

Course	Agricultural Science I
Unit	Introduction to Beef Production
Lesson	Breeds of Beef Cattle
Estimated Time	90 minutes or 2-50 minute blocks
Student Outcome	

Identify the major beef breeds and explain their significance to the beef industry.

Learning Objectives



1. Explain the difference between the *Bos indicus* and *Bos taurus* species of beef cattle.
2. Describe the history and identifying characteristics of beef breeds common in Missouri.
3. Explain factors that influence breed selection.

Grade Level Expectations

SC/LO/1/E/09-11/a

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. Activity Sheets
 -  AS 1 – Beef Breeds
 -  AS 2 – Researching Beef Breeds
2. *Introduction to Beef Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 1997.
3. *Introduction to Beef Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- ☐ Picture of a black breed of cattle other than Angus, such as black Limousin or black Salers
- ☐ Picture of a crossbred beef cow

Supplemental Information

1. Internet Sites
 - ☐ “Breeds of Livestock.” Oklahoma State University. Accessed June 27, 2007, from <http://www.ansi.okstate.edu/breeds/cattle/>.
 - ☐ “Selecting Breeds of Beef Cattle” from “Beef Cattle Breeds and Biological Types.” Virginia Cooperative Extension. Virginia State University. Accessed June 27, 2007, from <http://www.ext.vt.edu/pubs/beef/400-803/400-803.html#L3>.
 - ☐ “Breeds of Beef Cattle.” Dairy and Animal Science, The Pennsylvania State University. Accessed June 27, 2007, from <http://www.das.psu.edu/pdf/steer04.pdf>.
2. Print
 - ☐ Felius, Marleen. *Cattle Breeds: An Encyclopedia*. Trafalgar Square Books, 2007.

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- ❑ Thomas, Heather Smith. *Storey's Guide to Raising Beef Cattle: Health/Handling/Breeding*. Rev. Ed. North Adams, MA: Storey Publishing, LLC, 1998.
 - ❑ Thomas, Heather Smith. *Getting Started with Beef and Dairy Cattle*. North Adams, MA: Storey Publishing, LLC, 2005.
 - ❑ Pukite, John. *A Field Guide to Cows: How to Identify and Appreciate America's 52 Breeds*. New York: Penguin Group, 1998.
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Interest Approach

1. Show a picture of a black breed of cattle other than Angus, such as black Limousin or black Salers. Have students try to guess what breed it is.
2. Show students a picture of a crossbred beef cow. Ask them to identify the beef breeds used in breeding.

Communicate the Learning Objectives



1. Explain the difference between the *Bos indicus* and *Bos taurus* species of beef cattle.
2. Describe the history and identifying characteristics of beef breeds common in Missouri.
3. Explain factors that influence breed selection.

Instructor Directions	Content Outline
Objective 1 <i>Ask students what the main differences are between different breeds that they have seen. Lead into a discussion of the two species of beef cattle, <i>Bos indicus</i> and <i>Bos Taurus</i>.</i>	Explain the difference between the <i>Bos indicus</i> and <i>Bos taurus</i> species of beef cattle. <i>Bos indicus</i> <ol style="list-style-type: none">1. Originated from Zebu cattle from India2. Loose skin3. Large ears4. Humped5. Heat resistant6. Insect resistant <i>Bos taurus</i> <ol style="list-style-type: none">1. Originated in Europe2. Tight hides3. Small ears4. No humps5. More tolerant of cold weather
Objective 2 <i>Ask students how many breeds of cattle they can name. Stress that there are more than 200 breeds worldwide.</i> <i>Point out that many of the breeds common in Missouri are crossbred to produce calves with desirable characteristics.</i> <i>Hand out AS 1 and have students fill in the chart as you discuss the</i>	Describe the history and identifying characteristics of beef breeds common in Missouri. <i>Angus</i> <ol style="list-style-type: none">1. First imported from Scotland by George Grant of Kansas in 18732. Black3. Polled4. Maternal5. High quality carcasses with a large degree of marbling <i>Red Angus</i> <ol style="list-style-type: none">1. Red due to a recessive gene in Black Angus

Instructor Directions	Content Outline
<p><i>different beef breeds.</i></p> <p> AS 1 – Beef Breeds</p> <p><i>After completing the lesson, hand out AS 2 and have each student choose a different beef breed association.</i></p> <p> AS 2 – Researching Beef Breeds</p>	<ol style="list-style-type: none"> 2. Same characteristics as Black Angus <p>Beefmaster</p> <ol style="list-style-type: none"> 1. Developed in Texas in 1931 by Tom Lasater 2. $\frac{1}{4}$ Hereford, $\frac{1}{4}$ Shorthorn, $\frac{1}{2}$ Brahman 3. Red to almost white in color 4. Horned or polled 5. Good growth rate 6. Hardy 7. Maternal 8. Fertile <p>Brahman</p> <ol style="list-style-type: none"> 1. Developed from Zebu cattle from India crossed with several European breeds 2. Gray to black in color 3. Loose hides 4. Large ears 5. Humped 6. Horned 7. Heat resistant 8. Insect resistant <p>Brangus</p> <ol style="list-style-type: none"> 1. Developed in the United States in the early 20th century 2. $\frac{5}{8}$ Angus, $\frac{3}{8}$ Brahman 3. Black 4. Polled 5. Maternal 6. High growth rate 7. Thick carcasses with a minimum of excess fat <p>Charolais</p> <ol style="list-style-type: none"> 1. Introduced into the United States by the King Ranch in the 1930s 2. Originally developed in France 3. White 4. Horned or polled 5. Large 6. Heavily muscled 7. Fast growing

Instructor Directions	Content Outline
	<p>Chianina</p> <ol style="list-style-type: none"> 1. Originated in Italy 2. First used in the United States in the early 1970s 3. Used to produce show steers and as a terminal breed 4. Almost any color 5. Horned or polled 6. Fast growing 7. Extremely large <p>Gelbvieh</p> <ol style="list-style-type: none"> 1. Originated in Germany 2. Imported in the early 1970s 3. Red to golden or black in color 4. Horned or polled 5. Gentle 6. Very maternal <p>Hereford</p> <ol style="list-style-type: none"> 1. Imported from England by Henry Clay in 1817 2. Red with white face and chest; also white on the neck, feet, and switch 3. Horned but used to develop Polled Hereford breed 4. Excellent foragers 5. Tolerant of cold weather <p>Limousin</p> <ol style="list-style-type: none"> 1. Originated in France 2. First introduced into the United States in the late 1960s 3. Light red to dark red or black 4. Horned or polled 5. Lean 6. Heavily muscled <p>Longhorn</p> <ol style="list-style-type: none"> 1. Originally from Spain 2. Brought to Mexico and then Texas in the early 1500s 3. Extremely hardy 4. Almost any color or combination of colors 5. Horned (spreading to four or more feet) 6. Lean meat 7. Adaptable to harsh environmental conditions 8. Resistant to many diseases and parasites

Instructor Directions	Content Outline
	<p>Maine Anjou</p> <ol style="list-style-type: none"> 1. Originated in France 2. Introduced to the United States around 1970 3. Red and white, solid red, black, or black and white in color 4. Horned or polled 5. Heavily muscled 6. Gentle 7. Fast growing 8. Used extensively in producing show steers <p>Salers</p> <ol style="list-style-type: none"> 1. Originated in France 2. Imported in the mid-1970s 3. Black or dark cherry red in color 4. Horned 5. Easy calving 6. High growth <p>Santa Gertrudis</p> <ol style="list-style-type: none"> 1. Developed on the King Ranch in Texas in the early 20th century 2. 5/8 Shorthorn, 3/8 Brahman 3. Dark red 4. Horned or polled 5. Easy calving 6. Good foraging ability <p>Shorthorn</p> <ol style="list-style-type: none"> 1. Originated in England 2. Imported in the late 1700s 3. Red, white, red and white, or roan in color 4. Horned or polled 5. Highly maternal 6. Gentle 7. High-quality carcasses <p>Simmental</p> <ol style="list-style-type: none"> 1. Originally from Switzerland 2. First imported in 1969 3. Solid red, red and white, yellow, black, or black and white in color 4. Horned or polled

Instructor Directions	Content Outline
	5. Large 6. Fast growing 7. Maternal 8. High milk production
Objective 3 <i>Each producer faces a different situation and different needs for cattle. These factors affect the breed type that a particular producer will select.</i>	Explain factors that influence breed selection. 1. Needs of the producer 2. Breeds used in the past 3. Available feed and labor resources 4. Goals of the operation 5. Market trends 6. Traits of the breeds
Application:  AS 1 – Beef Breeds  AS 2 – Researching Beef Breeds	Answers to AS 1 See Objective 2 Answers to AS 2 Answers will vary based upon breed students choose. Other Activities: 1. Show students pictures of the different breeds of cattle discussed in this lesson and have them identify the breed. 2. Have students search the Internet for information on different breeds. Oklahoma State University has a website that covers many breeds.
Closure/Summary	The two species of cattle are <i>Bos indicus</i> and <i>Bos taurus</i> ; all breeds of beef cattle belong to one of these two species or are some combination of the two. Many different breeds are found in Missouri. Producers must decide which breed best meets their needs when selecting a breed for production.
Evaluation: Quiz	Answers: 1. b 2. d 3. c 4. e 5. a 6. b 7. a 8. Answers may include any of the following: Angus, Brahman, Brangus, Chianina, Gelbvieh, Limousin,

Instructor Directions	Content Outline
	<p>Longhorn, Maine Anjou, Salers, and Simmental</p> <p>9. Angus, Brahman</p> <p>10. Answers may include any two of the following: Angus, Red Angus, Beefmaster, Brangus, Gelbvieh, Simmental, and Shorthorn</p> <p>11. Answers may include any two of the following: needs of the producer, breeds used in the past, available feed and labor resources, goals of the operation, market trends, and traits of the breeds</p>