

Summit Contracting donates Res-Q-Tube to Central Valley Ag Coop for Grain Safety Education

Summit Contracting, a premier agricultural construction service provider in South Dakota, Nebraska, and Iowa, is proud to announce its donation of a Res-Q-Tube, a specialized grain rescue device, to Central Valley Ag Coop (CVA). This vital equipment will enhance CVA's ability to conduct first-hand demonstrations and training sessions focused on grain safety.

CVA is committed to improving grain safety across rural communities in Nebraska, Kansas, and Iowa through its grain engulfment demonstration trailer. This mobile training unit allows CVA to bring in-person demonstrations to the agricultural communities they serve, raising awareness of the hazardous environments created by grain bins.

The training program offers volunteers a unique opportunity to experience how quickly a person can become engulfed in grain, emphasizing the importance of safety awareness. CVA has scheduled several events aimed at training first responders and educating youth and agricultural communities about preventing grain entrapment. These events will also provide training on the correct procedures for handling grain entrapments in emergency situations.

Since the introduction of their demonstration trailer in May 2024, CVA has been borrowing a grain rescue tube from a local fire department. This arrangement has left the fire department without the necessary equipment for potential emergencies. Recognizing this need, Summit Contracting has partnered with CVA to provide them

with their own Res-Q-Tube, enabling more effective and consistent grain entrapment education opportunities.

"Having the proper equipment to continue our grain safety education efforts is crucial," said Joel Wochner of CVA. "This donation from Summit Contracting allows us to enhance our training programs and ensure that local communities can respond effectively in the event of a grain entrapment."

Jerad Hutchens, President of Summit Contracting, emphasized the importance of this initiative, stating, "Raising awareness about the dangers of grain entrapments is vital to prevention. By providing CVA with the Res-Q-Tube, we are helping equip our communities with the knowledge and resources needed to stay safe and respond appropriately to potential hazards."

Grain entrapments can occur in both farm and grain elevator settings when grain that appears to be stationary suddenly begins to flow, trapping individuals and making it difficult for them to escape. Summit Contracting urges farmers and employees who work with grain to remain vigilant and adhere to established safety protocols to prevent such incidents.



Darren Daum, Summit Contracting's Seward Office Manager and Joel Wochner, CVA's Bradshaw Location Manager.

Central Valley Ag promotes grain bin safety with training trailer

nounced the completion of its groundbreaking grain engulfment trailer, designed to provide local first responders with training for grain bin rescues.

Developed in partnership with EBM Construction, this \$75,000 training tool began development in March 2023. Through a year of collaboration, community donations, and dedicated effort, the trailer is now fully operational.

The project began with a generous donation of the base trailer from Klute Truck Equipment and Cornerstone Bank in Bradshaw, Neb. This trailer was then designed and fabricated by EBM construction to become a fully functional grain engulfment simulator. CVA and EBM Construction worked together to finalize the design and build what is now known as the CVA Grain Engulfment Training Trailer.

While local donations covered a significant portion of the cost, EBM Construction covered the remaining balance. Andrew Ellsworth, Vice President of EBM, recognizes the importance of this training tool for local communities, farmers, and rescue teams and says EBM sees the trailer's impact as invaluable.

"This trailer could save the life of an employee, a friend, or a customer," said Ellsworth. "While rescue videos offer

Central Valley Ag (CVA) has an- valuable information on effective grain bin rescue, nothing can compete with practicing real-life scenarios. We are thankful to work with CVA on such an impactful project and look forward to the positive difference it will make in our communities."

> This one-of-a-kind trailer offers local fire departments and emergency personnel a safe and realistic environment to practice their grain bin rescue skills. The unique design allows trainees to be safely submerged up to their waist or chest in simulated grain, enabling rescue teams to practice critical extrication techniques.

> "The reality is these rescue teams will be responding to real grain entrapment situations on farms or businesses," said Joel Wochner, CVA Bradshaw Location Manager. "This trailer provides them with the opportunity to practice using their equipment in a controlled environment, ultimately improving response times and saving lives."

> Central Valley Ag recognizes the vital role first responders play in rural communities, particularly for specialized rescues. The grain engulfment trailer is available free of charge to local fire departments for training purposes.

The Bradshaw, Hampton, and Hen-

See TRAILER, page 3A



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Representatives of Central Valley Ag demonstrated equipment available to handle a grain bin rescue. The demonstration was one of several that took place during last summer's Haskell Ag Lab Family Day.



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How is ethanol made?

Ethanol is a domestically produced dues and wood—though this is not as the Midwest because of the proximity tion is processed for use as corn cereal, alternative fuel most commonly made common. Ethanol is made in 28 states to corn production. Plants outside the from field corn. It is also made from - from California to New York - but Midwest typically receive corn by rail cellulosic materials, such as crop resi- U.S. ethanol plants are concentrated in or use other feedstocks and are located

Field corn vs. sweet corn

near large population centers.

More than 99 percent of the corn grown in the United States is field corn. Field corn is harvested when the kernels are fully matured and dried. Field corn is primary used for livestock feed, ethanol production and other manufactured products. A small por-

corn starch, corn oil and corn syrup.

Another type of corn is sweet corn. Sweet corn is enjoyed fresh off the cob, frozen or canned. This type of corn is picked when the kernels are immature, which is why sweet corn is soft and sweet.

Production

The production method of ethanol depends on the type of materials used.

See ETHANOL, page 4A



Trailer

(continued from page 2A)

derson Fire Departments have already benefited from this innovative training resource, and CVA hopes many more departments will follow suit.

"CVA has been deeply involved in preventing and rescuing grain engulfment incidents with our rope rescue teams." Said Brent Reichmuth, SVP Operations at CVA. "We are excited to further these efforts by using this trailer to enhance training for both CVA and our local communities.'

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Corn growers win dispute with Mexico over GM corn ban

In a major win for corn growers, a dispute panel ruled recently that Mexico violated its commitments under the United States-Mexico-Canada Agreement (USMCA) when it issued a decree that banned genetically modified corn imports in early 2020.

The decision was met with praise from the Nebraska Corn Growers Association and Nebraska Corn Board among other corn grower advocates who had called on the United States Trade Representative (USTR) to file the dispute.

"We have been engaged on this issue closely for several years," said Andy Jobman, chairman of the Nebraska Corn Growers Association "Our staff and grower advocates made it a priority to interact with state and national corn grower leaders, we met with both Mexican and Canadian Embassies and echoed the voices of Nebraska's corn growers in pushing USTR to challenge this ban. Today's decision shows the real value of corn grower advocacy and what we can accomplish when we

work together."

"This is an imperative development for the America's corn growers and rural communities," said Brandon Hunnicutt, chair of the Nebraska Corn Board. "As the nation's top producer of white corn, Nebraska is uniquely positioned to capitalize on Mexico's continually growing demand for our high-quality corn. This ruling will hopefully remove this potential trade disruption and secures Mexico's position as the leading export destination for U.S. corn, paving the way for increased economic growth and opportunity."

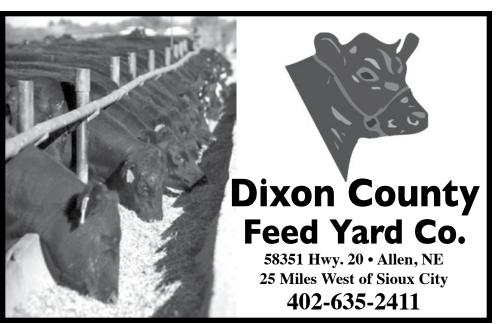
Past Mexican President Andrés Manuel López Obrador first set off alarms in the Corn Belt in December 2020 when he initiated a decree to ban genetically modified corn by the end of 2024. At the time, corn grower leaders began outreach to the Trump administration to head off the ban. Those efforts continued with the Biden administration as well as with members of Congress and Mexican officials. Nebraska corn growers took a lead with other state and national corn leaders who argued that the ban would significantly harm growers and rural communities, especially as Mexico is the number one export destination for

Corn grower advocacy efforts inten-

sified in 2023 when the Mexican president issued a decree banning genetically modified white corn, effective the following day. NCGA and state corn grower groups responded by urging USTR to file a dispute settlement under USMCA, which eventually occurred.

Nebraska Corn would like to extend appreciation for Senator Fischer, Senator Ricketts, Representative Smith, Representative Bacon and Representative Flood for continually raising this issue with their colleagues in Washington, D.C. The Nebraska Corn Board is funded through a producer checkoff investment of 1/2-cent-per-bushel checkoff on all corn marketed in the state and is managed by nine farmer directors. The mission of the Nebraska Corn Board is to increase the value and sustainability of Nebraska corn through promotion, market development and research.

The Nebraska Corn Growers Association (NeCGA) is a grassroots commodity organization that works to advance Nebraska corn farmers through leadership, policy and education. NeCGA has more than 2,400 dues-paying members in Nebraska. NeCGA is affiliated with the National Corn Growers Association, which has more than 36,000 dues-paying members nationwide.



Ethanol

(continued from page 3A)

All the biorefineries in Nebraska produce ethanol using starch from corn.

Most ethanol in the United States is produced from starch-based crops by dry- or wet-mill processing. Nearly 90% of ethanol plants are dry mills because it requires less energy to produce. Dry-milling is a process that grinds corn into flour and ferments it into ethanol with co-products of distillers grains and carbon dioxide. Wet-mill plants primarily produce corn sweeteners, along with ethanol and several other co-products (such as corn oil and starch). Wet mills separate starch, pro-

tein, and fiber in corn prior to processing these components into products, such as ethanol.

Henry Ford and Alexander Graham Bell were among the first to recognize that the plentiful sugars found in plants could be easily and inexpensively converted into clean-burning, renewable alcohol fuels.

While the concept is the same today as it was then, the ethanol industry has come a long way since those days. Today, sophisticated renewable fuel refineries use state-of-the-art technologies to convert materials into high-efficiency ethanol (and other co-products).





A growing number of Nebraska corn farmers are embracing the power of cover crops. By growing cover crops after their corn is harvested, farmers use living plants to reduce soil erosion, promote healthy soil development and increase sustainability in their corn farming operations.

By integrating cover crops into their fields, corn farmers enhance soil structure and fertility, ultimately securing a more resilient agricultural landscape in Nebraska that can better withstand extreme weather events including drought, heavy rains, and high winds.

Here is a closer look at cover crops and how they can be an effective method for Nebraska farmers.

What Are Cover Crops?

Cover crops can be one of the two crops grown by farmers in a single season. First is the cash crop, which is the crop that is grown to sell. Growing corn is an example of raising a cash crop. The second type of crop is a cover crop, which are plants grown in addition to the main crop for secondary benefits.

What Are The Benefits Of Cover Crops In Nebraska?

One of the biggest benefits of planting cover crops is to protect soil from erosion and improve soil health. Planting cover crops can also be a key part of post-harvest field care in other ways, such as preventing weeds, absorbing leftover nutrients to prevent runoff and providing forage for cattle that are turned out in the fields after harvest.

Typically, Nebraska corn farmers plant cover crop seed in the fall before the winter freeze, though some do plant in early spring. Others use a process called interseeding, which involves





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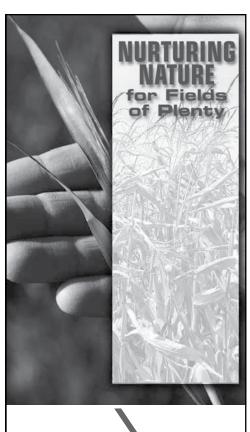
WWW.HOSKINS-MFG.COM 565-4420 · 800-658-4020 105 N MAIN · POB 101 · Hoskins seeding the cover crop in between the corn rows while the corn is still grow-

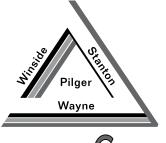
How many Nebraska farmers use cover crops? According to the latest USDA agriculture census in 2022, cover crops were planted on 5.1% of row crop acres in the state.

Examples of cover crops grown in Nebraska include rye grass varieties or root vegetables like turnips and radishes. Some farmers plant rapeseed or cowpeas, a legume. It's not unusual for farmers to use a mixture containing several types of cover crops to capture the benefits from each type of plant.

How cover crops reduce erosion

Cover crops reduce erosion using their roots, which act like a net to hold soil in place. This is especially important to reduce the impact of high winds that can blow loose soil away or heavy rains that can wash topsoil off the fields.





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The benefits of cover crops for corn farmers explained

How cover crops improve soil health

Another way cover crops benefit farms is to improve soil health by reducing soil compaction and stimulating healthy soil microbes. Soil compaction can occur over time when heavy machinery or deep tillage pushes down on the soil layers, pressing oxygen out of the soil. Dense, compacted soil can reduce yields by preventing corn from growing strong, healthy roots. It also may not absorb water well.

Cover crops like radishes and turnips reduce compaction with their large underground roots, which can break through dense soil. By creating oxygen pockets in the soil with their roots, radishes and turnips create pathways for water, nutrients and soil microbes to once again move through the soil.

Living plants also are important for promoting the growth of soil microbes, which play a vital role in making

nutrients like nitrogen, potassium and phosphorus available for corn to use. Fostering the growth of beneficial soil microbes and organisms, such as earthworms, helps put organic matter back into the soil and encourages soil diversity. This results in healthier, more fertile soil.

How Can Cover Crops Contribute To Sustainability?

Because of their many potential benefits, planting cover crops after harvest can help corn farmers increase sustainability. They can be an effective way to improve soil health and reduce erosion, which can pave the way for increased crop yields for years to come. Plus, benefits such as nutrient absorption and weed suppression can help reduce the amount of fertilizer and herbicides used on the fields.

Overall, cover crops can be a valuable method that provides short-term and long-term benefits for farmers!



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Northeast to be headquarters of National Ag Consortium

culture consortium for two-year coland fiscal agent for the \$9-million, four-year program.

Funding for the effort, a cooperative agreement between U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) and the Community College Alliance for Agriculture Advancement (C2A3), was announced last fall.

C2A3 is a collaboration of nine schools across eight states that began Development and External Affairs at

be the headquarters of a national agri- zation. Member schools in addition to Northeast are Central Lakes leges, serving as the lead institution College, Staples, Minn.; Clark State College, Springfield, Ohio; Illinois Central College, East Peoria, Ill.; Ivy Tech Community College, Lafayette, Ind.; Lake Area Technical College, nity and technical college members by Watertown, S.D.; Northcentral the end of the four-year award period." Technical College, Wausau, Wis.; Northeast Iowa Community College, Iowa; and Community College, Decatur, Ill.

Tracy Kruse, vice president of

Northeast Community College will eight years ago as a 501c3 organi- Northeast, serves as the group's execu- developed in natural resource contive director.

> 'C2A3 began as a Midwest consortium," Kruse said. "But with this partnership, we will be able to expand to include colleges from across the nation. Our goal is to have at least 50 commu-

servation, precision agriculture, and agronomy," Martinez said. "This is an important step in developing the next generation of agricultural leaders."

The national ag education consortium will also encourage applied research and outreach activities on college farms and urban agriculture



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C2A3 will become a national hub for two-year ag education, developing expertise and regionally specific programming and curriculum that can be replicated across the country. Through this alliance, member colleges can access these resources and gain intelligence and precision livestock; assistance in building partnerships with their local and state USDA-NRCS

Conservation Planning and Technical Assistance division with USDA's Natural Resources Conservation Service, has been very active in getting this agreement established.

"C2A3 schools will increase students' interest in agriculture, natural resources, and conservation, with a focus on preparing students for USDA jobs. National skill standards will be

facilities. Several C2A3 schools, including Northeast, already have continuous projects in place that are related to soil quality, water quality, urban agriculture, livestock, and grazing.

Proposed projects include artificial crop drainage and irrigation management; soil quality, field/pasture renovation, and cover crops; water qual-Astrid Martinez, director of the ity, pond, and wetland management; silvopasture management; and urban agriculture.

> "Student participation in applied research is the cornerstone of cultivating the next generation of agricultural innovators and problem solvers," Kruse explained. "By using real-life examples of conservation in classroom

See HEADQUARTERS, page 7A



Nebraska Corn Board proud of Nebraskan's award and serving in leadership with the U.S. Meat Export Federation

The U.S. Meat Export Federation (USMEF) recently met for their strategic planning meeting in Tuscan, Arizona which included the election of officers for 2024-2025 and organization awards. Nebraska is well represented in leadership and one producer received a notable award.

Steve Hanson, a rancher and cattle feeder from Elsie, Nebraska, was elected the new USMEF chair, succeeding Minnesota pork and grain producer Randy Spronk. Dave Bruntz, president of Bruntz Farming & Feeding in Friend, Nebraska, was elected vice chair. Bruntz served on the Nebraska Corn Board from 2013 to 2022, including a term as chairman.

Adam Grabenstein, a farmer and cattle producer from Farnam, Nebraska

serves on the USMEF executive committee and is the co-chair of the feed grains/oil seeds sector. Grabenstein serves as the District 5 director of the Nebraska Corn Board (NCB).

In addition to electing new officers, USMEF presented Mark Jagels with their Distinguished Service Award. Jagels, a corn and livestock producer from Davenport, Nebraska, and former USMEF chair was honored for his outstanding dedication to the red meat industry. He served on NCB from 1999 – 2014 as the district 2 director, including chairman of the board. USMEF's Distinguished Service Award recognizes individuals who have made significant contributions to the federation's success. Jagels' commitment to promoting U.S. red meat exports has been

instrumental in growing the industry's global presence.

"Nebraska has a strong representation with USMEF, and we are elated to see Nebraska's agriculture leaders taking on key roles as well as celebrated in their service," said Brandon Hunnicutt, chairman of NCB. "Steve, Dave, Adam and Mark are all highly respected and dedicated individuals who will and have served the federa-

tion and the state of Nebraska well. We congratulate them on their new roles and recognition."

The Nebraska Corn Board commends these individuals as they help lead a well-respected international organization whose goal is "putting U.S. meat on the world's table." NCB has been a long-time supporter of USMEF.

Headquarters.

(continued from page 6A)

and laboratory experiences, students can bridge the gap between theoretical knowledge and practical application."

The expanded C2A3 consortium will also create internship opportunities and student leadership experiences that include real life skills and networking with USDA employees. In addition, it will provide support for faculty and students to attend an annual conference and gain practical experiences and knowledge to put to future use.

"The rapid growth of technology in agriculture requires colleges to be nimble and respond quickly to changes within the industry," Kruse said. "This alliance will support the colleges and provide them the tools to rapidly respond to the workforce needs within agriculture."

This agreement will fund the hiring of four employees to implement this work, including the hiring of a national director, a curriculum designer, an outreach coordinator, and an executive assistant. These positions will work remotely and will be accessible to all member institutions and USDA-NRCS as the partnership is built.

The alliance is expected to start this work immediately. For more information on C2A3, visit www.agalliance. net.



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New leadership elected for the Nebraska Corn Board

The Nebraska Corn Board (NCB) rector, was elected as chair of NCB. elected four farmers to serve in leadership roles at the summer board meet-

The leadership roles are effective immediately and are yearlong in duHunnicutt farms near Giltner with his father and brother. On his farm, Hunnicutt grows corn, white corn, non-GMO corn, popcorn and soybeans. He earned his bachelor's degree in agri-



New leadership was recently elected to the Nebraska Corn Board at the August meeting. They include (left) Jay Reiners, past chairman; Brandon Hunnicutt, chairman; Andy Groskopf, vice chairman; and Ted Schrock, secretary/treasurer.

ration, with the possibility of being re-

Brandon Hunnicutt, District 3 di-

cultural business from UNL and has served on the board since 2014. Hunnicutt has also served on the National Corn Growers Association board of directors, Field to Market and in various national leadership roles.

Andy Groskopf, District 8 director, was elected vice chair of the board. Groskopf farms near Scottsbluff, where he farms irrigated corn and dry edible beans. He has been farming for over 20 years and is the fourth generation managing the family farm. He attended Western Nebraska Community College for automotive technologies. Groskopf has been with NCB since

Ted Schrock, District 5 director, was elected secretary/treasurer of the board. Schrock farms near Elm Creek where he farms with his father, brother, uncles, cousins and son where they grow corn, soybeans, alfalfa, wheat and run a cow-calf operation. He graduated with a bachelor's degree from the University of Nebraska-Lincoln. Schrock has served on NCB since 2018.

Jay Reiners, At Large director, assumes the role of past chairman of the board after serving three consecutive terms as chairman. Reiners farms near Juniata, where he grows field corn, seed corn and soybeans. He has been farming for over 30 years and is the fourth generation managing the family farm. He graduated with an associate's degree in general agriculture from the University of Nebraska-Lincoln (UNL). Reiners has been with NCB since 2017.

"I congratulate the board members elected to leadership positions this year," said Kelly Brunkhorst, executive director of NCB. "Looking to the past, our leadership has been top tier, and this year is no exception. This year's executive team will be leading the third largest corn-producing state in the nation and new programs that will benefit Nebraska's corn producers. I'm looking forward to the year ahead with leadership."

The full board is comprised of nine corn farmers from across the state. Eight members represent specific Nebraska districts and are appointed by the Governor of Nebraska. The Board elects a ninth at large member. Board members serve three-year terms with the possibility to be reappointed.

The Nebraska Corn Board is funded through a producer checkoff investment of 1/2-cent-per-bushel checkoff on all corn marketed in the state and is managed by nine farmer directors. The mission of the Nebraska Corn Board is to increase the value and sustainability of Nebraska corn through promotion, market development and re-



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Learn the parts of a corn plant and what they do

Provided by Nebraska Corn Board what they do:

The corn plant is a feat of natural engineering. It's constructed of a varietv of features that contribute to the plant's growth, strength and producthe plant's backbone to the strands corn plant serves a vital role in its lifecycle.

By working together, they help the plant grow healthy and strong so it can produce the kernels we need for food, fuel, corn byproducts and commercial feed for livestock and a wide variety of corn-based products.

Roots

The roots of a corn plant serve several important functions. They absorb water and nutrients to hydrate and nourish the plant. Corn roots also tivity. From the stalk that serves as anchor the corn plants to the ground. Corn plants are very tall—some varietof golden corn silk that are critical to ies can grow as tall as 10-12 feet—and developing kernels, each part of the roots of a corn plant usually extend 3-5 feet into the soil.

Stalk

The stalk serves as the main stem of a corn plant, acting much like the trunk of a tree. It supports the plant and distributes water, nutrients and sugars to different parts of the plant. nutrients and regulate its internal The stalk of corn also provides strength water balance by releasing water vapor

when subjected to wind and rain. Node

Corn nodes are located on the stalk. They look like a bump or swollen spot on the stalk and are the points where the plant's leaves and ears attach to the cornstalk.

Leaves

A corn plant's long, thin leaves serve several crucial purposes for the health and growth of the plant. A corn plant's leaves are critical to photosynthesis, the process of turning sunlight into energy for the plant. They also facilitate evapotranspiration, which allows the plant to remain cool, distribute Here's a look at the parts of corn and to the plant, helping it remain upright through small openings in the leaves.

Sometimes called "corn sweat," the water released by corn leaves is believed by experts to increase humidity around corn fields.

Ears

Growing from the cornstalk, the ears on the corn plant are vital to corn reproduction. Corn ears are where the kernels form and grow. They are encased in layers of husks, which are thin leaf strips that protect the ears of

Typically, corn plants have one ear of corn. However, plants exposed to more sunlight—such as those growing on the edges of the fields—may have more than one ear.

See PARTS, page 2B

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Parts

(continued from page 10)

Corn husks are made of thin strips of leaves that encase the corn's ears. They protect the corn ears and their contents from harm and dehydration, allowing the kernels on the ears to grow and flourish.

Kernels

One of the most identifiable parts of the plant are the kernels. There are an average of 800 kernels on each ear of corn. Many people are familiar with

the corn they eat, called sweet corn or corn-on-the-cob. It's often eaten in the summer, often late July. The kernels from white corn are made into food products such as tortilla chips or sweeteners. Yellow field corn is made into other products for livestock and ethanol production.

What part does a kernel serve to the plant? It's essential to reproduction because it is the seed. It contains the genetic material necessary to grow a new corn plant and is what farmers

plant in the ground each spring while of silk. growing corn.

There are four main parts to a corn kernel: the pericarp, endosperm, embryo and tip cap. The pericarp is the covering that protects the inside of the kernel. The endosperm is the energy source for the seedling, and the embryo contains the future seedling. The tip cap is where the kernel attaches to the cob.

Tassel

A corn tassel is the large, spikey structure at the top of the plant. It is considered the "male" part of the plant, containing pollen that is required to make seeds. Corn pollination happens when a corn tassel releases pollen, which lands on the corn silk and then goes inside the corn cob to make a kernel

Though most known for its golden color, shiny texture and silk-like appearance, corn silk is considered the "female" part of the plant and serves an important purpose during corn plant pollination. Pieces of pollen travel down the strands of silk under the laver of corn husks to the corn cob. Once the pollen follows the silk strand all the way to the corn cob, it makes a kernel. Each kernel has its own strand

Corn silk is usually light green or yellow when young. It loses its golden color and becomes brown as the plant matures and nears harvest.

Carefully Caring For The Whole Corn Plant

Corn farmers play a crucial role in ensuring the health and vitality of every part of the corn plant. They do this by carefully providing any necessary additional nutrients and also by protecting the crop against pests and disease. If they are growing irrigated corn, farmers also provide the plants with the water they need to grow in dry climates or supplement when not enough rain is available.

Through sustainable farming practices, corn producers maintain soil health through techniques such as crop rotation, cover cropping and reduced tillage. Additionally, farmers judiciously utilize tools such as fertilizers and pesticides, applying them only when necessary to boost plant growth or protect against insects and weeds.

The Nebraska Corn Board works to increase the value and sustainability of Nebraska corn through promotion, market development and research.



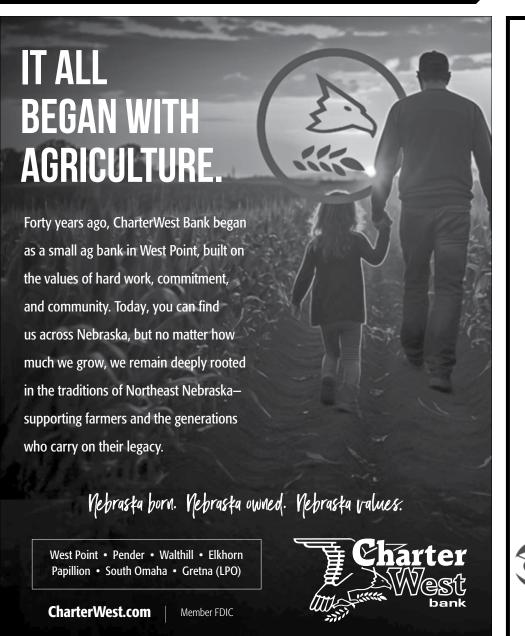
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Husker scientist, USDA collaborate to create web-based app to optimize soil sampling

By Geitner Simmons, IANR Communications

A collaboration between a Husker scientist and the U.S. Department of Agriculture has created a web-based application now available to facilitate digital soil mapping and optimize soil

The Soil Sample Planning Organizer Tool, or SSPOT, "was designed as a user-friendly tool to help both producers and researchers make informed sampling decisions," said Trenton Franz, a University of Nebraska-Lincoln professor of hydrogeophysics and associate director of research for the School of Natural Resources.

The tool can be accessed at https:// sspot.scinet.usda.gov.

"Every project aiming to understand soil variability across a field faces the same questions: How many samples should I take, and where should I collect them?" said Franz, who developed the initial algorithm and provided the scientific backing behind SSPOT. "While these questions seem straightforward, the answers vary greatly depending on location and project goals."



After Franz's initial work, consultant Ben Cook worked with him to develop the original SSPOT prototype, and both contributed greatly to the new SSPOT interface, which was developed with support from industry partner

USDA's Agricultural Research Service and its Partnership for Data Innovations led the testing and refining of the software, incorporating valuable feedback from stakeholders throughout the process.

Effective soil management relies on understanding the various factors that drive soil productivity, including pH levels, nutrient variability and organic soil carbon. Soil sampling has emerged as a valuable tool in advancing precision farming, particularly in today's changing climate and the growing need to monitor carbon footprint in agricul-

Land managers and researchers rely

on routine soil sampling to monitor enables users to customize parameters soil variability and determine the best for their search and export the results practices to increase production while for practical applications in the field. maintaining sustainability. However, they often face the challenge of identifying the optimal number of soil samples and their locations in complex and varied landscapes while managing limited time, resources and labor.

Selecting a well-distributed set of sampling sites is crucial for effective soil management decisions, and SSPOT aims to simplify this process.

SSPOT's integrated algorithms help users determine the optimal placement of samples needed to comprehensively understand soil activity in various soil types over time. The algorithms simplify the process for non-experts and ultimately save land managers, producers and soil researchers time and money.

Users can select their specific Area of Interest (AOI) on the SSPOT map and utilize one of two "optimizer" algorithms. The algorithms use the USDA's Soil Survey Geographic Database and customizable grids to ensure sampling activities are thorough and efficiently capture the full picture of soil health within the selected area. SSPOT

"SSPOT is an example of collaborative science, where a multidisciplinary team of experts from academia, the federal government and the private sector worked together to bring a vision to life," said Virginia Jin, location coordinator and research leader with the ARS Agroecosystem Management Research Unit. "We are confident that this tool can push forward the advancement of research for the benefit of croplands, grazing lands and forestry."

In addition, a version of SSPOT will support the USDA's National Resources Conservation Services in its conservation evaluation and monitoring activity efforts, including soil sampling needs.

SSPOT is part of ongoing collaborations among UNL, USDA and PDI aiming to strategize soil sampling to and improve soil health in the U.S.

For more information, contact Trenton Franz, professor of hydrogeophysics, School of Natural Resources, 402-472-8718, tfranz2@unl.edu.





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Ten surprising products made from corn

amaze. Corn truly is the plant that can change the planet.

From the tech industry to earthfriendly plastics, corn derivatives play a crucial role in our daily lives. We introduced you to some other surprising products made from corn, but there were so many incredible uses of corn that we couldn't include them all.

Here, we're showcasing 10 more innovative uses for corn that showcase its remarkable adaptability. This incredible variety of corn products shows why corn is a cornerstone of modern manufacturing.

1. Biodegradable Cups

One of the surprising things made from corn that many people use is biodegradable cups. Cornstarch is used to make polylactic acid (PLA), an environmentally friendly alternative to traditional plastics. Unlike cups made of traditional plastic, which can take hundreds of years to decompose, cups made out of corn-based PLA are a biodegradable, sustainable alternative.

2. Glues And Adhesives



production of various glues and adhesives. Many adhesives, such as wood glue and natural glue brands, contain corn-derived ingredients or corn byproducts. One of the most common ways this happens is through cornstarch. A common component in corn kernels, cornstarch serves as a base for creating natural, biodegradable adhesives. These starch-based glues are widely used in the paper and packaging industries.

While you might not think a list of things made of corn would include batteries, corn can be found in batteries in multiple ways. Battery electrodes can contain corn waste biochar, which is a carbon-rich residue of corn. Cornderived plastics or fibers also can be used to create an eco-friendly battery casing as opposed to using petroleumbased plastics. Additionally, corn-

See PRODUCTS, page 5B







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Products

(continued from page 4B)

starch can be used as a binder, or type of glue, to hold battery components together.

4. Matches

Cornstarch, that incredibly versatile ingredient, also is used to make match heads. Its incorporated into the match heads as an adhesive, which binds the ingredients together and helps with ignition.

5. Envelopes

Envelopes can contain corn in their adhesive. Corn can be used to make cellulose, which is the building block for the nitrocellulose glue used to seal envelopes. So, when you're licking envelopes, you just may be licking one of the many products with corn-based ingredients.

6. Dyes And Inks

Corn uses also include the production of dyes and inks. Cornstarch is used as a binding agent and corn protein helps stabilize and adhere ink to paper. Ethanol made from corn can be used as a carrier or solvent in some inks. The natural pigment in some corn varieties also is used to produce colored dyes.

In addition to helping with drying, sticking the ink to the paper and reducing smudging, using corn -based

ingredients is a way to make ink and dye products more environmentally friendly.

7. Makeup

Corn-based ingredients are used in the cosmetics industry due to their versatility, natural origin, and often their ability to replace synthetic ingredients. They can be found in a wide range of makeup products, from foundations and powders to lipsticks and eyeshadows. Cornstarch is used as a setting and blotting powder to control oil and shine. Another common cornbased ingredient found in makeup is sorbitol. A sugar alcohol, sorbitol is most often used to keep makeup moist and to give creams, lotions and other forms of cosmetics a smooth consistency.

8. Shampoo

Corn is used in shampoos primarily through citric acid. Made from corn, citric acid helps maintain correct pH so the shampoo doesn't irritate the hair or scalp. Additionally, citric acid acts as a preservative and extends the shelf life of the shampoo by helping prevent the growth of mold and bacteria. This all makes corn-based citric acid a valuable component in many personal care products, including shampoos.

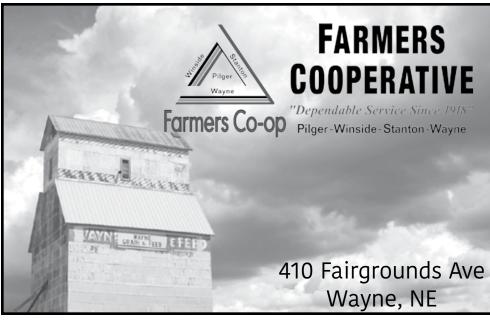
9. Windex

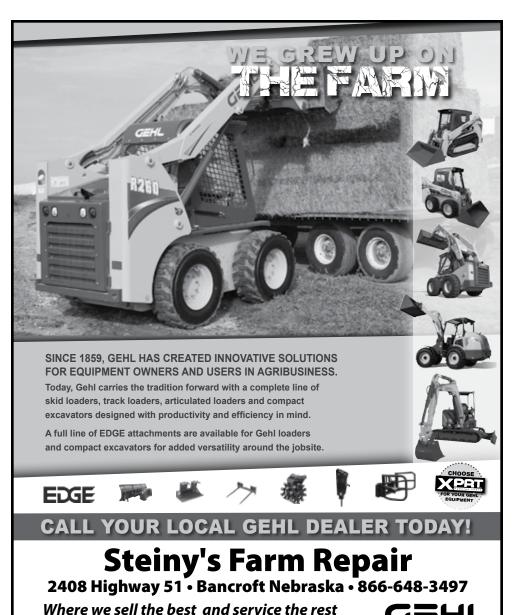
When you use the glass cleaner Windex, corn is helping you give windows and mirrors a streak-free shine! Corn is used to make multiple ingredients in Windex, including ethanol and citric acid. Ethanol is made by fermenting corn and citric acid is made from cornstarch.

10. Textiles

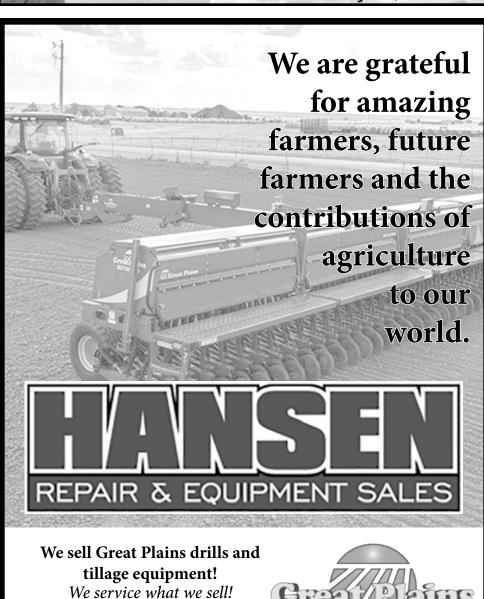
Corn also has emerged as an innovative and eco-friendly source for textile production. The most common method uses cornstarch to create polylactic acid (PLA), the same substance used to make biodegradable cups. This process involves fermenting corn sugars to produce lactic acid, which is then made into PLA pellets that can be spun into fibers. Sold under the brand name Ingeo, these fibers are used to make textiles.

In addition to biodegradable cups, earth-friendly plastic cutlery and textiles, this corn-based PLA also is used to make coffee pods and diapers.





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6B



Farmland values remain stable

Farmland values in Nebraska However, rising prices may lead some est Benchmark Farm Value Trends Report issued by Farm Credit Services of America (FCSAmerica). While sales activity has slowed, cropland is showing pockets of strength.

"While the market remains stable overall, there are instances of significant deviations in sales prices, both above and below expectations," said Tim Koch, FCSAmerica executive vice president of business development. "Prices above expectations are anomalies and don't represent the broader trend.

While many of today's buyers are well-positioned financially and capable of exceeding expected prices, most sales remain flat," Koch added. "Buyers are increasingly cautious with their working capital, waiting for the right opportunities. This selectivity is driving a reduction in sales, with buyers focusing on high-quality, strategically located land."

Interest rates are not expected to have a significant impact on the market, according to Koch. "Margins and availability of capital will play a more crucial role in influencing buyer behavior."

Addressing pastureland trends, Koch said: "The pastureland market has strengthened in some areas, driven by profitability of the cow-calf sector.

remain stable according to the lat- buyers to reduce herd sizes rather than expand their holdings, reallocating those funds to options with higher earning potential."

State-by-State Comparisons

Over the last six months, the average of the benchmark value changes ranged from -2.8% to 5.7% with an



overall average of 0.9%. The 12-month value changes ranged from -5.1% to 9.5% with an overall average of 1.6%. The major factors affecting the agricultural real estate market are lower commodity prices, profitability in the cattle market and limited supply of real estate for sale. Farmers and ranchers continue to be the predominant buyers.

Below is a state-by-state summary of benchmark values for cropland and pastureland over the past six and 12 months.

Iowa: Cropland values decreased -3.4% over the past six months and -6.9% over the past 12 months.

Nebraska: Over the last six months, cropland values decreased -0.6% and -0.2% over the last 12 months. Pastureland values saw a modest increase of 0.4% over 12 months.

South Dakota: Values for cropland increased 2.5% over the past six months and 3.6% over the past year. Pastureland in the state showed the strongest growth across the Associations, rising by 10.4% over six months and 21.6% over 12 months.

Wyoming: Cropland values were stable over the past 6 months and increased 4.4% over the past year. Pastureland values rose by 1% over 12

For more information on this report and land values, visit https://www. fcsamerica.com/resources/learningcenter/latest-land-values.

Farm Credit Services of America is a customer-owned financial cooperative proud to finance the growth of rural America, including the special needs of young and beginning producers. With nearly \$44.3 billion in assets and \$7.9 billion in members' equity, FCSAmerica is one of the region's leading providers of credit and insurance services to farmers, ranchers, agribusiness and rural residents in Iowa, Nebraska, South Dakota and Wyoming. Learn more at fcsamerica. com.



Unleaded 88 (E15 Gas) Guide: Your FAQs answered

Everyone is trying to make good choices these days. When it comes to filling your tank at the pump, Unleaded 88 stands out as the smart choice for your wallet and your car!

Also called E15, Unleaded 88 is a blend of ethanol and gas that is approved for use in all gasoline powered vehicles model year 2001 and newer. It not only saves you money with its lower price point compared to traditional gasoline, but it also benefits the environment by reducing greenhouse gas emissions.

By choosing Unleaded 88, which contains ethanol made from corn, you're not just fueling your car—you're also supporting American agriculture, making a positive impact on both your wallet and helping the planet!

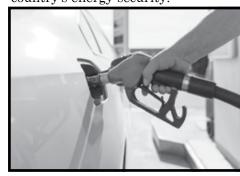
Here, we'll answer some of the most common questions about Unleaded 88 and how it can benefit you and your vehicle.

What is Unleaded 88?

Unleaded 88 is a biofuel blend made of up to 15% ethanol and 85% gasoline. Unleaded 88 burns cleaner and is better for the environment than pure gasoline alone, helping reduce pollu-

In addition to costing less than traditional gasoline, the ethanol Unleaded 88 contains is a renewable, Americanmade fuel source. Much of the ethanol used around the world is made from U.S. corn. When you fuel up with Unleaded 88, there's a good chance the ethanol it contains comes from Nebraska, which is the second-largest ethanol producer in the country.

Using a blend with American-made biofuel supports American farmers while also helping strengthen our country's energy security.



Is E15 gas the same as Unleaded 88?

Yes. With so many choices at the pump these days, it's easy to wonder what E15 gas is. Turns out, it's just another name for Unleaded 88. Both terms describe the blend of up to 15% ethanol biofuel with 85% gasoline. Some stations and states have different names, and this is one of them!

> What are the benefits of **Unleaded 88 Gas?**

Ethanol offers numerous benefits for because it is approved by the U.S. your engine and your pocketbook. Top benefits of Unleaded 88 include:

Improved engine health: Higher octane rating (88 vs 87 for regular unleaded) which can reduce engine deposits, boost horsepower and engine efficiency.

Reduced pollution: Burns cleaner, potentially reducing pollution and greenhouse gas emissions that contribute to global warming.

Savings at the pump: Often costs less than regular unleaded gasoline as well as lower ethanol blends like E10.

How much can I save by using Unleaded 88?

Unleaded 88 is less expensive than traditional gasoline blends, in some cases significantly less expensive. In August 2024, price-tracking websites reported the national average for a gallon of Unleaded 88 was \$3.23 a gallon—89 cents cheaper than the \$4.12 for non-ethanol blends. While savings can vary by region, Unleaded 88 is also usually at least 10-30 cents cheaper per gallon than even lower ethanol blends.

Can I use Unleaded 88 in my car?

Many people wonder what vehicles can use Unleaded 88. The answer is simple: Unleaded 88 is safe for most vehicles on the road today. That's

Environmental Protection Agency for use in gasoline powered cars, trucks and SUVs made in 2001 or newer.

Will Unleaded 88 damage my car?

Is Unleaded 88 safe to use? Yes, it is safe and approved for use on the vast majority of modern vehicles (2001 and newer). In fact, Unleaded 88 can boost horsepower and enhance your engine's performance.

Where can I find Unleaded 88 gas?

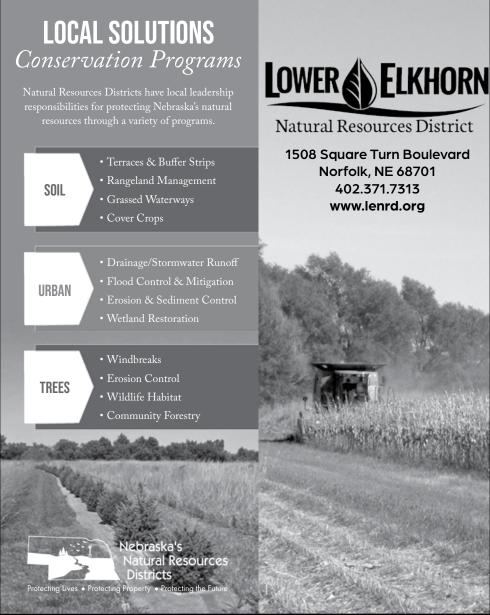
Many gas stations sell Unleaded 88 as well as other ethanol-gasoline blends, like E10 and also E85/flex fuel. To find Unleaded 88 gas near you, visit getbiofuel.com.

Where is ethanol used in Unleaded 88 Made?

Ethanol is one of the many products made from corn. Much of the ethanol used in cars is made here in Nebraska, one of the nation's leading corn-growing states and the second-largest ethanol producer in the country.

The production of corn-based ethanol provides many benefits in addition to fueling vehicles. Valuable co-products are created during the ethanolmaking process, including corn gluten meal and distillers' grains-which are both nutritious, protein-rich ingredients used in livestock feed.





Area students excited about opportunities in agriculture

Getting students excited about learning can be a challenge for teachers at all levels, but Northeast Community College Precision Ag Trainer Courtney Nelson has found that drones are great tools to get students excited about agriculture.

careers available in precision agricul-

"Because students have grown up surrounded by technology, they don't differentiate precision agriculture as anything unique," Nelson said. "I



Drones are increasingly used in agriculture, among other career

Last year, Nelson estimated she interacted with about 2,000 students in area classrooms, and another 1,000 at events like Husker Harvest Days and State FFA.

Nelson said her goal is to make

showcase to them that farming is not the only ag-related career that uses drones, GPS, and other technology. They could also be the engineer who designs the GPS, or the technician who helps get the GPS set up for the

students aware of the vast array of farmer. There are just so many different careers that they haven't thought of before and not been exposed to."

> Nelson said drones are probably her most sought-after classroom activity.

> "They are just little indoor classroom drones," Nelson said, "but we talk about how you can use drones in agriculture."

> Nelson uses iPads to teach students how to operate the drones with block coding. Students get to map an imaginary field in the gym. Nelson works primarily with students in grades 7-12, but recently expanded to include fourth, fifth and sixth graders at an elementary science day.

"For elementary age students," she explained, "we do a simpler drone activity, using block coding to draw a

Nelson focuses mainly on schools within the 20-county area served by Northeast but has provided her training outside that area.

"I have been in schools in nearby counties in other community college districts, especially to the south of the Northeast area," Nelson said. "I've been in South Dakota twice and have had inquiries from western Iowa."

This is Nelson's third year in the trainer position.

"When I started (Northeast ag

instructor) Bob Noonan told me it would take about three years to get my feet under me," she said. "Now that I understand the routine, I can start adding depth to some of my activities. I'm really excited to dive into some of the technical things again, now that I have figured out the teaching piece."

The newest addition to Nelson's technology toolbox is a handheld Databot.

"It has 13-15 different sensors," she said. "You can do temperature readings, humidity readings, altitude. There's an accelerometer. I plan to show students how to take these different readings, and then challenge them to think about how this data can be used in agriculture. Now that I've shown them some of the fun stuff, I think it will be good to bring some of that data to them."

Nelson also works with area teachers, specifically science and ag teachers.

"In Nebraska, 53% of ag teachers have less than five years of experience in the classroom," she said. "So there are a lot of teachers trying to soak up as much information and as much professional development as they can."

For more information on incorporating precision ag in your classroom, check the website northeast.edu/aglessons, or email Nelson at cnelson10@ northeast.edu.

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