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Parshall's skyline to get overhaul United Quality building a 27 story elevator

By Jerry W. Kram

By the end of the month there will be a new look for the city of Parshall.

In the span of a week, the United Quality Cooperative will put up a massive 265 foot tall elevator that will dominate the skyline of the community. The former elevator that served the community for nearly 90 years was demolished in March, and contractors have been working on the foundation, utilities, scales, and other infrastructure for the past seven months. Finally, work will start on the above ground portion of the project.

On October 16, contractors will start pouring concrete to form the walls and storage bins for the new project. According to United Quality CEO Eric Jacobson, it will only take a week for the the 27 story building to be raised, nearly 40 feet a day.

Jacobson said when the old elevator was demolished in March, some of the concrete dated back to 1925. An addition was added 30 years later, so most of the old structure was between 60 and 90 years old.

"It all came down along with two newer steel bins to make room for our new 820,000 concrete facility," Jacobson said. "Then construction began in late April. We've been digging down since then and now we are starting to build up."

The elevator should be finished next spring or early summer, Jacobson said. He doesn't expect any changes in staffing with the new plant. The new elevator will rise nearly 27 stories, 265 feet, compared to 130 feet for the old elevator.

Along with an additional 200,000 bushels of capacity, the elevator will be able to unload trucks and load trains much faster, said Operations Manager Gary Urlacher.

UNITED

"Farmers are getting much bigger," Urlacher said. "There equipment is much bigger. They want to get in and out of the elevator much faster. Smaller trucks can hold 800-900 bushels, but some of the tri-axles come in with 1,150 bushels. The farmers don't want to be in the fields waiting for their trucks to dump."

The elevator can take in 20,000 bushels an hour, Urlacher said. That is fast enough to empty a semi load of grain in minutes. The elevator will be able to fill a grain car of a train in about two minutes at a rate of 85,000 bushels an hour. The old elevator was only half to twothirds as fast.

"A truck will be weighed, be probed and directed to one of the three (unloading) pits and dumped and be weighed again in a couple of minutes," Urlacher said. "It will be a very fast process. CP also wants us to be able to load a 110 car train in 10 hours. With this new system we should be able to do it in six hours."

Urlacher said that farmers' productivity has been climbing rapidly in the past 20 years. He doesn't think there will be any problems using the elevator's increased capacity.

The new elevator should be much safer for the five workers at the facility and for the community, said Assistant Operations Manager Jered Johnson. He said that safety regulations have gotten much stricter over the past 20 years and it would have been nearly impossible to bring the old elevator up to current standards.

"Our old house was worn out and had a lot of safety issues," Johnson said. "It will have a lot fewer confined spaces, which was a big safety hazard."

The new plant will be easier to maintain having all new equipment inside, Johnson added. That equipment will also be able to control dust better, lowering the possibility of fire and explosions that could jeopardize the entire community.

United Quality-Parshall is one a few elevators in North Dakota that handles 13 different crops. The elevator will have segregated storage areas to handle the diversity of the region's crops.

"We will be putting up a tenpack so we will have more bin space," Urlacher said. "We need a lot of bins to handle all the different crops. You have the different proteins in wheat, that's a big one. You have a lot of quality differences in durum. We grow a lot of different kinds of beans in this area. So there are just a lot of different crops in this area."

He added that the new grain cleaners will be able to handle 10,000 bushels and hour, compared to the old cleaners that maxed out at about 3,000 bushels an hour. He said they are the biggest grain cleaners on the market.

History of United Quality

Dakota Quality Grain Čooperative was formed in 1993, when the members of Parshall Farmers Union Cooperative Elevator (est. 1915), Ross Farmers Elevator Company (est. 1916) and Farmers Union Elevator of New Town (est. 1928) voted to consolidate. Parshall Farmers Union Cooperative Elevator consisted of the two remaining grain elevators, their agronomy services and their local Cenex Station. Ross Farmers Elevator Company consisted of grain elevators in Stanley, Palermo and Ross and their agronomy and feed services in Palermo and Ross. Farmers Union Elevator of New Town consisted of two grain elevators, agronomy services and a lumber and feed store. These three cooperatives came together and created the member owned Dakota Quality Grain Cooperative.

Farmers Union Oil Company of Sanish was established February 1, 1929 when 196 investors offered a total of \$7,400 to start their new cooperative. Could these investors have foreseen the creation of the Garrison Dam and a town called New Town? Over time the cooperative was known as Farmers Union Oil of New Town, Cenex of New Town and lastly United Prairie Cooperative. The years have been kind to this cooperative as it has withstood much change and tremendous growth. In its 86 year history only ten General Managers have led the cooperative.

In October 2015, the Cooperative Owners of United Prairie Cooperative and Dakota Quality Grain Cooperative voted to consolidate their two Cooperatives. On April 1, 2016 these two cooperatives began operating under the name United Quality Cooperative.

Even after the elevator is finished, that isn't the end of United Quality's expansion plans. Canadian Pacific Railroad has requested that the cooperative add enough new track so the railroad can store 8,500 feet of cars without having to break up the train.

"CP has been talking about moving to 126 car trains," Urlacher said. "They want efficiency. They want all their cars in a single line. They don't want to have to hook on to a bunch of cars, back up, hook on to some more cars, etc. They want to hook on, test the air brakes and move on."

A huge crane is in place to support the construction of the new United Quality Cooperative Elevator in Parshall. The colossal 27 story concrete structure is expected to be finished in just one week in October.



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Photo by Jerry W. Kram

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Gourds, squashes and pumpkins, oh my!

Halloween takes place during a time of year characterized by earthen-colored chrysanthemums, leaf-lined walkways and crisp autumn air. As colorful as the costumes children wear for trick-or-treating may be, nature's beauty is unsurpassed this time of year, and the scores of pumpkins, gourds and squashes on display only add to that colorful melange.

The Cucurbitaceae family may be best known for pumpkins, squash and gourds, but there actually are 800 species that belong to this family. While they share many of the same properties, these fruits each have their own unique attributes.

The main differences between squashes, gourds and pumpkins is their intended purposes - whether they're ornamental or edible.

Squash

Squashes come in summer and winter varieties. Winter ones do not actually grow in the winter; in fact, they're harvested in late summer and early fall, but the name references the hard shell casing that protects the tender pulp inside. Zucchini are summer squash because their outer flesh is tender, while butternut, acorn, spaghetti, and hubbard squashes are winter squashes because they feature a tough skin. Even though it takes some effort to crack that shell, the dense, nutrient-rich flesh inside is well worth the workout.

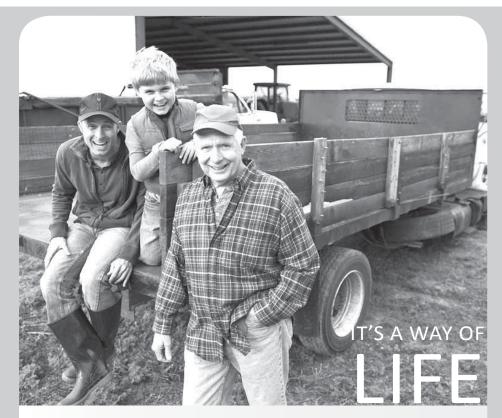
Gourds

Gourds are essentially ornamental squashes; they aren't cultivated for eating. Instead they are bred to look beautiful and unique in autumn centerpieces. Types of gourds include autumn wing gourd, warted gourds, turban gourds, and bottle gourds. Each gourd is unique in its shape and color.

Pumpkins

Pumpkins come in ornamental and edible varieties. Even though all pumpkins can be consumed, some taste better than others. Small pumpkins tend to be decorative because, according to Nutritious Life, they do not have enough meat inside to make them worthy of cooking. However, sugar pumpkins are best for baking and cooking favorite recipes, states the resource Pumpkin Nook.

The festive hues and flavors of squashes, gourds and pumpkins are one more thing that makes Halloween and autumn special.



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Services offered: Bulk Fuel Delivery Propane Bulk Delivery Propane Tank Sales & Leasing Furnace Sales & Repair Bulk Oil Delivery On-the-Farm Tire Service & Tire Sales Auto Repair & Service Department Full Service Bait & Tackle As bees buzzed around his head, Will Nissen was all smiles. Nearby his wife, Peggie, and his three sons were almost oblivious to the bees. But they did pay close attention to the product the

bees made honey, and lots of it. As the owners of Five Star Honey in Minot,N.D., the Nissens dedicate their lives to bees, 400 million bees to be exact.

Since 1978, Will Nissen has lived the life of a beekeeper, working for someone else for more than a decade before striking out on his own in the 1990s. The business has grown to include the entire family and covers two states. During the spring in summer, the bees and the Nissens are in North Dakota with the goal of producing honey. In the winter, they spend a lot of time in California, keeping the bees alive and making a little money using the bees to pollinate crops.

The year-long work across two states has a singular mission, to produce tons of honey, literally, every fall. Nissen said last year his bees produced 600,000 pounds of honey. That equates to approximately 50,000 gallons of honey or close to 30 semitrucks full of the delicious treat.

And for Nissen, it's a way of life, he told the Minot Daily News.

"It's all I've ever done," Nissen said. "You have to enjoy it or you can't do it."

Nissen is one of 220 registered beekeepers in North Dakota. The average beekeeper maintains between 1,000 and 1,500 colonies. Combined, they make North Dakota the No. 1 producer of tabletop honey in the nation.

For many, raising bees sounds easy enough. Put a box in the yard, leave it alone, let the bees do their magic and claim your honey in the fall. But in reality, there is so much more involved.

"You need to put in some hard work," Nissen said. "There's too much in it."

The No. 1 requirement -- you can't be afraid of bees. Yes, you will get stung occasionally, but much like guard dogs, bees can sense fear. If you are afraid, your chances of getting stung go up quickly.

"If you can't get over it in the first couple of hours, you need a new job," Nissen said.

If you can overcome the fear, the work begins. And in reality, it never ends.

Right now, beekeepers around the state are in harvest mode. They are collecting honeycomb full of honey, bringing it to warehouses, extracting the honey, filtering the honey, packaging t and shipping it off. Most bee keepers belong to a co-op of sorts where the honey is shipped and eventually sold. The Nissens are involved with the Sioux Honey Association, and on the afternoon of Sept. 22, they were loading 700-pound barrels of honey into the back of a semi to be hauled to Sioux City, Iowa. Once there, the honey will be processed and packaged for sale as Sue Bee Honey. The Sue Bee Honey is sold nationwide, including at grocery stores in Minot. By the end of October, honey collection will be finished and the last barrels will be shipped off. Once the final barrel is shipped, the Nissens have two weeks to collect their bees. The bee colonies are placed in nets and driven on flatbed trailers from North Dakota to California. The move is made every year for one major reason -- the bees would not survive the brutal cold of North

Dakota winters.

The Nissens drive the bees themselves, setting up the colonies in the foothills of California. With the bees safely in place, the Nissens are able to return home for the holidays -- usually from Thanksgiving through New Year's Day. But even that is not a vacation. While they are not monitoring the bees, the time in Minot allows the Nissens to do maintenance on their equipment.

In early January, the family returns to California and begins to move the bees around, placing them near farmland so the bees can pollinate crops in California. The bees are primarily used to pollinate almonds, berries, citrus and crops like avocados. Farmers pay to have the bees do their natural jobs as a way to ensure the next year of crops will be successful. Around March 1, the Nissens collect their bees and return them to the foothills. They then begin working toward returning them to North Dakota.

Once the bees are in the foothills, the Nissens split the hives and begin making new queens. The process is delicate and highly scientific, as the Nissens work to create high quality queens that will maintain colonies for years.

"We have to be done with our queen yard by the fifth of April," Nissen said. By May, the colonies are back

by May, the colonies are back in North Dakota, and the Nissens begin the process of spreading them out to 235 locations in nine counties. Almost all the bees are placed on farmland, where they begin the process of seeking out flowers to collect nectar that is turned into honey. Most of the bees collect nectar from sunflowers and alfalfa, creating a consistent, delicious honey.

Between May and November, the biggest challenge is keeping the colonies thriving. Raising bees has become a difficult process, and losing colonies is part of the job.

"In 1978, a pretty big bee operation was 1,500 to 2,000 colonies," Nissen said. "These days we're running about 10,000 colonies to keep 6,500 alive."

In 2014, 1,500 colonies were damaged in California and another 1,100 were hurt when they were sprayed by insecticide while in field. Nissen said the damage does not kill all the bees, but it does deplete their numbers to the point they won't produce honey for harvest.

"When we first started going to California, we lost in single digits," Nissen said. "You would cry if you lost 10 percent. Last year, we lost 43 percent. The year before that was 30 percent, and we thought that was good."

"There's a shortage of good honey," he said. "U.S. beekeepers have kept honey clean. Bacteria has a hard time growing in honey."

While most of their honey is sold as Sue Bee Honey, the Nissens do offer some for sale at Five Star Honey. Peggie Nissen said Asian visitors frequently stop by because the honey is a higher quality than they can find at home. The Nissens' honey is also sold at Home Sweet Home in Minot.

While the end product is delicious and popular, the reality is that being a beekeeper still requires one unpleasant task -- dealing with bees every day. Nissen said some hives are more aggressive than others and being stung is part of the job, but he wouldn't change a thing.

"In all the colonies we have, there's no two that are alike," Nissen said. "They have their own personalities. Some are more aggressive."

Reprinted from Farm Journal



Honey bees contribute more than \$14 billion to the value of U.S. crop production, according to the American Beekeeping Federation.

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ADV-

Dakota EcoBeef, GRE, Blue Flint work toget

By Suzanne Werre

Things continue to move forward with the planned Dakota EcoBeef feedlot that will be located southwest of Falkirk Mine and Coal Creek Station, about four miles west of the town of Falkirk.

"We're still kind of waiting on some of the structure kind of information on how GRE and Falkirk want this done," said Dakota EcoBeef's Clark Price. "There have been no problems with the health department. It's just a slow process of getting all the stuff structure exactly how everybody wants it."

Once up and running, the feedlot will house and feed 5000-

6000 head of cattle. EcoBeef will be teaming up with Midwest Ag Energy to provide much of the foodstuffs for the cattle, while Coal Creek Station will provide water for heating and cooling the feeding pads in the hoop barns.

"Nobody has ever done that," said Price. "It's a new concept to control the environment (in places) where we can get extreme cold and extreme heat.

When the beef from the feedlot goes to market, it will be sold as "high choice" and "prime" beef, which is the goal of Dakota EcoBeef – to raise top-quality beef.

In his earlier presentation to representatives of GRE, Blue Flint, Falkirk, as well as surrounding cities, Price said he's confident the traffic to and from the feedlot won't have a negative impact on the area because the feedlot will be able to use already established roads that have excellent access to US Highway 83.

He also addressed locals' concerns about the potential of odor from the cattle waste coming from the feedlot.

As dictated by the state, the liquid will be collected on site, and the solids will be kept in a separate containment area until disposed of.

The combined efforts of Dakota EcoBeef, GRE and Blue Flint seem to be a win-win-win venture, noted those attending the informational meeting held back in May.

Price says that is still the case as they move forward with the project, which he anticipates should start showing more visible progress this coming spring.

Dakota EcoBeef will be utilizing the foodstuffs created at Blue Flint from its corn processing, which will bring up the demand for corn from local growers. Dakota EcoBeef will also be taking in as many local cattle from local cattle producers as it can, noted Price.

"It's moving forward – it just takes a little time to get that stuff done. It just takes time to get everything in place."

Price, the feedlot should employ three full-time employees and a few parttime employees. Eventually, he noted, they would like to get into research, which would bring in the need for additional staff.

"That's kind of the goal – to get into research," said Price. "Trying to prove some principles on the ability to feed cattle in this area based on our foodstuffs.3



Clark Price of Dakota EcoBeef explains the plan for a 5000-6000head feedlot southwest of Underwood's Coal Creek Station.

Mining Coal

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This overview map of the area surrounding the proposed feedlot show that it is southwest of Falkirk Mine and approximately four miles west of the city of Falkirk.

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Sheridan Animal Hospital expands service area facilities

By Allan Tinker

Dr. Gerald Kitto's original Sheridan Animal Hospital has expanded its facilities and staff over the many years of operation.

The service area the staff handles has also expanded to include Harvey and Wells County areas, as well as other neighboring counties around Sheridan.

In Harvey, the space currently used is rented, a former vet clinic in past use.

Kitto and partner Dr. Nadine Tedford and Dr. Vollmer and Dr. Schlafmann and the staff have all worked together to build the very successful practice and the staff rotated between offices.

The Sheridan Animal Hospital

will extend facilities in its service area in Harvey by the addition of a boarding kennel and clinic near the former livestock sales barn in east Harvey. The two units will be on the same lot and are being constructed by general contractors Chris Tedford and Chris Arnold.

The construction started on August 10 of this year and they hope to be done by calving time in March or April of 2019.

The new facilities will offer the same services as the McClusky clinic but with a dental sonic scaler for cleaning animal teeth and a digital x-ray unit. The clinic portion will have a

comfort room for euthanasia and two surgery suites. There will also be a treatment area for small animals with two examination rooms.

The boarding facility will have 25 indoor and 12 outdoor heated runs and a play yard for trust-worthy pets to socialize.

The Harvey site will have some pens to be able to hold animals overnight and there will be space for dog groomer Sarah Hase.

The McClusky Clinic will continue to house the equine pens and the equine surgery unit.

Financing the expansion and boarding kennel addition came through help from Wells County and Bank of North Dakota's Flex Pace interest buy-down program. The City of Harvey helped with acquisition of equipment.



The partially constructed Sheridan Animal Hospital addition that will help serve the expanded service area of the facility in McClusky. The two buildings, a clinic and boarding kennel, will be located near the former livestock sales ring in east Harvey. Chris Tedford and Chris Arnold are general contractors for the project.

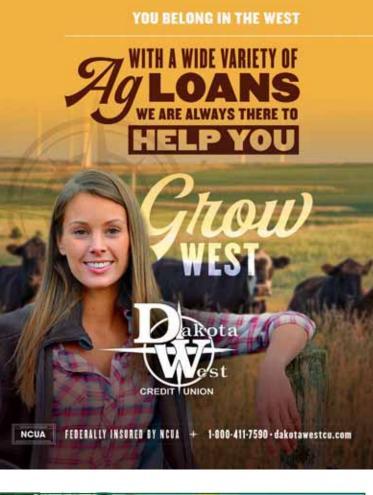




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Our Roots: Ag & Energy, October 2018-7



Milah Kibbel, Ben Heger and Libby Heger didn't have FFA available at the Underwood school, so they joined Garrison's FFA chapter.

Betting on FFA

By Suzanne Werre

Any way you look at it, farming is America's bread and butter, but it's also a huge gamble – it's a throw of the dice, a flip of the coin, a turn of a card, a crap shoot. If it doesn't rain at the right time, or if it rains too much, or if six inches of snow fall on your soybeans that are still in the field, as a farmer, there's nothing you can do about it.

That's why farmers need to learn as much as they can about the agricultural industry so they can use the best products and the best methods to raise the best crops and livestock – ways to still make a profit and a living even when Mother Nature plays some lousy cards. And the sooner they start learning, the better.

That thought isn't lost on a lot of local youth who are looking toward their future and what they want to do as adults. For the youth who are interested in going into the agricultural industry, FFA, Future Farmers of America, is a first step toward a successful future in ag.

FFA exposes students to a variety of agricultural career paths, noted third-year Turtle Lake-Mercer FFA member Amy Klain.

"Right now in our ag class we're learning about animal digestive systems, so if you take a liking to that, it can help lead you to a career in animal science," said Amy.

FFA exposes students to chemistry, biology and veterinary studies – just to mention a few – in addition to the typical areas FFA encompasses, including meats judging, leadership, community involvement and public speaking. While the students are honing their leadership skills and classroom skills, their eyes are always on the future.

"There are endless opportunities through agriculture," said Amy.

While Turtle Lake-Mercer's FFA program has been thriving for several years, just down the road, three Underwood students are hoping there will soon be a FFA program in Underwood. For now, though, they are members of Garrison's FFA. There are currently 84 FFA chapters in North Dakota. The Underwood/Garrison members are hoping it won't be too long until Underwood will be able to increase that number.

Like Amy, Underwood's Milah Kibbel and Ben and Libby Heger come from multigenerational farm families, and they plan on continuing that tradition. What they learn through FFA will help them decide which avenue of ag they want to pursue.

The small-engines class, beef judging and rangeland judging classes Ben Heger is taking are only helping solidify the high school junior's determination to be involved in ag as a career.

"FFA is allowing me to do the things I want to do in the future," said Ben. "It's integrated toward one of my big goals of being in the agricultural field. I want that to be part of my future.

"My big goal is to take over the farm, and that's great, but even if I get to be just a part of the farm, if I come back and help out when I can – that's what I've done all my life."

Libby, who is growing up on that same farm, has the same philosophy.

"I know I definitely want to be in the ag field, whether it's on the



This year's Turtle Lake-Mercer FFA officers are, front row from left: Amy Klain, Kassidy Reiser and Abbie Bergquist. Back row: Ryeleigh Laib, Rhea Laib, Ashley Bergquist and Aaron Klain.

farm, or maybe ag teaching, or maybe doing more of the financial part in ag, but I definitely want to have a career in the ag industry," she said.

Milah says her sister is planning to take over their family farm, and she wants to be able to help her make smart choices. Her sister, older by a few years, didn't get to be in FFA because it wasn't offered.

"I'd like to help her out with the business side and communication so she can understand how things are run. She never got the opportunity to be in FFA," said Milah.

All four of the FFA students

say they've become more comfortable with public speaking, which will help in the future, but the best part is the exposure they've had to all the different aspects of ag.

"I love to go to the meetings and do the various activities that we do," said Amy. "It's so rewarding and I've learned so much.

"I joined it just because I like to try new things, and I just love it," she added.

It's not all fun and games, though, she added. Being in FFA also reminds them that farmers need to know as much and do as much as they can to impact their harvests, whether it's grain or livestock. Even when they do everything they can with the knowledge they've gleaned, they'll still have to deal with things that get thrown their way – like draught, hail and disease.

"You put a lot into farming," said Amy. "Yes, it's great, but farmers are faced with a lot of things – like the tariffs in China. Things are changing in ag all the time, and farmers just have to work around it.

"I really think us discussing these problems now will help future kids in agriculture learn and work on their family farms so they can take over and really be efficient."





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8- Ours Roots: Ag & Energy, October 2018 Healthy eating for a healthy life

By Allan Tinker

Backed by a farm life rich in family values and a desire to offer customers the same quality healthful foods that the Miller family consumes, Premium Golden Flax Products has grown and expanded to include the finest quality flours possible with a storage life of 24 months by best by date, no refrigeration required.

Deborah Miller spoke on the process they developed that gently grinds the flax seed to give customers the longest shelf life of any ground flax product.

Miller spoke on attending the shows and displays where they give out information and answer questions for attendees. With the faster lifestyle and demand for easy to prepare foods that are quality products and designed for healthy living, the Miller entity focuses on educating those who desire this type of healthy living and food preparation.

The company offers ground flax seed, bulk flax and specialty flours in their ever-developing line of healthful foods.

According to the company's information, the Omega 3 fatty acids in flax can lower risks for heart disease, curb stiffness and joint pain, reduce inflammation, improve mental skills, lower cholesterol, improve digestive healthy, leave skin and hair healthier, reduces menopausal symptoms and is an immune system booster.

To get the healthful benefits of flax into your diet in easy, convenient ways you might want to try one of the following:

Add a few tablespoons of ground flax to your bowl of cooked oatmeal.

Add a bit of ground flax to a fruit smoothie mix, orange juice or even low-fat milk. If you do not want to introduce texture into your milk, consider adding it to chocolate milk for a yummy milk shake!

Stir some ground flax seed into applesauce for a healthy snack. Top some onto yogurt.

Sprinkle onto your favorite salad to add texture and an added nutrition bonus. Jazz up your soups and casseroles with a sprinkle of Premium Gold TCM® Dash O' Flax®

Included in the flax and whole grain flour are the following "ancient grains," Rice Flour, TCM® Ground Flax seed, Quinoa Flour, Buckwheat Flour, Amaranth Flour, Tapioca Flour, and Arrowroot Flour. It is a blend of nutritious grains, hand-selected for taste, that are heart healthy.

The label states that, per serving, the flour contains: 12g whole grains, 3g protein, 3g fiber, 1200mg Omega-3, Certified ICS Gluten Free and is packaged in a nut, lactose and gluten free facility. No preservatives and no additives are used in the non-GMO grains product.

The flour can be substituted on a 1-to-1 basis for all-purpose whole-wheat flour. It is sold in different quantities for customer ease of use. The all-purpose, flax and whole grain flour also has a 24-month shelf life and no refrigeration is required.

Miller noted that experienced cooks might already know that flours can be stored in airtight containers in a freezer, for a much longer storage life, where larger quantities must be purchased at one time and stored for longer periods.

Miller added some interesting information on substituting fat and eggs in a recipe, with noted exceptions.

Bakers may use three tablespoons ground flax seed for each tablespoon of margarine, butter or cooking oil by following these guidelines.

Flax can be substituted for all or some of the fat depending on the recipe. If you choose to substitute all of the fat in the recipe with flax seed, you will need to increase your liquid by 75% of the amount of ground flax you are adding because the flaxseed will absorb moisture.

Baking with flax as a fat substitute will cause baked goods to brown more quickly.

Use one part of flax seed flour mixed with three parts of water or other liquid to replace eggs in cakes, cookies, muffins or pancakes.

For example, one egg could be



From Deborah Miller to the left as follows: Grandson Darrick Miller, Randy Miller, Kenny Miller, Ryker Miller, Tasha Miller, Jordan Miller, Matthew Siebenaler (son-in-law), Lindsay Miller Siebenaler, and Abby the dog. Since the photo was taken, Deborah said they have added to the family: Elizabeth Miller, Jameson Siebenaler and Sloane Siebenaler.

replaced by 1 tablespoon of flax seed flour mixed with 3 tablespoons of water.

Avoid using this substitution in baked goods that require the use of eggs, such as egg-based yeast breads.

The recent addition of the Debbie Kay line of mixes allows time-challenged bakers to offer healthy food choices more quickly. These products include Double Chocolate Chip Brownies, Chocolate Chip Brownies, Sugar Cookies, Muffin Mix and Pancake Mix.

The Premium Gold Flax Products website offers much information on the Miller family's products and provides recipes for the use of their products. The products are available at many local markets in North Dakota, Sam's Club.com and on Amazon.com.

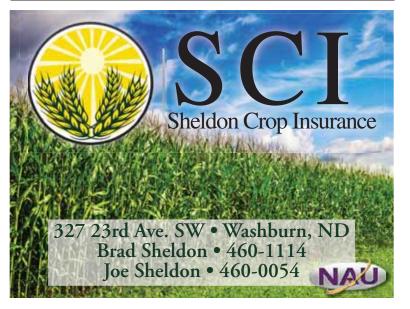


Deborah Miller presenting tasty examples of Golden Flax's new Debbie Kay line at the Natural Products Expo West in Anaheim, California. The Debbie Kay Mixes include Double Chocolate Chip Brownies, Chocolate Chip Cookies, Sugar Cookies, Muffin Mix and Pancake Mix.





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Benefits of including dairy in your diet

A well-balanced diet has long been touted as a necessary component to a healthy lifestyle. When combined with routine exercise, a well-balanced diet can improve quality of life and reduce a person's risk for various diseases.

No well-balanced diet is complete without dairy. While many people may immediately associate milk with dairy, dairy products are much more diverse than that. In fact, including various dairy products in your diet can provide a host of diverse health benefits.

The United States Department of Agriculture notes that dairy products provide a host of nutrients that are vital to overall health.

•Calcium: The nutrient most often linked to dairy, calcium is vital for building strong bones and healthy teeth. Dairy also helps to maintain bone mass, helping men and women combat age-related bone loss.

•Potassium: Dairy products such as yogurt, fluid milk and soy milk are good sources of potassium. That's beneficial because

and women maintain healthy blood pressures.

•Vitamin D: Like calcium, vitamin D is widely associated with dairy, particularly milk. Vitamin D helps bodies build and maintain strong bones, and products such as fluid milk and soy milk are great sources of vitamin D. Yogurts and cereals fortified with vitamin D also can be great sources of this valuable vitamin.

Health benefits

Osteoporosis is a condition in which a person's bones become fragile and brittle due to loss of tissue. Age is a risk factor for osteoporosis, but a poor diet that does not include sufficient amounts of dairy also can increase a person's risk for osteoporosis.

The Department of Agriculture notes that dairy can help men and women lower their risk for ailments other than osteoporosis. Adequate dairy intake has been associated with a reduced risk for cardiovascular disease and type 2 diabetes.

Athletes may be especially

diets rich in potassium help men motivated to consume dairy, as its effect on bone strength and maintenance can help them reduce their risk for injury while practicing and competing.

Adolescents and children can benefit greatly from diets that contain adequate amounts of dairy. Bone mass is built during childhood and adolescence, so foods such as dairy that promote bone health can help children and teenagers develop strong, healthy bones.

In regard to which dairy products to include in one's diet, the Department of Agriculture notes the importance of avoiding foods that are high in saturated fat. Dairy products high in saturated fats can contribute to high amounts of "bad" cholesterol in the blood, increasing a person's risk for coronary heart disease. Low-fat dairy products make for a healthy alternative to dairy that is high in saturated fats, and men and women can discuss such products with their physicians.

No balanced diet is complete without dairy, which benefits the body in myriad ways.



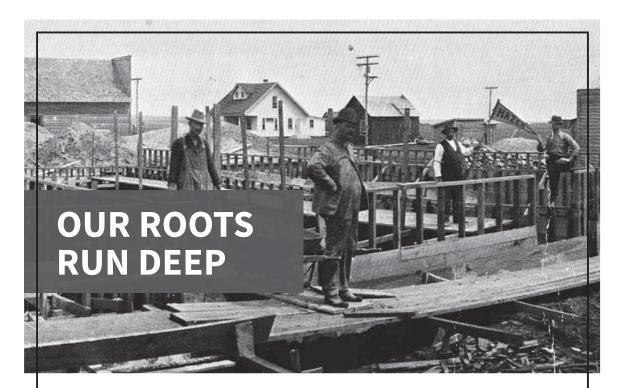
Many people rely on the agriculture industry for their foods, but think little of the impact that agriculture has on the larger economy. However, data indicates that agriculture can serve a significant role in the process of solidifying the economy of a country, particularly developing nations. Agriculture also can contribute to the economic prosperity of advanced countries. IPP Media points out that the economic history of many developed countries indicates that agricultural prosperity contributed heavily to their economic advancement. When the basic food supply is strong, the national economy can be strong as well. Particularly in the early days of the United States, farming held a crucial place in establishing

the American economy and culture, and still shapes the country today. Many states find that farming and other agricultural pursuits contribute much to the local and national economy. For example, new research from the University of Wisconsin-Madison and University of Wisconsin-Extention show that agriculture is a powerful economic force in Wisconsin. Agricultural businesses help generate more than \$83 billion in activity and have created more than 400,000 jobs in that state. The public should not disregard how strong a factor agriculture can be in establishing a strong economic environment. Safeguarding agricultural jobs and the agricultural industry is crucial to economic stability

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Digital technologies change oil industry

Prairie Business Magazine

A columnist from Pennsylvania has a message that people in the Dakotas and Minnesota should hear.

It's this: Today's oil-and-gas job "isn't the same petroleum job your grandfather or your father would have applied for," wrote Pittsburgh native Salena Zito in August.

"It not only attracts computer scientists,S software engineers, mathematicians, andgeologists," but it also "provides careers for locals who thought those good jobs left for good."

Cities that think only of Google, Apple or Amazon when the talk turns to high-tech work should think again, Zito wrote.

And she's got a point, one that holds true for the Bakken region of North Dakota.

"What we're seeing is a total transition," said Ron Ness, president of the North Dakota Petroleum Council. "It's a high-tech oilfield."

These days, not only is much of the actual drilling controlled remotely, but also the wells are monitored remotely by highly-trained people looking at screens.

In other words, "these are office jobs," Ness said.

True, people still climb the rigs, but even that work has changed.

"Prior to 2009-10, oilfield work was very similar to what it would have been 30 years ago," Ness said.

"The most basic component was the drilling rig, where you still had roughnecks up on the rig floor with chains, levers and tongs."

Today, automation – notably "iron roughnecks," computer-controlled hydraulic machines – can handle the heaviest and formerly most dangerous work.

And the drilling itself "is driven much more with a joystick," Ness said.

"So the drilling rigs are safer, the monitoring is better and the work itself – many of these are now white-collar jobs," with wages that range from \$60,000 to \$120,000 or more a year.

"It's insane, the type of technology that's being used in and is coming to North Dakota," Ness said.

The iPIPE Program In Grand Forks, the Energy and Environmental Research Center at the University of North Dakota is managing a pipeline-safety research project that's on the technological cutting edge.

The iPIPE Program has its origins in a meeting called by North Dakota Gov. Doug Burgum, said Brent Lohnes, director of North Dakota operations for Hess Corp.

"Shortly after Gov. Burgum took office, he pulled together all of the operators in the state for a meeting, the focus of which was, 'How do we reduce the number of spills we're having in North Dakota?"" Lohnes said. "That resonated with a group of operators, and we got in touch with the EERC. We reached out to see if this was something they could help with. The result was the iPIPE or Intelligent Pipeline Integrity Program, in which the EERC - sponsored by the member companies and the North Dakota Oil and Gas Research Council - is overseeing testing of new leak-detection and leak-prevention technologies. The partners held a Shark Tanklike event in May, in which industry experts judged proposals from around the world. Said Jay Almlie, EERC principal engineer, "we kidded that we had one of every accent, including German, British, Israeli and Swiss.'

one. These golfball-sized monitors made by Ingu Solutions of Calgary, Alb., can be dropped into a pipeline in one location, retrieved hundreds of yards or hundreds of miles downstream, then tapped for data describing the pipeline's condition.

It's ingenious technology, Almlie said. "It's got 'ears,' so it's listening for leaks. It's got pressure sensors, so it's finding deposits. And it's telling you about the health of the pipeline, because it's measuring wall thickness as it flows through."

The other technology selected was a satellite-monitoring system developed by Satelytics of Toledo, Ohio. Satelytics' system watches the landscape along a pipeline's length, then sends alerts when key changes are detected.

Those could be such things as a car on location, an excavation that's occurring or a shift that could signal a landslide, Almlie said. "These may be minute changes

that the human eye couldn't pick up," he said. "When a landowner finds a leak,

when a landowner finds a leak, that's the worst-case scenario. We want to prevent leaks or catch them early, so that a release might be limited to tablespoons rather than tens of thousands of barrels."

Importantly, these and other technologies incorporate artificial intelligence. Satelytics' systems, for example, "learn" from experience what to look for in landform changes.

"The system can be told, 'You were wrong with that alert,' or 'You were right with that one," Almlie said.

"Eventually, the goal is 100 percent success on hydrocarbon alerts, with zero false alarms and zero missed true leaks."

A fresh lineup of leak-prevention and -detection technologies will be evaluated at a second Shark Tank in late October, Almlie said.

Artificial intelligence Speaking of AI, it's being called upon to improve all aspects of drilling, from the tip of the drill bit to the hearing rooms where lawmakers draft regulations, said Vamegh Rasouli, chair of the Department of Patraloum Engineering et UND

Petroleum Engineering at UND. UND researchers, for example, are using data-mining and intelligent solutions to perfect refracking. That's the practice of going back to once-fracked wells to frack them again. AI's role will be to ana-

eved hunls of miles d for data condition. gy, Almlie l listening e sensors, And it's lth of the neasuring through." y selected gg system of Toledo, watches pipeline's when key things as xcavation that could said.

From control rooms such as this one in Houston, Hess employees control drilling and monitor wells in North Dakota and elsewhere. Shown here are Patience Stern and Jeremy Brown.

- and it's a good story." That's the

lyze the data about pressure, geology and productivity, then decide which of the region's many wells would be the best candidates for refracking, he said.

AI also is changing how companies run their drilling operations. As mentioned, drilling engineers can operate remotely; "from control rooms in Houston, they drill in the North Sea now," Rasouli said. And sensors on drill pads trans-

mit data that operators monitor 24-7.

But "we don't want a lag between receiving the data, analyzing the data and sending back a solution," said Minou Rabiei, assistant professor of petroleum engineering at UND.

Instead, "the industry is moving toward using machine learning, artificial intelligence and Big Data to make those decisions." Smart machines can recognize problems and take action right away, much faster than any operator could do.

And the better the systems, the safer the industry, and the more trust that can be built up with regulators, lawmakers and the public, Rabiei said.

Said Zito in her column, "Thanks to an infusion of high technology driving the natural gas industry, it's

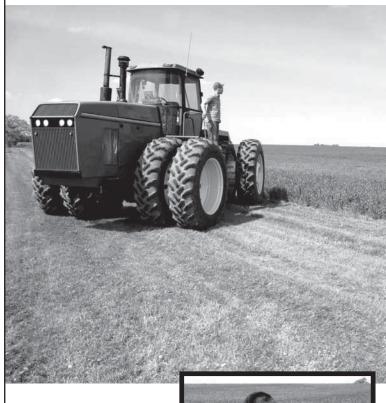




has never been more crucial

not just about dirty boots anymore in the Bakken, and it's proving to

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Our Roots: Ag & Energy, October 2018-11

Potatoes by the pound

By Daniel Arens

As a taste of early winter descended on North Dakota, a Pick City family found a rather shocking product from their gardens.

Lyle and Benita Knell have maintained a garden ever since moving to their current home, located off Highway 200 where it curves from north to east on the way to Pick City. They grow a variety of different plants, enjoying a fun hobby that can occupy some of their time throughout the year.

This year, however, one of the vegetables in the garden decided to provide the Knells with a surprise.

"The first potatoes we picked up, we like, 'Woah, look how big these are. How cool," Benita recalled.

Those first potatoes were impressive, matching the continuing theme of the productiveness of this year's yield.

As the Knells continued to harvest, the potatoes continued to grow. It almost seemed like the smallest potatoes this year were comparable to the average potatoes from the past.

Two potatoes in particular be-

came the subject of much excitement. The largest of this year's exceptionally large gathering weighed in at close to 3 ¹/₂ lbs. each.

"We didn't do anything different this year," Lyle said. Somehow, the same process produced a bizarre and rewarding result to the family this year. The potatoes, like other vegetables in the garden, were planted in late May, slightly later than normal due to the long winter and early spring snowfall in the area.

"None of the other vegetables grew like that," Benita said. "All of a sudden this year we have just huge potatoes."

They had a good gathering from all their plants, but only the potatoes swelled in their size.

The Knells live on the property formerly owned by Lyle's parents, Alvin and Marcella. Their parents were proud to see such large potatoes rise from their land.

"Three and a half pounds, oh, you know, that's a monster," Alvin said.

Lyle and Benita live in the old cow pasture, as it was when Alvin and Marcella owned the land (another family member got the adjacent farmhouse). They don't do any farming themselves but have always enjoined maintaining their garden.

"It's just a little hobby for us, having a garden and a place out in the country," Benita said.

There have been challenges facing the area when it comes to agriculture. Last year, the region experienced a major drought, and although this year's growing season was better, it was far from wet. Strong storms dealt damage to some of the crops in Mercer County.

But for the Knells, the year bore unexpected yields.

"We just had a really good year," Benita said. "The corn got laid down, but we got it to stand back up again; that was about it."

When asked what they intend to do with their massive potatoes, the answer came forward quickly.

"Eat them. We're gonna eat them," Benita said.

"Well, at least we only have to peel one potato for a meal," Lyle added. Benita, laughing, pointed out that, even then, they might find themselves with leftovers.



Lyle and Benita Knell show off their largest potatoes of the year, each nearly $3\frac{1}{2}$ lbs. in weight. The Knells grew exceptionally large potatoes from their garden this year.

Farm Fact: Farm-to-Table

Supports neighboring farms: Supporting farm-totable restaurants and other eateries keeps business local in two different ways. It not only benefits local restaurants, but it also directly supports neighboring farms, fisheries and other suppliers.



Agents: Todd Newton, Tammy Stein-Dockter, Gary Oster

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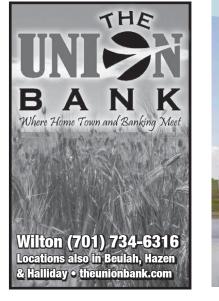
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Section 2 Our Roots Ag & Energy Sustained effort

NHSC offers lessons in sustainable energy

By Jerry W. Kram

Even surrounded by one of the richest oil fields in the world, energy is still expensive here in the Bakken. That's why Nueta Hidatsa Sahnish College in New Town is offering a new degree in sustainability that concentrates on reducing energy use and costs.

Professor Kerry Hartman and James Medeiros have a great guinea pig to experiment on and to use as a teaching aid for their students: the college itself. With a grant from the American Indian College Fund, Medeiros has been working with Hartman on a four year project to reduce energy costs for the college. Their efforts have shaved the college's monthly electric bills by a significant percentage.

"The energy bills for the college really went unnoticed until we started on this process," Medeiros said. "We noticed an irregularity with the bills and challenged some of the charges. We got an \$84,000 credit. They weren't charging us correctly. That was a direct result of what the American Indian College fund gave us to study."

Examining the bills closely found another ready source of savings. Most commercial buildings, Medeiros explained, not only pay a set fee for electricity like residential customers do, but they pay an extra fee for heavy electricity use. For power providers, what is called peak power is more expensive to generate that the average amount of use know as baseline load. So they try to encourage heavy power users to either reduce their peak demand or move it to a time of day when total demand is lower.

In the college's case, demand charges were about half of its total electric bill. An analysis by Medeiros and Hartman showed the highest demand came from the electric welders for the school's welding program and power tools used in the carpentry lab. Using the grant money, the college installed a battery system and power inverters that would supplement the grid-supplied electricity when the equipment was in use.

"The grant involves a variety of energy saving measures," Medeiros said. "We purchased a wind turbine and inverter, we installed solar panels, and there were other changes made as well."

The grant also allowed the college to explore other ways of saving energy. Medeiros said the college is gradually swapping out all its florescent lights for energy saving LED lights. He added that the new lights have other advantages besides using less energy. They don't flicker like florescent lights and they come in a wide range of colors that can resemble natural sunlight.

Medeiros also was able to combine some high-tech equipment to ferret out some low-tech, low cost energy savings. He used a FLIR (forward looking infrared) camera that showed where the buildings of the college were leaking expensive heat. He found out that the many electrical sockets were not insulated, leading to something he called the "tenpenny fix."

"You can get the gaskets for electrical sockets at Walmart for a dollar for a package of 10," Medeiros said. "It only takes a minute to install. It's about as cheap and easy fix there is. For a dollar you can save a lot of trouble."

Another big heat waster were the colleges doors. The AICF grant allowed the program to install a second set of doors to create vestibules. The camera images showed a significant drop in heat loss after the new doors

were installed. While each change made a little bit of a difference, overall the savings started to add up.

"We made a promise that the project would save the college between 15 and 20 percent on their power bills," Medeiros said. "So we took a year's worth bills before the project and compared them to 20 months after we made the improvements. We found a significant difference, about 18 percent."

Medeiros said that more savings are possible and the program will continue to look at new ways, possibly adding more solar and wind power, to reduce their dependence on power from the electrical grid even more.

NUETA HIDATSA

SAHNISH COLLEGE

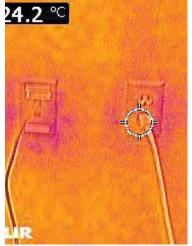
A major result of the project is a new degree that NHSC will be offering to incoming students. Over the past few years the college has been incorporating energy saving lessons, such as installing insulation, working with solar panels and other techniques into classes ranging from carpentry to pre-engineering. Now the college is combining these lessons into a sustainability two-year degree.

"Some students may want to be architects who will want to design sustainability into their buildings, others are pre-engineering – if you get a two year degree in sustainability you want to be able to build on it. We are hoping that students will use this degree and build businesses around sustainability. The purpose of the degree is to look at solar and wind and the engineering concepts that are out there to than can work."

Medeiros would like to see NHSC become a mecca for solar power and other research on sustainable energy.

"There is enough wind and sun in North Dakota to foot the bill," he said. "But paying that bill is not the point. This was a great project and we want to do more."





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Energy saved through technology

By Allan Tinker

Kendon Faul, McClusky Co-op Assistant Manager, cited the use of technology in reducing fertilizer waste, identifying problems and keeping field information up to date with timesaving and cost saving technology applications.

Faul stated, "We currently have satellite imagery. With this, we can take pictures of fields every week to 10 days and look for potential problems in the field. A tool can guide an agronomist on where to look for potential problems in a field.

"We also can use the imagery to create field zones for soil testing. By using this method, we can set up prescriptions for variable rate fertilizer and seed. We are seeing increased yields by placing the fertilizer in locations where the soil can support the better crops.

"Some people in the ag industry have begun to use drones to scout fields. They use the imagery/cameras to isolate areas of the field challenged in some way and then go identify the cause. It is a unique way of scouting, but it comes at a cost for the proper equipment.

"I have read reports on autonomous tractors planting fields and totally removing the need for someone to be in the tractor. I know very little about this.

"I think the world is advancing faster than I would like. I am not saying that this concept is good or bad. I just feel we are moving away from family farms."

The quiet revolution, as noted on bigag.com, spoke about the similar technologies that have been giving farmers a tactical approach to planting harvesting and maintaining their crops.

Bigag.com stated that autonomous tractors use a lot of the same advanced sensors and systems as the self-driving vehicle



tool can guide an agronomist on where to look for potential prob-One of the many models of drones currently used in agricultural applications.

> uses. Already we use auto steering systems that give additional control of the tractor even in lowvisibility situations.

> Since the 1980s, GPS technologies guide tractors across fields, helping to seed the acres with no missed areas or repeat trips.

The site stated that self-driving tractor's automatic planting systems have exceptional accuracy, resulting in less seed waste, and an improved return on investment for growers.

The tractors' sensors can also collect information on soil conditions, improving maintenance of crops and generating data before and after harvest time.

The tractors can reduce the workload and stress on employees, provide driving assistance and manage a wide range of tasks on the farm, including moisture levels in the ground, progress of operations, yields and the amount of fuel used at certain times or operations.

The impact of reducing needed energy, seed, fertilizer and labor costs, balanced by the cost of the improved technology can be a critical point for successful farming applications now and in the future.

Drones have become commonplace though use is restricted in some areas. Bigag.com also addressed the use of drones in agriculture.

Drone applications in agriculture range from mapping and surveying to crop dusting and spraying.

Precision agriculture refers to the way farmers manage crops to ensure efficiency of inputs such as water and fertilizer, and to maximize productivity, quality, and yield. The term also involves minimizing pests, unwanted flooding, and disease.

Drones allow farmers to monitor crop and livestock conditions by air. They are able to find problems that would not become apparent in ground-level spot checks. An example was a farmer finding through time-lapse drone photography that part of the crop was not being properly irrigated.

Using a drone to map or survey crops is relatively straightforward. Newer agricultural drone models may come equipped with flight planning software that allows the user to draw around the area he or she needs to cover. The software can then make an automated flight path and may even prepare the camera shots.

The drone automatically takes pictures using onboard sensors, built-in cameras, and GPS to determine when to take each photo. If the drone owner does not have these automatic features, then one person needs to fly the drone while the other takes the photos.

In 2015, the Federal Aviation Administration approved the Yamaha RMAX as the first drone weighing more than 55 pounds to carry tanks of fertilizers and pesticides in order to spray crops.

Drones such as this are capable of spraying crops with far more precision than a traditional tractor. This helps reduce costs and potential pesticide exposure to workers who would have needed to spray those crops manually.

Increased automation stemming from a lack of skilled resources and a labor crisis will also bolster agricultural drone demand. Government programs are expected in this sector to permit operations of various sizes to help make farming processes more efficient.

Information courtesy bigag.com, edited









Weatherizing to save money and energy

Homeowners know that maintaining a comfortable home can be a lot of work. As one project is completed or addressed, another may pop up. In spite of the hard work that can go into maintaining a home, many homeowners would agree that such efforts are well worth it to feel safe and comfortable inside one's own home.

Weatherization is one of the ways to make a home more comfortable while also saving money and energy. Some weatherization projects may be best left to the professionals, while others can be tackled by homeowners themselves. The following are some projects homeowners can expect to encounter as they weatherize their homes or work with professional weatherization services.

•Home energy audit: The U.S. Department of Energy notes that the purpose of a home energy audit is to give homeowners a complete picture of how they consume energy. Audits can shed light on how much energy is being consumed and if there is anywhere in the home where energy might be going to waste. Audits should be conducted before beginning any weatherization proj-



ects. Professional auditors may give advice on which areas of the home should be addressed first, while DIYers who conduct their own audits can make a list of issues before determining where to start.

•Leakage: Homeowners may think leakage only poses a problem in winter, when cold air can creep in through cracks around doors and windows and make residents cold, forcing them to raise the temperature on the thermostat. But leaks can affect comfort levels and energy bills during the summer, too, forcing homeowners to adjust their air conditioners to ensure a home is cool on hot days. Choose a cool, windy day to inspect for drafts around doors and windows. The DOE notes that air leakage can adversely affect indoor air quality and contribute to moisture problems that can affect occupants' health.

•Insulation: A poorly insu-lated home will cost more to heat in winter and more to keep cool in summer. The DOE notes that heat flows from warmer to cooler until there is no longer a temperature difference. So during winter, heat will flow from heated living spaces to unheated areas of the home, including attics and garages. In summer, heat will flow from the outdoors into the home. Properly insulating a home will decrease this flow of heat, ensuring homeowners aren't paying to heat rooms they don't use in winter or paying more to keep rooms cool in summer because heat is flowing in from the exterior of the home.

Weatherizing a home is a great way for homeowners to reduce their carbon footprints and save some money. Saving energy tip:

While raking, do not feel the need to remove every leaf. A certain amount of organic matter can be beneficial to the soil and even insulate the lawn.





The Coteau Properties Company is a wholly owned subsidiary of The North American Coal Corporation, and operates the Freedom Mine located 10 miles northwest of Beulah. The Freedom Mine is America's largest lignite coal mine, producing approximately 15 million tons of lignite coal annually.

> FOR MORE INFORMATION OR TO ARRANGE A TOUR PLEASE CONTACT: THE COTEAU PROPERTIES COMPANY 204 COUNTY ROAD 15, BEULAH 701.873.2281



<u>Annsley</u>

Saving energy tip:

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Power blowers and mulchers make fast work of leaves, but at the expense of the environment. Gas-powered devices discharge fuel exhaust into the air, contributing to greenhouse gas emissions. Instead, reap the benefits of peace and quiet as well as exercise from manual raking.



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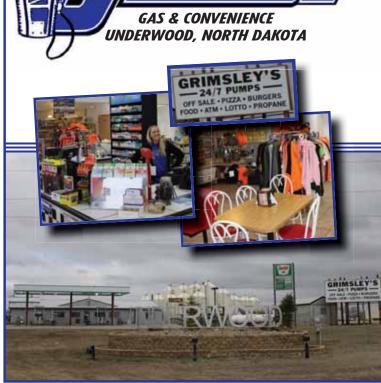
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County eyes wind farm changes Proposed updates put restrictions on turbine location, fees

By Alyssa Meier

New wind farm development in McLean County may face some additional restrictions, as county commissioners consider changing the affected ordinance.

State's Attorney Ladd Erickson presented a revised version of the McLean County zoning ordinance to county commissioners Oct. 3, saying that the changes would hopefully solve some problems in several areas.

The first proposed change creates a new system for obtaining multiple building permits for the same project.

"It addressed the problem of partial constructions that get abandoned or dragged on," Erickson said.

The ordinance change clarifies that building permits are valid for one year, and that if a project is not deemed complete, a new building permit must be obtained at 1.5 times the cost of the original permit. Any additional permits for the same project would follow this model, increasing in price by 50 percent for each new permit.

The second suggested revision forbids the planting or placing of trees and other items within 125 feet of the centerline of a numbered county or township road. For subdivision, commercial or industrial area roads, items must be at least 75 feet from the centerline.

"That is a request from the highway department superintendent, as tree rows close to the road are impacting snow buildup," Erickson explained.

The final proposed changes simultaneously deletes the county's current wind ordinance and creates a new one. The proposed



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ordinance follows state Public Service Commission Laws, and adds several county-specific regulations.

According to the ordinance draft, all turbines must be set back from public roadways at least one and a half times the height of the turbine plus 75 feet from the center line. Turbines would also need to be set back 2.000 feet from a non-participating landowner's property line and 2,500 from a non-participating landowner's residence.

The proposed revisions also ments," Commissioner Steve Lee lay out fees for special use permits for wind farms and restrictions on wind farms within a mile of the Missouri River, Lake Sakakawea and Lake Audubon.

The commission approved a motion to advertise the proposed changes and scheduled a public hearing for Nov. 7 at 11:30 a.m. Commissioners expressed some concerns about the impact of the draft, but said they were open to suggestions.

"We will be looking for com-

said.

The ordinance change recommendations come after the county commission received a letter dated Aug. 31 in which Ruso Wind Partners, LLC, announced its intent to develop a wind farm and associated transmission lines in McLean, Ward and McHenry counties. The anticipated site of the wind farm is between ND Highway 83 and County Rd 41, between Max and Ruso.





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Farewell to a landmark

By Daniel Arens

It's the end of an era for Mercer County industry.

Early in the morning on Oct. 11, Stanton Station, a 188 megawatt power plant located just east of Stanton, was imploded. The collapse of the emission stack and two boiler houses followed months of clearing out all the smaller buildings over the last year.

Stanton Station began operations in 1966. One of the first plants to burn lignite coal, the station was owned by Great River Energy (GRE) and employed numerous people, first in its construction and then in its operations.

At the close of the plant's operational life, in March 2017, there were 67 employees working in some capacity on its site. Nearly half of those employees were connected with other GRE jobs in the area, such as Coal Creek Station in Underwood. Others were offered severance packages from the company.

"That's the hardest part, is seeing good people who served and volunteered their time and talent leave," Rick Lancaster, vice president and chief generation officer with the plant, said.

In July 2016, GRE announced their intention to retire the station the following year. The factors involved in the decision are many and complex, but the primary motive for the hard choice came from an abundance of new energy sources into the power grid, making the Stanton coal plant's continued operations less and less of a viable economic option.

"The station was taken down today with a series of explosives," Lancaster said. "But ultimately what brought it down was the low price in the electricity market."

Immediately following the plant's decommissioning at the start in March 2017, employees began stripping and cleaning the station in preparation for the official decommissioning of the plant May 1.

GSD Construction, a company out of Houston, Tex., oversaw the demolition process of the facility throughout late 2017 and into 2018. The final things to go were the 270 ft. high stack and the two boiler houses, a major event carried out by explosives sub-contractor CDI.

"This is just kind of the final act of that drama," Lancaster said.

The future of the site is uncertain. Lancaster said it will be put up for sale, and would be a great place for other industry to look at developing, with its proximity to the Missouri River and the continued maintenance of the adjacent substation.

First, however, comes the process of clearing out all the steel and debris from the implosion, a process estimated at about 90 to 120 days. Then follows continued environmental monitoring of the site as it is reclaimed with natural vegetation.

The loss of the plant will affect Mercer County and its incorporated cities financially. The plant provided coal conversion taxes, an income source which will gradually peter out by 2023.

Initially, Stanton Station paid both coal severance and coal conversion taxes. The coal severance tax, which is levied for coal mined directly from North Dakota, ended after GRE switched its coal source from within the state to Montana.

Even after the switch was made, the company continued to provide a portion of that severance tax for five more years. They paid 100 percent of the tax the first year after the switch, then 80 percent, 60 percent, 40 percent, and 20 percent of the full amount in each consecutive year after.

When it comes to coal conversion taxes, levied in lieu of property taxes for the power plant, the same process will be followed. Earlier this year, Lyndon Anderson, GRE communications, presented a 100 percent check for the conversion taxes to the Mercer County Commission. In 2019, the check provided for the county will be 80 percent of that full value, followed by 60, 40, and 20 percent in the following years.

For employees and Stanton residents, however, the loss of the station isn't just the loss of a tax source. It's the farewell to a major piece of community history, impacting families and neighborhoods with jobs, electricity and opportunity.

Only the future will tell what new legacy can be created to replace the impressive imprint left behind by Stanton Station.





After the detonation of 108 explosion points, the boiler houses of Stanton Station collapse. The demolition, which occurred early in the morning Oct. 11, marks the final chapter for a power plant and Mercer County landmark that was in operation for 50 years.

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Our Roots: Ag & Energy, October 2018-17

Photo by Daniel Arens

We proudly salute our area businesses, energy producers and agriculture industries.



By Amy Venn

The lignite industry isn't going anywhere and that's good news for North Dakotans. The Lignite Energy Council in Bismarck is the spearhead of the industry, creating a community of power producers and a team of energy professionals who connect the broad network together. The council represents 300 businesses providing goods and services to mines and plants.

"There are a lot of misconceptions about our industry," said Steve Van Dyke, vice president of communications for Lignite Energy Council. That's why we feel it's important to take people on tours. The last couple Saturdays, I've taken middle school and high school students on tours. We just feel that's our best sales tool; to see the mines are adjacent to the power plant. Because of that we have some of the lowest cost energy.

Low-cost energy isn't the only benefit of lignite power. It's an \$18 billion industry and about \$2 billion of that represents investments in technology aimed at clean coal technology.

"North Dakota has always been a clean air state and we continue to be to this day," Van Dyke said. Another thing that stands out in North Dakota is our partnership between the state and the industry regarding research and development. That makes us very unique.

Lignite Energy council is focused on finding technologies that will work on existing plants and new plants to capture and utilize carbon dioxide. • Power plants using lignite generate electricity 24 hours a day so it's there whenever you need it, to heat your home, run your lights.

• Mining companies reclaim land where lignite has been extracted. During a tour of a coal mine, you can see high-yielding wheat fields and pastures where coal shovels once scooped up overburden and lignite.

Western North Dakota has over an 800-year supply of lignite that is currently accessible and economically feasible to recover.
Lignite-fired power plants have invested about \$2 billion in

state-of-the-art technology to keep our air clean. This investment accounts for 20 to 30 percent of the cost of a power plant.

"The Lignite Energy Council, we're kind of the chamber of commerce for the lignite industry. We're the voice of the industry," Van Dyke said.

The council started more than 40 years ago. "This was a time that the industry saw increased government regulations and they wanted to have a voice,"he said.

Coal energy is produced in enormous numbers in the state and is outsourced to Montana, South Dakota and Minnesota. Since 1988 there has been 30 million tons of lignite produced every year, making it the steadiest of North Dakota's top five industries.

"I don't think people understand the magnitude of energy of 30 million tons of lignite," Van Dyke said. Its the equivalent of the amount of energy you would need for 5.5 million electric cars for a year.

With those kind of production numbers, it's no wonder the lignite industry also employs 3,280 direct employees in the mines, generation plants and electricity firms in 2017. The industry also supports another 10,000 secondary jobs in the state. While the jobs within the industry are concentrated in Mercer, McLean and Oliver Counties, the economic benefits of this industry are felt throughout the state," Van Dyke said in a press release.

With plenty of wind generated power in central North Dakota, an important distinction for Van Dyke is the dependability of lignite energy.

We're dispatchable. We are a 24/7 dispatchable, base load power source. Renewable energies are intermittent.

There are innovative prospects in the future for the lignite industry. Van Dyke said there will be an increase of lignite being used as a fuel stock for other products. There is currently a study being conducted for the potential of extracting rare earth elements from lignite mining. Rare earth elements are used in many electronics, including home security systems and cell phones. Production of synthetic graphite from lignite for lithium ion batteries for electric cars is also a developing venture.

ing venture. "Part of our national security



is finding ways to make those on our own instead of importing them from China," Van Dyke said. "Electric vehicles will have an impact on our industry. Because of that, we support building electric car charging stations."

Lignite Energy Council practices the art of giving back to their community as well, with annual golf tournaments in North Dakota and Minnesota that raise money for charity by selling mulligans, a motorcycle run every August, a sporting clay shoot tournament in September and a yearly teacher's education seminar at Bismarck State College.

Van Dyke said the lignite industry is here to stay.

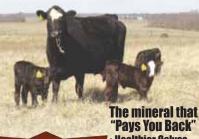
"I always call it the old faithful," he said.





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How everyday people cut energy consumption

Ceiling fans can help homeowners and apartment dwellers reduce energy consumption and save money.

Curtailing energy consumption is a great way for people to protect the planet's natural resources and save money at the same time.

Part of the difficulty with regard to reducing energy consumption is that energy plays such a big role in our lives. Smartphones and tablets have become must-have items, and these items, though not necessarily big consumers of energy, must be plugged in and charged. But individuals won't have to unplug from their lives to reduce their energy consumption. In fact, there are several easy, non-invasive ways for everyday people to reduce their energy consumption.

•Start with your windows. The windows in a home can help homeowners and apartment dwellers reduce their heating and cooling costs. On cold days, pull back curtains so the natural sunlight can come in and warm the house, reducing the need to turn up the temperature on the thermostat. When the weather outside is especially warm, hang blackout curtains to prevent the hot sun from warming rooms and increasing the need for air conditioning. In addition, address any leaks around windows to ensure hot and cold air is not escaping and contributing to excessive energy consumption.

•Maintain appliances and replace older ones. While reducing reliance on energy-thirsty appliances is a great way to reduce energy consumption, no one needs to throw away their refrigerators. Instead, maintain appliances so they are not forced to work harder, and thereby consume more energy, to function. Routinely clean the filters on window air conditioners, replacing them if they're worn down. In addition, have HVAC units serviced annually to ensure they're operating at peak capacity. Replace older appliances, including refrigerators, that are no longer effective.

•Install a low-flow shower head. The U.S. Department of Energy recommends that ecoconscious consumers looking to reduce their energy consumption install low-flow shower heads with flow rates less than 2.5 gallons per minute. This is especially important for people living in homes with dated fixtures. Water fixtures installed before 1992 might have flow rates as high as 5.5 gallons per minute, which is both wasteful and costly. Test the flow of a shower head by placing a one-gallon bucket beneath a shower head running at the pressure you normally use. If the bucket fills up in less than 20 seconds, install a low-flow shower head.

•Install ceiling fans. Ceiling fans can be installed to reduce energy consumption in both summer and winter. In summer, ceiling fans can make home interiors more comfortable by circulating air around a room. That circulation can make rooms feel cooler, providing the same benefit of an air conditioner while consuming considerably less energy. In winter, reverse the rotation of ceiling fans so they circulate warm air and reduce reliance on heating systems.

Reducing energy consumption does not require substantial sacrifice, but it can produce substantial savings and benefit the planet in myriad ways.



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