

Introduction to Butcher Pork Cuts Curriculum



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Curriculum Structure

The *Introduction to Butcher Pork Cuts* curriculum is composed of the following lessons. Approximate lesson times are included.

Lesson	Title	Approximate Time
One	Pork Anatomy and Fabrication	60 minutes
Two	Pork Harvesting Process	90 minutes
Three	Retail Cut Fabrication and Cookery	120 minutes
	Total	4 ½ hours

Lesson Structure

Each lesson begins with a Lesson Overview, Lesson Objectives, and a Lesson at a Glance table that lists lesson activities, materials required, suggested preparation steps, and approximate class time.

Lesson Sections

The actual lesson follows the overview, which contains some of the sections described below.

FOCUS

Every lesson begins with a FOCUS activity intended to capture participants' attention. This may be in the form of a small or large class discussion, a game, a demonstration, or a review of previous lesson information. During this activity, participants are introduced to the topic of the lesson.

LEARN

The LEARN activity in each lesson varies in its presentation mode. It may be a slide presentation, group activity, or demonstration.

REVIEW

The majority of lessons end with a REVIEW activity intended to briefly review the lesson's key messages or main points.

Lesson One – Pork Anatomy and Fabrication

Lesson Overview

Participants will learn the basics of swine anatomy to understand the parts and pieces that make up the different primal cuts and retail cuts and learn how the major muscle groups function and work on the animal.

Lesson Objectives

After completing this lesson, participants will be able to:

- Understand the basics of swine anatomy
- Identify the types of bones present in the skeletal system
- Identify the types of muscles in the muscular system
- Identify some of the major muscles and why they have different sensory characteristics

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• Whiteboard and markers • <i>Pork Anatomy and Fabrication</i> slide presentation	1. Prepare slide two of the <i>Pork Anatomy and Fabrication</i> slide presentation for viewing.	10-15 minutes
LEARN	• <i>Pork Anatomy and Fabrication</i> slide presentation • <i>Pork Anatomy and Fabrication Key Terms</i> • <i>Pork Anatomy and Fabrication Key Terms – Answer Key</i>	1. Prepare the <i>Pork Anatomy and Fabrication</i> slide presentation for viewing. 2. Print/photocopy <i>Pork Anatomy and Fabrication Key Terms</i> (one per participant).	30 minutes
REVIEW	• <i>Pork Anatomy and Fabrication Quiz</i> • <i>Pork Anatomy and Fabrication Quiz – Answer Key</i>	1. Print/photocopy <i>Pork Anatomy and Fabrication Quiz</i> (one per participant).	10 minutes

Lesson One – Pork Anatomy and Fabrication

FOCUS: What Is Anatomy?

10-15 minutes

Purpose:

Participants will work to understand what anatomy is and the importance of the tie between knowing the anatomy of a pig and why those muscles can influence their eating sensory characteristics.

Materials:

- Whiteboard and whiteboard markers
- *Pork Anatomy and Fabrication* slide presentation

Facilitation Steps:

1. Write, “What is anatomy?” on the board.
2. Allow participants a minute or two to write down an answer of what they think is anatomy.
3. Have a couple of participants share their answers with the class.
4. Start a discussion and ask, “why is anatomy important when you are going to butcher a pig?”
5. Allow some time for participants to come up with an answer and encourage them to think out loud to encourage discussion.

Lesson One – Pork Anatomy and Fabrication

LEARN: Intro to Pork Anatomy and Fabrication

30 minutes

Purpose:

Participants will learn and understand the major anatomy that is looked at when creating butcher cuts. This will include an introduction to the skeletal system and muscular system.

Materials:

- *Pork Anatomy and Fabrication* slide presentation
- *Pork Anatomy and Fabrication Key Terms* worksheet
- *Pork Anatomy and Fabrication Key Terms – Answer Key*

Facilitation Steps:

1. Project the *Pork Anatomy and Fabrication* slide presentation. Discuss each slide with the participants
2. Have participants fill out the *Pork Anatomy and Fabrication Key Terms* worksheet while going through the slide presentation.
3. Give participants time to work on the *Pork Anatomy and Fabrication Key Terms* at the end of the presentation and go back over the worksheet if they have questions.

Slide 1: Title slide

Slide 2: What Is Anatomy?

- A branch of biology focused on identifying and describing the structures of living things
- It includes multiple systems, such as the skeletal, muscular, nervous, etc.

Slide 3: Composition of the Skeletal System

- The skeletal system is composed of bones and connective tissues
- Skeletal system is complex
- It is rigid yet allows for movement
 - 216 bones
 - Bones connect at the joints

- 2 or more bones are connected by the connective tissue known as ligaments
- Muscle and bone are connected by tendons

Slide 4: Functions of the Skeletal System

- The foundation of the body
 - Provides structural support
 - Provides the shape of the living organism
 - Protects vital organs
 - Facilitates movement

Fun Fact: Some pigs may have up to 17 thoracic vertebrae.

Slide 5: The Muscular System

- Composed of multiple tissues:
 - Adipose
 - Epithelial
 - Connective
 - Nervous
- There are 2 classifications of muscles:
 - Voluntary
 - Muscle is controlled by the animal
 - i.e., used for eating and walking
 - Involuntary
 - Muscle that is not controlled by the animal
 - i.e., the heart
- Types of muscles:
 - Cardiac
 - Skeletal
 - Smooth

Slide 6: Muscle Functions

- Shoulder muscles
 - Locomotion
 - i.e., *Serratus ventralis* (protracts and retracts the shoulder) and *Deltoides*

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(flexes the shoulder joint and adducts the arm)

- Middle and dorsal muscles
 - Supportive muscles
 - i.e., *Longissimus dorsi* (extensor of the back and loin, flexes the spine laterally) and *Psoas major* (flexes the hip joint)
- Rear leg muscles
 - Locomotion
 - i.e., *Gluteus medius* (extends the hip joint, and adducts the limb) and *Biceps femoris* (flexes the stifle when foot is lifted off the ground)

Slide 7: Pork Fabrication

Slide 8: Pork Carcass Fabrication Key Terminology

- Pork harvesting
 - Term commonly used for the process of slaughtering a pig
- Fabrication
 - The process of cutting, de-boning, and portioning a livestock carcass into wholesale or retail cut
- Butchering
 - A common term used to describe both the harvesting and fabrication of livestock

Slides 9-11: Pork Carcass Fabrication

- Pork is a very versatile protein and therefore popular among consumers
- Typically, market hogs are harvested at around 250-280 lbs
- Pork carcasses are fabricated in various ways, depending on the philosophy and goals of the operation
 - Pork carcasses can be fabricated into primal cuts or wholesale cuts, and retail cuts
- Visualize the pork carcass into thirds
- Front third
 - Shoulder, neck, and jowl
- Middle third
 - Loin and belly
- Rear third
 - Leg and hock

- Pork carcasses are first fabricated into major primal cuts
 - Leg (ham), loin, belly (side), and shoulder (Boston butt and picnic shoulder)
- The difference between a primal cut (wholesale cut) vs. a retail cut is the size
 - Bigger, bulkier cuts are wholesale cuts, whereas smaller cuts are retail

Slides 12-15: Fabrication of Wholesale Cuts

1. Place carcass on a clean surface with the skin side down
2. Pork feet can be left on or removed
 - Feet can be cut off with a saw above the hock joint
3. Separate the shoulder from the carcass between the 2nd and 3rd rib (anterior to posterior)
 - With the help of a saw, cut through the backbone, sternum, and the blade bone between the 2nd and 3rd rib
4. Separate the shoulder of the pork carcass into a Boston butt and a picnic shoulder
 - Using a saw, separate the Boston butt from the picnic at a point 1 inch from the blade bone towards the feet

Interesting Fact: The leg from the blade bone to the front feet is not connected by the skeletal system.

5. Separate the ham from the middle portion of the carcass
 - Saw perpendicular to the length of the back leg about 1-2 inches from the aitch bone towards the head of the carcass

Aitch bone = pelvic bone; this bone attaches to the head of the femur

6. Finally, separate the belly from the loin
 - Before separating the loin from the belly, remove the tenderloin (which lies underneath the backbone) and the loin on the posterior side (towards the ham)
 - The belly is separated by cutting at a point 2 inches towards the belly on the shoulder side and towards the ham at a point where the tenderloin lies

Name: _____ Class: _____

Pork Anatomy Key Terms

Use the *Pork Anatomy and Fabrication* slide presentation to fill in the following key terms.

1. What is the definition of anatomy?
2. For what structures do ligaments act as a connective tissue?
3. A tendon connects bones with what other structures?
4. True or False: The skeletal system is ridged, yet it allows for movements.
5. True or False: The muscles located in the rear of the animal are mainly for support.
6. There are two classifications of muscles. What is the difference between them?
Voluntary muscles:

Involuntary muscles:
7. At what weight are pigs considered to be market ready?
8. The shoulder of pork carcass can be separated into what two main cuts?
9. The term commonly used for the processing of slaughtering is also known as what?
10. True or False: Butchering is a common term used to only describe the fabrication of a carcass.

Pork Anatomy and Fabrication Key Terms – Answer Key

Use the Pork Anatomy and Fabrication slide presentation to fill in the following key terms.

1. What is the definition of anatomy?
A branch of biology focusing on identifying and describing the structures of living things
2. For what structures do ligaments act as a connective tissue?
Bones
3. A tendon connects bones with what other structures?
Muscles
4. **True** or False: The skeletal system is ridged, yet it allows for movements.
5. True or **False**: The muscles located in the rear of the animal are mainly for support.
6. There are two classifications of muscles. What is the difference between them?
Voluntary muscles: **Controlled by the animal**

Involuntary muscles: **Not controlled by the animal**
7. At what weight are pigs considered to be market ready?
250-280 lbs
8. The shoulder of pork carcass can be separated into what two main cuts?
Boston Butt and Pinic Shoulder
9. The term commonly used for the processing of slaughtering is also known as?
Harvesting
10. True or **False**: Butchering is a common term used to only describe the fabrication of a carcass.

Lesson One – Pork Anatomy and Fabrication

REVIEW: Pork Anatomy and Fabrication Quiz

10 minutes

Purpose:

Assess participants to see if they understand the basic features of pork anatomy and fabrication.

Materials:

- *Pork Anatomy and Fabrication Quiz*
- *Pork Anatomy and Fabrication Quiz – Answer Key*

Facilitation Steps:

1. Hand out the *Pork Anatomy and Fabrication Quiz* and give participants five to seven minutes to answer the questions.
2. You may choose to correct the quiz in class with the answer key or collect the quiz and correct it yourself.

Name: _____

Class: _____

Pork Anatomy and Fabrication Quiz

1. True or False: Anatomy is a branch of biology that focuses on identifying and describing the skeletal, muscular, and nervous systems.
 - A. True
 - B. False
2. Which functions does the skeletal system provide?
 - A. Support
 - B. Shape
 - C. Protection
 - D. All of the above
3. What is the correct name for the tissue that connects two or more bones?
 - A. Ligament
 - B. Tendon
 - C. Joint
 - D. All of the above
4. Pork carcasses are first fabricated into primal cuts. Which of the following are consider primal cuts?
 - A. Ham
 - B. Side
 - C. Shouder
 - D. All of the above
5. Pork feet can be cut off by sawing above the _____ joint?
 - A. Hock
 - B. Gambrel
 - C. Sirloin
 - D. Shoulder
6. How many bones make up the a pork skeletal system?
 - A. 216
 - B. 207
 - C. 307
 - D. 116
7. True or False: Some pigs may have up to 17 thoracic vertebrae.
 - A. True
 - B. False
8. Which tissues are the muscular system composed of?
 - A. Adipose
 - B. Epithelial
 - C. Connective
 - D. Nervous
 - E. All of the above
9. True or False: The longissimus dorsi muscle is located in the front third of the carcass.
 - A. True
 - B. False
10. The shoulder is separated from the rest of the carcass at which two ribs?
 - A. 1st and 2nd
 - B. 2nd and 3rd
 - C. 3rd and 4th
 - D. 4th and 5th

Pork Anatomy and Fabrication Quiz – Answer Key

1. True or False: Anatomy is a branch of biology that focuses on identifying and describing the skeletal, muscular, and nervous systems.
A. True
B. False
2. Which functions does the skeletal system provide?
A. Support
B. Shape
C. Protection
D. All of the above
3. What is the correct name for the tissue that connects two or more bones?
A. Ligament
B. Tendon
C. Joint
D. All of the above
4. Pork carcasses are first fabricated into primal cuts. Which of the following are considered primal cuts?
A. Ham
B. Side
C. Shoulder
D. All of the above
5. Pork feet can be cut off by sawing above the _____ joint?
A. Hock
B. Gambrel
C. Sirloin
D. Shoulder
6. How many bones make up the a pork skeletal system?
A. 216
B. 207
C. 307
D. 116
7. True or False: Some pigs may have up to 17 thoracic vertebrae.
A. **True**
B. False
8. Which tissues are the muscular system composed of?
A. Adipose
B. Epithelial
C. Connective
D. Nervous
E. All of the above
9. True or False: The longissimus dorsi muscle is located in the front third of the carcass.
A. True
B. False
10. The shoulder is separated from the rest of the carcass at which two ribs?
A. 1st and 2nd
B. 2nd and 3rd
C. 3rd and 4th
D. 4th and 5th

Lesson Two – Pork Harvesting Process

Lesson Overview

This lesson is intended to help participants understand the processes of slaughter and explain how pigs join the food chain. The story and inspection outcomes are outlined to teach participants the process that goes behind making safe and wholesome products.

Lesson Objectives

After completing this lesson, participants will be able to:

- Describe the process and steps of slaughter
- Identify ways to slaughter a pork carcass at home

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• Pencil and paper • Smart devices or computers • <i>Pork Harvesting Steps</i> worksheet • <i>Pork Harvesting Steps</i> – Answer Key	1. Print/photocopy <i>Pork Harvesting Steps</i> worksheet (one per participant).	10-15 minutes
LEARN	• Pencil and paper • <i>Pork Harvesting Steps</i> worksheet • <i>Pork Harvesting</i> slide presentation • <i>Meat By-Product Note Sheet</i> • <i>Meat By-Product Note Sheet</i> – Answer Key	1. Prepare <i>Pork Harvesting</i> slide presentation for viewing. 2. Print/photocopy <i>Meat By-Product Note Sheet</i> (one per participant).	30 minutes
REVIEW	• Pencil and paper • <i>Pork Harvesting Quiz</i> • <i>Pork Harvesting Quiz</i> – Answer Key	1. Print/photocopy <i>Pork Harvesting Quiz</i> (one per participant).	10-15 minutes

Lesson Two – Pork Harvesting Process

FOCUS: Pork Harvesting Steps

10-15 minutes

Purpose:

Participants will work in groups or on their own to identify the different steps to a successful pork harvesting process. Allow participants to use smart devices or computers to determine what the different steps in pork harvest include.

Materials:

- Pencil and paper
- Smart devices or computers
- *Pork Harvesting Steps* worksheet
- *Pork Harvesting Steps* – Answer Key

Facilitation Steps:

1. Distribute the *Pork Harvesting Steps* worksheet to participants.
2. Allow participants 10 to 15 minutes to do research and complete the worksheet.

Name: _____ Class: _____

Pork Harvesting Steps

Research and explain the following 14 pork harvesting steps:

1. Sanitation:
2. Equipment:
3. Antemortem inspection, animal restrain:
4. Stunning:
5. Exsanguination:
6. Hanging the carcass:
7. A. Scalding:

B. Skining:
8. Head Removal:
9. Bunging:
10. Eviceration:
11. Leaf Fat Removal and Organ Inspection:
12. Carcass Splitting:
13. Final Inspection:
14. Cooling the carcass:

Lesson Two – Pork Harvesting Process

LEARN: Intro to the Pork Harvesting Process

30 minutes

Purpose:

Participants will use their pork harvesting process worksheet from the Focus section of the lesson. They will take notes on the different steps in the slaughtering or harvesting process.

Materials:

- Pencil and paper
- *Pork Harvesting Steps* worksheet
- *Pork Harvesting* slide presentation
- *Meat By-Product Note Sheet*
- *Meat By-Product Note Sheet – Answer Key*

Facilitation Steps:

1. Prepare the *Pork Harvesting* slide presentation for viewing.
2. Distribute the *Meat By-Product Note Sheet*
3. Present the slides on pork harvesting steps.
4. Have participants use their *Pork Harvesting Steps* worksheet and *Meat By-Product Note Sheet* for taking notes on slides 2-20 and to check if they were on the right track with their research while you present.
5. Give participants time to work on the worksheets at the end of the presentation and go back over the worksheets if they have questions.

Slide 1: Title slide

Slide 2: Essential Know-How

- Skills to be successful
 - Understanding the proper techniques for animal handling
 - Trained in humane handling and know how to safely restrain an animal
 - Must have the confidence in the use and handling of a knife and saw
 - Know the correct way to operate a stun gun
 - Captive bolt or .22 caliber rifle

A dull knife is more dangerous than a sharp knife!

Slide 3: Equipment Needed

- A variety of equipment can be used to slaughter a pig
 - Always do this with a battle buddy, never do it alone
 - Proper stunning gun
 - A larger container to heat and maintain hot water (150° F)
 - Chain or rope to hoist the carcass into the air
 - Bone saw, skinning knife, and boning knife
 - Coolers or a large refrigerator to cool meat below 40° F

Slide 4: 1. Sanitation

- Maintain clean equipment and a clean, cool area
 - Wholesome and safe meat starts with proper sanitation
 - If butchering at home, try to butcher in the early mornings or during cool days to avoid spoilage

Slide 5: 2. Equipment

- Set up all the equipment you are going to use prior to starting the process
 - Knowing where your equipment is will help you work efficiently

Slide 6: 3. Antemortem Inspection, Animal Restrain

- Perform an antemortem inspection prior to slaughter
 - Determine if the animal is ambulatory (can walk on its own power)
 - Determine if the animal is healthy
 - 4Ds: down, disabled, diseased, dead = not healthy
- Restrain the hog using human handling methods
 - Be patient and calm

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- Use slow movements and avoid hitting the animal

Slide 7: 4. Stunning

- Stun the pig (render unconscious)
 - To properly stun a pig, you want to aim for the brain
 - Draw an imaginary X from the base of the ear towards the opposite side
 - The center of the X should be 1.5 inches above the eyes, in the center of the forehead
 - Once stunned, check for signs of consciousness
 - The animal should not vocalize, blink, or exhibit rhythmic breathing
 - In industry, an electric shock is given to render the animal unconscious and the animal is quickly bled immediately after the stun

Slide 8: 5. Exsanguination

- Exsanguinate (bleed) the animal
 - After a proper stun, the animal may still kick
 - Kicking is normal and is a reflex resulting from the disruption of the nervous system
 - Carefully insert the knife at the base of the sternum close to the head
 - The knife should be parallel to the sternum with the tip pointed towards the tail and blade towards the backbone
 - Once the knife is fully inserted, move the blade to a 45° angle by flicking your wrist
 - This should sever the carotid artery and blood should exit rapidly

Slide 9: 6. Hanging the Carcass

- Hanging the carcass can be done in many ways
 - Use a rope or chain to wrap around the hocks
 - Expose the gambrel tendon by making an incision parallel to the length of each leg on

the inside of the dewclaw; then use metal hooks to hang the carcass from each leg

Slide 10: 7A. Scalding

- Submerge the carcass in hot water (145°-150° F) for roughly 4-5 minutes
- Make sure to move the carcass around to prevent the meat from cooking as it contacts the hot metal
- Remove the carcass from the hot water and scrape the hair with a knife
- Use a torch to singe off the remaining hair

Slide 11: 7B. Skinning

- Make cuts around each leg above the hock joints and skin down towards the head and the middle of the carcass
- Open the skin down the middle of the carcass and remove skin, leaving as much fat on the carcass as possible
- Keep the sharp side of the knife away from the carcass and avoid contaminating the meat
- Always have a dirty hand (used to pull the skin away) and clean hand (used to hold your knife)

Slide 12: 8. Head Removal

- Find the base of the skull on the back side of the carcass just above the ears
- Insert your knife between the occipital condyle and atlas vertebrae
 - Wiggle your knife in an “M” shape as the joint is not straight
- Another method is to use a knife at the base of the skull

Slide 13: 9. Bunging

- Separate the anus from the body cavity
- Using the tip of the knife, carefully cut around the anus
- Give yourself as much clearance as possible around the anus
 - Ensure the sharp side of the knife stays towards the carcass to avoid puncturing the rectum or “bung”
- To prevent contamination, tie a bag to the end of the anus

Slides 14-15: 10. Evisceration

- Also known as gutting
- Starting where the back legs meet, make a small puncture parallel to the length of the body
 - Do not stab into the body
- Once a large enough area is made in the interior cavity, place the hand holding the knife inside the carcass so the blade is on the outside of the carcass
- Maintaining the knife at a 90° angle, make a swift motion to open the carcass down to the sternum

Before evisceration, the pizzelle (male reproductive organ) is removed.

Fun Fact: The pizzelle is only found in male pigs.

- After opening the carcass abdominal cavity, use your hands to pull down the bung
- Using the same motions, slowly pull the rest of the organs down and out of the body
 - A knife may be needed to cut heavy connective tissue
 - Do not cut into the stomach or the intestines
 - After removing the digestive organs, the white muscle known as the diaphragm will appear
- Use your hand to slowly follow the esophagus through the diaphragm and separate it from the trachea to fully free the digestive organs
- The final step is to remove the heart, lungs, and trachea

Slide 16: Organs Removed

- Edible
 - Stomach
 - Intestines (casings)
 - Liver
 - Heart
 - Kidneys
- Inedible
 - Lungs
 - Esophagus
 - Trachea
 - Spleen
 - Pancreas
 - Urinary and reproductive tracts

Organs are also known as by-products or variety meats.

Variety meats = edible by-products

Slide 17: 11. Leaf Fat Removal and Organ Inspection

- Remove the leaf fat that is present in the abdominal cavity
 - Make sure to only remove the fat and not the thin muscles in the belly
- Inspect the organs for any signs of illness or infections
 - Inspect the liver for parasites or abscesses
 - Cut open the heart
 - Remove the lining of the kidneys

Fun Fact: Leaf fat is used to make lard.

Slide 18: 12. Carcass Splitting

- Using your saw, cut the sternum down the middle of the carcass
- Facing the inside of the carcass, use the saw to split it in half down the backbone

Slide 19: 13. Final Carcass Inspection

- Perform a final inspection for any dirt, hair, feces, milk, or ingesta
- Any contamination found should be trimmed off
- Rinse the carcass using hot water if available (180° F) to kill any potential pathogens
 - If hot water is not available, spray the carcass with 2% acetic wash to inhibit bacterial growth

Slide 20: 14. Cooling the Carcass

- The final step is to cool down the carcass to under 40° F as quickly as possible
- Leave the carcass whole if you have access to a cool room
- If you don't have facilities that allow you to hang the whole carcass, cut it into the main primals (shoulder, belly, loin, and ham)

Name: _____ Class: _____

Pork Harvesting Steps – Answer Key

Research and explain the following 14 pork harvesting steps:

1. Sanitation: Have a clean environment and equipment to maintain wholesome and safe meat
2. Equipment: Set up your equipment and make sure you know where everything is as this will make your job more efficient
3. Antemortem inspection, animal restraint: Determine if the animal is fit for human consumption; restrain the animal using human methods
4. Stunning: Stunned via a mechanical stunning, or .22 caliber rifle, rendering the animal unconscious
5. Exsanguination: Act of draining blood from the animal by severing the carotid artery
6. Hanging the carcass: Hang the carcass by wrapping the hocks with a chain or rope or hang the carcass by the gambrel tendon
7. A. Scalding: Submerge the carcass in hot water (145° to 150° F)

B. Skinning: Remove the skin starting from the rear legs and opening the center line to remove the skin
8. Head Removal: Remove the head at the occipital condyle and atlas vertebrae
9. Bunging: Separate the anus from the cavity wall
10. Evisceration: Removal of the internal organs
11. Leaf Fat Removal and Organ Inspection: Remove the leaf fat in the abdominal cavity and inspect the organs for parasites, lesions, or abscesses
12. Carcass Splitting: Splitting the carcass vertically down the backbone
13. Final Inspection: Trim and wash the carcass and inspect it for any feces, milk, or ingesta
14. Cooling the carcass: Put the carcass in a cool place to remove the heat from the carcass without freezing the meat

Name: _____ Class: _____

Meat By-Product Note Sheet

Fill in the charts below by separating edible and inedible products when processing pork.

Edible Products

Inedible Products

Meat By-Product Note Sheet – Answer Key

Fill in the charts below by separating edible and inedible products when processing pork.

Edible Products

Stomach

Heart

Liver

Kidneys

Intestines

Inedible Products

Lungs

Esophagus

Trachea

Spleen

Pancreas

**Urinary and
reproductive tracts**

Lesson Two – Pork Harvesting Process

REVIEW: Pork Harvesting Process Quiz

10 minutes

Purpose:

Assess participants on the key points of the pork harvesting process.

Materials:

- Pencil and paper
- *Pork Harvesting Quiz*
- *Pork Harvesting Quiz – Answer Key*

Facilitation Steps:

1. Hand out the *Pork Harvesting Quiz* and give participants 5 to 7 minutes to complete it.
 - **Optional:** You can have participants use their notes for this assessment, depending on your assessment desires.
2. You may choose to correct the quiz in class with the answer key, or collect the quiz and correct it yourself

Name: _____ Class: _____

Pork Harvesting Quiz

1. True or False: Slaughtering a pig should be done by only one individual.
2. What temperature should a pork carcass be chill to after harvesting?
3. Where is the head removed?
4. What temperature should the water be for scalding a pork carcass?
5. What causes the animal kick after it's render unconscious and during the exsanguination process?
6. Name the methods of mechanical stunning.
7. True or False: In industry, an electrical shock is given to render the animal unconscious.
8. List the 4 Ds associated with antemortem inspection.
9. What signs should you looked for when determine consciousness?
10. What does FMI stand for?

Pork Harvesting Quiz – Answer Key

1. True or False: Slaughtering a pig should be done by only one individual.

False

2. What temperature should a pork carcass be chill to after harvesting?

The carcass should be chill to under 40° F

3. Where is the head removed?

Between the occipital condyle and atlas vertebrae

4. What temperature should the water be for scalding a pork carcass?

145-150° F

5. What causes the animal kick after it's render unconscious and during the exsanguination process?

Due to the disruption of the nervous system

6. Name the methods of mechanical stunning.

Handheld pneumatic gun or a blank pistol cartridge or .22 caliber rifle

7. True or False: In industry, an electrical shock is given to render the animal unconscious.

True

8. List the 4 Ds associated with antemortem inspection.

Down, disable, diseased, and dead

9. What signs should you looked for when determine consciousness?

Vocalization, blinking, and rhythmic breathing

10. What does FMI stand for?

Feces, milk, or ingesta

Lesson Three – Pork Retail Cut Fabrication and Cookery

Lesson Overview

To help participants understand and learn the retail cuts derived from a pork carcass. Participants will be able to identify different pork cuts and know what they are used for regarding retail cuts and cooking.

Lesson Objectives

After completing this lesson, participants will be able to:

- Identify the four major primal cuts
- Identify from which wholesale cut the retail cut comes from
- Identify the major muscle in the retail cuts

Lesson at a Glance

Activity	Materials	Preparation	Approximate class time
FOCUS	• Pen or pencil • <i>Pork Retail Cut Fabrication and Cookery</i> worksheet • <i>Pork Retail Cut Fabrication and Cookery</i> – Answer Key	1. Print/photocopy <i>Pork Retail Cut Fabrication and Cookery</i> worksheet (one per participant).	10 minutes
LEARN	• Projector and projector screen • Butcher Pork Cut Models • <i>Pork Retail Cut Fabrication and Cookery</i> slide presentation	1. Prepare the <i>Pork Retail Cut Fabrication and Cookery</i> slide presentation for viewing.	40 minutes
REVIEW	• Pen or pencil • <i>Pork Retail Cut Fabrication and Cookery Quiz</i> • <i>Pork Retail Cut Fabrication and Cookery Quiz</i> – Answer Key • Butcher Pork Cut Models	1. Print/photocopy <i>Pork Retail Cut Fabrication and Cookery Quiz</i> (one per participant).	10-30 minutes

Lesson Three – Pork Retail Cut Fabrication and Cookery

FOCUS: Pork Retail Cut Fabrication and Cookery Vocabulary

10 minutes

Purpose:

Participants will work in groups to complete a matching worksheet, testing their knowledge of the pork carcass fabrication.

Materials:

- Pen or pencil
- *Pork Retail Cut Fabrication and Cookery* worksheet
- *Pork Retail Cut Fabrication and Cookery – Answer Key*

Facilitation Steps:

1. Give participants 5 to 7 minutes to complete the *Pork Retail Cut Fabrication and Cookery* worksheet individually or in groups.
2. Correct the worksheet in class after participants have completed the worksheet.

Name: _____ Class: _____

Pork Retail Cut Fabrication and Cookery

Match each key term with the correct definition.

KEY TERMS

____: Front third

____: Rear third

____: Carcass

____: Retail cuts

____: Roast

____: Spareribs

____: Ham

____: Pork rib chop

DEFINITIONS

- A. Cuts that come from the shoulder of a pork carcass
- B. Larger cuts of meat
- C. Smaller cuts of meat obtained from wholesale cuts
- D. The dead body of an animal that is intended to be used for human food
- E. Another name for the leg of a pork carcass
- F. Cuts from the leg of a pork carcass
- G. Ribs derived from the belly of a pork carcass, sternum is removed
- H. Retail cut from the loin that contains the bone

Name: _____ Class: _____

Pork Retail Cut Fabrication and Cookery – Answer Key

Match each key term with the correct definition.

KEY TERMS

A : Front third

F : Rear third

D : Carcass

C : Retail cuts

B : Roast

G : Spareribs

E : Ham

H : Pork rib chop

DEFINITIONS

- A. Cuts that come from the shoulder of a pork carcass
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Lesson Three – Pork Retail Cut Fabrication and Cookery

LEARN: Pork Retail Cut Fabrication and Cookery

40 minutes

Purpose:

Participants will learn about the different retail cuts and from which wholesale cuts they are cut out of.

Materials:

- Projector and projector screen
- Butcher Pork Cut Models
- *Pork Retail Cut Fabrication and Cookery* slide presentation

Facilitation Steps:

1. Prepare the *Pork Retail Cut Fabrication and Cookery* slide presentation for viewing.
2. While you are going through each slide, use the Butcher Pork Cut Models to show in-person what the different wholesale cuts and retail cuts look like.
3. Have participants handle the cuts on the models while reviewing the cuts in the presentation slides. Allow for this to be a very hands-on part of the lesson.
4. Use the model to demonstrate where different cuts take place and also where you can show the connections of the skeletal and muscular system in relation to other parts.

Slide 1: Title slide

Slide 2: Retail Cut Fabrication

- Before a carcass can be broken down into retail cuts, it must be cut down to primals or wholesale cuts
 - Boston butt, picnic shoulder, belly, loin, and ham

Slides 3-5: Front Third of the Carcass

- Boston butt
 - Remove the neck bones, vertebrae, and rib bones (bones can be used as soup bones)
 - Remove the skin and trim the fat to ¼ - ½ inch
- This retail cut can be left whole and used for pulled pork

- It can be cut into blade chops, country-style ribs, or blade roast
- Picnic shoulder
 - Skin is removed
 - Can be used to make pulled pork
 - Can be ground for ground pork or making sausage

Slide 6: Cooking a Pork Shoulder

- Cuts derived from a pork shoulder include:
 - Boston butt, pork butt, blade roast, and picnic roast
 - The blade roast will contain muscles such as the Serratus ventralis, supraspinatus, infraspinatus, etc.
- These cuts are typically cooked using the following methods:
 - Smoking, braising, roasting, grilling, and slow cooking

To ensure a good eating experience, cook pork shoulders to 170° F.

Slides 7-9: Middle Third of the Carcass

- Bone-in pork loin
 - Remove the skin from the loin
 - Trim the fat to ¼ - ½ inch
 - Remove the hanging tender and diaphragm muscle
 - Cut the bone-in chops to your preferred thickness (1/2 inch, 1 inch, 2 inches, etc.)
- Boneless pork loin
 - After skinning and trimming the fat, remove the tenderloin if not done so previously
 - Remove by cutting close to the backbone and peeling the tenderloin out
 - Separate the sirloin by sawing perpendicular to the loin at the point where the loin gets thicker toward the ham end
 - Cut between the last and second to last lumbar vertebrae

Slide 10: Boneless Pork Loin

- The sirloin can be cut into roast or sirloin chops
- Remove the bones from the loin
 - Start at the rib bones by keeping the knife close to the bones
 - Continue tracing the bones around the backbone until the baby back ribs and the vertebrae are removed
- The loin can then be cut into roast or loin chops, or center-cut chops

Slides 11-12: Cooking a Pork Loin

- Pork loins can be cooked as a roast or as retail cuts
 - The muscle found in the loin is the *gluteus medius* which is a supportive muscle (tender)
- Cook pork loin roast to 145°-160° F
 - Allow roast to rest roughly 2-3 minutes per pound
- If cutting into chops (loin, rib, sirloin, or blade chops), cook to an internal temperature of 145° F
- Chops can be cooked by the following methods:
 - Grilling
 - Baking sautéing
 - Stir frying
 - Air frying

Slide 13: Retail Cut Fabrication

- Pork belly
 - Remove the skin from the belly and any excessive leaf fat
 - Remove the spareribs by using the knife parallel to the table and cutting directly under the ribs
 - To have spareribs ready as a retail cut, remove the sternum bone

Slides 14-16: Rear Third of the Carcass

- Bone-in ham
 - Remove the skin
 - Remove the tail bones
 - Trim fat and remove the lymph glands on the face of the ham opposite the tail bones
 - Remove the aitch bone

Aitch bone = pelvic bone

This bone attaches to the head of the femur.

- Boneless ham
 - Following the removal of the aitch bone
 - Remove excess fat to expose the 4 main muscles (*Gluteus medius*, *Semitendinosus*, *Semimembranosus*, and *Biceps femoris*)
 - Follow the seams to expose the femur bone
 - Once the femur bone is exposed, trace around the bone using your knife to remove the bone

Slide 17: Cooking a Ham

- The National Pork Association has listed the following recommendations for cooking:
 - Fully cooked ham
 - Place in a shallow pan and bake at 325° F for 10 minutes per pound
 - Partially cooked ham
 - Place in a shallow pan and bake at 325° F for 20 minutes per pound

Slides 18-19: Pork Cookery

- Pork is better cooked to a medium degree of doneness
 - Slightly pink in the center
 - Cooked to 155° F
- Methods of cooking
 - Dry heat
 - Best used on tender cuts
 - Moist heat
 - Best used on less-tender cuts

Slide 20: Cooking Methods

- Dry heat
 - Grilling/smoking
 - Broiling
 - Sautéing/stir frying
 - Pan broiling
 - Roasting
- Moist heat
 - Stewing
 - Braising

Slide 21: Grilling

- There are 2 different ways to grill your favorite pork cuts
 1. Direct heat
 - Place your favorite cut directly over the source of heat
 - Perfect way to cook small cuts such as chops, small steaks, or kabobs
 2. Indirect heat
 - Place your favorite cut on the grill rack away from the direct source of heat
 - Perfect way to cook roasts, ribs, or hams

Slides 22-24: Smoking Using a Charcoal Grill

- Plan ahead as smoking can take a few hours
 1. Soak woodchips in water at least 2 hours prior to the start of cooking
 - Rule of Thumb: A handful of woodchips per hour of cooking
 2. Using an indirect heat method for the meat, place a handful of woodchips directly on the hot coals
 3. Maintain grill temperature at about 225°-230° F
 - Heat is controlled by closing the vents in the grill
- To maintain heat for a long cooking cycle, start a supplemental bed of charcoal on a charcoal starter
- Add anywhere between 2 and 5 charcoal briquettes to the fire about every hour to maintain a steady heat supply
- Check for smoke
- As the smoke production slows down, place a handful of wet/damp woodchips on top of the coals
- When smoking, try to keep the lid closed as much as possible
- Every time you open the lid, it will add roughly 5-10 minutes to your cook time

Slide 25: Braising and Stewing

- Braising
 - Brown meat on all sides with a small amount of oil
 - Cover meat with the desired liquid (bone broth)
 - Cover the pan and simmer over low heat
 - If using an oven, maintain temperature at about 275°-300° F for 1-4 hours or until tender
- Stewing
 - Brown meat on all sides with a small amount of oil
 - Add a small amount of liquid and cover pan
 - Simmer over low heat or about 275°-300° F in the oven

Lesson Three – Pork Retail cut Fabrication and Cookery

REVIEW: Pork Retail Cut Fabrication and Cookery Quiz

10-30 minutes

Purpose:

Participants will complete the *Pork Retail Cut Fabrication and Cookery Quiz* and use the Butcher Pork Cut Models to understand the different cuts of a pork carcass.

Materials:

- Pen or pencil
- *Pork Retail Cut Fabrication and Cookery Quiz*
- *Pork Retail Cut Fabrication and Cookery Quiz* – AnswerKey
- Butcher Pork Cut Models

Facilitation Steps:

1. Give participants 10 to 15 minutes to answer the questions on the *Pork Retail Cut Fabrication and Cookery Quiz*.
2. During or after the quiz, allow participants to look at the different cuts and locations of the bones, muscles, ligaments, and primal cuts on the Butcher Pork Cut Models.
3. You may choose to correct the quiz in class with the answer key, or collect the quiz and correct it yourself.

Name: _____

Class: _____

Pork Retail Cut Fabrication and Cookery Quiz

1. Which type of heat is better for tender cuts?
 - A. Dry heat
 - B. Moist Heat
2. At what temperature should the oven be set to cook pork using the braising and stweing method?
 - A. 250°-270° F
 - B. 275°-300° F
 - C. 185°-200° F
 - D. 200°-225° F
3. Which of the following is not a cooking method used for pork chops?
 - A. Braising
 - B. Grilling
 - C. Sautéing
 - D. Air frying
4. Which pork cut is inexpensive, often cooked by slow temperature cooking or smoking?
 - A. Loin
 - B. Boston butt
 - C. Ham
 - D. Belly
5. Which of the following is not a pork primal cut?
 - A. Boston butt
 - B. Rib chop
 - C. Loin
 - D. Ham
6. Which of the following is not a retail cut from the loin?
 - A. Blade chop
 - B. Boneless loin chop
 - C. Sirloin chop
 - D. Country-style ribs
7. True or False: Retail cuts from the loin are lean and tender.
True False
8. If planning on smoking using a conventional grill, soak woodchips for at least ____ hours prior to the start of cooking.
 - A. 1
 - B. 2
 - C. 3
 - D. 4
9. True or False: The Gluteus medius is the main muscle present in the loin.
True False
10. True or False: In a bone-in ham, the tail bones are removed.
True False

Name: _____

Class: _____

Pork Retail Cut Fabrication and Cookery Quiz – Answer Key

1. Which type of heat is better for tender cuts?
A. Dry heat
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