

<b>Course</b>	Agricultural Science I
<b>Unit</b>	Sheep Production
<b>Lesson</b>	Management of the Breeding Flock
<b>Estimated Time</b>	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](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

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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*. 5<sup>th</sup> 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*. 4<sup>th</sup> 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*. 2<sup>nd</sup> ed. Ames: Iowa State University Press, 1997.
  - ❑ Taylor, R. E. and T. G. Field. *Scientific Farm Animal Production: An Introduction to Animal Science*. 6<sup>th</sup> ed. Upper Saddle River: Prentice Hall, 1998.
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## 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
<b>Objective 1</b>  <i>Ask students how they would care for a ewe or ram at breeding time.</i>	<b>Describe how the ewe and ram should be cared for at breeding time.</b>  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.  Vaccinate ewes and rams in accordance with a health program on a regular basis.  Deworm both the ewes and rams.  Shear ewes and rams for maximum performance.  Maintain following ratio of ram to ewes: <ol style="list-style-type: none"><li>1. 1 ram lamb: 15 ewes</li><li>2. 1 yearling ram: 25-35 ewes</li><li>3. 1 mature ram: 35-45 ewes</li></ol> Put a marking harness on the breasts of rams just before breeding. <ol style="list-style-type: none"><li>1. Marking harnesses contain paint (also may contain</li></ol>

Instructor Directions	Content Outline
	<p>grease or chalk) that are left on the ewe during breeding.</p> <ol style="list-style-type: none"> <li>2. The producer should change color every 14 days.</li> <li>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.)</li> </ol>
<p><b>Objective 2</b></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><b>Describe how the ewe should be cared for during gestation.</b></p> <ol style="list-style-type: none"> <li>1. Treat any disease the ewe may have.</li> <li>2. Feed ewe away from the barn to promote plenty of exercise.</li> <li>3. Provide a basic ration of roughage - hay, grass, corn.</li> <li>4. Provide salt; mineral mix; fresh, clean water; and shade at all times.</li> <li>5. Feed the ewe a more concentrated mixture containing corn, grain, sorghum, oats, barley, and bran during the last 4-6 weeks of gestation.</li> <li>6. Allow the ewe to gain 20-30 lb during the gestation period.</li> <li>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.</li> </ol>
<p><b>Objective 3</b></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><b>Describe how the ewe and lamb should be cared for at delivery.</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>4. Clip the navel (leave approximately 2") and dip it with iodine to prevent infection.</li> <li>5. Give lamb vitamin E and a selenium injection.</li> <li>6. Identify the lamb with an ear tag or tattoo in order to</li> </ol>

Instructor Directions	Content Outline
	be able to identify which ewe it came from and aid in record keeping.
<p><b>Objective 4</b></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><b>Describe how the ewe and lamb should be cared for from birth to weaning.</b></p> <p>Ewes</p> <ol style="list-style-type: none"> <li>1. Give plenty of fresh water.</li> <li>2. Maintain on a diet of 2 lb of grain per day.</li> <li>3. Provide additional nutrients for approximately 8 weeks after birth so ewes can produce a maximum amount of milk.</li> <li>4. Drench for internal parasites.</li> <li>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"> <li>a. Soak hot packs in Epsom salt.</li> <li>b. Apply hot packs to the udder several times a day until symptoms disappear.</li> <li>c. Administer antibiotics.</li> <li>d. Milk the udder by hand.</li> <li>e. Prevent the lamb from nursing (may have to bottle feed or tube).</li> </ol> </li> </ol> <p>Lambs</p> <ol style="list-style-type: none"> <li>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).</li> <li>2. Castrate ram lambs if they're not being saved for breeding purposes (scrotum may be cut or banded).</li> </ol>
<p><b>Objective 5</b></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><b>Describe how the lamb should be cared for from weaning to market.</b></p> <ol style="list-style-type: none"> <li>1. Wean lamb when it is 2-4 months old or weighs about 40-50 lb.</li> <li>2. Provide a finishing ration of high-quality feed.</li> <li>3. Provide fresh water at all times.</li> <li>4. Ensure that salt and mineral blocks are always available.</li> <li>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.)</li> </ol>

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<p><i>for cooking techniques, nutritional information, and recipes.</i></p>	<ol style="list-style-type: none"> <li>6. Treat for external and internal parasites. (Note: Refer to Lesson 3 for details and illustrations of common external and internal parasites.)</li> <li>7. Sort lambs by size and feed accordingly.</li> <li>8. Market at 100-140 lb.</li> </ol>						
<p><b>Objective 6</b></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><b>Explain how production records are used to manage a sheep operation.</b></p> <ol style="list-style-type: none"> <li>1. To show the producer which ewes are producing the healthiest, strongest, and greatest number of lambs with the least difficulty</li> <li>2. To chart how many ewes each ram breeds and how often</li> <li>3. To evaluate the weights of all ewe lambs to see which ewes to keep</li> </ol>						
<p><b>Application:</b></p> <p> AS 1 – Year-long Management Practices</p>	<p>Answers to AS 1</p> <ol style="list-style-type: none"> <li>1. <ol style="list-style-type: none"> <li>a. February to April</li> <li>b. 5, September to November</li> <li>c. 6, September to January</li> <li>d. 3, April to August</li> <li>e. 1, February to June</li> <li>f. 7, November to April</li> <li>g. 2, April to June</li> </ol> </li> <li>2. Answers may vary. The chart below lists common management practices.</li> </ol> <table border="1" data-bbox="638 1518 1477 1925"> <tbody> <tr> <td data-bbox="638 1518 1068 1707"> <b>1. LAMBING</b> <ul style="list-style-type: none"> <li>• Make sure ewe is giving milk and the lamb has received the colostrum</li> <li>• Clip and dip lamb navel</li> <li>• Give lamb vitamin E and selenium injections</li> <li>• Identify lamb with ear tag or tattoo</li> </ul> </td><td data-bbox="1068 1518 1477 1707"> <b>2. LACTATION</b> <ul style="list-style-type: none"> <li>• Watch ewe for health problems and mastitis</li> <li>• Provide additional nutrients for ewe</li> <li>• Provide plenty of fresh water</li> <li>• Maintain ewe on 2 lb of grain per day</li> </ul> </td></tr> <tr> <td data-bbox="638 1707 1068 1871"> <b>3. WEANING</b> <ul style="list-style-type: none"> <li>• Wean at 2-4 months old</li> <li>• Deworm lambs and give vaccinations</li> <li>• Treat for external and internal parasites</li> <li>• Provide fresh water, salt &amp; mineral blocks</li> </ul> </td><td data-bbox="1068 1707 1477 1871"> <b>4. GROWING</b> <ul style="list-style-type: none"> <li>• Sort by size and feed accordingly</li> <li>• Market at 100-140 lb</li> <li>• Provide a finishing ration of high-quality feed</li> </ul> </td></tr> <tr> <td data-bbox="638 1871 1068 1925"> <b>5. BEFORE BREEDING</b> <ul style="list-style-type: none"> <li>• Cull nonproductive ewes</li> </ul> </td><td data-bbox="1068 1871 1477 1925"> <b>6. BREEDING TIME</b> <ul style="list-style-type: none"> <li>• Flush the ewe</li> </ul> </td></tr> </tbody> </table>	<b>1. LAMBING</b> <ul style="list-style-type: none"> <li>• Make sure ewe is giving milk and the lamb has received the colostrum</li> <li>• Clip and dip lamb navel</li> <li>• Give lamb vitamin E and selenium injections</li> <li>• Identify lamb with ear tag or tattoo</li> </ul>	<b>2. LACTATION</b> <ul style="list-style-type: none"> <li>• Watch ewe for health problems and mastitis</li> <li>• Provide additional nutrients for ewe</li> <li>• Provide plenty of fresh water</li> <li>• Maintain ewe on 2 lb of grain per day</li> </ul>	<b>3. WEANING</b> <ul style="list-style-type: none"> <li>• Wean at 2-4 months old</li> <li>• Deworm lambs and give vaccinations</li> <li>• Treat for external and internal parasites</li> <li>• Provide fresh water, salt &amp; mineral blocks</li> </ul>	<b>4. GROWING</b> <ul style="list-style-type: none"> <li>• Sort by size and feed accordingly</li> <li>• Market at 100-140 lb</li> <li>• Provide a finishing ration of high-quality feed</li> </ul>	<b>5. BEFORE BREEDING</b> <ul style="list-style-type: none"> <li>• Cull nonproductive ewes</li> </ul>	<b>6. BREEDING TIME</b> <ul style="list-style-type: none"> <li>• Flush the ewe</li> </ul>
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Instructor Directions	Content Outline	
	<ul style="list-style-type: none"> <li>• Vaccinate and treat diseases if needed</li> <li>• Provide fresh water and salt and mineral blocks</li> </ul>	<ul style="list-style-type: none"> <li>• Deworm and vaccinate the ewe and ram</li> <li>• Shear for maximum performance</li> <li>• Put a marking harness on the ram</li> </ul>
	<b>7. EARLY GESTATION</b> <ul style="list-style-type: none"> <li>• Allow ewe to gain 20-30 lb</li> <li>• Allow ewe plenty of exercise</li> <li>• Provide a basic ration of roughage</li> <li>• Provide salt, mineral mix, fresh clean water, and shade</li> <li>• Vaccinate and treat diseases if needed</li> </ul>	<b>8. LATE GESTATION</b> <ul style="list-style-type: none"> <li>• Feed ewe a concentrated mixture of grain</li> <li>• Treat diseases</li> <li>• Vaccinate and treat diseases if needed</li> <li>• Allow ewe to get plenty of exercise</li> </ul>
<b>Discussion Questions:</b> <ol style="list-style-type: none"> <li>1. Answers will vary</li> <li>2. Answers will vary</li> <li>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.</li> <li>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.</li> </ol> <p><b>Other activities</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. Have students conduct research to discover what equipment is needed when sheep deliver. Have a class discussion on the information found.</li> <li>3. Visit a sheep farm during lambing season. Have the producer demonstrate docking, castrating, and identifying the animal.</li> </ol>		
<b>Closure/Summary:</b>	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.	

Instructor Directions	Content Outline
Evaluation: Quiz	<p>Answers:</p> <ol style="list-style-type: none"> <li>1. d</li> <li>2. a</li> <li>3. b</li> <li>4. b</li> <li>5. c</li> <li>6. a</li> <li>7. DG</li> <li>8. AD</li> <li>9. BT</li> <li>10. BT</li> <li>11. DG</li> <li>12. AD</li> <li>13. Students may list any three of the following:               <ol style="list-style-type: none"> <li>a. Make sure the lamb has nursed and received the colostrum.</li> <li>b. Clip the navel and dip it with iodine.</li> <li>c. Give lamb vitamin E and a selenium injection.</li> <li>d. Identify the lamb with an ear tag or tattoo.</li> <li>e. Dock lamb's tail.</li> <li>f. Castrate ram lambs if not used for breeding.</li> </ol> </li> </ol>