

Course	Agricultural Science I
Unit	Introduction to Dairy Production
Lesson	Breeds of Dairy Cattle
Estimated Time	50 minutes

Student Outcome

Identify the major dairy breeds in Missouri and their significance to the dairy industry.

Learning Objectives

1. Describe the identifying characteristics and histories of the six major dairy breeds in Missouri.
2. Explain the factors that influence breed selection.

Grade Level Expectations

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

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slide
 - ☐ PPt 1 - Dairy Breeds
2. Activity Sheets
 - ☐ AS 1 - Dairy Breeds
 - ☐ AS 2 - Researching Dairy Breeds
3. *Introduction to Dairy Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 1997.
4. *Introduction to Dairy Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- ☐ Photos of a red and white Holstein or Ayrshire

Supplemental Information




1. Internet Sites
 - ☐ Dairy Cattle Breed Associations. National Association of Animal Breeders. Accessed August 30, 2007, from <http://www.naab-css.org/guidelines/dairybrd.html>.
 - ☐ North American Dairy Breeds. Oklahoma State University. Accessed August 30, 2007, from <http://www.ansi.okstate.edu/breeds/cattle/nadairy.htm>.
2. Print
 - ☐ Felius, M. *Cattle Breeds: An Encyclopedia*. Chicago, IL: Trafalgar Square Books, 2007.
 - ☐ Pukite, J. *A Field Guide to Cows: How to Identify and Appreciate America's 52 Breeds*. New York: Penguin Group, 1998.
 - ☐ Thomas, H. S. *Getting Started with Beef and Dairy Cattle*. North Adams, MA: Storey Publishing, LLC, 2005.



Interest Approach

Obtain a photo of a red and white dairy cow, either a red Holstein or Ayrshire. Have students guess which breed it is.

Communicate the Learning Objectives

1. Describe the identifying characteristics and histories of the six major dairy breeds in Missouri.
2. Explain the factors that influence breed selection.

Instructor Directions	Content Outline
Objective 1 <i>Discuss the six major dairy breeds and have students complete the chart on AS 1. Point out that Holsteins are by far the dominant dairy breed. Have students complete AS 2 to find more in-depth information about a dairy breed.</i>  PPT 1 - Dairy Breeds  AS 1 - Dairy Breeds  AS 2 - Researching Dairy Breeds	Describe the identifying characteristics and histories of the six major dairy breeds in Missouri. Ayrshire <ol style="list-style-type: none">1. Red and white2. Excellent grazers with high quality udders3. Not used extensively in the dairy industry because of their comparatively low milk production4. Imported from Scotland in the early nineteenth century Brown Swiss <ol style="list-style-type: none">1. Light to dark brown with black noses and tongues2. Large in size3. Rank second to Holsteins in average pounds of milk produced per animal4. Heat-tolerant breed often used in tropical areas of the world5. Used as a dual purpose breed for milk and beef production6. Imported from Switzerland in 1869 Guernsey <ol style="list-style-type: none">1. Pale yellow and white2. Golden color to milk due to high levels of beta-carotene, a source of vitamin A3. Second to Jerseys in the percentage of fat and protein in milk4. Imported from the Isle of Guernsey in the early 1800s Holstein <ol style="list-style-type: none">1. Most popular dairy breed2. Black and white; occasionally red and white3. Largest of the dairy breeds in size

Instructor Directions	Content Outline
	<ol style="list-style-type: none"> 4. Rank first in the average pounds of milk produced per animal 5. Imported from the Netherlands in the early seventeenth century <p>Jersey</p> <ol style="list-style-type: none"> 1. Fawn, light brown, gray, or almost black 2. Smallest in size 3. Produce milk that has the highest percentage of milk fat and milk protein 4. More tolerant of heat stress than Holsteins 5. Imported from the Isle of Jersey in the early nineteenth century <p>Milking Shorthorn</p> <ol style="list-style-type: none"> 1. Red, white, or any combination of the two 2. Dual purpose breed used for both beef and milk production 3. Recognized as a breed in the 1940s 4. Originated in England
<p>Objective 2</p> <p><i>Ask students to describe how a breed is selected. Make sure students focus on the goals of the individual producer.</i></p>	<p>Explain the factors that influence breed selection.</p> <ol style="list-style-type: none"> 1. Breed selection depends on the goals of the producer. 2. The primary goal of most producers is to maximize milk production, which is why Holsteins are the most popular dairy breed. 3. Other breeds have desirable qualities that the producer may wish to add to his or her herd (e.g., more milk fat and milk protein).
<p>Application:</p> <p> AS 1 - Dairy Breeds</p> <p> AS 2 - Researching Dairy Breeds</p>	<p>Answers to AS 1 See the content for Objective 1.</p> <p>Answers to AS 2 Results will vary.</p> <p>Other activities: Have students search the Internet for information on different breeds. Oklahoma State University has a Web site (http://www.ansi.okstate.edu/breeds/) that covers many breeds of livestock, including dairy cattle.</p>
<p>Closure/Summary</p>	<p>The major dairy breeds are Ayrshire, Brown Swiss,</p>

Instructor Directions	Content Outline
	Guernsey, Holstein, Jersey, and Milking Shorthorn. Most producers seek to maximize milk production when selecting a breed, although a producer may choose another breed to achieve a particular goal.
Evaluation: Quiz	<p>Answers:</p> <ol style="list-style-type: none"> 1. d 2. f 3. e 4. a 5. f 6. b 7. c 8. b 9. d 10. The primary goal of most producers is to maximize milk production.