

Course	Agricultural Science I
Unit	Introduction to Animal Products
Lesson	Beef
Estimated Time	90 minutes or 2 50-minute blocks

Student Outcome

Describe beef carcass fabrication and grading.

Learning Objectives

1. Explain how the quality grade of a beef carcass is determined.
2. Explain how the yield grade of a beef carcass is determined.
3. Identify the wholesale cuts of beef.
4. Identify the retail cuts of beef.

Grade Level Expectations

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slides
 - ☐ PPt 1 – Quality Grading
 - ☐ PPt 2 – Wholesale Cuts of Beef
2. *Introduction to Animal Products (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 1998.
3. *Introduction to Animal Products Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- ☐ Retail cut identification card set or an actual beef retail cut

Supplemental Information

1. Internet Sites
 - ☐ Meat Identification Page. University of Nebraska. Accessed on October 9, 2007, from <http://animalscience.unl.edu/meats/id/>.
 - ☐ Retail Beef Cuts. Yellowsheet.com. Accessed on October 9, 2007, from <http://www.yellowsheet.com/retail/>.
 - ☐ "Beef Cuts." Certified Angus Beef LLC. Accessed on October 9, 2007, from <http://www.certifiedangusbeef.com/chef/cuts.php>.
 - ☐ Beef Cuts – Retail Cuts. Beef Information Centre. Accessed on October 9, 2007, from http://www.beefinfo.org/retail_specs.cfm.
 - ☐ "Beef Cuts - Where they Come From." Cattlemen's Beef Board. Accessed on October 9, 2007, from http://www.beefitswhatsfordinner.com/aboutbeef/pdf/beef_cuts.PDF.

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- ❑ Meat Grading Publications. Agricultural Marketing Service. United States Department of Agriculture. Accessed on October 9, 2007, from <http://www.ams.usda.gov/lsg/mgc/mgc-pubs.htm>.
 - ❑ ZoBell, D. R., Whittier, D., and Holmgren, Lyle. "Beef Quality and Yield Grading." Extension. Utah State University. Accessed on October 9, 2007, from <http://extension.usu.edu/cyberlivestock/downloads/beef3.pdf>.
2. Print
- ❑ Pond, K. and W. Pond. *Introduction to Animal Science*. New York: John Wiley & Sons, 2000.
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Interest Approach

Have students try to identify beef cuts using a retail cut identification card set or actual retail beef cuts.

Communicate the Learning Objectives

1. Explain how the quality grade of a beef carcass is determined.
2. Explain how the yield grade of a beef carcass is determined.
3. Identify the wholesale cuts of beef.
4. Identify the retail cuts of beef.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Ask students how a beef carcass is quality graded. Explain that the quality grade indicates the palatability of the beef. Describe the difference between maturity and marbling. Use PPt 1 as a guide.</i></p> <p><input type="checkbox"/> PPt 1 – Quality Grading</p>	<p>Explain how the quality grade of a beef carcass is determined.</p> <p>Marbling and muscle firmness are evaluated in the rib eye muscle between the 12th and 13th rib.</p> <ol style="list-style-type: none">1. Marbling is intramuscular fat2. There are ten degrees of marbling. The first three only apply in carcass evaluation and for other purposes.<ol style="list-style-type: none">a. Very abundantb. Abundantc. Moderately abundantd. Slightly abundante. Moderatef. Modestg. Smallh. Slighti. Tracesj. Practically devoid3. Firmness of muscle<ol style="list-style-type: none">a. Firmness of muscle ranges from very soft and watery to firmb. Standards spell out what is required for each quality grade <p>Maturity (age of carcass) is determined.</p> <ol style="list-style-type: none">1. 5 degrees A-E2. “A” maturity is usually young cattle less than 30 months of age

Instructor Directions	Content Outline
	<p>Marbling, muscle firmness, and maturity interact to determine the quality grade. It is assumed that when using the USDA quality grade table that firmness of lean is comparably developed with the degree of marbling.</p> <p>The quality grades for steer and heifer beef are prime, choice, select, standard, commercial, utility, cutter, and canner.</p> <p>The quality grades for cow beef are choice, select, standard, commercial, utility, cutter, and canner.</p> <p>The quality grades for bullock beef are prime, choice, select, standard, commercial, and utility.</p>
<p>Objective 2</p> <p><i>Ask students to define a yield grade. Yield grades identify the amount of saleable meat obtained from the carcass as boneless trimmed retail cuts from the round, loin, rib, and chuck. Then, have students list the factors that influence yield grade. Describe how a yield grade is determined.</i></p>	<p>Explain how the yield grade of a beef carcass is determined.</p> <p>Yield grades are a numerical score from 1-5</p> <ol style="list-style-type: none"> 1. Yield grade of 1 has the highest percentage of saleable meat. 2. Yield grade of 5 has the lowest percentage of saleable meat. <p>Yield grades are determined by evaluating four factors</p> <ol style="list-style-type: none"> 1. External fat 2. Kidney, pelvic, and heart fat 3. Rib eye area 4. Hot carcass weight
<p>Objective 3</p> <p><i>Discuss with students the difference between a wholesale cut and a retail cut. Use PPT 2 as a guide.</i></p> <p> PPT 2 – Wholesale Cuts of Beef</p>	<p>Identify the wholesale cuts of beef.</p> <ol style="list-style-type: none"> 1. Chuck 2. Rib 3. Short loin 4. Sirloin 5. Round 6. Flank 7. Short plate 8. Brisket 9. Fore Shank 10. Variety meats

Objective 4

Ask students what retail cuts come from each of the wholesale cuts of beef. Use a retail cut identification card set or actual beef retail cuts as aids.

Identify the retail cuts of beef.

1. Chuck
 - a. Arm pot roast
 - b. Blade pot roast
 - c. Cross rib pot roast
 - d. Chuck eye roast
 - e. Seven bone roast
 - f. Flanken-style ribs
 - g. Under plate pot roast
 - h. Short ribs
 - i. Mock tender
 - j. Boneless shoulder pot roast
 - k. Boneless top blade steak
 2. Rib
 - a. Rib roast large end
 - b. Rib roast small end
 - c. Rib steak
 - d. Rib eye steak
 - e. Rib eye roast
 - f. Back ribs
 3. Short loin
 - a. Porterhouse steak
 - b. T-bone steak
 - c. Boneless top loin steak
 - d. Tenderloin steak and roast
 4. Sirloin
 - a. Sirloin steak, round bone
 - b. Sirloin steak, flat bone
 - c. Top sirloin steak
 5. Round
 - a. Round steak
 - b. Top round steak and roast
 - c. Bottom round roast
 - d. Eye round roast
 - e. Tip roast, cap off
 - f. Tip steak
 - g. Boneless rump roast
 6. Flank
 - a. Flank steak
 - b. Flank steak rolls
 7. Short plate
 - a. Skirt steak
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	<ol style="list-style-type: none"> 8. Brisket <ol style="list-style-type: none"> a. Brisket whole b. Brisket flat half c. Corned brisket, point half 9. Fore Shank <ol style="list-style-type: none"> a. Shank cross cuts 10. Other cuts <ol style="list-style-type: none"> a. Beef for stew b. Cubes for kabobs c. Cubed steak d. Ground beef 11. Variety meats <ol style="list-style-type: none"> a. Heart b. Tongue c. Liver d. Kidney e. Tripe f. Brains g. Sweetbreads
Application	<p>Other activities</p> <ol style="list-style-type: none"> 1. Visit a local grocery store or meat locker. Look at the various wholesale and retail cuts that are available. 2. Schedule a visit to a beef processor. Watch a carcass being cut into wholesale and retail cuts.
Closure/Summary	<p>Beef carcasses are graded for quality and yield. Wholesale cuts of beef are cut into retail cuts that are sold to consumers. Some retail cuts come from more than one wholesale cut or from other areas of the beef.</p>
Evaluation: Quiz	<p>Answers</p> <ol style="list-style-type: none"> 1. c 2. d 3. a 4. a 5. c 6. Intramuscular 7. External fat thickness; hot carcass weight; amount of kidney, pelvic, and heart fat; and rib eye area