during the summer.

Window efficiency is rated in U-factor and Solar Heat Gain Coefficient, or SHGC. U-factor measures heat transfer through the window, which relates to how well it insulates. The lower the U-factor, the more efficient the window. The SHGC measures how effectively the window blocks heat from the sun.

Replacement and Maintenance

If you want to replace your existing windows, I recommend shopping for ENERGY STAR®-certified windows. ENERGY STAR® sets specific U-factor and SHGC requirements based on your geography, so you get the best fit for your location. Replacement windows offer additional benefits, like improved operability and aesthetics. As with many industries, the window industry has been impacted by price increases over the past few years, so keep in mind, this can be an expensive upgrade.

Storm windows are a lower-cost solution for some homes. Traditional storm windows are made with clear glass. Low emissivity storm windows have energy savings similar to replacement windows at about a third of the cost.

Storm windows are mounted to the interior or exterior and are available in operable styles, so you can still open and close your windows. Look for ENERGY STAR®-certified models.

If you want to maintain the historic architecture of your existing windows, low-e storm windows are a great option. Some companies can refit your existing window frames with custom double-pane glass and weatherstripping.

As with any home improvement project, be sure to get multiple quotes to compare pricing and scope of work. You may find additional savings with rebates from your electric co-op, or state or federal tax credits for window upgrades.

If new windows or storm windows are not in the budget, your best bet is to maintain your existing windows. Keep the paint and caulking on the exterior in good condition. That will help prevent damage from the elements. Caulk around the inside trim, ensure sash locks are installed properly and seal tight when locked. There are a variety of weatherstripping types for windows to keep drafts at bay.

Whether you replace or make improvements to what you have, adding efficiency to your windows will add year-round comfort to your home.

TERMESPHERE PAINTER

Local Art Legend Has a Complete Perspective on Art

Jocelyn Johnson
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Dick Termes, a local artist from Spearfish, S.D., has an original artistic ability. He has found a way to capture the complete perspective of his environment into one piece of art – the Termesphere.

This unique type of art isn't practiced by anyone else – it's an exclusive artform that embodies all that a person sees around them if they were to turn in a circle while looking up and down.

Termes hit upon the idea of six-point perspective in 1968 at the University of Wyoming where he earned his master's degree in art.

Later, while teaching visual perspective as an art professor, his panoramic view of art grew. During a class discussion, a student of his compared five-point perspective to a ball. This comment was the start of his six-point perspective art.

"I imagined I was on the inside of a ball but still was drawing on the outside," Termes said. "I would have what's behind me in the picture as well as what's in front of me and all around me. This would be a six-point perspective and I would have to put it on a sphere to do that."

"I thought at the time, certainly other people have done this; but, 52 years later, I realize, no, no one has done this," Termes said. "It opened such a big door. There could be a thousand people doing it and we wouldn't be doing the same thing."

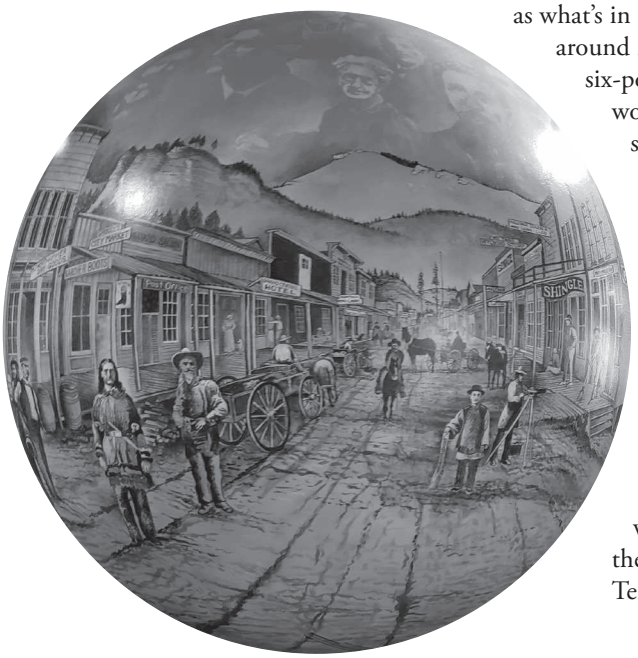
Termes has gained notoriety worldwide for his art. In 1998, he was invited to showcase his art alongside M.C. Escher, a renowned graphic artist, at the University of Rome.

Even though his art is known worldwide, his home is South Dakota. "I get a lot of inspiration by living in South Dakota and the Black Hills," Termes said. "It's been the perfect spot for me."

Termes received the South Dakota Governor's Award in the Arts and has been inducted into the South Dakota Hall of Fame. His hometown of Spearfish, S.D., also proclaimed September 9 as "Dick Termes Day."

In 1992, Termes opened Termesphere Gallery outside of Spearfish, S.D., where he sells his art. Since its opening, his gallery has been visited by thousands of art enthusiasts from around the world.

"People are intrigued with this art because it's the first time a painting can be the total environment," Termes said. "It doesn't have to just be a square or rectangle. Every second of every day, you're in a complete environment. All you have to do is turn around and look at is and you have a Termesphere."



INVASIVE SPECIES

State run boat checks and washing stations aim to reduce the spread of aquatic invasive species, such as zebra mussels, in South Dakota.

Zebra Mussels and Their Impact on the Missouri River

Frank Turner
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The Missouri River in South Dakota, renowned for its outstanding recreational areas, fishing holes and scenic campgrounds, draws a wide swath of tourists from around the world. However, these welcoming public waters have become the home of one unwelcome intruder—the infamous zebra mussel.

Endemic to southeastern Europe, the zebra mussel made its journey to the United States Great Lakes in the '80s as an unlikely stowaway, clinging to the hulls of large ships and barges. Since their arrival, the mussels have proliferated across the Midwest, spreading from one river system to the next.

So how can a mollusk, merely the size of a fingernail, inflict millions of dollars in economic damage to local recreation, agriculture and hydroelectric power generation? Martin Goding, Gavins Point Dam maintenance and operations manager with the U.S. Army Corps of Engineers, explains that one zebra mussel can spawn more than a million eggs in a season, overrunning the local ecosystem. Once established, the mussels latch onto every viable surface in the water—they envelop pipes, ruin beaches and disrupt hydroelectric dams.

In 2015, local governments detected South Dakota's first infestation of zebra mussels in Lewis and Clark Lake. Goding says this discovery ignited a fierce battle against the invasive species.

"We are in the war to eradicate the zebra mussel, but I don't think we're ever going to completely eliminate them," said Goding. "They are multiplying faster than we can get rid of them."

Zebra Mussels completely envelop Gavins Point Dam's water gates, adding up to an additional 30 tons of weight.

With few effective treatments at their disposal, the U.S. Army Corps of Engineers has been forced to adjust to operating within a river infested with mussels. The change has significantly increased the maintenance costs associated with running Gavins Point Dam. Pipes, essential for cooling the dam as it produces electricity, now require routine disassembly and cleaning. Over the course of six months of warm weather, the dam's lakeside gates collect an additional 30 tons of weight from the relentless accumulation of zebra mussel shells and the debris they carry.

"We have spent a million and a half dollars over the last five years just in maintenance to deal with this invasive species—and that's not even counting the cost of materials," said Goding. "Zebra mussels have really impacted the operation and turned maintenance into a nightmare."

Beyond maintenance, zebra mussels have also disrupted power generation. Outbreaks of zebra mussels within the dam's infrastructure have resulted in unscheduled and forced outages, interrupting an energy source that has been historically reliable.

"One could safely say that Gavin Point Dam has lost a million dollars in power generation over the last five years," said Goding.

Since the initial invasion in 2015, some strategies have emerged to mitigate damage from the invasive species. The introduction of UV lights and the addition of strainers have curbed the presence of zebra mussels within the dam. Even still, the mussels have continued their spread northward through the Missouri River to Lake Sharpe near Pierre, S.D.

According to Goding, the experiences at Gavins Point Dam serve as a stark warning for dams and water systems yet to face infestation.

"Lewis and Clark Lake is beyond prevention," said Goding. "We have crossed that bridge and they are not going away."

H-D Electric's Newest Employee

Please Help Us Welcome Josh Hoeke to the Member Service Department!

Josh started working for H-D Electric as an Electrician in June 2023. He attended Mitchell Tech and received his Powerline Construction degree. After attending college, he worked for an electrician getting his time in to get his electrician license.

Milbank, SD is where he calls home but is currently living in rural Revillo area where he likes to hunt, ride motorcycles, and go in the ranger. One special skill he has is being a teamwork.

Josh is a volunteer firefighter for the Revillo Fire Department.

H-D Electric Yard Light Program

Installing yard lights has been and continues to be an important service to our members. We repair yard lights at the cost of the parts and also install new yard lights.

We sell 40-watt LED lights for new yard light installations as well as for any existing yard lights that cannot be repaired. The cost of an LED light is $270 (plus tax). For new installations, there may be additional costs for a pole and wire if required.

Life expectancy for an LED light is about 20 years and has a savings of approximately $30 a year.

Give us a call if you have any questions or are interested in purchasing a new LED yard light or replacing an existing yard light.

H-D Electric Water Heater Program

H-D Electric sells three sizes (50, 85, 100 gallons) of high-efficiency lifetime warranty Marathon water heaters. We have a rebate and discount program for our members.

Replacing an old water heater?

Call H-D Electric and see if you qualify for a new 50-, 85-, 100- gallon lifetime water heater from H-D Electric, and after the rebate only pay $600 for a 50 gallon and $850 for an 85-100 gallon. (tax included)

New Construction or Gas Water Heater Conversion?

Check out what H-D Electric has to offer for the lifetime warranty water heaters for you. If you qualify a new 50 gallon would only be $400 and an 85-100 gallon would only be $600. (tax include)

Call the H-D Electric office during normal business hours to find out the complete list of qualifications. To receive the rebates noted above, a controller must be installed within 90 days of purchase. If a member chooses to not have a controller installed, they must pay the full amount with no rebates. The cost with no rebates is as follows: 50 gallon - $1,300, 85 gallon - $1,600 and 100 gallon - $1,800

Farmers Urged to Look Up During Harvest Season

The Importance of Remembering Electrical Safety

For farmers across the nation, harvest brings long grueling hours in the field. This can cause workers to be weary and prone to forget the safety precautions that can prevent serious or fatal electrical injuries. Every year, an average 62 farm workers are electrocuted in the United States and many more are injured, according to Labor Department statistics.

Safe Electricity urges farm operators, family members, and employees to beware of overhead power lines, to keep farm equipment safely away, and to know what to do if accidental contact is made with power lines. Safe Electricity urges all farm workers to visit www.SafeElectricity.org and watch the video story of farmer Jim Flach, who was fatally injured as he climbed down from his equipment that was in contact with overhead power lines.

The increasing size of farm equipment, particularly grain tanks on combines that have become higher with extensions, allow operators to come perilously close to overhead power lines over entrances to fields. It is vital to keep equipment safely away from them—a minimum 10-foot safety radius around the electric line.

"The No. 1 cause of electrocution on the farm is an auger that hits a power line when being moved," says Bob Aherin, Extension agricultural safety specialist, University of Illinois. Portable augers being maneuvered by hand around bin sites have caused the death of many farm workers who became the path to ground for electricity when the top of the auger touched overhead power lines. Always retract or lower augers when moving or transporting.

The most common equipment involved in power line accidents are portable grain augers, oversized wagons, large combines, and other tall equipment that come into contact with the overhead lines.

"Harvest time is the most likely period for farm-related injury accidents and fatalities," Aherin says. Combines and other equipment loaded onto trailers can also hit power lines and can cause electrocutions, as can raising the bed of a truck to unload, he adds. That is exactly the reason for the tragic electrocution of a 53-year-old Michigan truck driver, who raised the bed of his semi-trailer truck while parked beneath a power line at the edge of a field. Colleagues said he was attempting to clean out the bed, and when he touched the truck bed he became the path to ground for the electricity.

Farm operators, family members, and farm employees are urged to take these measures:

- Use a spotter when moving tall loads near lines.
- Inspect farm equipment for transport height, and determine clearance with any power lines under which the equipment must pass.
- Make sure everyone knows what to do if accidental contact is made with power lines. These accidents are survivable is the right actions are taken.

"It's almost always best to stay in the cab, call for help, and wait until the electric utility arrives to make sure power to the line is cut off. If the power line is energized and you step outside, your body becomes the path and electrocution is the result," Aherin said. "Even if a power line is on the ground, there is still the potential for the area nearby to be energized. Stay inside the vehicle unless there's fire or imminent risk of fire."

In that case, the proper action is to jump—not step—with both feet hitting the ground at the same time. Jump clear, without touching the vehicle and ground at the same time, and continue to shuffle or hop to safety keeping both feet together as you leave the area.

"Like the ripples in a pond or lake, the voltage diminishes the farther out it is from the source," Aherin said. "Stepping from one voltage level to another allows the body to become a path for that electricity. A large difference in voltage between both feet could kill you. Be sure that at no time you or anyone touches the equipment and the ground at the same time. Never should the operator simply step out of the vehicle—the person must jump clear."

Drone Spraying

A Modern Tool in Today's Agriculture

Scott Waltman

As modern agriculture continues to evolve, drones are one of the newer tools farmers can use to help their land and crops.

The hovering, unmanned aircraft can be handy for small areas and places it's difficult for traditional spraying options to get to, according to those who offer the service to those in the ag sector.

Drones aren't the weapon of choice to spray chemicals on 1,500 acres of corn or soybeans, but that day is likely coming, said Derek Ver Helst, who operates Dakota Unmanned Aerial in Brandt.

Closer to the coasts, drones are already used for a multitude of purposes that aren't just fun and shooting videos. They are only going to become more prominent in ag-heavy states like the Dakotas, he said.

"The possibilities are pretty much just limited by your imagination," Ver Helst said.

He said his background as an agronomist piqued his interest in spraying with drones. Dakota Unmanned Aerial is a side hustle he started about two years ago. He works as a senior conservation agronomist for AgSpire.

Nick Williams had a background in agriculture working for CHS Cooperative and selling farm equipment before starting Williams Drones southeast of Parkston in August 2020. Business has been good, he said, estimating that it has doubled each year.

"It's really taken off, it continues to grow," Williams said.

He and Ver Helst agree that farmers have been receptive to the relatively new option, willing to give it a try when the project isn't too big.

Williams said he does mostly ag-related work. In late July, he was staying busy with fungicide applications.

Drones are great near shelter belts and around wet areas. Those are places

that are hard for a land rig or spray plane to get to. Drones work better because they are smaller and more agile, he said.

A route is mapped out and the drone reads that information and flies mostly autonomously, Williams said.

He sets the height, speed, gallons of application per acre and swath width. Once a drone is in the air, it does almost all of the work, though Williams said he can control the height a little, if needed.

Drones have sensors and other features so they don't run into trees, equipment, wind turbines or structures, he said.

Depending on the amount of land to be sprayed, it can take longer to map a field than to spray it, Ver Helst said.

His drones carry 10 liters, but others have a capacity of 40 liters, he said. When a drone runs out of chemical, it returns back to the operator, who puts on a new tank, changes the battery and sends it back out, Ver Helst said. The drone will pick up spraying right where it left off, he said.

In 2016, land-grant university researchers and educators started work to increase the use of drones in agriculture, according to information from the U.S. Department of Agriculture.

That work continues today. It includes identifying and evaluating the most user-friendly and cost-effective drone platforms and sensors, according to the USDA.

Some drone operators offer swarm spraying, Van Helst and Williams said.

For instance, there could be five drones programmed to follow the same grid over a field, pasture or slough working in unison, Van Helst said. As one runs out of spray, it returns for a new tank of chemical and battery until the job is finished.

Van Helst said he doesn't do a lot of spraying. Most of it is on pastures. But, he said, he has done some work in orchards and vineyards where grapes are grown.

Williams has branched out a little more. Last year, he said, he was hired to do a dust-control project at the Sanford Underground Research Facility in the Black Hills. That is the former Homestake gold mine near Lead.

And both men say drones can be used to combat one of South Dakota's least-popular commodities – mosquitos.

Drones can be used to spray for skeeters on fairgrounds, when there's a big city gathering and even in a residential area.

During the COVID-19 pandemic, they were even used to shower stadiums with antibacterial spray, Van Helst said.

One drone operator in Texas was contacted to see if drones could be used to drop fish food into a pond, Williams said.

He said his drones can cover about 20 acres an hour, though some can do 30 hours an acre. And he expects the new drones released next year will be able to spray 40 hours in an acre.

For large fields, a land rig or a spray plane is still a better bet, Williams said. A traditional ground sprayer can probably cover 70 acres an hour, he said.

Van Helt said his T-40 drone can handle about 100 acres a day.

One challenge in getting started is getting all of the licensing needed from the Federal Aviation Administration. He spent about two years testing and writing exemptions and working through the legalities.

Commercial drone operators need a remote pilot certificate from the FAA. Another license is needed to dispense chemicals from a flying aircraft, Van Helst said.

He said he has procured 14 FAA exemptions and will need two more next year.

That's why some drone operators hire a business to navigate that process. That's the route Williams took.

Being a drone operator can be fun or frustrating, just like any other job, he said. He just checks the forecast and hopes it holds. Trying to spray when the wind is 20 mph or more just isn't going to work, he said.

Even so, Van Helst said, drones are a fantastic tool. Ground rigs and spray planes will always be needed, and drones are just one more option for farmers to tap.

"There's a right time and a right place for everything," he said.

SHIFTING GEARS

The Viborg-Hurley School District's new electric-powered school bus is expected to arrive in September.

South Dakota School District Powers Forward with New Electric Bus

Frank Turner
frank.turner@sdrea.coop

The shift from gas and diesel-powered vehicles to electric alternatives is gaining momentum across the U.S., encompassing cars, semi-trucks, and even school buses. Among these making the change is the Viborg-Hurley School District, which is preparing to modernize one of their classic yellow school buses.

The initiative began when Viborg-Hurley School District secured a grant through the EPA's Clean School Bus Program earlier this year, enabling the purchase an electric school bus to join the school's fleet. Using nearly $400,000 from the grant, the school bought their bus and accompanying charging station from Lion Electric, a Canada-based electric vehicle bus manufacturer. Southeastern Electric, a local South Dakota cooperative, was instrumental in encouraging the school district to apply for the grant, according to Matt Jensen, the Viborg-Hurley School District business manager.

"We have community members working at Southeastern who are always looking out for the school's best interests," said Jensen. "They keep us informed about opportunities like this."

Set to arrive in September, the new bus reimagines the classic yellow school bus for a greener future. Its entirely electric engine doesn't require any traditional fuel and instead relies on an electric motor and a charged battery to transport students. To comply with the grant, the school district will have to retire one of their existing diesel engine busses, phasing out the old technology for something new.

According to Jensen, the introduction of new electric technology into the school district's bus fleet has elicited a few questions and some skepticism from the local communities. With a top speed capped at 60 miles per hour and a range of up to 155 miles, the bus comes with its own set of limitations. However, Jensen explained that the vehicle's primary purpose will be for everyday local bus routes, rather than long-distance extracurricular travel.

"There was, and maybe still is, some hesitation because it's something new," said Jensen. "That being said, there's still a lot of excitement and hope that this becomes a more efficient and cleaner way to operate our bus fleet."

The school district will not be without support during this transition. Lion Electric offers complete after-sales support for their vehicles and nearby services providers have the capability to service the vehicle as necessary.

"What drew us to Lion is that their buses are climate tested, which is important to us in South Dakota," he said. "They are specifically designed for harsher climates. I think it will just take some getting used to but I think the community, our students and bus drivers, are excited for the new opportunity."

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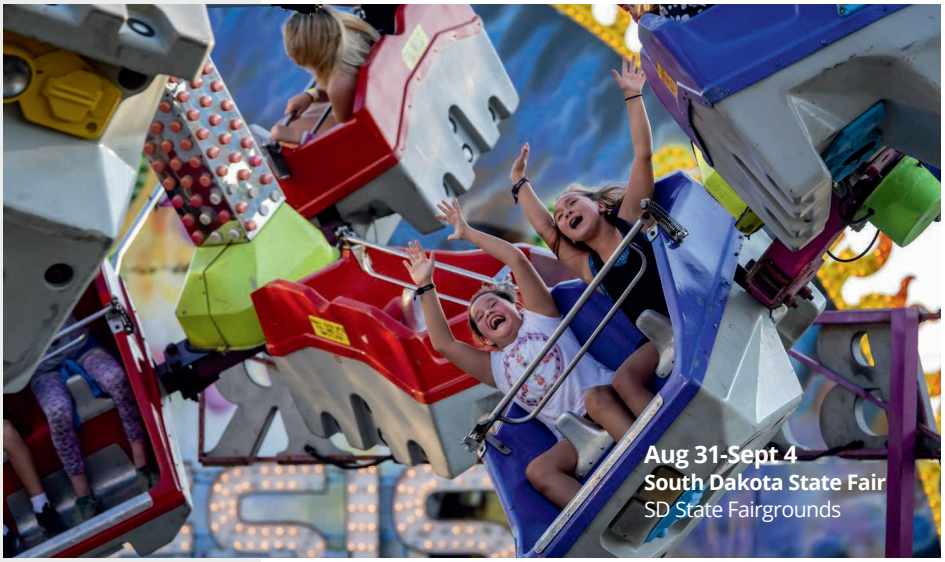

SEPT 2
Hidewood Valley Barn Dance
7 p.m.
47236 183rd St
Clear Lake, SD

SEPT 4
Hidewood Valley Steam Threshing Show
Steam Whistle Blows
1 p.m.
47236 183rd St
Clear Lake, SD

SEPT 8-10
James Valley Threshing & Tractor Show
World's Largest Steam Traction Engine
Andover, SD
605-868-3242

SEPT 9-10
Old Iron - Fall Harvest Festival
Delmont, SD

SEPT 10
10th Annual Black Hill Beer Run
Spearfish Campground Pavilion
Spearfish, SD
605-642-7730

SEPT 10
100th Anniversary of Little Brown Church
11 a.m.
Service, Potluck & Auction
West of Hayes
Hayes, SD

SEPT 11-17
Traditions & Olivia American Legion
Olivia, MN
320-523-1000

SEPT 11-17
HOBO Days
Live Music-Fun
Olivia, MN
320-523-1000

SEPT 16
Midland Appreciation Day
Theme: Automobiles
1:30 p.m.
Midland, SD

SEPT 17
St. Anthony of Padua Catholic Church
Church Bazaar
12 p.m.
Hoven, SD

SEPT 22-24
Coal Springs Threshing Bee
Meadow, SD
605-788-2229

SEPT 23
Springfield Dakota Senior Meals Fall Festival
9 a.m.
Springfield Community Building
Springfield, SD

SEPT 30
Day of Wellness
10 a.m.
Sturgis Armory
Sturgis, SD

SEPT 29-30
Junkin' Market Days
Ramkota Exhibit Hall
Sioux Falls, SD
605-941-4958

OCT 6-7
Holman Acres Pumpkin Fest & Vendor Show
Philip, SD
605-441-1060

OCT 7
Spirit of Dakota Award
Huron Event Center
Huron, SD
605-352-6073

Note: Please make sure to call ahead to verify the event is still being held.