

Course	Agricultural Science I
Unit	Introduction to Beef Production
Lesson	Introduction to the Beef Industry
Estimated Time	50 minutes

Student Outcome

Describe the importance of the beef industry in Missouri.

Learning Objectives

1. Describe the importance of the beef industry in Missouri.
2. Explain how the beef industry evolved in the United States.
3. Differentiate between commonly used beef cattle terms.
4. Describe how the segments of the beef industry differ.
5. Identify career opportunities that are available in the beef cattle industry.

Grade Level Expectations

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slides
 - ❑ PPT 1 – Beef Cattle Industry Flow Chart
2. Activity Sheets
 - ❑ AS 1 – A Career in the Beef Industry
3. *Introduction to Beef Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 1997.
4. *Introduction to Beef Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplemental Information

1. Internet Sites
 - ❑ “Beef Production Glossary: BIF Fact Sheet.” MU Extension. University of Missouri-Columbia. Accessed June 27, 2007, from <http://extension.missouri.edu/explore/agguides/ansci/g02030.htm>.
 - ❑ National Agricultural Statistics Service. United States Department of Agriculture. Accessed June 27, 2007, from <http://www.nass.usda.gov/>.
 - ❑ “Missouri Farm Facts.” National Agricultural Statistics Service. United States Department of Agriculture. Accessed June 27, 2007, from http://www.nass.usda.gov/Statistics_by_State/Missouri/Publications/Farm_Facts/.
 - ❑ “Beef Cattle Terminology.” Purebred Cattle Pages. Accessed June 27, 2007, from <http://www.pbcattle.com/terminology.htm>.


Interest Approach



Ask students which country leads the world in cattle numbers (India). Ask the students where they think the United States ranks in numbers of cattle and where Missouri ranks nationally in beef cattle numbers (3rd and 2nd, respectively).

Communicate the Learning Objectives

1. Describe the importance of the beef industry in Missouri.
2. Explain how the beef industry evolved in the United States.
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Instructor Directions	Content Outline
Objective 1 <i>Discuss the importance of beef cattle to Missouri. Explain that beef cattle convert forage to pounds of beef and that much of the land used for forages cannot be planted for grain production, so cattle production is the best use of this land.</i> <i>Use the Interactive Flash Enhancement "Beef Cow Numbers – Top Ten Counties" to show the top ten beef cow counties in Missouri.</i>	Describe the importance of the beef industry in Missouri. <ol style="list-style-type: none">1. Missouri ranks second nationally in total number of beef cows in production.2. More than 7 percent of U.S. cattle operations are found within the state.3. More than 4.5 million head of cows and calves are inventoried in Missouri each year.4. Missouri ranks highly in the production of purebred beef cattle; several nationally recognized herds are located in Missouri.5. Beef production is scattered statewide, with most of the cows in southwestern Missouri.6. In 2004, Polk County ranked first in beef cow numbers.
Objective 2 <i>Describe the evolution of the beef cattle industry in the United States. Discuss the fact that beef cattle are not native to this continent and had to be imported. Point out the importance of beef cattle production in the settlement of the western United States.</i>	Explain how the beef industry evolved in the United States. <ol style="list-style-type: none">1. Christopher Columbus brought the first cattle to the New World on his second voyage.2. The Spanish introduced the Longhorn breed into Mexico in the early 1500s.3. The first known purebred breed to be imported was Shorthorns, which were brought to America in the 1780s.4. Cattle drives brought Longhorn cattle out of Texas to cow towns from which cattle were shipped east.5. The reduction of buffalo herds and the end of clashes with the Native Americans helped open the Great Plains for beef production.

Instructor Directions	Content Outline
	<ol style="list-style-type: none"> The fencing of the west with barbed wire led to the improvement of herds that could be managed more easily. An emphasis on improving herds led to the importation of many modern beef breeds in the 1960s.
<p>Objective 3</p> <p><i>Each livestock production system has a unique set of terms. Ask students if there are any beef terms they do not understand.</i></p>	<p>Differentiate between commonly used beef cattle terms.</p> <ol style="list-style-type: none"> Steer – castrated male Heifer – young female that has not given birth to a calf Bull – mature male Cow – female that has given birth to a calf Polled – genetically without horns Feeder calf – term used for a male or female animal from weaning until the calf is placed into a feedlot Replacement cattle – bulls and heifers that will be used to add to or replace existing breeding stock Slaughter cattle – steers and heifers between 1,000 and 1,350 pounds that will be processed into beef
<p>Objective 4</p> <p><i>Discuss the four major segments of the cattle industry. Point out that Missouri produces many feeder calves that are shipped west to be fed out. Use PPt 1 to illustrate the four major segments of the cattle industry.</i></p> <p> PPt 1 – Beef Cattle Industry Flow Chart</p>	<p>Describe how the segments of the beef industry differ.</p> <ol style="list-style-type: none"> Purebred breeders produce genetically superior females and herd bulls to be used by commercial cow/calf producers to improve their stock. Cow/calf producers produce steers and heifers, which they may sell at weaning to a backgrounder or feedlot operator as feeder calves. Backgrounders graze the cattle on forages, usually supplemented with small amounts of grain, until they are ready to go to the feedlot. Feedlot operators purchase or custom feed calves from either cow/calf producer or backgrounders; they feed the calves until they are ready for slaughter.
<p>Objective 5</p> <p><i>Emphasize the diversity of beef cattle career opportunities. Some careers require only a high school education, while others require advanced degrees and training. Have students use AS 1 to research a career in the beef cattle</i></p>	<p>Identify career opportunities that are available in the beef cattle industry.</p> <ol style="list-style-type: none"> Beef cattle producer Ranch manager Artificial insemination technician Livestock order buyer Veterinarian Pharmaceutical sales representative

Instructor Directions	Content Outline
<p><i>industry and report their findings to the class.</i></p> <p> AS 1 – A Career in the Beef Industry</p>	<ol style="list-style-type: none"> 7. Equipment sales and services representative 8. Nutritionist 9. Feedlot operator 10. Livestock extension specialist 11. Biotechnology researcher
<p>Application:</p> <p> AS 1 – A Career in the Beef Industry</p>	<p>Answers to AS 1 Answers will vary.</p> <p>Other activities</p> <ol style="list-style-type: none"> 1. Have students research the history of beef production in another country, such as Argentina or Australia.
<p>Closure/Summary</p>	<p>Though beef cattle are not native to the United States, their production has become very important to the agricultural industry. The beef industry is a vital part of agriculture in Missouri, which is ranked second in the nation in the number of beef cattle and has several nationally recognized purebred herds. Many career opportunities exist in the beef industry for people interested in this field.</p>
<p>Evaluation: Quiz</p>	<p>Answers</p> <ol style="list-style-type: none"> 1. d 2. b 3. c 4. c 5. Christopher Columbus 6. Answers will include any five of the following: beef cattle producer, ranch manager, artificial insemination technician, livestock order buyer, veterinarian, pharmaceutical sales representative, equipment sales and services representative, nutritionist, feedlot operator, livestock extension specialist, and biotechnology researcher. 7. A bull is a mature male, and a steer is a castrated male. A heifer is a young female that has not given birth to a calf.