agMAG
CONNECTING YOU TO NEBRASKA AGRICULTURE
Issue 6

ONE COMMUNITY

Agriculture connects people. Farms and ranches are everywhere in our nation. Agricultural businesses are in towns, cities, and communities in every state in America. Agriculture provides thousands of jobs. This fuels the economy in Nebraska and in the United States. Without agriculture, we wouldn't be able to feed, clothe, and fuel the world.

The bottom line: **agriculture is an important industry for all of us!**

OUR HISTORY

Agriculture is an important part of our country's history. The people in Colonial America began as farmers. Agriculture has continued to feed people across the world ever since they arrived!

DID YOU KNOW?

Let's take a closer look at agriculture in Nebraska. Place a checkmark next to all the statements that are a **FACT**!

- ☐ 1 in 4 jobs in Nebraska are related to agriculture.
- ☐ Nebraska ranks #1 in the nation in popcorn production.
- ☐ Nebraska has careers available in agriculture insurance, equipment sales and repair, technology, and engineering.
- ☐ Nebraska has the largest aquifer (underground water) which helps farmers produce their crops.

Guess what? **ALL** of these are facts! Agriculture in Nebraska is important!

OUR WORLD TODAY

Food and fiber are traded all over the world. Corn and beef grown in Nebraska may travel all the way to Mexico or China. People in every country are impacted by the agriculture industry.

OUR CULTURE

Agriculture is an important part of cultures around the globe. All over the world, people have grown food, developed tools and techniques, and sold and traded what they produced. Roads and railways were developed so that food and products could be transported and traded. Agriculture helps advance communities and countries across the globe.

DIGGING DEEPER

Think about where you live. What role does agriculture play in your community?

TALES OF HISTORY AND IMAGINATION

Agriculture looks much different today than 200, 100, 50, or even 25 years ago! People involved in agriculture have been industrious and looked for ways to farm more efficiently. Many designs and inventions have had significant impact on the industry—improving the way farmers and ranchers produce the food, fuel, and fiber we need in our daily lives!

Check out some of the important advances in agriculture and match them with the year they were invented.

BARBED WIRE

Joseph Glidden made improvements on a single wire fence by adding a simple barb onto a double-strand wire. Wire fencing helps cattle farmers/ranchers save money instead of using traditional wooden fencing.

GASOLINE TRACTORS

For years, farming was done with oxen or horses. John Froelich invented the gasoline-powered tractor which was more efficient to use. The gasoline tractor could do the same work in a couple of hours that a horse could do in a day.

STEEL PLOW

Early Midwest farmers used wood or iron plows pulled by horses to break through the tough prairie grass and soil. A blacksmith named John Deere made a plow out of steel. The sticky prairie soil easily slid off the polished steel, making plowing much easier.

1892

GPS TECHNOLOGY

Global Positioning Systems (GPS) allow farmers to gather and see information in real-time. This information reduces going over the same area of a field twice and waste of seed, nutrients, fuel, and time.

1892

THERE'S MORE!

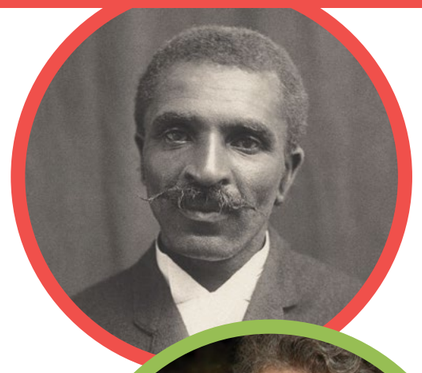
These are just a few inventions and innovations that contributed to agriculture we know today—there is so much more! Explore **what** each of the following did for agriculture and include **when** it happened and **who** was involved. Remember to share what you learn with classmates, teachers, and family!

- **Cotton gin**
- **Thresher machine**
- **Grain reaper**
- **Rubber tires**

IMPACT OF SCIENCE AND INVENTIONS

Since humans moved away from hunting and gathering to farming and producing food, individuals have looked for ways to do that more efficiently. Americans with careers in science and agriculture continue to make a difference. There is a place for you in agriculture as an inventor—how will you make an impact?

THEN



IMPACT ON HOW WE GROW CORN AND SOYBEANS

George Washington Carver is a scientist who began his research in his own backyard. He took something he loved to study—how plants grow—and used it to make the soil better. Today, farmers plant corn one year and soybeans the next year to keep the soil healthy—thanks to Carver. He developed **crop rotation**, the system of alternating crops to provide benefits to the soil.

NOW

IMPACT ON CATTLE

Temple Grandin is an animal scientist who used her way of thinking to change the livestock industry. She is one of the first individuals on the autism spectrum to help animals. When cattle are startled, they stop moving. Temple created special chutes that have solid, curved walls that keep animals happy as they walk.

FUTURE

Imagine what **your** Impact will be on the agricultural industry. In the space provided, write down two agricultural ideas in which you can make an impact. For instance, create a robot to feed cattle!

YOUR NAME _____ IMPACT ON _____

_____

_____

_____

_____

MORE SCIENTIST AND INVENTORS

For more science and invention ideas from people who influenced agriculture, dig into these individuals and what they accomplished!

Norman Borlaug **Cyrus McCormick** **Eli Whitney** **John Deere**

HOMEGROWN IN NEBRASKA

A SHOPPING TRIP!

Think about the last time you went to the grocery store. Did you help your mom, dad, grandparent, or friend pick out the food to buy? Did you stop and think about where all the food comes from? People in the United States are lucky. We have easy access to a safe and affordable food supply at our local grocery store. While much of the food in your grocery store comes from other parts of the U.S. and even the world, did you know that a lot of the food you eat every day is from crops and animals raised in Nebraska?

Let's grab a cart and travel the aisles of a grocery store to discover more about our homegrown Nebraska food!

PRODUCE

Our first stop: the produce section where we find fruits and vegetables! While the climate in our state isn't ideal for growing large quantities of most fruits and vegetables, Nebraska farmers do grow produce that is often sold as "locally grown" in our stores. And, did you know Nebraska is a large producer of potatoes? Grab a bag to bake or make mashed potatoes!

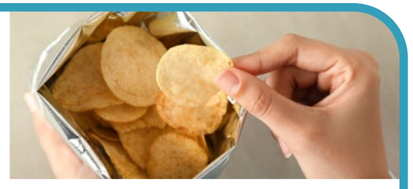
BEANS

Making some soup or chili? Want a side to go with that steak you bought? When you grab a can or bag of pinto beans, black beans, Great Northern beans, light red kidney beans, navy beans, or garbanzo beans, it's likely those were grown in Nebraska! Our state ranks 6th in all dry edible beans grown! Most are produced in Western and Southwest Nebraska where the soil and climate is favorable for beans.

BREAD, CEREAL, AND CHIPS

Ready for a sandwich? That loaf of bread may have flour grown by Nebraska wheat farmers!

What is your favorite kind of cereal? Nebraska-grown corn, oats, and flour are processed into the flakes, o's, and oatmeal you enjoy each morning!



Let's grab a bag of chips! Nebraska grows lots of potatoes, many of which are processed into potato chips! And, some of the corn grown in our state is processed into those yummy corn chips!

DAIRY

Next stop is the dairy cooler! Here we find milk, cheese, yogurt, and other dairy products. Nebraska ranks 26th in total milk production—and that milk is processed into the delicious dairy products we enjoy. Most dairies in Nebraska are located in the Central and Eastern parts of the state. They are located near processing facilities which reduce shipping time (milk is perishable!).

What is your favorite dairy product?

- ☐ Milk
- ☐ Yogurt
- ☐ Cheese
- ☐ Cottage cheese
- ☐ Ice cream

EGGS

Remember to get a dozen eggs! Eggs are great for breakfast (and other meals!) and are used many different ways in cooking and baking. Eggs are high in protein and vitamin D. Nebraska ranks 5th in egg and egg product exports!

What is your favorite way to eat eggs?

_____

What is your family's favorite type of meat to serve?

_____

MEAT

The meat counter and cooler is where we find a great source of protein in beef, pork, and poultry. Nebraska is a national leader in beef production, ranks 5th in pork products, and produces lots of broiler chickens that are processed into the chicken breast, tenderloins, and nuggets we eat.

POPCORN

Need a tasty, crunchy, and nutritious snack? Grab a bag of popcorn! Nebraska produces the most popcorn of any state in the nation! Nebraska popcorn farmers produce 350 million pounds of popcorn each year!

CHECK OUT!

Our cart is full, and we have more knowledge about how Nebraskans grow the food we find in our grocery stores.

To discover even more about what is grown and raised in Nebraska, check out the Nebraska Interactive Map: ***www.nefbmap.org***.

AGRICULTURE NEEDS YOU!

Whether you live in a big city, small town, or on a farm or ranch, agriculture is part of your everyday life. In Nebraska, 1 out of 4 jobs are related to agriculture! Do you love animals? You could be a veterinary technician. Are you a fan of math? You can use that every day as a grain marketing specialist. The opportunities are endless, and there is a place for YOU in agriculture!

WHERE DO I START?

There are lots of agriculture careers to explore!

Circle the 5 words/phrases that most interest you!

- ☐ Animals
- ☐ Plants
- ☐ Computers
- ☐ Technology
- ☐ Research
- ☐ Teaching
- ☐ Water
- ☐ Science
- ☐ Helping others
- ☐ Building
- ☐ Writing
- ☐ Problem-solving
- ☐ Working on a team
- ☐ Fishing
- ☐ Working outside
- ☐ Working inside
- ☐ Travel
- ☐ Helping the environment
- ☐ Numbers
- ☐ Talking to people

Ready for some exciting news? There are careers in agriculture related to every combination of these words/phrases!

- If you selected plants, working on a team, and talking to people, you could have a future in selling seed to farmers.
- If you selected problem-solving, research, and science, you could be a food scientist!

There are dozens more opportunities for each combination!

BE PREPARED FOR YOUR CAREER

Careers in agriculture require different levels of education, training, and experience! The type and amount vary depending on the responsibilities. Here are examples of careers you could have in the beef industry and the education and training needed.

Training/Certification
Livestock Hauler—safely and efficiently delivers cattle from a farm to a market or processing plant.

Associate Degree
Feedlot Manager—supervises and manages daily operations like herd nutrition, environmental conditions, and marketing of cattle.

Bachelor's Degree
Herd Nutritionist—educate farmers on appropriate diets, product mix, and rations for their beef herd.

Doctorate Degree
Meat Scientist—research animal growth and development, fresh meats and processed meat products. Have you ordered a flat iron steak? That cut was developed by a meat scientist!

CAREER TREK

Let's learn about some exciting agriculture careers in Nebraska by meeting people who love what they do for Nebraska agriculture!

JESSICA DOUGLAS

Environmental Sampling Specialist
Midwest Laboratories, Omaha, NE

Jessica collects and analyzes samples from water or soil using portable laboratory equipment. Samples are used to make sure a site complies with all environmental laws and regulations. She loves working with a variety of rural and urban projects that each have unique challenges.

REGINA NARJES

Marketing Coordinator
21st Century Equipment, Sidney, NE

Regina works to support and market parts, service, and sales at a local John Deere Dealership. She loves that employees help support local farmers and ranchers. Regina enjoys the diversity of her job—no two days are ever the same!

KYLE LECHTENBERG

Farmer
Northview Family Farms, Butte, NE

Kyle manages resources (land, finances, and employees) to operate the farm. His job is to test hay for moisture and protein to determine the value and use of the hay. He enjoys the testing to meet livestock's nutritional needs.

BRANDON WARDYN

Research Scientist
Corteva, York, NE

Brandon leads a team of researchers that develop new corn hybrids. He uses science, math, computer programming, biology, and teamwork to create new genetics to help farmers. He is thankful to know products they create make farmers more successful.

SOYBEANS SHAPE THE WORLD

Nebraska's agricultural products really do help feed the entire world! Corn, beef, pork, and other commodities are sold internationally. Nebraska soybean producers are leading the way in growing soybeans and exporting the whole bean, soybean meal, and soybean oil to other countries.

When a product or commodity is sent to another country for sale, that is called an **export**. Exports are important to everyone because American farmers produce abundant amounts of crops and livestock that exceed the needs of the United States. Nebraska soybean farmers grow soybeans used in our state and nation, in addition to quantities that can be exported to countries all over the world. That means farmers focus on marketing and promoting their soybeans to other countries.

Circle what you believe is the correct response:

Currently, more than of Nebraska's soybean crop is exported to other countries.

2% **25%** **50%** **99%**

If you selected 50%, you are correct! In 2019, Nebraska soybean farmers produced 283,140,000 bushels of soybeans. How many bushels were exported to other countries?

_____

Exports bring more money into our state for a positive impact on the economy.

WHERE IN THE WORLD?

Nebraska exports whole soybeans that will be used and processed when they get to a country, soybean meal used for animal feed and human consumption, and soybean oil used as a cooking oil. Where do they end up?

Mexico is a key trade partner for all soybeans

The U.S. exports the most soybean oil to South Korea

The U.S. exports the most soybean meal to Philippines

The U.S. exports the most whole soybeans to China

Agriculture in the Classroom ® is a program coordinated by the National Agriculture in the Classroom Organization and supported by the United States Department of Agriculture (USDA). In Nebraska, the Agriculture in the Classroom program is managed by the Nebraska Farm Bureau Foundation, whose mission is to engage youth, educators, and the general public to promote an understanding of the vital importance of agriculture in the lives of all Nebraskans. To learn more or access an electronic version of this publication contact the Nebraska Farm Bureau Foundation.

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NEBRASKA AGRICULTURE IN THE CLASSROOM
NEBRASKA FARM BUREAU FOUNDATION

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