

All About CHICKENS



POULTRY is the term used to describe domestic (not wild) birds that are raised for their products including meat, eggs, and feathers. The most common type of poultry in Nebraska is chicken. Chickens are an important source of food throughout the world. They provide Nebraskans with meat and eggs. Let's find out more about chickens in Nebraska!



Coop Talk

If you ever listen to farmers talk, they have different names for chickens. Familiarize yourself with their language. As you read, find and circle these words in the reader!

Breed

A group of chickens with similar physical traits and temperaments.

Pullet

A young female chicken that has not laid eggs.

Cockerel

A young male chicken; usually under a year of age.

Hatchery

A place where chicken eggs are hatched.

Chicken House

A farm building for housing poultry, also called a coop, hencoop, or henhouse.

Poultry

Domestic (not wild) birds that are raised for meat and eggs.

Hen

A female chicken.

Layer

A chicken that is a good egg producer.

Chick

A baby chicken.

Broiler

A chicken that is raised for its meat.

Rooster

A male chicken.

Nest Box

A box in a chicken house in which hens lay their eggs.

Flock

A group of chickens.

More than **9.3 MILLION** birds are raised for eggs in Nebraska.

More than **90 MILLION** pounds of chicken meat are produced each year.

Nebraska's chickens lay more than **2.6 BILLION** eggs each year.

Nebraska ranks **15TH** in egg production in the United States.

Which Came First: The Chicken or the Egg?

A chicken lays one egg every **24-26 hours**, and eggshells come in varying colors including white, dark brown, light brown, and even shades of green. Eggs are laid for two reasons. One is to be fertilized to hatch into chicks. The other is to be eaten by humans.

Eggs that are used for eating do not need a rooster, or to be incubated or laid on, as there is no chick inside the egg. An egg that is intended for eating will never have a chick inside of it.

A rooster mates with and fertilizes a hen's egg before the hen lays an egg. The life cycle of a chick begins in an egg. Eggs that contain a chick can be hatched by an incubator or by a hen.

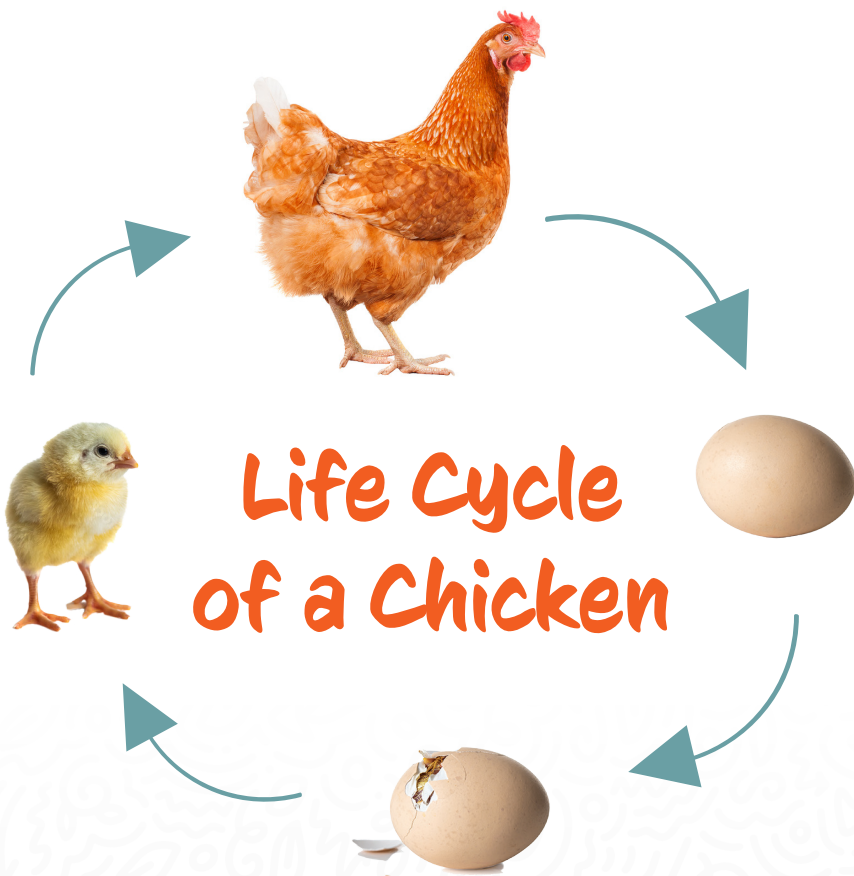


HEN

A hen will lay a clutch of eight to 13 eggs by laying one egg per day for one to two weeks. Once the hen sits on the eggs, also called brooding, it takes 21 days for the chick to develop and be ready to hatch. The hen turns the eggs several times per day to keep the embryo from sticking to one side of the shell.

INCUBATOR

Fertilized eggs are collected from many hens and placed in the incubator. Some incubators include automatic temperature and humidity controls, as well as automatic turners. Incubators replicate the actions of a hen. An incubator can hold from as few as three eggs to as many as thousands of eggs.



Life Cycle of a Chicken

HATCHING IN NEBRASKA

Hendrix Genetics is a hatchery with locations in more than **25** countries worldwide. One of its locations is near Grand Island, NE. This hatchery can hatch **100,000** chicks per day, five days a week. It is equipped with **30** incubators and **18** hatchers. The incubators are used for improved genetic selection and have a higher hatching rate than leaving the job to the hen alone! The chicks from this facility are sold to farmers who raise them as layers.



Count Your Chickens

There are more than **113** different breeds of chicken, each with different genetic strengths and characteristics. There are two types of characteristics we can look for in chickens. They are phenotype and genotype. Phenotype includes traits you can see such as skin color, feather color, body size, and eggshell color. Some traits cannot be seen, and they are called genotypes. Examples of genotypes include rate of growth and egg production.

DIG DEEPER

List one phenotype and one genotype characteristic for a

LAYER CHICKEN & BROILER CHICKEN

PHENOTYPE

GENOTYPE

PHENOTYPE

GENOTYPE

LAYER

is a term used for a type of chicken that is a good egg producer.

BROILER

is a term used for a type of chicken that is raised for their meat.

ORNAMENTAL

is a term used for breeds of chickens that are raised as pets, as a hobby, or for shows.



Blake Bell Pawnee City, NE

When Blake was 6 years old, he found himself at the Nebraska State Fair watching the Poultry Show. This sparked a passion that led to the 46 breeds of chickens, ducks, geese, and turkeys he now raises. Blake aims to grow a flock that reflects the breed standards of the American Poultry Association and its publication, "The American Standard of Perfection." The book describes the shape, size, weight, and feather quality desired for each breed. It even outlines things such as eye color and toenail color. Blake has shown chickens for many years and enjoys the work it takes to find and raise the "perfect" chicken.

Flock to the BACKYARD and the BARN!

On **CHICKEN FARMS**, several types of housing systems may be used. These systems include conventional style barns, cage free, free range, and enriched colony housing. No matter where chickens live, they always have access to food, water, and fresh air. Meet Nebraska farmers who care for chickens!



Logan Barr Burchard, NE

Raising chickens was never Logan's intended path in life, but after 23 years he has learned to love it! **Plum Creek Farms** raises chickens for meat. When the farm began, the family also raised chickens for eggs but found they stay very busy raising broilers. Three generations work on their family farm to provide safe products that can be purchased at their store in Omaha.



Beka Doolittle Elkhorn, NE

Beka and her family raise 16 chickens in their backyard. For years, she admired the chicks at the farm store and eventually put a chicken coop in her backyard. The chickens sleep in the coop at night but roam free in the backyard all day. Beka understands it is her job to care for the chickens because they provide her with eggs.



Hannah Borg Allen, NE

The Borgs raise approximately **80,000 chickens** every five months, the offspring of which will eventually be rotisserie chickens at Costco. The broiler pullets are raised in barns, each measuring 60 x 600 feet. That's about the size of six basketball courts laid end to end! The barns have heating and cooling systems, feeders, and waterers to keep the chickens comfortable. Chickens are raised on a dirt floor with wood shavings on top.



Mike & Kellee Rasmussen Ericson, NE

As you read Mike & Kellee's story, draw a circle around the types of technology they use.

Mike and Kellee raise Dekalb White chickens. This is an egg-producing breed created by Hendrix Genetics. Mike and Kellee raise chickens to lay eggs that produce chicks. Their flock represents the very first step in supplying eggs for your table.

Mike and Kellee receive their chickens when they are 17 weeks of age.

The chickens lay eggs.

Those eggs are sent to Hendrix Genetics Hatchery in Grand Island, NE, to be hatched.

From there, the female chicks are sold

to commercial layer barns across the United States to produce eggs for food.

The Rasmussens raise 40,000 female chickens and 4,000 roosters in their one barn. The birds live in a high-rise building. It is a two-story building: the chickens live on the upper floor and their manure is collected on the basement floor.

The building is completely automated. Sensors monitor the temperature, levels of feed and water, and the weight of the chickens. The Rasmussens can even regulate when the lights turn on and off!

The building is always kept between 65-75 degrees Fahrenheit. The lighting system tells the birds when to wake up and when to sleep. It is important for chickens to get enough rest, food, and water, so they can lay an egg six days of the week.

Kellee says, "Our birds are very well cared for, and animal husbandry is a top priority for us."

The Rasmussens pack eggs seven days per week for one full year. Then, they take a four week break to clean out the building and prepare for a new flock.



CHICKEN DIETS

Both broilers and layers are known to be omnivores, with a diet consisting of grains, seeds, and insects. Chickens raised on large farms in chicken houses eat a prescribed diet of chicken feed and water. Chicken feed is a mixture of corn, other grains, meat, fish, vitamins, and minerals.

DIG DEEPER

Research one of the technologies you circled. How does technology help chicken farmers?

Get Cracking!



MICHAEL FOODS EGG PRODUCTS COMPANY operates egg farms and an egg processing plant in Wakefield, NE. Locally, they employ nearly 700 people. Joe Brown, farm operations manager, shares the story of what happens to an egg after it is laid by a chicken! Fill in the blank with the correct word from the word bank!

WORD BANK

House

Pumps

Tanker

Conveyor

Washed

Candled

Yolks

1. Chickens lay their eggs in nest boxes in the chicken _____.
2. A conveyor belt carries eggs from the nest boxes to the front of the houses.
3. The _____ belt brings the eggs from each of the chicken houses to a processing area.
4. When the eggs arrive at the processing area, they are _____.
5. After being washed, the eggs are candled. This means the eggs pass over a light, and employees make sure the shells are clean and that there are no chicks inside the eggs.
6. Once the eggs have been _____, they go into a breaking machine that separates the whites and yolks.
7. The whites and _____ are then piped through a cooling system and into a storage silo.
8. Then, a tanker truck arrives and _____ the eggs from the silo into its tank.
9. Finally, the _____ truck hauls the eggs to another processing plant for further processing.

SMART & PREMIUM CHICKEN!

Nebraska may be the beef state, but it is also the home to many chickens! Remember, the term for a chicken who provides meat is called a broiler. Nebraska produces over 90 million pounds of chicken every year. Learn more about two companies who raise and process broilers in Nebraska.

Smart Chicken Tecumseh, NE

Tecumseh Poultry, LLC, makes Smart Chicken. The company was the first to use air-chill technology in 1998, and since then, it has continued to produce chicken that is safe and high quality.

Smart Chicken comes from family farms that provide great care for their birds and for the environment. Many of the grains used to feed the chickens come from farms in the Midwest, which helps support local communities. Every step, from the farm to the store, is carefully managed so the chicken meets the highest standards for cleanliness, safety, and taste.

At the plant, skilled workers hand-trim and check each piece of chicken to make sure it looks and tastes great. Workers who do well can move into leadership jobs because the company focuses on teaching skills and helping people grow.

Tecumseh Poultry values its workers and the many important jobs that help produce fresh, premium chicken.

Lincoln Premium Poultry (LPP) Fremont, NE

The complex consists of a feed mill, hatchery, 500 barns, a lab, and a food processing facility.

At LPP, 1,200 team members split duties between three shifts. A shift is a work schedule designed to provide service throughout the full 24 hours of the day. There are many different jobs, and employees can work with live birds, equipment, robots, or computers. There are jobs in engineering, training, management, and accounting.

Technology is key to keeping things running smoothly. One of the newest technologies used at LPP is a trussing robot. The trussing robot ties the wings and legs of the rotisserie chicken before cooking. This job is traditionally done by hand. Using a robot to complete this task eliminates a difficult job and reduces the chances of injury to the employees!



The Incredible Chicken & Egg!

Chickens are essential to the agriculture industry because Americans consume their meat more than any other meat-producing animals. Chickens' ability to produce both meat and eggs make them more diversified than other farm animals. Learn more about how chickens provide a foundation for your healthy eating choices.

According to the USDA, Americans eat nearly 97 pounds of chicken per person each year!

The most common meal that includes eggs is breakfast!

CHICKEN

Chicken is a low-calorie, low-sodium, and low-fat source of protein. It contains all nine essential amino acids, or the building blocks of protein, needed in the human diet. A few key benefits of eating chicken include:

- Building muscle
- Promoting heart health
- Strengthening bones

EGGS

Eggs provide important nutrients such as:

- High quality protein to support your muscles
- B vitamins and selenium to keep your body healthy
- Choline which is important for your brain
- Lutein for eye health to protect your eyes from blue light on monitors and screens

Draw a Breakfast Challenge

Draw a healthy breakfast that includes an item of your choice from each food group and write it down below.

MY BREAKFAST ITEMS INCLUDE:

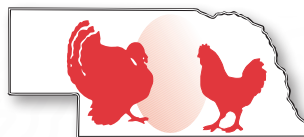
Fruit _____

Veggie _____

Grain _____

Protein _____

Dairy _____



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NEBRASKA
**AGRICULTURE
IN THE CLASSROOM**
NEBRASKA FARM BUREAU FOUNDATION

Agriculture in the Classroom is a program coordinated by the National Agriculture in the Classroom Organization. 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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