

Course	Agricultural Science I
Unit	Sheep Production
Lesson	Sheep Enterprises
Estimated Time	50 minutes

Student Outcome

Describe enterprises in sheep production.

Learning Objectives

1. Determine the advantages and disadvantages of sheep production.
2. Describe the different types of sheep production enterprises and their respective locations.
3. Identify the primary products and by-products of sheep production.
4. Explain how the sheep industry has changed.

Grade Level Expectations

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slides
 - PPt 1 – U.S. Meat Consumption
 - PPt 2 – U.S. Sheep Production
 - PPt 3 – U.S. Wool Production from 1975 to 1999
2. Activity Sheets
 - AS 1 – Advantages and Disadvantages of Sheep Production
 - AS 2 – Retail Cuts of Lamb
3. *Sheep Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 2001.
4. *Sheep Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- Sheep products and by-products to display for the interest approach, such as meat products, wool, and clothing.

Supplemental Information



1. Internet Sites
 - Animal Science Publications. MU Extension. University of Missouri-Columbia. Accessed June 14, 2007, from <http://extension.missouri.edu/explore/agguides/ansci/>.
 - Sheep Industry. American Sheep Industry Association. Accessed June 14, 2007, from http://www.sheepusa.org/index.phtml?page=site/text&nav_id=12a9b27a1d9a8073956d70cd71cadaab.

Interest Approach

Bring a sweater, blanket, wool slippers, and any other materials derived from sheep to the classroom. Ask the students what the products have in common. Do they use these products? How often? What other products do the students use that come from sheep? The instructor can then determine how much the students know about sheep and the products that are derived from sheep.


Communicate the Learning Objectives

1. Determine the advantages and disadvantages of sheep production.
2. Describe the different types of sheep production enterprises and their respective locations.
3. Identify the primary products and by-products of sheep production.
4. Explain how the sheep industry has changed.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Ask students why producers would (or would not) want to raise sheep. Also discuss how to overcome the disadvantages associated with sheep production. In your discussion of the disadvantages of sheep production, refer to Ppt 1 to illustrate the consumption rates of lamb. Have students complete AS 1 and ask them to identify the advantages and disadvantages of sheep production.</i></p> <p> AS 1 - Advantages and Disadvantages of Sheep Production</p> <p> Ppt 1 - U.S. Meat Consumption</p>	<p>Determine the advantages and disadvantages of sheep production.</p> <p>Advantages</p> <ol style="list-style-type: none">1. Eat a variety of forages including weeds and brush2. Eat grain lost at harvest3. Very versatile: can graze in various environments<ol style="list-style-type: none">a. On rugged mountain areasb. On land where a crop cannot be producedc. In colder regions (wool breeds)4. Frequently have multiple births5. Can be raised on limited acreage6. Low initial investment7. Yields many useful by-products8. Provides healthful meat<ol style="list-style-type: none">a. More digestible than other red meatsb. Lower cholesterol because it does not marbleizec. Provides proteind. High in B vitamins, niacin, zinc, and iron <p>Disadvantages</p> <ol style="list-style-type: none">1. Low consumer consumption rate2. Fluctuation in meat processing and marketing structure3. Low wool prices4. Easy prey for predators5. Susceptible to disease and injuries6. Susceptible to a variety of external and internal parasites

Instructor Directions	Content Outline
	<ol style="list-style-type: none"> 7. Must be carefully managed 8. High labor cost to manage sheep
<p>Objective 2</p> <p><i>Ask students to determine what types of sheep enterprises are in the community. Refer to PPT 2 to illustrate where sheep are produced, e.g., the Corn Belt and the Midwest, and how many. (Explain that corn is cultivated in the central part of the United States. However, because crops are diversified throughout the country, the term "Corn Belt" is not as exact as it once was.)</i></p> <p><i>Ask students why they think more sheep are produced in those locations. Why do some states produce only a few sheep? Ask students which enterprise type they think offers the greatest advantages and which type is subject to problems.</i></p> <p><i>During class discussion, determine which sheep are most suited for showing. Refer students to the section entitled Showing Sheep in the appendix.</i></p> <p>☐ PPT 2 – U.S. Sheep Production</p>	<p>Describe the different types of sheep production enterprises and their respective locations.</p> <p>Purebred</p> <ol style="list-style-type: none"> 1. Purebred sheep produce superior genetic traits using stud rams and ewes. <ol style="list-style-type: none"> a. Purebred operations produce rams that are sold to producers who want to integrate certain genetic traits into their breeding operations. b. Purebred types produce replacement ewes that are sold to new producers entering the business or to established producers who want to replace their older ewes. 2. Operations must be very focused and specialized in providing good breeding stock to sell to producers. 3. Examples of genetic traits of the breeding stock include the following: <ol style="list-style-type: none"> a. Improved carcass qualities b. Improved growth rate 4. Some purebreds are exhibited in shows at local, county, state, and national levels. 5. Purebred operations are located throughout the United States. Most operations are in the East. <p>Farm flock</p> <ol style="list-style-type: none"> 1. Farm flocks are the most common type of enterprise. 2. Farm flocks are usually small - from about 10 sheep to several hundred. <ol style="list-style-type: none"> a. They are often part of a diverse farming operation where crops and other animals are also raised. b. The flocks tend to be a secondary enterprise for producers, so numbers are kept to a minimum. 3. They are raised in a feed lot and/or grazed in pastures. 4. The sheep are raised for meat production and for wool even though wool is declining in value. 5. Farm flock animals are not usually shown at fairs. 6. Some producers have sheep on the farm to use acres of land that cannot be tilled. The sheep clean up the

Instructor Directions	Content Outline
	<p>weeds and brush and do not require a full-time shepherd.</p> <p>7. The majority of farm flocks are located in central, eastern, and southern United States. Half of the flocks are located in the Corn Belt region.</p> <p>Range</p> <ol style="list-style-type: none"> 1. Range producers have large flocks of about 1,000 sheep or more that graze on hundreds to thousands of acres of inexpensive land. The amount of land they graze on depends on the quality of the forages. 2. Range lambs are generally smaller than purebred or farm flock animals and are raised for processing. 3. Range producers choose this method of sheep production due to the lack of quality grazing land available in the area. 4. The majority of range operations exist in the western states. <p>Club lamb (also called market lamb)</p> <ol style="list-style-type: none"> 1. Club lambs are raised for carcass quality and overall eye appeal. 2. They are generally a crossbred animal with a short life span due to their purpose. 3. The size of the sheep will differ depending on the genetic traits of the animal. 4. Some families show club lambs as 4-H and FFA projects at fairs on the local, county, state, regional, and national levels. (Direct students to Fitting Market Lambs in the appendix for further information.) 5. There are several reasons to show club lambs. <ol style="list-style-type: none"> a. Prize money b. Recognition c. Recreational, family-oriented activity 6. Some club lambs are raised as hobby sheep to produce meat and wool. 7. Club lambs are produced all over the United States but predominantly in grain-producing areas in the Midwest.

Instructor Directions	Content Outline
<p>Objective 3</p> <p><i>Ask the students to name some common products and by-products that may come from sheep. Have them use the Internet to discover how these by-products are created. After discussing primary wholesale cuts, ask students to complete AS 2.</i></p> <p><i>For further information on lamb meat, refer students to Cooking Lamb in the appendix, which provides tips on cooking lamb, nutritional information, and recipes. Explain that the by-products discussed below represent only a sample list.</i></p> <p> AS 2 – Retail Cuts of Lamb</p>	<p>Identify the primary products and by-products of sheep production.</p> <p>Primary wholesale cuts (edible)</p> <ol style="list-style-type: none"> 1. Leg (most expensive) 2. Loin (most expensive) 3. Rib 4. Shoulder 5. Breast/foreshank <p>By-products</p> <ol style="list-style-type: none"> 1. From hide and wool <ol style="list-style-type: none"> a. Shoe linings b. Slippers c. Leather gloves d. Book bindings e. Carpet f. Blankets g. Lanolin – a fatty substance removed from sheep wool; when refined it is used in cosmetics, ointments, and many other products h. Insulation i. Tennis balls j. Clothing k. Fleece products - used in nursing homes to relieve bedsores 2. From fats and fatty acids <ol style="list-style-type: none"> a. Chewing gum b. Medicines c. Dish soap d. Candles e. Shaving cream f. Antifreeze g. Crayons h. Dog food i. Explosives j. Tires 3. From bones, horns, and hooves <ol style="list-style-type: none"> a. Gelatin desserts b. Toothbrushes c. Photographic film

Instructor Directions	Content Outline
	<ul style="list-style-type: none"> d. Shampoo and conditioner e. Plywood and paneling f. Bone china g. Wallpaper h. Marshmallows i. Piano keys j. Bandage strips
<p>Objective 4</p> <p><i>Ask students why consumer demands for sheep have changed. Have them predict how the sheep industry will change in response to these new demands. Show PPT 3 to illustrate how wool production has declined in the United States.</i></p> <p><input type="checkbox"/> PPT 3 – U.S. Wool Production from 1975 to 1999</p>	<p>Explain how the sheep industry has changed.</p> <p>In 1942, 56 million sheep were raised in the United States. In 2000, there were only 7.2 million sheep in the United States.</p> <ol style="list-style-type: none"> 1. The number of total producers is decreasing. 2. Large operations, which are taking over small farms, are producing other livestock animals that are more profitable such as cattle and swine. <ul style="list-style-type: none"> a. Other livestock have less deadly health hazards. b. They experience less stress than sheep. c. There is a smaller loss due to predators. d. It is hard for producers to find seasonal laborers to work on the farm. <p>In 1961, a lamb carcass sold for approximately 15¢ per pound. As of April 2001, the average price of a retail cut of lamb in Missouri ranged from \$2.00 per pound for ground meat (burger) to \$8.00 per pound for lamb chops and loins.</p> <ol style="list-style-type: none"> 1. The total number of lambs produced is decreasing, which causes the supply available to meet demand to decrease, therefore increasing the price. 2. Prices fluctuate throughout the year depending on the season. Lamb prices from February through June are generally higher than normal because of the demand for lamb meat during the Easter season. <p>Wool prices are declining. The price of shorn wool in 1978 was 75¢ per pound. In 1988 it rose to \$1.38 per pound, but in 1998 it was 60¢ per pound.</p> <ol style="list-style-type: none"> 1. At times it may cost the producer of a small flock more to shear the sheep than what the wool is worth, causing producers to produce and sell less wool. 2. Consumers' preferences are changing. They want

Instructor Directions	Content Outline												
	<p>more nylon, Dacron, and other synthetic fibers that are easy to care for.</p>												
<p>Application:</p> <p>📄 AS 1 – Advantages and Disadvantages of Sheep Production</p> <p>📄 AS 2 – Retail Cuts of Lamb</p>	<p>Answers to AS 1 Answers will vary.</p> <p>Answers to AS 2 Students may list various retail cuts based on their research. The cuts listed below are samples. The prices per cut will vary.</p> <table border="0" data-bbox="646 745 1437 1060"> <thead> <tr> <th data-bbox="678 745 901 781"><u>Wholesale Cuts</u></th> <th data-bbox="1133 745 1291 781"><u>Retail Cuts</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="646 787 706 823">Leg</td> <td data-bbox="958 787 1347 865">Whole leg, round leg steak, boneless leg</td> </tr> <tr> <td data-bbox="646 871 714 907">Loin</td> <td data-bbox="958 871 1380 949">Loin chop, loin roast, medallion, boneless loin</td> </tr> <tr> <td data-bbox="646 945 698 980">Rib</td> <td data-bbox="958 945 1209 980">Rib chops, rib roast</td> </tr> <tr> <td data-bbox="646 982 779 1018">Shoulder</td> <td data-bbox="958 982 1421 1018">Arm chop, boneless rolled shoulder</td> </tr> <tr> <td data-bbox="646 1020 901 1056">Foreshank/breast</td> <td data-bbox="958 1020 1437 1056">Stew meat, lamb patties, Denver ribs</td> </tr> </tbody> </table> <p>Other activities</p> <ol data-bbox="657 1144 1485 1617" style="list-style-type: none"> 1. Survey the agricultural community to determine the enterprise types. Discuss why those types of enterprises exist in the community. 2. Invite someone familiar with showing sheep to attend class, and after the discussion of the four enterprise types, have him/her demonstrate how to fit a sheep for show. Ask him/her to perform every aspect of the process for the students so they can learn exactly what kind of work it takes to get a sheep ready for show. If no one is available or if you would like to complement the demonstration, you could show a video on judging market lambs. 	<u>Wholesale Cuts</u>	<u>Retail Cuts</u>	Leg	Whole leg, round leg steak, boneless leg	Loin	Loin chop, loin roast, medallion, boneless loin	Rib	Rib chops, rib roast	Shoulder	Arm chop, boneless rolled shoulder	Foreshank/breast	Stew meat, lamb patties, Denver ribs
<u>Wholesale Cuts</u>	<u>Retail Cuts</u>												
Leg	Whole leg, round leg steak, boneless leg												
Loin	Loin chop, loin roast, medallion, boneless loin												
Rib	Rib chops, rib roast												
Shoulder	Arm chop, boneless rolled shoulder												
Foreshank/breast	Stew meat, lamb patties, Denver ribs												
<p>Closure/Summary</p>	<p>Sheep production has changed a great deal over the past 60 years. Enterprises in the industry are very different from each other. They range from a very small number of sheep to very large flocks. The types of sheep enterprises differ in size but they also differ in purpose. Purebred enterprises produce the replacement ewes, whereas the other enterprises raise the sheep for meat. In recent years,</p>												

Instructor Directions	Content Outline
	<p>producers have seen the demand for lamb and wool decrease. The demand for products and by-products from sheep has fluctuated because consumers want new products and have changing needs.</p>
<p>Evaluation: Quiz</p>	<p>Answers:</p> <ol style="list-style-type: none"> 1. a 2. d 3. b 4. c 5. c 6. b 7. d 8. a 9. Advantages: (any two of the following) <ol style="list-style-type: none"> a. Eat a variety of forages including weeds and brush b. Eat grain lost at harvest c. Very versatile animal that can graze in various environments: <ol style="list-style-type: none"> 1. On rugged mountain areas 2. On land where a crop cannot be produced 3. In colder regions (wool breeds) d. Frequently have multiple births e. Can be raised on limited acreage f. Low initial investment g. Yields many products h. Provides healthful meat 10. Disadvantages: (any two of the following) <ol style="list-style-type: none"> a. Low consumer consumption rate b. Fluctuation in meat processing and marketing structure c. Low wool prices d. Easy prey for predators e. Susceptible to disease and injuries f. Susceptible to a variety of internal and external parasites g. Must be carefully managed h. High labor cost to manage sheep

Lesson 1: Sheep Enterprises

Name: _____

Advantages and Disadvantages of Sheep Production

Objective: Construct a bulletin board of advantages and disadvantages of sheep production.

Materials:

Two index cards per student
Felt-tip markers or pens
Magazines, reference books to find information
Internet access

Procedures:

1. Work alone or in groups of two or three.
2. Use two index cards. Write one advantage to sheep production on one index card and one disadvantage on the other card. If working in groups, each person should contribute one advantage and one disadvantage. Use magazines, books, and the Internet to find the information.
3. Discuss the responses with your group and the class as the cards are put on the bulletin board. Explain how you found the information. The bulletin board should have the lesson title with facts about sheep or a big picture of a sheep. The advantages and disadvantages can then be listed on each side of the board.
4. Discuss how advantages could become disadvantages and how disadvantages could become advantages.

Lesson 1: Sheep Enterprises

Name: _____

Retail Cuts of Lamb

Objective: Identify the retail cuts for each wholesale cut of lamb meat.

Directions: Use the Internet, information from sheep associations, or the American Sheep Industry to match the retail cuts for each wholesale cut of lamb meat. Find out the average price per pound for each retail cut.

Name of Wholesale Cut	Name of Retail Cut	Price per Pound for Retail Cut

Working in small groups of two or three, look up lamb recipes that feature each retail cut. Use the Internet; cookbooks; or ask friends, family, or neighbors to share recipes of their favorite lamb dishes. Develop a creative means for presenting your recipes to the class: create a poster, write a cookbook, or give a PowerPoint presentation, etc.

UNIT - Sheep Production

Name: _____

Lesson 1: Sheep Enterprises

Date: _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. How many sheep were in the United States in 2000?
 - a. 7.2 million
 - b. 720 million
 - c. 7.2 billion
 - d. 720 billion

2. A range producer:
 - a. registers in breed associations.
 - b. tends to produce sheep as a second enterprise.
 - c. is located in the Corn Belt region.
 - d. normally raises 1,000+ sheep.

3. Which of the following is an advantage to sheep production?
 - a. High labor cost
 - b. Low initial investment
 - c. Low wool prices
 - d. Low consumer consumption rate

4. Which of the following products is a primary product of sheep?
 - a. Medicine
 - b. Wool hat
 - c. Leg of lamb
 - d. Marshmallows

Match the statement on the left with the enterprise type on the right. Write the letter in the space provided.

- | | |
|---|--------------------|
| ___5. Flocks typically contain 1,000 or more sheep | A. Purebred |
| ___6. Most common enterprise that is generally a secondary enterprise for producers | B. Farm flock |
| ___7. Raised for carcass and overall eye appeal | C. Range |
| ___8. Specialize in providing good breeding stock to sell to producers | D. Club lamb |
| | E. Commercial lamb |

Complete the following short-answer questions.

9. What are two advantages to sheep production?

a. _____

b. _____

10. What are two disadvantages to sheep production?

a. _____

b. _____

UNIT - Sheep Production

Name: _____

Lesson 1: Sheep Enterprises

Date: _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. How many sheep were in the United States in 2000?

- a. 7.2 million
- b. 720 million
- c. 7.2 billion
- d. 720 billion

correct answer is a

2. A range producer:

- a. registers in breed associations.
- b. tends to produce sheep as a second enterprise.
- c. is located in the Corn Belt region.
- d. normally raises 1,000+ sheep.

correct answer is d

3. Which of the following is an advantage to sheep production?

- a. High labor cost
- b. Low initial investment
- c. Low wool prices
- d. Low consumer consumption rate

correct answer is b

4. Which of the following products is a primary product of sheep?

- a. Medicine
- b. Wool hat
- c. Leg of lamb
- d. Marshmallows

correct answer is c

Match the statement on the left with the enterprise type on the right. Write the letter in the space provided.

___5. Flocks typically contain 1,000 or more sheep

correct answer is c

A. Purebred

B. Farm flock

___6. Most common enterprise that is generally a secondary enterprise for producers

correct answer is b

C. Range

___7. Raised for carcass and overall eye appeal

correct answer is d

D. Club lamb

___8. Specialize in providing good breeding stock to sell to producers

correct answer is a

E. Commercial lamb

Course	Agricultural Science I
Unit	Sheep Production
Lesson	Selection of Sheep
Estimated Time	50 minutes

Student Outcome

Outline the decisions used for selection of sheep.

Learning Objectives

1. Identify major differences observed among common sheep breeds.
2. Determine which factors should be considered when selecting a breed.
3. List characteristics to consider when selecting an individual sheep.
4. Identify the primary parts of a sheep.
5. Define terms related to sheep and sheep production.

Grade Level Expectations

SC/LO/3/E/09-11/a

SC/EC/3/B/09-11/a

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slide
 - PPT 1 – Body Parts of a Sheep
2. Activity Sheets
 - AS 1 – Sheep Breeds
 - AS 2 – Labeling Body Parts of a Sheep
3. *Sheep Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 2001.
4. *Sheep Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- Sheep from local sheep producer (or arrangements to go to sheep farm, if possible)
- Photographs or videos of sheep breeds

Supplemental Information

1. Internet Sites
 - Sheep. Breeds of Livestock. Oklahoma State University. Accessed July 2, 2007, from <http://www.ansi.okstate.edu/breeds/sheep/>.
 - Sheep* (4-H livestock judging manual). Mississippi State University. Accessed July 2, 2007, from <http://msucares.com/pubs/publications/p2289sheep.pdf>.
 - Sheep Evaluation, Selection and Judging*. Department of Animal Science. University of Tennessee. Accessed July 2, 2007, from <http://animalscience.ag.utk.edu/ITCModules/Module1/Parts/Parts.htm>.
2. Print
 - Acker, D. and M. Cunningham. *Animal Science and Industry*. 5th ed. Upper Saddle


-
- River: Prentice Hall, 1998.
- ❑ Barrick, R. K. and H. L. Harmon. *Animal Production and Management*. New York: McGraw-Hill Book Company, 1987.
 - ❑ Gillespie, J. R. *Animal Science*. Albany: Delmar Publishers, 1998.
 - ❑ Herren, R. V. and R. L. Donahue. *The Agriculture Dictionary*. Albany: Delmar Publishers, Inc., 1991.
 - ❑ Ricketts, G. E., Scoggins, R. D., and Thomas, D. L. *Management Guidelines for Efficient Sheep Production*. University of Illinois at Urbana-Champaign. North Central Regional Extension Publication 240.
 - ❑ Scott, G. E. *The Sheepman's Production Handbook*. Denver: Abegg Printing, 1982.
 - ❑ *Sheep Resource Handbook for Market and Breeding Projects*. Curriculum Materials Service: Ohio State University, 2000. (More information available at <http://www-cms.ag.ohio-state.edu/>).
 - ❑ Smith, B., M. Aseltine, and G. Kennedy. *Beginning Shepherd's Manual*. 2nd ed. Ames: Iowa State University Press, 1997.
 - ❑ Taylor, R. E. and T. G. Field. *Scientific Farm Animal Production: An Introduction to Animal Science*. 6th ed. Upper Saddle River: Prentice Hall, 1998.
-

Interest Approach

Ideally, arrange for a sheep, or a number of sheep, to be brought to the classroom. Optionally, arrange for a field trip to a local sheep producer's farm. Ask students to make a list of characteristics or traits that they observe about the sheep. If there are multiple breeds of sheep available, ask students to list ways that the sheep are similar or different. If no live sheep are available, the same type of activity can be done with photos/videos of different types or breeds of sheep.

Communicate the Learning Objectives

1. Identify major differences observed among common sheep breeds.
2. Determine which factors should be considered when selecting a breed.
3. List characteristics to consider when selecting an individual sheep.
4. Identify the primary parts of a sheep.
5. Define terms related to sheep and sheep production.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Identify the major breeds in Missouri and the Midwest and describe the differences among them. Provide students with handouts (or Web addresses for Internet sites) so that they can see the primary breeds of sheep.</i></p> <p><i>After reviewing the major breeds identified, extend and enrich this discussion by asking the class to complete AS 1. Encourage each student to select a different breed to research.</i></p> <p> AS 1 – Sheep Breeds</p>	<p>Identify major differences observed among common sheep breeds.</p> <p>Ewe (maternal) breeds have strong traits in mothering, multiple births, longevity, milking abilities, and adaptability to certain environmental conditions. They are also known for their large body size and wool production.</p> <ol style="list-style-type: none">1. Corriedale<ol style="list-style-type: none">a. Polledb. White face, ears, and legsc. Acceptable carcass qualities2. Delaine-Merino<ol style="list-style-type: none">a. Rams horned, ewes polledb. Fine white woolc. Do well on poor grazing ground3. Finnsheep<ol style="list-style-type: none">a. Small frameb. White ears, nose, face, and legsc. Medium to coarse fleeced. High lambing rates4. Rambouillet<ol style="list-style-type: none">a. Large, blocky frameb. Ewes polled, rams both horned and polledc. White, fine woold. Very hardy5. Targhee<ol style="list-style-type: none">a. Large, blocky frame

Instructor Directions	Content Outline
	<ul style="list-style-type: none"> b. Polled c. White face with no wool d. Long reproductive life <p>6. Columbia</p> <ul style="list-style-type: none"> a. Large, blocky frame b. White face, ears, and legs c. No wool on face d. Long legs <p>Ram breeds are strong, muscular, and have good carcass quality. These animals have exceptional growth rate and are raised for meat purposes.</p> <p>1. Cheviot</p> <ul style="list-style-type: none"> a. Small, blocky frame b. Polled c. White face, black nostrils, and white legs <p>2. Hampshire</p> <ul style="list-style-type: none"> a. Large, blocky frame b. Polled c. Black face, ears, nose, and legs d. Medium to fine wool e. Ewes - good milkers <p>3. Oxford</p> <ul style="list-style-type: none"> a. Very large, blocky frame b. Polled c. Gray to brown face, ears, and legs <p>4. Suffolk</p> <ul style="list-style-type: none"> a. Large, blocky and muscular frame b. Polled c. Black face, ears, and legs d. No wool on legs and head e. Rapid growth f. Desirable, muscular carcasses <p>Dual-purpose breeds are raised for wool and meat production.</p> <p>1. Dorset</p> <ul style="list-style-type: none"> a. Blocky frame b. Medium sized c. Can be polled or horned d. White ears, nose, face, and legs e. Medium to coarse fleece f. Muscular carcass

Instructor Directions	Content Outline
	<p>2. Montadale</p> <ol style="list-style-type: none"> a. Blocky frame b. Polled c. White face, ears, and legs d. No wool on legs or face <p>Other breeds are also raised, such as hair breeds and milk breeds.</p>
<p>Objective 2</p> <p><i>When producers select a breed, they consider many factors along with their personal preferences. Ask the students to identify some of these factors.</i></p>	<p>Determine which factors should be considered when selecting a breed.</p> <p>Type of enterprise</p> <ol style="list-style-type: none"> 1. Region of the country the producer lives in 2. Resources available <ol style="list-style-type: none"> a. Forages b. Land c. Finances d. Time e. Labor/management <p>Adaptability</p> <ol style="list-style-type: none"> 1. Environmental adaptability 2. Flocking instincts <p>Availability of food/fiber resources</p> <p>Marketing opportunities</p> <ol style="list-style-type: none"> 1. Having a market nearby 2. Ensuring that there is a demand for the breed the producer intends to raise <p>Availability of breeding stock</p> <ol style="list-style-type: none"> 1. Research available breeds of sheep in the area. 2. Determine if breeds contain the desired traits. <p>Shelter and equipment</p> <ol style="list-style-type: none"> 1. Necessary to meet basic needs 2. Provides protection and heating for winter lambing
<p>Objective 3</p> <p><i>Many factors are considered when selecting an individual sheep. Ask</i></p>	<p>List characteristics to consider when selecting an individual sheep.</p> <p>Soundness - free of blemishes or defects with good feet and legs</p>

Instructor Directions	Content Outline
<p><i>the students what they would look for in a sheep. Discuss how important it is to understand everything associated with selecting sheep. Producers need to know what they are purchasing.</i></p> <p><i>Five of the most common selection factors are discussed here. Such factors may determine if a producer will make or lose money.</i></p>	<p>Production records with the following information:</p> <ol style="list-style-type: none"> 1. Heredity 2. Nutrition 3. Fertility 4. Age at puberty 5. Any birthing difficulties of the ewe 6. Disease and parasites <p>Conformation</p> <ol style="list-style-type: none"> 1. Conformation concerns the height, length, and depth of body. 2. Good features include the following: <ol style="list-style-type: none"> a. A straight top line b. Good-sized, strong, straight legs so the sheep can carry themselves properly c. A good length of body d. In ewes, a wide rump with a 15° angle from hips to pins to promote easier lambing <p>Health</p> <ol style="list-style-type: none"> 1. Identify common diseases before purchasing sheep animals. 2. Request health records signed by a veterinarian. 3. Buy animals from a well-known and respected breeder. <p>Economic traits - rate of gain variable by breed</p>
<p>Objective 4</p> <p><i>Ask the students why it is important for producers to be able to identify the parts of a sheep. Ask them how producers could inform the veterinarian of a problem on a certain area of the sheep without this knowledge.</i></p> <p><i>Using the same sheep that was used in the Interest Approach, point to various sections of the animal. If it is not possible to have a real sheep in the classroom,</i></p>	<p>Identify the primary parts of a sheep.</p> <ol style="list-style-type: none"> 1. Muzzle 2. Face 3. Eye 4. Poll 5. Ear 6. Top of shoulder 7. Back 8. Loin 9. Saddle 10. Rump 11. Dock 12. Thigh 13. Hock

Instructor Directions	Content Outline
<p><i>then use Ppt 1 as an illustration. Review the parts of a sheep with the students. Then distribute AS 2 and have the students identify the parts of a sheep.</i></p> <p>☐ Ppt 1 – Body Parts of a Sheep</p> <p>📄 AS 2 – Labeling Body Parts of a Sheep</p>	<ol style="list-style-type: none"> 14. Pasterns 15. Flank 16. Belly 17. Ribs 18. Hoof 18. Forearm 20. Breast 21. Shoulder 22. Neck
<p>Objective 5</p> <p><i>Ask students to name terms associated with sheep and sheep production and list them on the board. Remind them that there are many other terms; this lesson identifies only some of them. Students should refer to the Glossary in the Student Reference for additional sheep terms.</i></p>	<p>Define terms related to sheep and sheep production.</p> <ol style="list-style-type: none"> 1. Banding - (1) This is a method of castration in which a tight rubber band is placed around the scrotum. This procedure cuts off circulation to the testicles and destroys them. (2) This is a method of docking in which a tight rubber band is placed around the tail, which cuts off circulation to the tail and destroys it. 2. Creep feeding - a penned-in feeding system for young lambs with an opening that prohibits mature sheep from entering; the feeder contains special feed for the young lambs while they are nursing 3. Dock - (noun) the stub end on a sheep's or lamb's tail; (verb) to cut short a lamb's tail for sanitary reasons 4. Dry lot management - a bare, fenced-in area used as a place to feed and fatten lambs 5. Ewe - a female sheep of any age 6. Lamb - the offspring (of either sex) of a sheep; meat that is less than 1 year old 7. Muscling - the lack of fat in meat; the desire to have increased amounts of muscle mass in the areas where the most desirable meat cuts are taken from an animal 8. Mutton - the meat of a grown sheep that is more than 2 years old 9. Ram - a male sheep that has not been castrated and is used for breeding purposes 10. Wether - a castrated male sheep
<p>Application:</p> <p>📄 AS 1 – Sheep Breeds</p>	<p>Answers to AS 1 Answers will vary.</p>

Instructor Directions	Content Outline
<p>AS 2 – Body Parts of a Sheep</p>	<p>Answers to “Key Questions” on AS 2</p> <ol style="list-style-type: none"> 1. Muzzle 2. Face 3. Eye 4. Poll 5. Ear 6. Top of shoulder 7. Back 8. Loin 9. Saddle 10. Rump 11. Dock 12. Thigh 13. Hock 14. Flank 15. Belly 16. Ribs 17. Pasterns 18. Hoof 19. Forearm 20. Breast 21. Shoulder 22. Neck <p>Other activities</p> <ol style="list-style-type: none"> 1. Contact a local livestock specialist through the county outreach and extension office. Have the specialist talk about the breeds of sheep in the area. Have the agent also talk about factors that should be considered with these breeds. 2. Order sheep learning CDs and kits for students from Curriculum Materials Service, Ohio State University. Their Web address is http://www.ohioaged.org/ (accessed July 3, 2007).
<p>Closure/Summary:</p>	<p>The decisions a producer makes in selecting sheep determine if the operation will succeed. A producer must know the breeds of sheep available and consider various factors when making his/her selection. When selecting specific animals, a producer also considers various attributes. Being able to identify the parts of a sheep and understand terms associated with sheep and sheep</p>

Instructor Directions	Content Outline
	production allows the producer to communicate with the vet and other producers.
Evaluation: Quiz	Answers: 1. a 2. b 3. d 4. c 5. a 6. b 7. e 8. d 9. a 10. c 11. b

Lesson 2: Selection of Sheep

Name: _____

Sheep Breeds

Objective: Research a specific breed of sheep and then construct goals for producing that breed.

Directions: Select a breed and find the following information from the Internet, breed associations, or other resources.

Name of Breed _____	Characteristics
Class	
Frame Size	
Color	
Reproductive Characteristics	
Wool Characteristics	
Other	

Write a short report to present to the class on the breed that you selected. Include production goals for that breed of sheep.

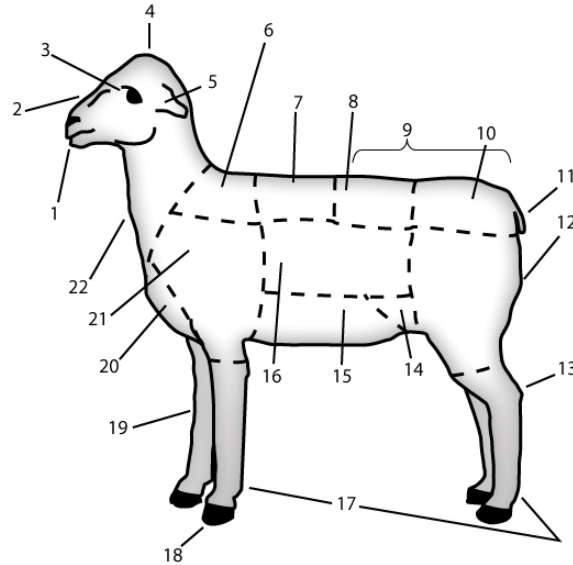
Lesson 2: Selection of Sheep

Name: _____

Labeling Body Parts of a Sheep

Objective: Identify body parts of a sheep.

Directions: Fill in each blank with the name of the corresponding body part.



1. _____

9. _____

17. _____

2. _____

10. _____

18. _____

3. _____

11. _____

19. _____

4. _____

12. _____

20. _____

5. _____

13. _____

21. _____

6. _____

14. _____

22. _____

7. _____

15. _____

8. _____

16. _____

UNIT – Sheep Production

Name: _____

Lesson 2: Selection of Sheep

Date: _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is considered a ewe breed?
 - a. Rambouillet
 - b. Dorset
 - c. Montadale
 - d. Hampshire

2. Which of the following is considered a ram breed?
 - a. Finnsheep
 - b. Cheviot
 - c. Delaine-Merino
 - d. Columbia

3. When selecting a specific sheep, what should the producer consider?
 - a. Food and fiber resources
 - b. Enterprise type
 - c. Equipment needed
 - d. Fertility

4. Which of the following should be considered when selecting a breed of sheep?
 - a. Soundness
 - b. Health
 - c. Market opportunities
 - d. Conformation

5. What is the name of the top of the sheep's head?
 - a. Poll
 - b. Saddle
 - c. Muzzle
 - d. Pasterns

6. What are the loin and rump collectively known as on a sheep?
- a. Poll
 - b. Saddle
 - c. Muzzle
 - d. Pasterns

Match the following terms to the appropriate definition.

- | | |
|----------------|---|
| ___ 7. Ewe | a. A castrated male sheep |
| ___ 8. Ram | b. Meat of a sheep that is over 2 years old |
| ___ 9. Wether | c. The young of a sheep |
| ___ 10. Lamb | d. A male sheep |
| ___ 11. Mutton | e. A female sheep |

UNIT - Sheep Production

Name: _____

Lesson 2: Selection of Sheep

Date: _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is considered a ewe breed?

- a. Rambouillet
- b. Dorset
- c. Montadale
- d. Hampshire

correct answer is a

2. Which of the following is considered a ram breed?

- a. Finnsheep
- b. Cheviot
- c. Delaine-Merino
- d. Columbia

correct answer is b

3. When selecting a specific sheep, what should the producer consider?

- a. Food and fiber resources
- b. Enterprise type
- c. Equipment needed
- d. Fertility

correct answer is d

4. Which of the following should be considered when selecting a breed of sheep?

- a. Soundness
- b. Health
- c. Market opportunities
- d. Conformation

correct answer is c

5. What is the name of the top of the sheep's head?

- a. Poll
- b. Saddle
- c. Muzzle
- d. Pasterns

correct answer is a

6. What are the loin and rump collectively known as on a sheep?

- a. Poll
- b. Saddle
- c. Muzzle
- d. Pasterns

correct answer is b

Match the following terms to the appropriate definition.

___ 7. Ewe

correct answer is e

a. A castrated male sheep

___ 8. Ram

correct answer is d

b. Meat of a sheep that is over 2 years old

___ 9. Wether

correct answer is a

c. The young of a sheep

___ 10. Lamb

correct answer is c

d. A male sheep

___ 11. Mutton

correct answer is b

e. A female sheep

Course	Agricultural Science I
Unit	Sheep Production
Lesson	Management Practices for Sheep
Estimated Time	50 minutes

Student Outcome

Identify management practices for sheep.

Learning Objectives

1. Describe facilities, land, and equipment needed for sheep production.
2. Recognize physical signs that help to identify common health problems.
3. Determine what management practices can be used to prevent and control diseases in sheep.
4. Determine what management practices can be used to prevent and control parasites in sheep.
5. List specific management practices that help minimize death loss from predators.
6. Describe factors to be considered in order to meet the nutritional needs of sheep.

Grade Level Expectations

SC/LO/1/B/09-11/b SC/ST/1/B/09-11/a

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. PowerPoint Slides
 - PPt 1 – Common External Parasites
 - PPt 2 – Common Internal Parasites
 - PPt 3 – Methods for Deworming Sheep
2. Activity Sheet
 - AS 1 – Common Sheep Diseases
3. *Sheep Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 2001.
4. *Sheep Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- Health care related items for interest approach (such as hairbrush, toothbrush, soap, nail clippers, nail file, vitamins, or any other related products)
- Sheep management related items for interest approach (such as hoof trimmers, shearing equipment, and an ear notcher or tagging equipment)

Supplemental Information

1. Internet Sites
 - Internal Parasites. Maryland Small Ruminant Page. Accessed July 2, 2007, from <http://www.sheepandgoat.com/parasite.html>.
 - Jordan, R. M. *Sheep Diseases*. University of Minnesota Extension. Accessed July 2,

2007, from

<http://www.extension.umn.edu/distribution/livestocksystems/DI1877.html>.

- ❑ Predator and Wildlife Management. Maryland Small Ruminant Page. Accessed July 2, 2007, from <http://www.sheepandgoat.com/predator.html>.
 - ❑ Sachse, J. M. Revised by C. P. Mathis and T. Ross. *Sheep Production and Management*. New Mexico State University. Accessed July 2, 2007, from http://www.cahe.nmsu.edu/pubs/_b/100B15.html.
 - ❑ Whittier, W. D. and S. H. Umberger. *Control, Treatment, and Elimination of Foot Rot from Sheep*. Virginia Cooperative Extension. Accessed July 2, 2007, from <http://www.ext.vt.edu/pubs/sheep/410-028/410-028.html>.
2. Print
- ❑ Acker, D. and M. Cunningham. *Animal Science and Industry*. 5th ed. Upper Saddle River: Prentice Hall, 1998.
 - ❑ Barrick, R. K. and H. L. Harmon. *Animal Production and Management*. New York: McGraw-Hill Book Company, 1987.
 - ❑ Gillespie, J. R. *Animal Science*. Albany: Delmar Publishers, 1998.
 - ❑ Herren, R. V. and R. L. Donahue. *The Agriculture Dictionary*. Albany: Delmar Publishers, Inc., 1991.
 - ❑ Ricketts, G. E., Scoggins, R. D., and Thomas, D. L. *Management Guidelines for Efficient Sheep Production*. University of Illinois at Urbana-Champaign. North Central Regional Extension Publication 240.
 - ❑ Scott, G. E. *The Sheepman's Production Handbook*. Denver: Abegg Printing, 1982.
 - ❑ *Sheep Resource Handbook for Market and Breeding Projects*. Curriculum Materials Service: Ohio State University, 2000. (More information available at <http://www-cms.ag.ohio-state.edu/>).
 - ❑ Smith, B., M. Aseltine, and G. Kennedy. *Beginning Shepherd's Manual*. 2nd ed. Ames: Iowa State University Press, 1997.
 - ❑ Taylor, R. E. and T. G. Field. *Scientific Farm Animal Production: An Introduction to Animal Science*. 6th ed. Upper Saddle River: Prentice Hall, 1998.
-


Interest Approach

Bring in several personal care items that humans use (e.g., hairbrush, toothbrush, soap, nail clippers, nail file, vitamins, or any other related products). Ask the students what these items have in common. Why do we use these products? Elicit from the students that these products are used to help keep humans strong and healthy. We use these products to help us take care of our bodies. Inform students that sheep also have to be cared for in a similar way. Items that are used to care for sheep could also be shown in class (e.g., hoof trimmers, shearing equipment, and an ear notcher or tagging equipment).

Communicate the Learning Objectives


1. Describe facilities, land, and equipment needed for sheep production.
2. Recognize physical signs that help to identify common health problems.
3. Determine what management practices can be used to prevent and control diseases in sheep.
4. Determine what management practices can be used to prevent and control parasites in sheep.
5. List specific management practices that help minimize death loss from predators.
6. Describe factors to be considered in order to meet the nutritional needs of sheep.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Numerous resources are needed to accommodate sheep production. Ask the students to identify some of them. Every operation needs different facilities and equipment to facilitate its operation.</i></p>	<p>Describe facilities, land, and equipment needed for sheep production.</p> <p>Facilities are used to protect the lambs if needed. Most enterprises have some type of facilities for the animals, but a range operation may only have a small building for lambing.</p> <ol style="list-style-type: none">1. Adequate shelter is required, consisting of a barn, machine shed, unused hog buildings, or other building located on the land.2. Building should be kept dry and free from drafts.3. Good ventilation is needed so that moisture does not build up, which can cause health hazards to the sheep.4. The shelter should be equipped with electricity and water.5. The facility should have a corral area so the producer can maneuver the sheep more easily. <p>Land requirements vary for every operation. The amount of land needed depends on the type of enterprise.</p> <ol style="list-style-type: none">1. In a confined area only, sheep need 16-20 square feet of space per animal.2. In an open front building, sheep need 10-12 square

Instructor Directions	Content Outline
	<p>feet of space in the building along with 25-40 square feet of outdoor lot space per animal.</p> <p>Equipment/supplies that may be needed are listed below. In addition, sheepdogs or other guard animals can be a very important tool for those producers whose flocks are not brought to shelter every night.</p> <ol style="list-style-type: none"> 1. Docking and castrating equipment 2. Hoof trimmers 3. Shearing 4. Deworming equipment 5. Drenching equipment for giving oral liquid medication 6. Balling gun for oral delivery of pills 7. Injection equipment for giving vaccines and medications 8. Tattooing, ear notching, and ear tagging equipment for identification 9. Record book 10. Weight scales 11. Feeders and watering facilities 12. Panels and corrals
<p>Objective 2</p> <p><i>Ask the students to identify some symptoms that they have when they are sick. Relate these symptoms to some that sheep might have. After reviewing the physical signs, distribute AS 1 and have students work individually or on teams to research a sheep disease.</i></p> <p> AS 1 – Common Sheep Diseases</p>	<p>Recognize physical signs that help to identify common health problems.</p> <ol style="list-style-type: none"> a. Isolation from the flock b. Pale eyelids, which may indicate parasites or anemia c. Poor growth d. Large amount of weight loss e. Potbellies f. Swelling under the jaw known as bottle jaw, or poverty jaw g. Lower milk production than normal h. Loss of appetite i. Diarrhea
<p>Objective 3</p> <p><i>Ask students if they have had experience working with livestock</i></p>	<p>Determine what management practices can be used to prevent and control diseases in sheep.</p> <p>Common sheep diseases</p> <ol style="list-style-type: none"> 1. Pneumonia

Instructor Directions	Content Outline
<p><i>other than sheep. What management practices did they use to prevent and control diseases for these animals? Sheep producers use specific management practices to prevent and control diseases.</i></p>	<ol style="list-style-type: none"> 2. Foot rot 3. Enterotoxemia (overeating disease) 4. Tetanus (lockjaw) 5. Mastitis 6. Ringworm 7. Club lamb fungus 8. Scrapie <p>Management practices to prevent diseases</p> <ol style="list-style-type: none"> 1. Watch for signs of illness from the sheep. 2. Avoid stressful situations. Handle the animals carefully. 3. Disinfect and treat all wounds immediately. 4. Vaccinate in accordance with a health program on a regular basis. 5. Dock the tails of lambs. Removing the tail helps keep the rump area clean. 6. Trim hooves. 7. Separate newly purchased sheep from the rest of the flock for at least 30 days. <p>Management practices to control diseases</p> <ol style="list-style-type: none"> 1. Remove sick animals from the rest of the flock. 2. Medicate sick animals. 3. Read the label and follow all directions on the bottle regarding site, method, dosage, and withdrawal of medication.
<p>Objective 4</p> <p><i>There are two types of parasites – external and internal. Ask the students to describe the difference between the two types and to infer the kind of damage each type of parasite might inflict upon sheep. Refer to PPT 1 and PPT 2 to illustrate common external and internal parasites of sheep. PPT 3 illustrates some of the common methods of deworming sheep.</i></p> <p><input type="checkbox"/> PPT 1 – Common External</p>	<p>Determine what management practices can be used to prevent and control parasites in sheep.</p> <p>Management practices for external parasites (e.g., ticks, mites, lice, bot flies, and blow flies)</p> <ol style="list-style-type: none"> 1. Dip, dust, or spray sheep with insecticides. 2. Separate newly purchased sheep from the rest of the flock and treat them to prevent or control external parasites. 3. Shear areas on a sheep’s body that are damp due to diarrhea or abrasions and treat them with insecticides. These damp areas attract parasites. <p>Management practices for internal parasites (e.g., broad tapeworms, flukes, brown stomach worms, twisted stomach worms, lungworms, and ascarids)</p>

Instructor Directions	Content Outline
<p>Parasites</p> <p><input type="checkbox"/> PPt 2 – Common Internal Parasites</p> <p><input type="checkbox"/> PPt 3 – Methods for Deworming Sheep</p>	<ol style="list-style-type: none"> 1. Deworm in accordance with a health program on a regular basis. 2. Rotate pastures and avoid overgrazing. 3. Keep the water supply clean and well drained. 4. Have a veterinarian analyze the fecal matter of sheep for worms.
<p>Objective 5</p> <p><i>Ask students why they think sheep are such easy targets for predators. Why do predators attack sheep? Ask the students what animals they think are considered predators of sheep.</i></p>	<p>List specific management practices that help minimize death loss from predators.</p> <ol style="list-style-type: none"> 1. Predators of sheep include stray dogs, bobcats, bears, coyotes, and foxes. 2. Guard animals such as dogs, donkeys, llamas, and billygoats can be pastured with the sheep to watch for predators. 3. Use fencing or electric fencing to keep out the predators. 4. For producers of small farm flocks, corralling the sheep at night helps minimize predator loss.
<p>Objective 6</p> <p><i>Ask the students how their eating habits relate to their health. Do their parents let them eat whatever they want? What are the benefits of good nutrition to humans? Relate their answers to nutritional requirements sheep need to stay healthy. Sheep producers must plan the diets of their sheep just as parents must be concerned about what their children are eating.</i></p> <p><i>If possible, have on hand, samples of various feedstuffs used in sheep rations.</i></p>	<p>Describe factors to be considered in order to meet the nutritional needs of sheep.</p> <p>Nutrition</p> <ol style="list-style-type: none"> 1. Energy sources – hay, silage, and various grains (corn, barley, milo, wheat) 2. Protein 3. Minerals 4. Vitamins 5. Water – most important <p>Lambs</p> <ol style="list-style-type: none"> 1. Identify the desired performance of the animal. 2. Consider the type (breed, age) of lamb being fed. 3. Determine the actual or desired intake of feed. 4. Determine the grain source for energy in the feed ration. <p>Breeding animals</p> <ol style="list-style-type: none"> 1. Consider the age of the animals. 2. Consider the body condition of the animals. 3. Consider which stage in the breeding cycle the animals are in (gestation, lactation, etc.). 4. Consult the National Research Council for the

Instructor Directions	Content Outline
	<p>recommended nutrient requirements.</p> <p>Available feed sources</p> <ol style="list-style-type: none"> 1. Cost 2. Availability in the area <p>Toxicity of some plants and feedstuffs</p> <ol style="list-style-type: none"> 1. Toxic plants such as lupines (bluebonnet), milkweed, lantana shrub, orange sneezeweed, goldenrod, poison vetch can harm sheep. 2. Mycotoxins in feedstuffs can adversely affect sheep; at high levels they are detrimental, e.g., Aureomycin (chlortetracycline), Terramycin (oxytetracycline), and neomycin. 3. Copper sulfate, a mineral additive used for other livestock, is toxic to sheep.
<p>Application:</p> <p> AS 1 – Common Sheep Diseases</p>	<p>Answers to AS 1 Answers will vary.</p> <p>Other activities</p> <ol style="list-style-type: none"> 1. Have a local producer come to class and demonstrate how to trim a sheep’s hooves or shear a sheep. 2. Ask local producers or a veterinarian to discuss some common diseases, parasites, and predators and to relate how they affect sheep production.
<p>Closure/Summary:</p>	<p>Management practices are vital to successful sheep production. The producer must give proper care to all animals to prevent health problems, disease, or attacks by predators. Producers must consider the facilities, land, and equipment that a flock will need. They also must provide the sheep animals with the proper nutritional requirements so they can stay healthy and be productive.</p>
<p>Evaluation: Quiz</p>	<p>Answers:</p> <ol style="list-style-type: none"> 1. b 2. c 3. d 4. a 5. a 6. b 7. d

Instructor Directions	Content Outline
	<ul style="list-style-type: none">8. b9. Students may list any five of the following:<ul style="list-style-type: none">a. Vaccinate regularly in accordance with health program.b. Deworm regularly.c. Keep water supply clean.d. Dock lambs' tails.e. Remove sick animals from rest of flock.f. Medicate sick animals.g. Trim hooves.h. Disinfect and treat all wounds immediately.i. Watch for signs of illness from the sheep.j. Avoid stressful situations. Handle the animals carefully.k. Read the medication label and follow all directions on the bottle regarding site, method, dosage, and withdrawal of medication.

Lesson 3: Management Practices for Sheep Name: _____

Common Sheep Diseases

Objective: Research one common sheep diseases and identify its symptoms, means of prevention, and method of treatment.

Directions: Work in teams. Each team selects a common sheep disease. It may be one that was identified in class or an additional disease. Conduct research to answer the discussion questions. Write your answers in the space provided. Each group then leads a class discussion on the information it found.

Materials:

- Internet access
- Journals, textbooks, etc.
- Access to library

Discussion Questions:

1. What is the name of the sheep disease you researched?

2. What are the physical signs that a sheep has this particular disease?

3. How can this disease be prevented?

4. Is there a treatment for this disease? If so, describe.

UNIT – Sheep Production

Name: _____

Lesson 3: Management Practices for Sheep

Date: _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is considered adequate shelter for sheep?
 - a. Pole barn (no sides)
 - b. Machine shed
 - c. Producer's backyard
 - d. Open-air stall

2. What does a producer need for sheep production?
 - a. Comb
 - b. Tractor
 - c. Deworming equipment
 - d. Pair of gloves

3. What is an indication that a sheep has a health problem?
 - a. Consumes large amounts of grain
 - b. Continues to flock with the other sheep
 - c. Produces large amounts of milk
 - d. Loses a large amount of weight

4. What is a common management practice to prevent and control diseases?
 - a. Vaccinate regularly
 - b. Avoid docking the lambs' tail
 - c. Shear the wool before breeding
 - d. Allow sick animals to roam with the flock

5. Which of the following is a common external parasite?
 - a. Mite
 - b. Tapeworm
 - c. Lung worm
 - d. Liver fluke

6. What is a common management practice to prevent and control parasites?

- a. Leave the sheep alone
- b. Dip, dust, or spray sheep with insecticides
- c. Allow the wool to grow long on the animal
- d. Vaccinate only after the animals show signs of parasites

7. How can loss to predators be minimized?

- a. Allow sheep to roam free
- b. Rotate pastures every other year
- c. Vaccinate on a regular basis
- d. Place guard animals among the flock of sheep

8. What is an important factor to consider when feeding sheep?

- a. Corralling the sheep
- b. Nutritional requirements
- c. Loss of appetite
- d. Available corral space

9. Name five important components of a health plan for sheep.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is considered adequate shelter for sheep?

- a. Pole barn (no sides)
- b. Machine shed
- c. Producer's backyard
- d. Open-air stall

correct answer is b

2. What does a producer need for sheep production?

- a. Comb
- b. Tractor
- c. Deworming equipment
- d. Pair of gloves

correct answer is c

3. What is an indication that a sheep has a health problem?

- a. Consumes large amounts of grain
- b. Continues to flock with the other sheep
- c. Produces large amounts of milk
- d. Loses a large amount of weight

correct answer is d

4. What is a common management practice to prevent and control diseases?

- a. Vaccinate regularly
- b. Avoid docking the lambs' tail
- c. Shear the wool before breeding
- d. Allow sick animals to roam with the flock

correct answer is a

5. Which of the following is a common external parasite?

- a. Mite
- b. Tapeworm
- c. Lung worm
- d. Liver fluke

correct answer is a

6. What is a common management practice to prevent and control parasites?

- a. Leave the sheep alone
- b. Dip, dust, or spray sheep with insecticides
- c. Allow the wool to grow long on the animal
- d. Vaccinate only after the animals show signs of parasites

correct answer is b

7. How can loss to predators be minimized?

- a. Allow sheep to roam free
- b. Rotate pastures every other year
- c. Vaccinate on a regular basis
- d. Place guard animals among the flock of sheep

correct answer is d

8. What is an important factor to consider when feeding sheep?

- a. Corralling the sheep
- b. Nutritional requirements
- c. Loss of appetite
- d. Available corral space

correct answer is b

Course	Agricultural Science I
Unit	Sheep Production
Lesson	Management of the Breeding Flock
Estimated Time	50 minutes

Student Outcome

Explain procedures required in managing a breeding flock.

Learning Objectives


1. Describe how the ewe and ram should be cared for at breeding time.
2. Describe how the ewe should be cared for during gestation.
3. Describe how the ewe and lamb should be cared for at delivery.
4. Describe how the ewe and lamb should be cared for from birth to weaning.
5. Describe how the lamb should be cared for from weaning to market.
6. Explain how production records are used to manage a sheep operation.

Grade Level Expectations

SC/ST/1/C/09-11/a

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. Activity Sheet
 -  AS 1 – Year-long Management Practices
2. *Sheep Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 2001.
3. *Sheep Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- Marking harness – to show students how producers can determine if/when a ewe has been bred
- Elastrator/emasculator – to show students tools for castrating and docking tails

Supplemental Information

1. Internet Sites
 - Sachse, J. M. Revised by C. P. Mathis and T. Ross. *Sheep Production and Management*. New Mexico State University. Accessed July 2, 2007, from http://www.cahe.nmsu.edu/pubs/_b/100B15.html.
 - Thedford, T. R., et al. *A Planning Calendar for Sheep Herd Health and Management*. Oklahoma Cooperative Extension: Oklahoma State University. Accessed July 3, 2007, from <http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2152/ANSI-3861web.pdf>.
 - Thompson, J. M. *Sheep Management Calendar*. Oregon State University. Accessed July 3, 2007, from <http://oregonstate.edu/dept/animal-sciences/shpmgmt.htm>.
 - Umberger, S. H. Revised by S. P. Greiner. *Sheep Management Schedule*. Virginia

Cooperative Extension: Virginia Tech University. Accessed July 3, 2007, from <http://www.ext.vt.edu/pubs/sheep/410-365/410-365.html>.

2. Print

- ❑ Acker, D. and M. Cunningham. *Animal Science and Industry*. 5th ed. Upper Saddle River: Prentice Hall, 1998.
 - ❑ Barrick, R. K. and H. L. Harmon. *Animal Production and Management*. New York: McGraw-Hill Book Company, 1987.
 - ❑ Blakely, J. and D. H. Bade. *The Science of Animal Husbandry*. 4th ed. New Jersey: Prentice Hall, Inc., 1995.
 - ❑ Gillespie, J. R. *Animal Nutrition and Feeding*. Albany: Delmar Publishers, 1997.
 - ❑ Gillespie, J. R. *Animal Science*. Albany: Delmar Publishers, 1998.
 - ❑ Ricketts, G. E., Scoggins, R. D., and Thomas, D. L. *Management Guidelines for Efficient Sheep Production*. University of Illinois at Urbana-Champaign. North Central Regional Extension Publication 240.
 - ❑ Scott, G. E. *The Sheepman's Production Handbook*. Denver: Abegg Printing, 1982.
 - ❑ *Sheep Resource Handbook for Market and Breeding Projects*. Curriculum Materials Service: Ohio State University, 2000. (More information available at <http://www-cms.ag.ohio-state.edu/>).
 - ❑ Smith, B., M. Aseltine, and G. Kennedy. *Beginning Shepherd's Manual*. 2nd ed. Ames: Iowa State University Press, 1997.
 - ❑ Taylor, R. E. and T. G. Field. *Scientific Farm Animal Production: An Introduction to Animal Science*. 6th ed. Upper Saddle River: Prentice Hall, 1998.
-

Interest Approach

Discuss with students how they care for themselves throughout the year. Are there things that they do or need during one season that they do not need in another? Ask them to consider their needs and how they have changed since they were an infant. How do the changes they have gone through compare with the changes that sheep experience as they age?

Just as people's nutritional needs and hygiene issues change over time, sheep of various ages and stages of production also experience such changes. This lesson will address how sheep at various stages of development should be cared for and how their nutritional needs should be met.



Communicate the Learning Objectives

1. Describe how the ewe and ram should be cared for at breeding time.
2. Describe how the ewe should be cared for during gestation.
3. Describe how the ewe and lamb should be cared for at delivery.
4. Describe how the ewe and lamb should be cared for from birth to weaning.
5. Describe how the lamb should be cared for from weaning to market.
6. Explain how production records are used to manage a sheep operation.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Ask students how they would care for a ewe or ram at breeding time.</i></p>	<p>Describe how the ewe and ram should be cared for at breeding time.</p> <p>Flushing – Feed the ewe a high-energy ration and/or move her to a pasture with better forages to help her gain weight. This helps the ewe have an increased lambing percentage.</p> <p>Vaccinate ewes and rams in accordance with a health program on a regular basis.</p> <p>Deworm both the ewes and rams.</p> <p>Shear ewes and rams for maximum performance.</p> <p>Maintain following ratio of ram to ewes:</p> <ol style="list-style-type: none">1. 1 ram lamb: 15 ewes2. 1 yearling ram: 25-35 ewes3. 1 mature ram: 35-45 ewes <p>Put a marking harness on the breasts of rams just before breeding.</p> <ol style="list-style-type: none">1. Marking harnesses contain paint (also may contain

Instructor Directions	Content Outline
	<p>grease or chalk) that are left on the ewe during breeding.</p> <ol style="list-style-type: none"> 2. The producer should change color every 14 days. 3. Changing colors helps the producers approximate when the ewe was bred and when she will lamb. (This ensures that producers will be ready for lambs when they are born and increase the likelihood of survival.)
<p>Objective 2</p> <p><i>Ask the students to identify any management practices they think would be important to perform during the gestation period.</i></p>	<p>Describe how the ewe should be cared for during gestation.</p> <ol style="list-style-type: none"> 1. Treat any disease the ewe may have. 2. Feed ewe away from the barn to promote plenty of exercise. 3. Provide a basic ration of roughage - hay, grass, corn. 4. Provide salt; mineral mix; fresh, clean water; and shade at all times. 5. Feed the ewe a more concentrated mixture containing corn, grain, sorghum, oats, barley, and bran during the last 4-6 weeks of gestation. 6. Allow the ewe to gain 20-30 lb during the gestation period. 7. Shear ewe in preparation for birth. If weather is cold the producer could just crutch the ewe, which is shearing the udder between the legs and around the dock.
<p>Objective 3</p> <p><i>Ask the students if they have ever seen the birth of an animal before. If so, what took place? Were there any problems? If they saw a lamb being born, how were the ewe and lamb cared for?</i></p>	<p>Describe how the ewe and lamb should be cared for at delivery.</p> <ol style="list-style-type: none"> 1. Leave sheep alone and allow ewe to deliver lamb on her own; however, the producer should check on ewe periodically to ensure there are no birthing difficulties. 2. Make sure the ewe is giving milk. The ewe's teat may have to be stripped to remove the wax plug from the canal. 3. Make sure the lamb has nursed and received the colostrum (first milk). This milk helps the lamb combat diseases and infections because of the antibodies it contains. 4. Clip the navel (leave approximately 2") and dip it with iodine to prevent infection. 5. Give lamb vitamin E and a selenium injection. 6. Identify the lamb with an ear tag or tattoo in order to

Instructor Directions	Content Outline
	<p>be able to identify which ewe it came from and aid in record keeping.</p>
<p>Objective 4</p> <p><i>Ask the students to identify management practices that a sheep producer might use and to explain why these practices should be performed.</i></p>	<p>Describe how the ewe and lamb should be cared for from birth to weaning.</p> <p>Ewes</p> <ol style="list-style-type: none"> 1. Give plenty of fresh water. 2. Maintain on a diet of 2 lb of grain per day. 3. Provide additional nutrients for approximately 8 weeks after birth so ewes can produce a maximum amount of milk. 4. Drench for internal parasites. 5. Watch for health problems (external parasites, ewe too thin or not eating well, etc.) and mastitis, which is an inflammation of the mammary gland. If the ewe does have mastitis the producer must: <ol style="list-style-type: none"> a. Soak hot packs in Epsom salt. b. Apply hot packs to the udder several times a day until symptoms disappear. c. Administer antibiotics. d. Milk the udder by hand. e. Prevent the lamb from nursing (may have to bottle feed or tube). <p>Lambs</p> <ol style="list-style-type: none"> 1. Dock lambs' tails (cut off part of the tail). This can be done with an emasculator (to crush tail) or elastrator (to band the tail off). 2. Castrate ram lambs if they're not being saved for breeding purposes (scrotum may be cut or banded).
<p>Objective 5</p> <p><i>First ask students if they have ever been around a pet or farm animal that was being weaned. Ask the students what the lambs will need after they are weaned until they go to market. Lambs that go to market are processed into various wholesale cuts. Refer students to the section of the appendix entitled Cooking Lamb</i></p>	<p>Describe how the lamb should be cared for from weaning to market.</p> <ol style="list-style-type: none"> 1. Wean lamb when it is 2-4 months old or weighs about 40-50 lb. 2. Provide a finishing ration of high-quality feed. 3. Provide fresh water at all times. 4. Ensure that salt and mineral blocks are always available. 5. Deworm lamb and provide all necessary vaccinations (e.g., enterotoxemia, clostridium CD toxoid, and tetanus). (Note: Refer to Lesson 3 for details on enterotoxemia.)

Instructor Directions	Content Outline						
<p><i>for cooking techniques, nutritional information, and recipes.</i></p>	<ol style="list-style-type: none"> 6. Treat for external and internal parasites. (Note: Refer to Lesson 3 for details and illustrations of common external and internal parasites.) 7. Sort lambs by size and feed accordingly. 8. Market at 100-140 lb. 						
<p>Objective 6</p> <p><i>Ask the students what kinds of records they think would be important to maintain while managing the flock. Then ask them to justify their choices. Discuss production records and their importance. Have students complete AS 1.</i></p> <p> AS 1 – Year-long Management Practices</p>	<p>Explain how production records are used to manage a sheep operation.</p> <ol style="list-style-type: none"> 1. To show the producer which ewes are producing the healthiest, strongest, and greatest number of lambs with the least difficulty 2. To chart how many ewes each ram breeds and how often 3. To evaluate the weights of all ewe lambs to see which ewes to keep 						
<p>Application:</p> <p> AS 1 – Year-long Management Practices</p>	<p>Answers to AS 1</p> <ol style="list-style-type: none"> 1. <ol style="list-style-type: none"> a. February to April b. 5, September to November c. 6, September to January d. 3, April to August e. 1, February to June f. 7, November to April g. 2, April to June 2. Answers may vary. The chart below lists common management practices. <table border="1" data-bbox="638 1518 1479 1925"> <tbody> <tr> <td data-bbox="638 1518 1068 1707"> <p>1. LAMBING</p> <ul style="list-style-type: none"> • Make sure ewe is giving milk and the lamb has received the colostrum • Clip and dip lamb navel • Give lamb vitamin E and selenium injections • Identify lamb with ear tag or tattoo </td> <td data-bbox="1068 1518 1479 1707"> <p>2. LACTATION</p> <ul style="list-style-type: none"> • Watch ewe for health problems and mastitis • Provide additional nutrients for ewe • Provide plenty of fresh water • Maintain ewe on 2 lb of grain per day </td> </tr> <tr> <td data-bbox="638 1707 1068 1871"> <p>3. WEANING</p> <ul style="list-style-type: none"> • Wean at 2-4 months old • Deworm lambs and give vaccinations • Treat for external and internal parasites • Provide fresh water, salt & mineral blocks </td> <td data-bbox="1068 1707 1479 1871"> <p>4. GROWING</p> <ul style="list-style-type: none"> • Sort by size and feed accordingly • Market at 100-140 lb • Provide a finishing ration of high-quality feed </td> </tr> <tr> <td data-bbox="638 1871 1068 1925"> <p>5. BEFORE BREEDING</p> <ul style="list-style-type: none"> • Cull nonproductive ewes </td> <td data-bbox="1068 1871 1479 1925"> <p>6. BREEDING TIME</p> <ul style="list-style-type: none"> • Flush the ewe </td> </tr> </tbody> </table>	<p>1. LAMBING</p> <ul style="list-style-type: none"> • Make sure ewe is giving milk and the lamb has received the colostrum • Clip and dip lamb navel • Give lamb vitamin E and selenium injections • Identify lamb with ear tag or tattoo 	<p>2. LACTATION</p> <ul style="list-style-type: none"> • Watch ewe for health problems and mastitis • Provide additional nutrients for ewe • Provide plenty of fresh water • Maintain ewe on 2 lb of grain per day 	<p>3. WEANING</p> <ul style="list-style-type: none"> • Wean at 2-4 months old • Deworm lambs and give vaccinations • Treat for external and internal parasites • Provide fresh water, salt & mineral blocks 	<p>4. GROWING</p> <ul style="list-style-type: none"> • Sort by size and feed accordingly • Market at 100-140 lb • Provide a finishing ration of high-quality feed 	<p>5. BEFORE BREEDING</p> <ul style="list-style-type: none"> • Cull nonproductive ewes 	<p>6. BREEDING TIME</p> <ul style="list-style-type: none"> • Flush the ewe
<p>1. LAMBING</p> <ul style="list-style-type: none"> • Make sure ewe is giving milk and the lamb has received the colostrum • Clip and dip lamb navel • Give lamb vitamin E and selenium injections • Identify lamb with ear tag or tattoo 	<p>2. LACTATION</p> <ul style="list-style-type: none"> • Watch ewe for health problems and mastitis • Provide additional nutrients for ewe • Provide plenty of fresh water • Maintain ewe on 2 lb of grain per day 						
<p>3. WEANING</p> <ul style="list-style-type: none"> • Wean at 2-4 months old • Deworm lambs and give vaccinations • Treat for external and internal parasites • Provide fresh water, salt & mineral blocks 	<p>4. GROWING</p> <ul style="list-style-type: none"> • Sort by size and feed accordingly • Market at 100-140 lb • Provide a finishing ration of high-quality feed 						
<p>5. BEFORE BREEDING</p> <ul style="list-style-type: none"> • Cull nonproductive ewes 	<p>6. BREEDING TIME</p> <ul style="list-style-type: none"> • Flush the ewe 						

Instructor Directions	Content Outline	
	<ul style="list-style-type: none"> • Vaccinate and treat diseases if needed • Provide fresh water and salt and mineral blocks 	<ul style="list-style-type: none"> • Deworm and vaccinate the ewe and ram • Shear for maximum performance • Put a marking harness on the ram
	<p>7. EARLY GESTATION</p> <ul style="list-style-type: none"> • Allow ewe to gain 20-30 lb • Allow ewe plenty of exercise • Provide a basic ration of roughage • Provide salt, mineral mix, fresh clean water, and shade • Vaccinate and treat diseases if needed 	<p>8. LATE GESTATION</p> <ul style="list-style-type: none"> • Feed ewe a concentrated mixture of grain • Treat diseases • Vaccinate and treat diseases if needed • Allow ewe to get plenty of exercise
<p>Closure/Summary:</p>	<p>Managing a flock at breeding time can involve long hours for a producer. There are many management practices that have to take place throughout this time. It is important for a producer to make well-informed choices and to keep good records so that a marketable animal will be produced in the end.</p>	

Discussion Questions:

1. Answers will vary
2. Answers will vary
3. To show the producer which ewes are producing the healthiest, strongest, and greatest number of lambs with the least difficulty. To chart how many ewes each ram breeds and how often. To evaluate the weights of all ewe lambs to see which ewes to keep.
4. Flushing is feeding the ewe an extra ration to help her gain weight. It is performed at breeding time. This helps the ewe have an increased lambing percentage.

Other activities

1. Bring a marking harness to class. Use a live sheep or a dummy to demonstrate how the harness is used during the breeding season. Explain that the producer must know if the ewes are bred. If they are not bred, then the producer is paying maintenance costs on feed, water, and pasture, etc., for the ewe but is not gaining a lamb from her. This costs the producer money.
2. Have students conduct research to discover what equipment is needed when sheep deliver. Have a class discussion on the information found.
3. Visit a sheep farm during lambing season. Have the producer demonstrate docking, castrating, and identifying the animal.

Instructor Directions	Content Outline
Evaluation: Quiz	<p>Answers:</p> <ol style="list-style-type: none">1. d2. a3. b4. b5. c6. a7. DG8. AD9. BT10. BT11. DG12. AD13. Students may list any three of the following:<ol style="list-style-type: none">a. Make sure the lamb has nursed and received the colostrum.b. Clip the navel and dip it with iodine.c. Give lamb vitamin E and a selenium injection.d. Identify the lamb with an ear tag or tattoo.e. Dock lamb's tail.f. Castrate ram lambs if not used for breeding.

Lesson 4: Management of the Breeding Flock Name: _____

Year-long Management Practices

Objective: Design a table of management practices for a flock of sheep that reflects production periods throughout the year.

Directions: Work alone or in pairs. First, arrange the production periods in order and then identify two important management practices for each period. Use the Internet, information from sheep associations, or other resources for additional information. Answer the discussion questions and discuss your findings with the class.

Procedure:

1. Begin the sheep production cycle with lambing, which typically occurs from February to April. Listed below are seven production periods. Number each of them in the correct order beginning with the period that follows lambing. Then indicate during which months each production period usually occurs. Write the number and months in the blanks provided.

	Number	Months
a. Before breeding	_____	_____
b. Breeding time	_____	_____
c. Early gestation	_____	_____
d. Growing	_____	_____
e. Lactation	_____	_____
f. Late gestation	_____	_____
g. Weaning	_____	_____

2. In the table below, arrange each production period in order. Write the name of the production period on the line provided. Lambing is already included as the first production period. Beneath each production period, list two management practices that should occur during that time.

1. <u>Lambing</u>	2. _____
3. _____	4. _____
5. _____	6. _____
7. _____	8. _____

Discussion Questions:

1. Choose any management practice related to a breeding flock. How might it affect the operation if a producer failed to perform that task?

2. When caring for a breeding flock, which management practice do you think is the most important? Why?

3. What are three reasons a producer should keep records at breeding time?

a. _____

b. _____

c. _____

4. (a) What is "flushing"? (b) When is it performed? (c) How does it benefit the operation?

a. _____

b. _____

c. _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. During the ewe's gestation period, which of the following should be available at all times?
 - a. Concentrated mix of bran
 - b. Vitamin E and selenium injection
 - c. Vaccines and antibiotics
 - d. Fresh water and shade

2. What care should a ewe receive from birth to weaning?
 - a. Drenched for internal parasites
 - b. Identified with an ear tag
 - c. Sorted by size
 - d. Taken off grain

3. What care should producers give a lamb at delivery?
 - a. Feed a maintenance diet
 - b. Clip navel and dip with iodine
 - c. Shear off its wool
 - d. Provide plenty of exercise

4. How many pounds should a lamb be at weaning?
 - a. 20-30
 - b. 40-50
 - c. 70-80
 - d. 100-110

5. At breeding time, the appropriate ratio is one mature ram to how many ewes?
- a. 15-25
 - b. 25-35
 - c. 35-45
 - d. 45-55
6. What is the importance of having production records?
- a. Identifying superior ewes
 - b. Treating internal parasites
 - c. Determining when to dock lambs
 - d. Treating diseases

Matching - Identify when the following management practices should be performed. Write the letters of the correct stages of development in the spaces provided. Letters may be used more than once.

7. ____ Feed ewes away from the barn to give them exercise. AD - At delivery
8. ____ Navel should be clipped and dipped with iodine. BT - Breeding time
9. ____ Place a marking harness on the ram's breast. DG - During gestation
10. ____ Deworm both the ewes and the rams.
11. ____ Allow ewe to gain 20 to 30 extra pounds.
12. ____ If necessary, remove the wax plug from the ewe's teat.

13. List three management practices that the producer should perform after a lamb is born.

- a. _____
- b. _____
- c. _____

EVALUATION

Circle the letter that corresponds to the best answer.

1. During the ewe's gestation period, which of the following should be available at all times?

- a. Concentrated mix of bran
- b. Vitamin E and selenium injection
- c. Vaccines and antibiotics
- d. Fresh water and shade

correct answer is d

2. What care should a ewe receive from birth to weaning?

- a. Drenched for internal parasites
- b. Identified with an ear tag
- c. Sorted by size
- d. Taken off grain

correct answer is a

3. What care should producers give a lamb at delivery?

- a. Feed a maintenance diet
- b. Clip navel and dip with iodine
- c. Shear off its wool
- d. Provide plenty of exercise

correct answer is b

4. How many pounds should a lamb be at weaning?

- a. 20-30
- b. 40-50
- c. 70-80
- d. 100-110

correct answer is b

5. At breeding time, the appropriate ratio is one mature ram to how many ewes?
- a. 15-25
 - b. 25-35
 - c. 35-45
 - d. 45-55

correct answer is c

6. What is the importance of having production records?
- a. Identifying superior ewes
 - b. Treating internal parasites
 - c. Determining when to dock lambs
 - d. Treating diseases

correct answer is a

Matching - Identify when the following management practices should be performed. Write the letters of the correct stages of development in the spaces provided. Letters may be used more than once.

7. ____ Feed ewes away from the barn to give them exercise. AD - At delivery

correct answer is DG

8. ____ Navel should be clipped and dipped with iodine. BT - Breeding time

correct answer is AD

9. ____ Place a marking harness on the ram's breast. DG - During gestation

correct answer is BT

10. ____ Deworm both the ewes and the rams.

correct answer is BT

11. ____ Allow ewe to gain 20 to 30 extra pounds.

correct answer is DG

12. ____ If necessary, remove the wax plug from the ewe's teat.

correct answer is AD

Course	Agricultural Science I
Unit	Sheep Production
Lesson	Management of Sheep for Profit
Estimated Time	50 minutes

Student Outcome

Describe strategies of sheep management that will most likely result in a profit.

Learning Objectives



1. Describe producer options for marketing sheep.
2. List key steps in developing a budget for sheep production.
3. List factors that may impact optimal production.
4. Describe how an enterprise analysis tool is used in record keeping.

Grade Level Expectations

SC/ST/1/B/09-11/a SC/ST/1/C/09-11/a

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. Activity Sheets
 -  AS 1 – Sheep Production Budget
 -  AS 2 – Electronic Marketing
2. *Sheep Production (Student Reference)*. University of Missouri-Columbia: Instructional Materials Laboratory, 2001.
3. *Missouri Farm Business Planning Handbook*. Jim Riley, editor. Manual 75, University Extension, University of Missouri-Columbia, 1990.
4. *Sheep Production Curriculum Enhancement*. University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- Examples of budgeting forms or programs to help explain objectives 3 and 4 (optional)

Supplemental Information

1. Internet Sites
 - Agricultural Marketing Manual*. Agriculture and Food. Alberta Government. Accessed July 5, 2007, from [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/sis8570](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sis8570).
 - Agridata. Accessed July 5, 2007, from <http://www.agridata.co.uk/>.
 - Graham, I. *Electronic Livestock Auctions in the UK*. Accessed July 5, 2007, from <http://homepages.ed.ac.uk/grahami//research/LIVESTOK.HTM>.
 - Sachse, J. M. Revised by C. P. Mathis and T. Ross. *Sheep Production and Management*. New Mexico State University. Accessed July 2, 2007, from http://www.cahe.nmsu.edu/pubs/_b/100B15.html.
 - Thompson, J. M. *Sheep Management Calendar*. Oregon State University. Accessed July 3, 2007, from <http://oregonstate.edu/dept/animal-sciences/shpmgmt.htm>.


-
- ❑ Wolfshohl, Karl. *Computer Cowboys Ride High*. Ranch Vision. Accessed July 5, 2007, from <http://www.ranchvision.com/press2.htm>.
2. Print
- ❑ Acker, D. and M. Cunningham. *Animal Science and Industry*. 5th ed. Upper Saddle River: Prentice Hall, 1998.
 - ❑ Barrick, R. K. and H. L. Harmon. *Animal Production and Management*. New York: McGraw-Hill Book Company, 1987.
 - ❑ Blakely, J. and D. H. Bade. *The Science of Animal Husbandry*. 4th ed. New Jersey: Prentice Hall, Inc., 1995.
 - ❑ Gillespie, J. R. *Animal Nutrition and Feeding*. Albany: Delmar Publishers, 1997.
 - ❑ Gillespie, J. R. *Animal Science*. Albany: Delmar Publishers, 1998.
 - ❑ Ricketts, G. E., Scoggins, R. D., and Thomas, D. L. *Management Guidelines for Efficient Sheep Production*. University of Illinois at Urbana-Champaign. North Central Regional Extension Publication 240.
 - ❑ Scott, G. E. *The Sheepman's Production Handbook*. Denver: Abegg Printing, 1982.
 - ❑ *Sheep Resource Handbook for Market and Breeding Projects*. Curriculum Materials Service: Ohio State University, 2000. (More information available at <http://www-cms.ag.ohio-state.edu/>).
 - ❑ Smith, B., M. Aseltine, and G. Kennedy. *Beginning Shepherd's Manual*. 2nd ed. Ames: Iowa State University Press, 1997.
-


Interest Approach

Ask the students if they receive an allowance. If so, how often? Do they have to do something to earn the allowance (e.g., take out the trash, vacuum)? Then ask them how they decide what to do with the money. Have them create a simple budget of how they spend their money showing income and expenses. Some students may not realize that they create a budget for themselves by deciding to either spend or save their allowance. Inform them that a sheep producer does the same thing to manage his or her sheep operation, only much more in depth.

Communicate the Learning Objectives

1. Describe producer options for marketing sheep.
2. List key steps in developing a budget for sheep production.
3. List factors that may impact optimal production
4. Describe how an enterprise analysis tool is used in record keeping.

Instructor Directions	Content Outline
<p>Objective 1</p> <p><i>Ask the students to identify available options for marketing livestock. Relate these methods to sheep production. Remind them that the ultimate goal for marketing sheep (meat-type) is to process the meat into wholesale cuts. See Cooking Lamb in the appendix for further information. Have students complete AS 2 to observe online marketing.</i></p> <p> AS 2 - Electronic Marketing</p>	<p>Describe producer options for marketing sheep.</p> <p>Terminal markets (public stockyards)</p> <ol style="list-style-type: none">1. This facility holds sheep temporarily before they are processed, sold, or shipped.2. An agent or firm receives a commission for selling the animals. <p>Local market pools</p> <ol style="list-style-type: none">1. Small and medium-sized producers pool their animals together.2. These pools try to attract more buyers.3. The trucking and marketing cost for producers is decreased. <p>Auction markets (sale barn)</p> <ol style="list-style-type: none">1. Buyer bidding against buyer2. No set price3. Significant market to producers <p>Direct marketing</p> <ol style="list-style-type: none">1. Largest volume market2. Selling animals directly to the processor <p>Niche markets (home-raised organic meat, Kosher market, selling wool)</p> <ol style="list-style-type: none">1. Unique/specialty product2. Can typically sell at a premium

Instructor Directions	Content Outline
	<p>3. Generally small marketing area</p> <p>Electronic marketing</p> <ol style="list-style-type: none"> 1. New marketing option offering producers a wide variety of markets 2. Expected to increase the amount of animals marketed <ol style="list-style-type: none"> a. Lower transportation cost b. Less stress for the animal, which causes weight loss 3. Easy and convenient to sell the animals <ol style="list-style-type: none"> a. Market is brought to the producer. b. The market information can be accessed 24 hours a day. c. Producer has the option to accept or refuse the sell price.
<p>Objective 2</p> <p><i>Ask students what they would include in a budget for a sheep operation. How would they determine what to include in the budget? Have students complete AS 1 to evaluate a sheep production budget.</i></p> <p> AS 1 – Sheep Production Budget</p>	<p>List key steps in developing a budget for sheep production.</p> <ol style="list-style-type: none"> 1. Identify everything that is needed for sheep production (supplies, vaccines, feed, shelter, number of sheep in the production, etc.). 2. Determine a reasonable cost for everything based on history and price projections. 3. Reasonably overbudget to allow for overspending or higher costs than anticipated.
<p>Objective 3</p> <p><i>Ask the students what factors they would consider when feeding sheep. Why is it important to know if the animals are performing at their maximum capacity?</i></p>	<p>List factors that may impact optimal production.</p> <p>Sheep have different nutritional needs depending on the stage of development.</p> <ol style="list-style-type: none"> 1. Young lambs require 3-4 lb of concentrate for 1 lb of gain per day. 2. During the first 15 weeks of gestation, a ewe requires 1% of her body weight of balanced ration plus high-quality forage per day. 3. During the last 4-6 weeks of gestation, a ewe requires 1-2% of her body weight of balanced ration plus high-quality forage per day. 4. During lactation a ewe requires 2% of her body weight of balanced ration plus high-quality forage per day.

Instructor Directions	Content Outline
	<p>Other activities</p> <ol style="list-style-type: none"> 1. Have students contact a producer to see if he/she would be willing to give them past records of his/her operation. Have students fill in records of expenses and receipts from the operation. Have them research to see what the average costs are for all of the expenses and receipts. This activity gives students practice filling out records and also reinforces what is necessary in managing an operation. 2. Visit a banker or invite him/her to speak to the class about money management techniques that can help when running an operation.
<p>Closure/Summary:</p>	<p>The goal of sheep production is to sell the animal to make a profit for the operation. Effective production managers select the best market available to the operation and keep a close eye on the budget to make sure everything is working smoothly. By feeding lambs and ewes the appropriate amount of feed during key growth cycles, producers strive to achieve optimal profit on their flocks. Using enterprise analysis tools helps producers determine cost-benefits and to make important management decisions.</p>
<p>Evaluation: Quiz</p>	<p>Answers:</p> <ol style="list-style-type: none"> 1. Students may list any three of the following markets (a-f) and a characteristic given: <ol style="list-style-type: none"> a. Terminal markets (public stockyards) <ul style="list-style-type: none"> • handle, care for, and receive feeder and process animals • animals sold by an agent or firm that receives commission for the sell b. Local market pools <ul style="list-style-type: none"> • small and medium-sized producers pool their animals together • try to attract more buyers c. Auction markets (sale barn) <ul style="list-style-type: none"> • buyer bidding against buyer • no set price • significant market to producers d. Direct marketing <ul style="list-style-type: none"> • largest market volume • selling animals directly to the processor e. Niche market

Instructor Directions	Content Outline
	<ul style="list-style-type: none"> • unique/specialty product • usually sells at a premium • typically small market area <p>f. Electronic marketing</p> <ul style="list-style-type: none"> • new marketing option • expected to increase the amount of animals marketed • easy and convenient to sell the animals <p>2. Students may list any two of the following:</p> <ul style="list-style-type: none"> a. Performs cost-benefit analysis for producer b. Helps determine outcomes of multiple scenarios c. Processes records to aid future decision making <p>3. d</p> <p>4. b</p> <p>5. c</p> <p>6. b</p> <p>7. d</p>

Lesson 5: Management of Sheep for Profit Name: _____

Sheep Production Budget

Objective: Evaluate a sheep production budget.

Directions: Tom has three ewes that he shows at fairs during the summer. Below is a budget that Tom developed for his animals for 1 year. Look over the data and then answer the questions that follow.

Yearly Expenditures	Supplies Needed/Purpose	Estimated Expenditures	Actual Expenditures
Grain	Need 65 lb per ewe at \$0.06 per pound	\$11.70	\$7.80
Hay	Need 5 lb per day for 130 days at \$0.035 per pound	\$68.25	\$76.13
Pasture	Use for 6 months at \$1.75 per animal per month	\$31.50	\$31.50
Miscellaneous	Minerals and salt	\$2.58	\$2.58
	Veterinary services	\$7.50	\$22.50
	Shearing	\$3.00	\$1.50
	Other supplies	\$10.00	\$9.28
Total Expenses		\$ _____	\$ _____

1. How was the total actual cost different from the total amount budgeted?

2. Which expense had the greatest discrepancy? How much was it?

3. Why might such a discrepancy occur in a budget?

4. How should a producer deal with discrepancies in a budget?

5. How should Tom change his budget next year?

Lesson 5: Management of Sheep for Profit Name: _____

Electronic Marketing

Objective: Observe how electronic marketing is used in the sheep industry.

Directions: Visit the following sites or seek out others and find three different producers who have sheep for sale on the Internet. Fill in the chart on the next page. Answer the questions listed below.

- <http://www.bandanasheep.com/isc.html>
- <http://www.breedersworld.com/sheep/index.html>
- <http://www.ranchmagazine.com/>
- <http://www.elitegenetics.com/eg2/catalog/list.html>

1. How would you feel about buying sheep or other animals online? Do you think this is a good way to market animals? Why?

2. Do you believe you were given enough information to make a good decision?

3. Did the sellers provide any other information about their operation (e.g., comments from other producers who have bought sheep from them)?

Sheep Production
Lesson 5: Management of Sheep for Profit

AS 2 (continued)

Producer's Name	Address	Number of Sheep	Breed	Price	Web Site

UNIT - Sheep Production

Name: _____

Lesson 5: Management of Sheep for Profit

Date: _____

EVALUATION

Complete the following short-answer questions.

1. List four of the six marketing options available and one characteristic of each option.

Marketing Option	Characteristic
a. _____	a. _____
b. _____	b. _____
c. _____	c. _____
d. _____	d. _____

2. What are two ways an enterprise analysis tool could benefit a sheep operation?

- a. _____
- b. _____

Circle the letter that corresponds to the best answer.

3. A budget should contain which of the following?

- a. Breeds of sheep
b. Production records
c. Market type
d. Supplies

4. How many pounds of concentrate does a lamb need to consume to gain 1 pound of body weight per day?

- a. 1-2
b. 3-4
c. 5-6
d. More than 6

Match the following percents of body weight a ewe needs of balanced ration and forages during each of the following stages. Write the correct letter in the space provided.

- | | |
|--------------------------------------|----------|
| 5. _____ First 15 weeks of gestation | a. 3% |
| 6. _____ Last 4-6 weeks of gestation | b. 1%-2% |
| 7. _____ Lactation | c. 1% |
| | d. 2% |

EVALUATION

Circle the letter that corresponds to the best answer.

1. Which of the following is a consideration for choosing a market sheep?

- a. Types of markets in the area
- b. Current price of sheep
- c. Number of sheep to sell
- d. All of the above

correct answer is d

2. At which type of market does a producer pay a fee to hold sheep until they are purchased by a processing facility?

- a. Terminal
- b. Direct
- c. Auction
- d. Niche

correct answer is a

3. Which type of market is best suited for large-scale producers and processors who are processing large numbers of sheep?

- a. Terminal
- b. Local market pool
- c. Direct
- d. Niche

correct answer is c

4. Which market is best suited for a small-scale producer raising sheep for organic meat or wool?

- a. Terminal
- b. Auction
- c. Direct
- d. Niche

correct answer is d

5. Which of the following is an expense to consider when creating a budget for a sheep operation?
- a. Feed
 - b. Shelter
 - c. Veterinary bills
 - d. All of the above

correct answer is d

6. When creating a budget, a producer should do which of the following?
- a. Underestimate costs
 - b. Overestimate costs
 - c. Estimate exact costs
 - d. None of the above

correct answer is b

7. How many pounds of concentrate does a lamb need to consume to gain 1 pound of body weight per day?
- a. 1-2
 - b. 3-4
 - c. 5-6
 - d. More than 6

correct answer is b

Match the following percents of body weight a ewe needs of balanced ration and forages during each of the following stages. Write the correct letter in the space provided.

8. _____ First 15 weeks of gestation a. 3%

correct answer is c

9. _____ Last 4-6 weeks of gestation b. 1%-2%

correct answer is b

10. _____ Lactation c. 1%

correct answer is d

- d. 2%