

Unit D: Animal Evaluation & Processing

8.00 Understand the harvesting process for
livestock

Objective 8.01

- Understand food safety regulations.

Food Safety Production Regulations

- United States Department of Agriculture, Food Safety Inspection Service
 - the regulatory agency that ensures federal laws are followed
 - designed to keep commercial food supply safe while also ensuring the proper treatment of animals during the slaughter process
- Federal inspection of meat began in 1891
 - main purpose is to remove any carcass/meat that is to detect and remove irregular or contaminated meat

Food Safety Production Regulations

- Carcass Inspection Phases
 - Ante Mortem Inspection (before death)- checks for diseases or other abnormalities and removes unfit animals before slaughter.
 - Postmortem Inspection (after death)- checks for irregular and contaminated parts and removes them to assure that only meat fit for human consumption passes inspection.
 - Animals that do not pass inspection are labeled U.S. Condemned

Food Safety Production Regulations

- Federal Acts Governing Meat Inspection
 - Humane Methods of Livestock Slaughter- sets standards for animal handling, facilities and methods of slaughtering livestock.
 - Federal Meat Inspection Act- provides regulations for inspecting meat products.
 - Poultry Products Inspection Act- provides regulations for inspecting poultry products.
 - Egg Products Inspection Act- provides regulations for inspecting eggs and egg products.
- USDA grades have nothing to do with sanitation, just the quality of products

Consumer Food Safety

- Food supply in the United States is one of the safest in the world, but over 76,000,000 people get sick each year from foodborne illness.
- Infants, the elderly, pregnant women and those with poor immunity are the most prone to foodborne illness.
- Food safety is a rising concern because so many people eat food handled and prepared by others in restaurants, hospitals, day-care centers., etc.
- Foodborne illnesses are caused when food becomes contaminated from bacteria.

Consumer Food Safety

- Food supply in the United States is one of the safest in the world, but over 76,000,000 people get sick each year from Sources of Bacterial Contamination Include
 - Animals- feces, saliva or other fluids from the animal that can cause illness if food is not cooked properly.
 - Soil- contaminated animal feces can be transferred to plants.
 - Water- contaminated animal feces that have come into contact with water that is used to wash or irrigate crops.
 - Humans- handling food with hands that are not clean.

Consumer Food Safety

- Common Foodborne Bacterial Infections Include
 - Salmonella- causes fever, abdominal cramps and diarrhea. Often associated with contaminated eggs.
 - E. Coli- causes bloody diarrhea and occasionally kidney failure. Contracted from eating undercooked meat and raw milk.
 - Campylobacter- causes abdominal cramping, nausea and vomiting. Illness usually last 1 week.

Consumer Food Safety

- Foodborne Illness Prevention
 - Wash hands and surfaces with soap and warm water.
 - Wash all equipment such as dishes and utensils before and after use on each food item.
 - Use a disposable towel for cleaning surfaces to prevent cross contamination.
 - Separate raw foods and use different cutting boards for meat versus other foods.
 - Never defrost food at room temperature. Always use refrigerator, cold water or microwave.
 - Use a food thermometer to ensure food has reached proper temperature to kill bacteria.
 - Refrigerate leftovers within 2 hours.

Objective 8.02

- Understand the livestock and poultry harvesting process.

Processing Livestock

- Meat companies purchase livestock for processing
 - Tyson, Holly Farms
 - Oscar Myers
 - Smithfields
 - Browns



Processing Livestock

- Two methods of purchasing by meat companies
 1. Contract basis
 2. Auction sale

Processing Livestock

- The USDA inspects livestock before, during and after processing.
 - Veterinarian inspectors
- Approved meat receives an USDA stamp and grade



Processing Livestock

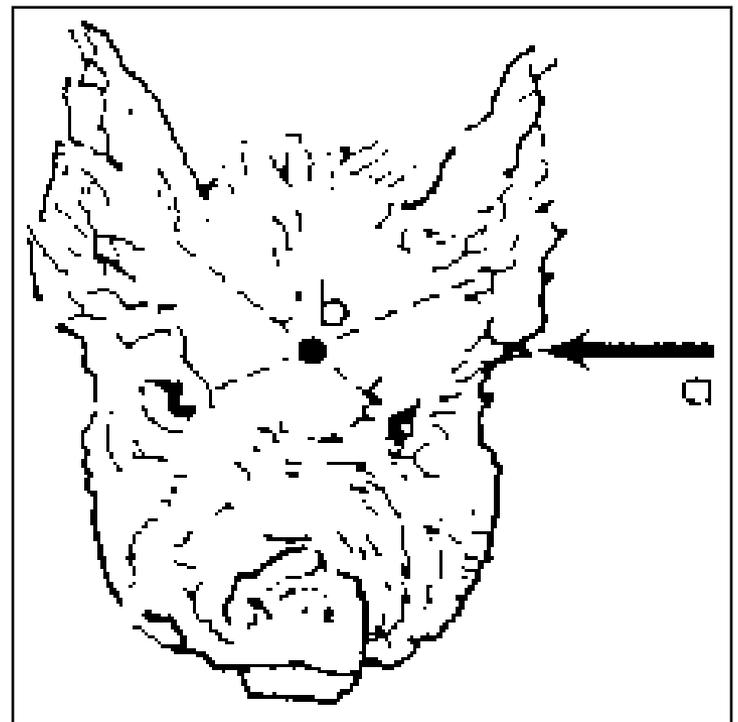
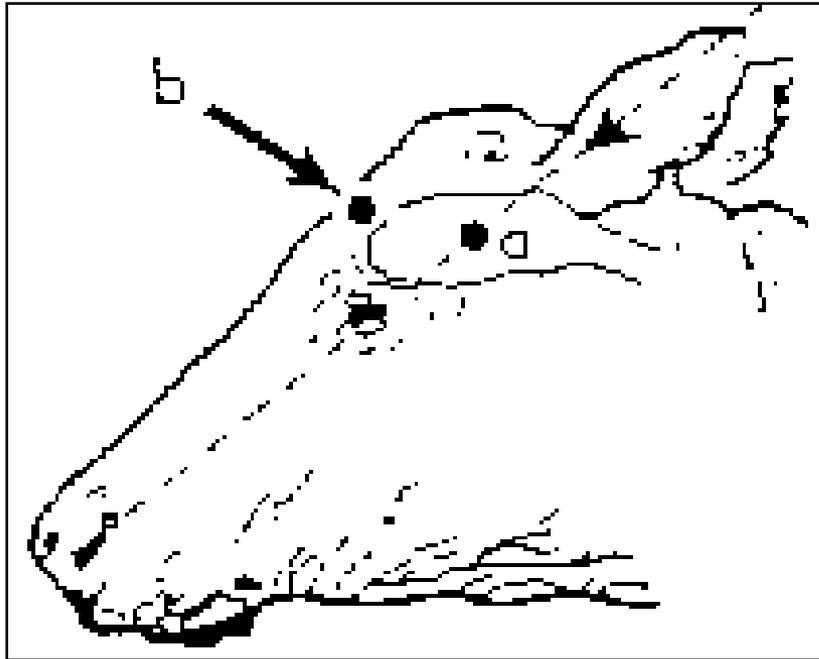
- Federal regulations require all animals to be insensible to pain before:
 - Being hoisted and hung
 - Stuck for bleeding

Processing Livestock

- The Federal Humane Slaughter Act
 - Three methods for immobilizing livestock
 1. Mechanical (compression stunner)
 2. Electrical
 3. Chemical



Processing Livestock





**Captive bolt stunning in
center track restrainer**

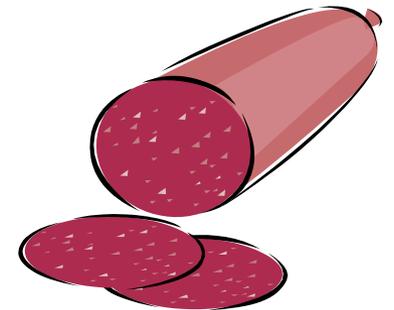
Processing Livestock

- Beef cattle and swine are bled by cutting or sticking
 - Main artery
 - Jugular vein



Processing Livestock

- Livestock are processed to use all available parts:
 - Meat
 - Hide for leather in cattle
 - Bone meal
 - Blood meal
 - Hoofs and horns
 - Fatty acids



Processing Poultry

Steps in processing:

1. Stunning is done to make the bird unconscious
 - Does not kill the bird
 - Some religious groups require the animal not be stunned prior to slaughter
2. Bleeding
 - Cutting jugular vein without cutting the esophagus

Processing Poultry

3. Scalding loosens feathers
4. Picking removes feathers
 - Mechanical
5. Removing feet, neck, skin and preen gland

Processing Poultry

6. Evisceration performed

- ◆ Removing entrails

7. Carcass is chilled

- ◆ Ice water

- ◆ Less than 40 degrees F