



## **SWINE DINING**

Pork is the food product that comes from pigs! Pork is packed full of nutrients like iron, thiamin, niacin, zinc, and B-vitamins that are important for our bodies to function normally. Pork is also a fantastic source of protein, which helps your body build strong muscles and bones. In fact, it's recommended that 20-30 grams of protein should be consumed per meal to help maintain muscle mass. Pork loin, pork sirloin, and pork tenderloin all average around 23g of protein in just 3 ounces. No wonder people of all ages enjoy

provides a wider range of products for us than pigs.

incorporating this delicious protein source into their weekly menus.

The work of farmers, along with modern technology, has brought consumers the leanest pork products possible. Over the last 30 years, the fat in pork has been reduced about 16% and saturated fat has been reduced about 27%. Electric equipment, along with breeding techniques, allows farmers to monitor the fat content of a pig and adjust the pig's diet to produce very lean meat.

## **EVERYTHING** BUT THE **O**INK







artist



Fatty acids used for crayons and chalk

From food on your plates to medical devices, there is no other animal that

Pigs not only provide us with safe, high-quality nutrition, but they also provide us

with many co-products. These products are made from the pig's blood, bones, skin, hair, or fatty acids. Some examples of common products that are made with pig





**Farrow to Finish** 

FARROWING BARN: The Farrowing Barn is where piglets are born, weighing 2-3 pounds. A sow is put into a special area called a farrowing stall. This stall has adjustable rails to separate the sow from her piglets. This way she won't hurt the piglets when she lies down or turns over, but she can still nurse (provide the piglets with milk).

NURSERY: After 21 days the piglets weigh around 13-15 FINISHING: After 6-8 weeks in the nursery, the pigs pounds and are weaned from the sow and moved to the nursery. Here, the pigs get a specially mixed starter diet weeks they will continue to eat grains like corn and of corn, soybeans, and supplements of vitamins and minerals to help them stay healthy and grow quickly. The pigs will stay in the nursery until they reach around 50-60 pounds.

are moved to the finishing barn. For the next 16-18 soybeans until they reach a market weight of roughly 280 pounds.





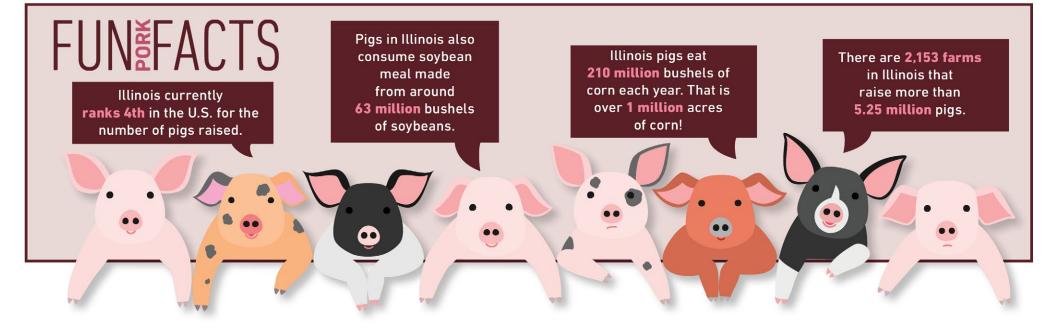
products are:



There are more than 60,000 pig farms in the United States which cover a wide range of farm types and sizes. Some pig farms raise the pigs from birth until they are market weight, and other pig farms raise the pigs for shorter periods of time at different stages of the pig's market life cycle.



adhesive



## **FARMER TALK**

There are many different terms farmers use to talk about pigs. Here are just a few:

**BOAR** is a male used for breeding.

**BARROW** is a male pig that is not used for breeding.

FARROW means to give birth to piglets.

**GILT** is a female pig that has not given birth.

**LITTER** means a group of piglets born at the same time. Litter sizes are usually between 8-12 piglets.

**PIGLET** is a baby pig.

**PORK** is the food product that comes from pigs. Pork chops, bacon, ham, sausage, and pork roast are some examples of pork. **SOW** is a female pig that has given birth. Pigs are pregnant for three months, three weeks, and three days.

WEAN means the piglet is big enough to eat on its own and doesn't



The pork industry contributes \$13.8 billion to the Illinois economy annually, and it is directly connected to over 57,165 Illinois jobs.

Illinois pig farmers produce nearly **2.1 BILLION** pounds of pork each year!

# SWINE BREEDS

Out of all the breeds of pigs, there are eight that are commonly raised in the United States. Each breed has different physical characteristics and qualities that are beneficial for pork production. Things like fast and efficient growth, production of more offspring, muscle leanness and quality, and mothering ability are a few examples of the difference of characteristics between the breeds. Farmers choose to raise breeds that best fit the needs of their farm. The top four breeds raised in the United States are:



# Pig Farmers Give Back: We Care

America's pig farmers are not only committed to improving practices to care for the environment and their pigs, they are also committed to giving back to their communities. Pig farmers follow the guidelines of the We Care initiative, which is a foundation in the pork industry that measures the sustainability efforts of pig farmers by sharing their practices and demonstrating proof of constant improvement, leading to higher-quality pork. These guidelines are focused on six ethical principles: Animal Well-being, Environment, Food Safety, Our People, Public Health, and Our Community.

## **ANIMAL WELL-BEING**

NUTRITION: Just like humans, pigs need a nutritionally balanced diet to be healthy. Farmers and animal nutritionists work together to ensure their pigs have all the nutrients they need as they grow. The amount of these nutrients is not the same for all pigs. Things like age, weight, breed, temperature, and water consumption will influence the amounts of these nutrients that will be mixed into their feed. Two important ingredients in a pig's diet are corn and soybeans. Because of this, many farmers who raise pigs will often grow corn and soybeans, too Pigs will also drink up to 14 gallons of water a day so it's important for them to have safe clean drinking water.

HOUSING: Here in Illinois, we can have very extreme weather. Keeping the pigs in the barns keeps them out of these varied conditions and away from predators and harmful infections and diseases. Pig barns are kept at a constan comfortable temperature and humidity.







## **PORK OF THE AGES**

Pigs today provide the most commonly eaten meat in the world. But how did that come to be? Researchers and historians don't have an exact date and location of pig domestication, but there is a lot of evidence that shows that domestication took place in many different places like Asia, Europe, and the Middle East. As wild boars became more dependent on humans for food, their physical features began to change into what we recognize as today's pigs. **9700 B.C.:** Wild boars that hung around settlements in the Middle East are considered "managed wildlife," where they were still wild but settlers fed them just enough to keep them around for easier hunting.

**8500 B.C.:** Early agriculturalists in Turkey began penning wild pigs and were feeding them cooked cereal grains.

**4900 B.C.:** Domestication of pigs is thought to have taken place in China.

**1500 B.C.:** Pigs were being raised in Europe.

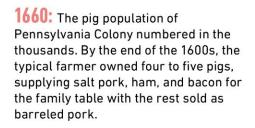
**1493:** Christopher Columbus took eight pigs on his voyage to Cuba.

**1539:** Hernando de Soto brought America's first pigs to Tampa Bay, Florida from Spain. He is known as the "Father of the American Pork Industry." Some of

them ran away and became the first wild pigs and are the ancestors of today's wild pigs that roam the Southern states!



**1607:** Sir Walter Raleigh brought sows to Jamestown Colony.



**1700s:** During westward expansion, pioneers hung wooden crates from the axles of prairie schooner wagons and filled them with young pigs.

**1800S:** Pigs were first commercially

slaughtered in Cincinnati, which became known as Porkopolis.



Image Sources: http://scihi.org/hernando-de-soto-american-expedition, https://commons.wikimedia.org/wiki/File:William\_Segar\_Sir\_Walter\_Raleigh\_1598.jpg, https://www.cincinnatimagazine.com/citywiseblog/lost-city-cincinnatis-porkopolis-status-kahns-meat-market, https://thereaderwiki.

## ENVIRONMENT -

Farmers are always concerned about the environment around them because pig farming is directly related to the land, air, and water.

**Soil Health and Manure Management:** Everybody poops and so do pigs! Manure is actually a very beneficial part of the agriculture cycle. As plants grow, they pull nutrients up from the soil through their roots. Eventually, the nutrients need to be replaced. These nutrients can be replaced with fertilizers – like pig manure. Manure is injected beneath the soil and provides a great source of organic nutrients that plants need to grow – like nitrogen (N) and phosphorus (P).

**Reducing Their Carbon Footprint:** Over the last 50 years, the pork industry has successfully decreased their carbon footprint. Their overall dedication to sustainability has decreased the use of the following:







less water

## **FOOD SAFETY**

The most important responsibility on a pig farm is providing safe, nutritious food for the public. Minimizing food safety threats isn't just the job of the pig farmer, it involves everyone from the farm employees and veterinarians to those who transport the pigs to the market. Those involved

GRAIN IS MADE INTO PI

FEED

in the pork industry participate in training and certification programs that focus on a variety of topics on food safety and animal well-being.

PIGS EAT FEED AND CREATE MANURE

NUTRIENT

CYCLE

## **OUR PEOPLE & PUBLIC HEALTH**

**TRAINING:** Everyone on the farm is provided with the opportunity to be trained and educated in all the procedures on the farm.

BIOSECURITY: Biosecurity is the protection of humans or animals against diseases and other harmful

microorganisms. While every farm's biosecurity plan will look different from one another, there are some common protocols that all farmers have in their plans:

## **OUR COMMUNITY**

- . Creating a line of separation that separates the clean inside of the barn from the dirty, or contaminated, outside.
- Requiring employees on most pig farms to change into specific clothing and footwear and require hand washing.
- 3. Having designated areas for incoming supplies to be disinfected before entering the barn.

**ANTIBIOTICS:** Another way farmers and veterinarians keep pigs healthy is through responsible antibiotic use to control the spread of illness and disease. If a pig becomes sick, illness can spread quickly through the entire barn, which not only endangers the health and lives of the pigs, but also endangers the safety of our food.

In 2008, the Pork Power program was created in partnership with the Illinois Association of Meat Processors, Illinois Corn Marketing Board, Illinois

Soybean Association and Feeding Illinois. By the end of 2022, farmers are hoping to hit their goal to donate over 1 million pounds of pork to food pantries across the state of Illinois. This equates to over 3 million servings of pork to families in need.





**1812:** New York pork packer, "Uncle" Sam Wilson, shipped several hundred barrels of pork to U.S. troops. Each barrel was stamped "U.S." on the docks, and it was quickly said that "U.S." stood for "Uncle Sam," whose name became synonymous with the United States.

**1887:** The first refrigerated railroad car was introduced by Swift & Co. The cars were cooled by a mixture of ice and salt and the meat could be shipped instead of live hogs.



**1903:** Hog cholera serum was developed to get rid of hog cholera, a virus that caused fever, skin lesions, convulsions, and usually death within 15 days.

**1930s:** Pig insulin was first used to treat diabetes.

**1971:** The first porcine (pig) valve was used to replace a human heart valve weakened by disease or injury.

**1972:** The pork industry started celebrating October as National Pork Month!

**1988:** The first World Pork Expo was held at the Iowa State Fairgrounds in Des Moines, Iowa and attracted nearly 60,000 people.



**1989:** The National Pork Producers Council (NPPC) introduces the Pork Quality Assurance Program, emphasizing good management practices in handling and using animal health products.

**2016:** A record export of pork was achieved. 2.31 million metric tons of U.S. pork were exported worldwide, providing an excellent source of protein for people around the world!



com/en/Refrigerator\_car, http://glimpse.clemson.edu/2366, https://www.nationalhogfarmer.com/marketing/30-insane-facts-truths-about-world-pork-expo/gallery?curr=16&slide=1

# CAREERcorner



#### Jill Brokaw

Pork Producer & District 1 Director for the Illinois Pork Producers Association Biddle Farm Inc. | Mercer County

Adam Jones Facility Coordinator University Of Illinois | Urbana, IL



I manage a research facility for the University of Illinois. My job consists of managing the care and physical research of baby piglets in an isolated barn. One of our main avenues of research is using piglets as a model for human infant nutrition, since pigs and humans have similar development patterns. My typical day includes washing the facility to maintain a very high health status, feeding baby piglets through our state of the art feeding system and educating undergraduate and graduate students on pig behavior and health. Our lab is also on the forefront of using MRI techniques to get a better understanding on how a piglet's brain develops in comparison to humans. This means I spend a lot of time transporting and monitoring pigs going through our MRI process.

#### At what age do you discontinue studying the piglets?

Every study is different in that we have different outcomes we are looking for based on what scientific questions we are trying to answer. We have studies with quick turnaround times that our goals are completed after only 30 days of age and then we have studies that can take up to 6 months to complete. No two studies are ever the same so the timeline that we study the piglets is always changing.

#### What first got you interested in your job?

My favorite animal is the pig. From the time I was little I wanted to know everything there was to know about pigs. This led me down a path of education that focused on animals and specifically at times the pig. When the opportunity opened up to work with pigs in a new way other than production I knew I had to take the opportunity. That is what got me really interested in this job, the fact that this was going to be a different way of thinking about how we can use pigs to benefit society other than just meat production.

## What is one of the most exciting or interesting things you've researched?

I think the most exciting thing I have gotten to be a part of researching was the mapping of pig brain development compared to humans. This means from a very early age we have been comparing the brain development of a piglet to that of a human infant. The final, eventual goal of this research will be that we can accurately say this age of piglet equals this age of human in terms of how the brain grows. The benefits this can provide to the early childhood nutrition world is huge and will hopefully benefit infants all over the world.

## Why are jobs like yours important to the agriculture industry?

Jobs like mine are important in the ag industry because we are providing very specific information that will go on to benefit so many different aspects of both animal and human life. Most people would have no idea that jobs like mine would fall into the ag industry but they do. I help show people from other industries what benefits a pig can have for their work and goals they are trying to reach. Without research we wouldn't continue to ask new questions and seek new answers. We would all just assume that we know all there is to know which would drastically slow down the progression of our society.



**Curt Zehr** *Pork Producer* Zehr Farms | Tazewell County

#### Can you describe your farm for us?

Zehr Farms is a diversified farm raising corn, soybeans, wheat, and pigs. We have been raising Duroc pigs to sell breeding stock and genetics for four generations! We also have a branded meat business and sell our meat directly to consumers and local markets.

### What is a typical day of work like for you?

No two days are ever the same on our farm. Most days start out with pig chores that need to be done every day, but then it can be anything from taking care of newborn baby pigs to working in the crop fields to delivering breeding stock to a customer in another state or even pressure washing and disinfecting a barn to prepare it for a new group of pigs. There are also always things that break and need maintenance work or repair.

## How do you work with others in the pork industry?

We sell some of our pigs for harvest and sale to a local processor, Raber Packing. We also sell some of our own meat to local consumers who appreciate knowing where their food comes from and the excellent taste of our pork.

#### What is the best part of your job?

One thing I really enjoy about my job is the friendships and relationships I have made in the 50+ years in the pig business. Another thing I enjoy is the sense of satisfaction I get from producing food from natural resources. I am thrilled when someone buys pork from us for the first time and comes back to say how much they enjoyed it.

## What is one thing you want people to know about pig farming?

Pig farming is based a lot in science. Almost all the things we do in pig farming are based on scientific research to help take better care of our animals and produce a better tasting and healthier protein for people to enjoy.





#### Can you describe your farm for us?

I am a third-generation pig farmer on our family farm in Joy, Illinois. I work alongside my parents, uncle and aunt, and cousins. Our farm is a farrow to finish operation that encompasses three sow farms, our own feed mill, and over fifty contracted finishing barns throughout western Illinois and eastern Iowa. We also raise corn and soybeans and sell breeding stock (animals used specifically to produce offspring).

What does a typical day on your farm look like? I always start my day at the computer! My main role on the farm is working with our contract farmers (farmers who raise animals for a specific customer and period of time) and their feeding needs. Each producer orders feed from an app on their phone, so in the morning I spend a good amount of time processing orders and getting them approved for our feed mill to make the feed. On average, we haul 3.6 million pounds of feed each week. After that, you could find me doing several other things around the farm like working with trucking schedules and logistics or running the feed mill. Every day is a new adventure.

## What is your role when it comes to feed and nutrition for your pigs?

In our system, from the time a pig arrives at a finishing barn to the time it goes to market, that pig will eat nine different phases of feed. Every phase has a special recipe that includes specific amounts of vitamins, minerals, and protein that each pig needs according to their weight. We also calculate the amount of feed that each pig gets at each phase. This ensures that we keep our pigs healthy and growing throughout their life. I monitor our phase feeding for almost 100 feed lines. The most interesting ingredient we use in our pig feed is recycled bakery product. That means that sometimes our feed smells like chips, pizza dough, cookies, or donuts!

## How do you work with others in the pork industry?

I get the pleasure of helping all our contract farmers daily, through our own feeding and logistics. I am also the District 1 Director for the Illinois Pork Producers Association. This role has given me the opportunity to be involved with different aspects of the industry such as participating in community programs in our local schools, working with the show pig industry at the Illinois State Fair, and collaborating with other producers for the betterment of the pork industry.

## What are some ways that you make sure your pigs are safe and healthy?

We pride ourselves on the health, care, and wellbeing of our animals. We take steps daily to ensure biosecurity in all our barns to keep bad germs and diseases out of our herd. We shower in and out of each building, wear special clothes and boots while working with the pigs, and disinfect all our trucks on a regular basis. We also use probiotics and vitamins to help our pigs stay healthy and prevent illness. If a pig does get sick, we use antibiotics in either their feed, water, or in an injection to help them feel better quickly.

#### What is the best part about your job?

The best part of my job is that I feed the pigs that feed the world! I am so lucky to get to work with my family to produce a healthy, sustainable product while being conscious of our environment, using cutting edge technology, and giving back to our community.

### What classes in school helped prepare you for your current job?

The classes that helped me most in school to prepare for my job would be my high school's ag classes and science classes. The ag classes helped inspire my love for agriculture and pigs which led me down the path to this job. The science classes gave me a great knowledge base to understand how to ask scientific questions and then how to find answers to those questions. The classes that helped prepare me for this job in college were the exact same thing, science and animal ag classes.



To learn more about pork visit: www.ilpork.com

#### Standards:

This Ag Mag complements and can be connected to the following educational standards:

#### Common Core State Standards: ELA-Literacy - RI.4.2; RI.4.4; RI4.7; RI.4:10; W.4.7-4.9; SL.4.1; SL.4.4; L4.1; L4.6 Mathematics - 4.MD; 5.MD

#### **Next Generation Science Standards:**

Interdependent Relationships in Ecosystems: 3-LS4-3; Energy: 4-ESS3-1; Structure, Function, and Information Processing: 4-LS1; Structure and Properties of Matter: 5-PS1-3; Structure and Properties of Matter: 5-PS1-4

#### IL Social Science Standards:

Human-Environment Interaction: Place, Regions and Culture: SS.G.3.4; Human Population: SS.G.3.4; Exchange and Markets: SS.EC.2.4; Causation and Argumentation: SS.H.3.4



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