

# COOPERATIVE CONNECTIONS

## Invasive Species

**Zebra Mussels  
on the Missouri**  
Pages 8-9

**Drone Spraying**  
Pages 12-13

## Members: Join us September 19 for the 76th Annual Meeting



**Char Hager**  
General Manager

On behalf of the board of directors and employees, we invite you to the 76th Annual Meeting of Northern Electric Cooperative. The meeting will be held on September 19, 2023, at the Club House on the Brown County Fairgrounds in Aberdeen. Registration will start at 4:30 p.m. with the business meeting beginning at 6:30 p.m. This year, we will not be offering a drive-thru option, and a meal will not be provided. In lieu of a meal, one \$35 meal voucher will be issued to each registered membership. A list of participating restaurants from throughout our service territory will be included with each voucher.

We encourage you to stop by from 4:30-6:30 p.m. to visit with staff and board members. A variety of activities for the family as well as snacks will be available. Safety demonstrations will be performed with our high-voltage trailer and our Neon Leon Power Town display. Additional activities offered include bucket truck rides, trying on lineman safety gear, and more.

**"The annual meeting is your chance as a member-owner to listen to reports from the board and staff about the operation of your cooperative."**

The annual meeting is your chance as a member-owner to listen to reports from the board and staff about the operation of your cooperative. It also is an opportunity for you to meet the employees of the cooperative and ask questions about your co-op and how it functions.

The 2023 Annual Report has been inserted into this issue of Cooperative Connections to provide you with an update on co-op activities over the past year and give you a glimpse at the topics that will be discussed at the meeting. Northern Electric members will vote for three board of director positions during this year's annual meeting. Josh Larson representing District 4, Kirk Schaunaman representing District 6 and B.J. Hansen representing District 7 are all running unopposed for another term. Therefore, no election will be held during this year's Annual Meeting.

We encourage members to visit us at the Brown County Fairgrounds, pick up a meal voucher and gift, register for door prizes and stay for the Annual Meeting.

We look forward to seeing you there!

### 76TH ANNUAL MEETING OF

**Brown County  
Fairgrounds  
Club House**

**Business Meeting  
6:30 pm**

**No meal  
served.**

Support local  
restaurants. Pick  
up your \$35 meal  
voucher.

**4:30 - 6:30 pm**

Join us for snacks,  
"Touch a Truck,"  
bucket truck rides,  
power town, and  
high voltage trailer  
demonstrations.

**Register  
for  
Prizes!**

## COOPERATIVE CONNECTIONS

### NORTHERN ELECTRIC

(USPS 396-040)

**Board President:** Nolan Wipf

#### Board of Directors

Todd Hettich - Vice President  
Ron Kaaz - Secretary  
Josh Larson - Treasurer  
Fran Esser  
B.J. Hansen  
Kirk Schaunaman  
Scott Sperry  
Mike Traxinger

**CEO/General Manager:** Char Hager  
info@northernelectric.coop

**Chief Financial Officer:** Lorisa Rudolph

**Operations Manager:** Jerry Weber

**Manager of Member Services:** Russel Ulmer

**Manager of Information Technology:** Derek Gorecki

**Communications Director:** Kelly Brandlee  
kbrandlee@northernelectric.coop

**Executive Secretary:** Kay Albrecht

Northern Electric Cooperative Connections is the monthly publication for the members of Northern Electric Cooperative, PO Box 457, Bath, SD 57427. Families subscribe to Cooperative Connections as part of their electric cooperative membership. The purpose of Northern Electric Cooperative Connections is to provide reliable, helpful information to electric cooperative members on electric cooperative matters and better rural living.

**Subscription information:** Northern Electric Cooperative members devote 50 cents from their monthly electric payments for a subscription. Non-member subscriptions are available for \$12 annually. Periodicals postage paid at Bath, SD 57427.

Postmaster: Please send address changes to Northern Electric Cooperative Connections, PO Box 457, Bath, SD 57427; telephone (605) 225-0310; fax (605) 225-1684

This institution is an equal opportunity provider and employer.

www.northernelectric.coop



**Northern Electric  
Cooperative**  
A Touchstone Energy Cooperative

Northern Electric Cooperative's regular board meeting was held July 31, 2023, at the headquarters in Bath with all directors present. Rural Utilities Service (RUS) General Field Representative Tom Jones was a guest for the meeting. As the first order of business, the board held an executive session. Following the executive session the board approved the June 23, 2023, minutes, and June expenditures. The board then reviewed and accepted monthly reports by management.

Directors viewed the July 2023 East River Video Report. East River Director Kirk Schaunaman reported on actions taken by the East River Board at the July 6, 2023, meeting. Director Nolan Wipf reported on the SDREA board meeting held June 29-30, 2023. Director Ronald Kaaz reported on the South Dakota Wind Energy Association Annual Meeting held on July 26-27, 2023 in Sioux Falls. Directors reported on the 2023 Hats Off to Ag Banquet held July 27, 2023 at Aberdeen, SD.

### MANAGER'S REPORT

General Manager Char Hager's report to the board included the following items:

- Update on Rural Electric Economic Development revolving loan fund.
- Update of the SDRE Managers and Attorneys Meetings held in June.
- Reminded the board of the NEC Picnic, August 3 to be held at Fisher Grove Country Club.
- Reminded the board of the East River Electric Annual Meeting, September 6, in Sioux Falls.
- President Nolan Wipf reminded

the board of the America's Electric Cooperative PAC dues.

- The 2023 NEC Annual Meeting will be held on September 19 in Aberdeen at the Brown County Fairgrounds Club House.

### BOARD REPORT

The board considered and/or acted upon the following:

1. Approved the date and time of the next regular board meeting for 8:30 a.m. on Friday, August 25, 2023.
2. Approved and signed the Construction Work Plan documents and debt limit resolution.
3. Approved Work Order Inventories #23-06 for \$31,472.35 and #23-06MC for \$92,254.10 for submittal to the RUS for reimbursement from loan funds for completed electric plant construction.
4. Approved annual special and general capital credit retirements for members. Estimated retirements will total \$349,938.07.
5. Appointed Directors Michael Traxinger authorized representative and Kirk Schaunaman alternate for the upcoming Basin Electric Annual Meeting.
6. Appointed delegates for the 2023 NRECA Regional Meetings 5 & 6, Des Moines, IA, September 12-14, 2023. Director Todd Hettich delegate for NRECA, Director Scott Sperry delegate for CFC and Director Nolan Wipf delegate for RESCO. General Manager Char Hager is alternate for all.

Talk to your director or co-op manager if you have questions on these matters.

### FINANCIAL REPORT

	June-23	June-22
kWh Sales .....	21,245,343 kWh	20,530,313 kWh
Electric Revenues .....	\$2,229,963	\$2,168,094
Total Cost of Service .....	\$2,289,620	\$2,178,260
Operating Margins.....	-\$59,657	-\$10,165
Year to Date Margins .....	\$397,842	\$510,141

### RESIDENTIAL AVERAGE MONTHLY USAGE AND BILL

JUNE-2023.....	1,424 kWh.....	\$187.19.....	0.1315 per kWh
JUNE-2022.....	1,404 kWh.....	\$185.09.....	0.1318 per kWh

Wholesale power cost, taxes, interest, and depreciation account for **82.3%** of NEC's total cost of service.

# 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.

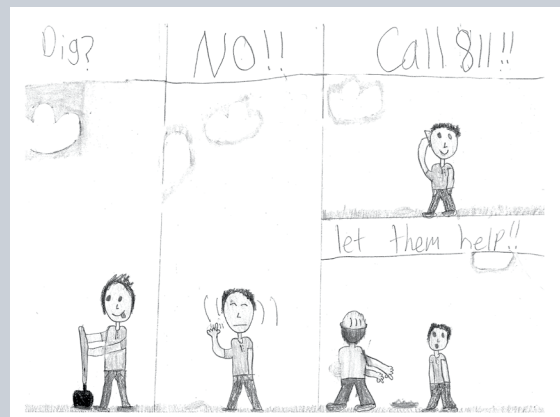
Farm and ranch life can be demanding and stressful. Over the past several years, it has reached a critical stage for the folks who grow America's food with COVID-19 pandemic impacts on top of natural disasters, extreme weather events, financial pressures due to fluctuating commodity prices, labor shortages, 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 Worcestershire 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 tps. 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.  
[mccormick.com](http://mccormick.com)

## CARAWAY CHEESE SPREAD

### Ingredients:

1 container (12 oz.)  
Cheddar cheese spread, at room temperature  
2 tps. minced onions  
1 1/2 tps. 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](http://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.

## Rel represents Northern Electric during the 2023 South Dakota Rural Electric Association Youth Excursion

**Kelly Brandlee**

kbrandlee@northernelectric.coop

Northern Electric Cooperative sent one area high school student to the 2023 South Dakota Rural Electric Association (SDREA) Youth Excursion in North Dakota. Kaden Rel joined dozens of other students from other electric cooperatives across South Dakota during the four-day experience.

During the four-day tour, students learned about cooperatives, energy careers, and the generation resources used to produce the power they use daily.

The SDREA Youth Excursion was held July 24-27 at Bismarck State College in North Dakota. Students toured Basin Electric Power Cooperative's Antelope Valley Station, the Dakota Gasification Company Great Plains Synfuels Plant, and the Freedom Mine.



The Aberdeen Central High School Sophomore was excited about the opportunity to attend this event. "I used this opportunity as a chance to meet new people," stated Rel. "It allowed me to deepen some knowledge about a topic I have only skimmed over before. I learned and grew from the experience," continued Rel.



Water heaters are the second highest source of energy usage in the home – and the second most expensive monthly energy cost. Electric water heaters can help you cut costs from installation to reduced monthly energy bills. They are also more efficient and safer than gas water heaters.

### **RE-ENERGIZING EFFICIENCY**

To learn about the benefits of going electric or to enroll in the load management program, contact your local Touchstone Energy® Cooperative or visit [yourcooppower.com](https://yourcooppower.com) today.





# CUT CORN NOT CORNERS

Time is a precious commodity, especially during harvest. However, cutting safety corners while harvesting around power lines can be deadly. Taking a moment to be prepared can help prevent catastrophic accidents. Knowing what to do if an accident does occur can be the difference between life and death.

**RE-ENERGIZING SAFETY**





# 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**

frank.turner@sdra.coop

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."



— Together Towards Tomorrow. —

# 76TH ANNUAL MEETING

**Register for Door Prizes!**



One \$35 meal voucher will be issued per registered membership. Meal vouchers are to be redeemed at participating restaurants. Members must register at the Annual Meeting to receive a meal voucher.

**No meal will be served at the meeting.**



**SEPTEMBER 19, 2023**  
**4:30PM - 6:30PM**  
Pick up meal vouchers, Touch A Truck, Kids Activities, and Snacks.

**ANNUAL BUSINESS MEETING**  
**6:30PM - ABERDEEN, SD**  
BROWN COUNTY FAIRGROUNDS CLUBHOUSE BUILDING

**YOU'RE INVITED TO THE ANNUAL MEETING OF THE MEMBERS!**

**OFFICIAL NOTICE**  
**MEMBERS OF NORTHERN ELECTRIC COOPERATIVE INC**

The Annual Meeting of the members of Northern Electric Cooperative, Inc. will be held at the Club House at the Brown County Fairgrounds in Aberdeen, SD on the 19th day of September 2023, at 6:30p.m. to take action on the following matters:

- 1. APPROVAL OF 2022 ANNUAL MEETING MINUTES
- 2. APPROVAL OF TREASURER'S REPORT
- 3. ELECTION AND SEATING OF DIRECTORS

PLEASE TAKE NOTICE that although Directors for Districts 4, 6 and 7 will be elected by the membership at the meeting, paper ballots will not be needed. Incumbent directors Josh Larson (District 4), Kirk Schaunaman (District 6) and William (B.J.) Hansen (District 7) are the only eligible candidates for their Districts. Each of the eligible candidates is running unopposed. Since no other nominations can be submitted, the candidates will be automatically elected at the annual meeting.

**2023 NORTHERN ELECTRIC COOPERATIVE BOARD OF DIRECTOR CANDIDATES**

**DISTRICT 4**

Josh Larson  
Columbia, SD

**DISTRICT 6**

Kirk Schaunaman  
Aberdeen, SD

**DISTRICT 7**

B.J. Hansen  
Turton, SD

PLEASE TAKE FURTHER NOTICE that the Secretary has posted such nominations in the principal office of the Cooperative.

Ronald Kaaz  
Secretary

August 25, 2023



## MINUTES OF 2022 NORTHERN ELECTRIC COOPERATIVE, INC. Annual Meeting

Pursuant to the notice to all members, the 75th Annual Meeting of the membership of Northern Electric Cooperative, Inc., was held at the Northern Electric Cooperative, headquarters in rural Bath, SD, on the 13th day of September 2022, at 6:32 p.m. Registration and voting from 5:00 p.m. to 6:30 p.m. General Manager Char Hager welcomed the members to the 2022 Annual Meeting of Northern Electric Cooperative. Hager thanked the members for attending the meeting and their dedication and commitment to the Cooperative.

General Manager Hager thanked East River Electric Power Cooperative Video/AV Coordinator Bob Gale for providing the audio equipment for the meeting. Hager also thanked Big Fella's for the meal.

General Manager Hager called the meeting to order. Following the National Anthem, Vic Gross gave the invocation. Hager recognized special guests, directors, and officers of the board. President Donna Sharp declared a quorum was present with 204 official registrations. Sharp gave a report on petitions for nominees and stated that petitions were received for the following Director candidates: District 2, Todd Hettich, Mina, District 9, Nolan Wipf, Hitchcock, and District 5, Scott Sperry, Bath, Brian Sharp, Bath, and Beth Locken, Aberdeen.

President Sharp called for the Secretary's report. Upon motion, the reading of the September 21, 2021, Annual Meeting minutes was waived, and the minutes, as previously mailed to all the members prior to this meeting, were approved as printed and mailed.

President Sharp called for the Treasurer's report. Sharp stated that the financial statements printed in the annual report represented an accurate reflection of the audited financial status of the Cooperative as of December 31, 2021. The Treasurer's report was approved as presented.

President Sharp called for any unfinished or old business. There was none. Sharp thanked the Board of Directors and all the employees of Northern Electric Cooperative for all the progress that has been made to move the cooperative forward during the past year. We have done it through "The Power of Working Together" which is the theme for the 75th Annual Meeting.

We have been working together over the past year to deliver reliability, consistency, and stability to you, our members. Co-op employees are wrapping up a four-year work plan that was implemented in 2019. Over \$23 million has been spent through 2021 on projects that will improve and upgrade the Cooperative's infrastructure.

Your Board of Directors and co-op employees are also looking toward the future and identifying projects that will be included in the new four-year work plan, which will begin in 2023.

Three new substations have been energized within the last 12 months near Frederick, Elm Lake, and just north of Aberdeen. These new substations will improve reliability and supply more capacity to accommodate regional growth. Northern Electric's wholesale power supplier, East River Electric Power Cooperative, owns, operates, and maintains all the substations within our service territory. President Sharp introduced Bob Sahr the new East River Electric CEO. Sahr updated the members on activities at East River.

President Sharp stated that the board of directors has been reviewing the cooperative's bylaws. As was reported in the April issue of the Cooperative Connections, the board appointed a committee to review the bylaws which had not been amended since 2012. Chairman of the committee, District 1 Director Michael E. Traxinger provided an update on the process.

President Sharp informed the members a full recap of cooperative activities for

the past year is available in the Annual Report.

Three Northern Electric employees celebrating milestone anniversaries with the co-op were recognized for their years of service. Kenny Swanson, Redfield Line Foreman, 35 years, Marty Newman, Bath Line Foreman, 30 years and Lance Dennert, Journeyman Lineman, 10 years.

Several new employees who joined the Cooperative within the past year were also recognized. Riley Whitley, apprentice lineman; Lorisa Rudolph, Chief Financial Officer; Brittany Hofer, Senior Billing Specialist; and Karli Stubbe, Accounting Clerk.

Donna Sharp was recognized with a plaque for her nine years of service on the Northern Electric Cooperative Board of Directors and for serving as the Board President for the past five years. She reached her term limit and officially finished her duties as a director at the Annual Meeting. President Sharp delivered a few remarks to the membership.

President Sharp called for any new business. Sharp moved forward with the meeting to take action on the election of directors.

President Sharp thanked the credentials and election committee for their service and ensuring the election ran smoothly. Attorney Harvey Oliver explained the voting rules and procedures of the election of directors and explained that the candidates for District 2 and 9 being unopposed, the chair declared the nominees as elected by general consent. The committee tallied the votes for the election regarding District 5. Scott Sperry received 46 votes, Brian Sharp received 19, and Beth Locken received 29. Scott Sperry was declared the winner.

Sharp called for any other business to come before the meeting. There being none, she declared the meeting adjourned at 7:04 p.m. and thanked all for attending.



# 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 – mosquitoes.

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."

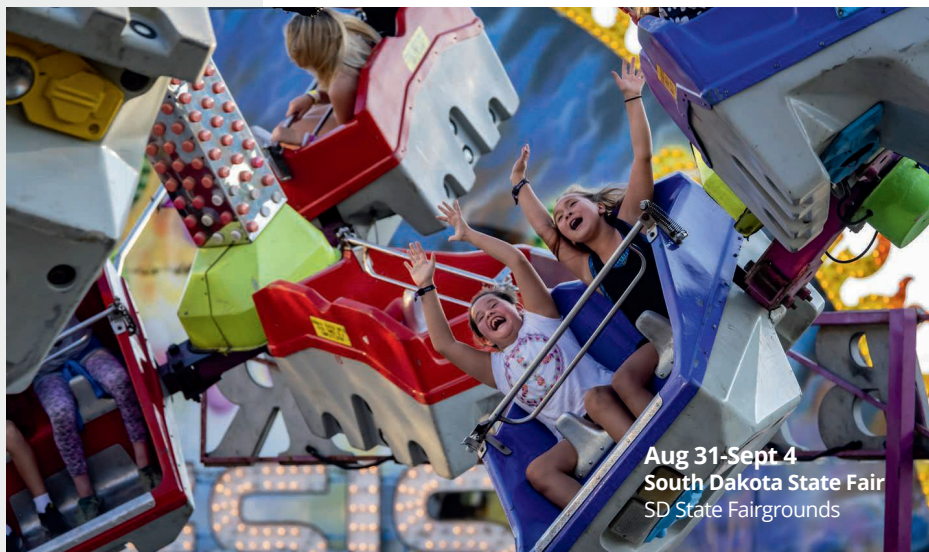


## REGISTER TO WIN!

Bring this coupon and mailing label to the Touchstone Energy® Cooperatives booth at Dakotafest or the South Dakota State Fair to win a prize!

Your Phone Number: \_\_\_\_\_

Your E-mail Address: \_\_\_\_\_



To have your event listed on this page, send complete information, including date, event, place and contact to your local electric cooperative. Include your name, address and daytime telephone number. Information must be submitted at least eight weeks prior to your event. Please call ahead to confirm date, time and location of event.

**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 7-9**  
**Delta Kappa Gamma Used Book Sale**  
Wylie Park Pavilion  
Aberdeen, SD  
605-225-6713

**SEPT 9-OCT 29**  
**Back Forty Beef Corn Maze & Adventure Farm**  
Every weekend (Sept 9-Oct 29)  
10 a.m.  
Pierpont, SD

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

**SEPT 16**  
**Hoedown at Spurs Town**  
4 p.m.  
SPURS Therapeutic Riding Center  
Aberdeen, SD

**SEPT 15**  
**Aberdeen Community Concert Association**  
Vox Fortura: International Pop-Op Quartet  
Johnson Fine Arts Building  
Aberdeen, SD

**SEPT 16**  
**Hoedown at Spurs Town**  
4 p.m.  
SPURS Therapeutic Riding Center  
Aberdeen, 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 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

**OCT 23**  
**Aberdeen Community Concert Association**  
Ireland's Greatest Showman featuring David Shannon:  
Irish Tenor  
Johnson Fine Arts Building  
Aberdeen, SD

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