

Unit E: Segments of the Animal Industry

Lesson 2: Exploring the Sheep and Goat Industry

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:

1. Discuss terminology associated with sheep and goat production.
2. Describe sheep and goats as organisms and compare them externally.
3. Identify common breeds of sheep and goats.
4. Explain methods of producing sheep and goats.

Recommended Teaching Time: 3 hours

List of Resources: The following resources may be useful in teaching this lesson:

Ensminger, M. E., *The Stockman's Handbook*. Danville, Illinois: Interstate Publishers, Inc. 1992

Cooper, Elmer L., Burton, DeVere L., *Agriscience Fundamentals and Applications*. Albany, New York: Delmar. 2002 (Textbook Unit 30)

Internet keywords: goat, sheep, lambing, wool, flock

List of Equipment, Tools, Supplies, and Facilities:

Writing surface
PowerPoint Projector
PowerPoint Slides
Transparency Masters
Copies of student lab sheet
Paper

Terms: The following terms are presented in this lesson (shown in bold italics): **PowerPoint Slide 2.**

Buck	Kidding
Cashmere	Lamb
Chammy	Lambing
Confinement	Mohair
Doe	Mutton
Ewe	Ram
Kid	Wether
Wool	
Yearling	

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Ask the students to come up with as many products as possible that are made with sheep and goats. Write the examples on the board. Encourage students to come up with meat, milk, chammy, clothing, and other items. Then, ask students how many of these products are used everyday in their home.

Summary of Content and Teaching Strategies

Objective 1: Discuss terminology associated with sheep and goat production.

Anticipated Problem: What are some specific terms used to describe sheep and goat production?

As students enter the room, have each of these terms written on a piece of paper and placed throughout the classroom. Have students “hunt” for the terms and return to their seat when done. Then, as they share their term, also give them the definition.

- I. The following are terms used to identify sheep and goats:
 - A. A **doe** is a female goat at any age.
 - B. A **buck** is a male goat at any age.
 - C. A **kid** is a goat of either sex under one year of age.
 - D. A **yearling** is a goat of either sex over one year, but under two years of age.
 - E. A **wether** is a male goat or sheep that was castrated when it was young.
 - F. A **ram** is a male sheep that is used for breeding purposes.
 - G. A **ewe** is the term to describe a female sheep.
 - H. **Kidding** is the process of a goat giving birth.
 - I. **Lambing** is the process of a sheep giving birth.
 - J. A **lamb** is a sheep under one year old and also the term for meat from a young sheep.
 - K. **Mutton** is meat from a sheep that is over one year old.
 - L. **Chammy** is leather made from sheep and goats.
 - M. **Wool** is a sheep's coat that is used as a fiber for products such as clothing.

Use PowerPoint Slides 3, 4, 5, and 6 and TM: 2-1 to help with note taking over these terms. Also, have students create flashcards for each term. Using a sheet of paper, cut 4 equal squares. Then, have students write the term on one side and the definition on the other side of the paper.

Objective 2: Describe sheep and goats as organisms and compare them externally.

Anticipated Problem: What are some comparisons between sheep and goats?

Have students make a list of all the ways that goats and sheep are similar. Then, make a list of ways they are different. Which list was easier to create?

- II. There are many similarities and many differences between sheep and goats. They are both mammals that have ruminant digestive systems and have divided hoofs. Both are important to the economy, but sheep are currently much more important. **PowerPoint Slides 7 and 8.**
 - A. Sheep are raised for food and clothing. Sheep are often used in areas where no other animal could be raised because of the climate and minimal feed availability. Sheep are also very efficient at converting feed to meat compared to other domesticated animals. They prefer to graze on broadleaf plants and grasses. Compared to other animal raising options, such as beef, sheep are found in much smaller numbers. In other countries, sheep consumption is very high. The top producers of sheep are New Zealand and Australia because of a greater demand and favorable conditions. Sheep range from 45 to over 102 kilograms at maturity and live from 7 to 13 years. There are several types and breeds used for meat, wool, or both.
 - B. Goats are raised for food and clothing. Their use dates back to between 7000 and 3000 B.C. **Mohair** is hair taken from angora goats and is used to make a wooly fabric. Since they prefer to eat twigs and leaves, goats provide little competition for feed needed for cattle and sheep and therefore can be pastured together with sheep. Goats are small animals that are easy to handle. They are from 9 kilograms to 68 kilograms and from 40 centimeters to over 122 centimeters tall at maturity. Their life expectancy is from 8 to 10 years. **PowerPoint Slide 9.**
 - C. There are many external parts of sheep and goats to know in order to discuss or raise them. **PowerPoint Slide 10 and 11.**

Use TM: 2-2 and PowerPoint Slides 10 and 11 to identify major external parts of sheep and goats.

Objective 3: Identify common breeds of sheep and goats.

Anticipated Problem: What are common breeds of sheep and goats?

- III. There are over 200 breeds of sheep and 300 breeds of domestic goats. Selection of a specific breed to raise depends on your personal needs and goals. All animals should come from a reputable producer and be free of diseases. The following are examples of the most commonly used breeds of sheep and goats around the world and in your area. **PowerPoint Slide 12.**
 - A. The most popular breed of sheep in the world is the Suffolk. This medium-wool breed originated in England. The body of the Suffolk is large and the head, legs, and ears are black. The breed is polled and shears a fleece of 3.6 to 4.5 kilograms. The crop of lambs is usually 150 percent or better because of twins. Production of market lambs is very common among Suffolk owners. **PowerPoint Slide 13.**

- B. The Dorset is a sheep breed that originated in England 1887. This medium-wool breed can be polled or horned and are completely white. The Dorset is medium sized and produces 3 to 3.6 kilograms of fleece. Ewes breed out of season so fall lambs are produced and they have muscular carcasses and are good milk producers. **PowerPoint Slide 14.**
- C. The Karakul has some unique qualities. It has a dominant black gene, so a very high percentage of these sheep are born black. A desert animal (originally) that stores fat in its tail for nourishment in lean times, it is very hardy and adaptable. The pelts of the Karakul lambs are historically referred to as "Persian lamb" or "Broadtail". This pelt is a lustrous coat of intricately patterned curls. They were legendary trade items on the ancient Silk Road of China as a fabric for coats, jackets, and hats. For these reasons, the Karakul is often known as the "Fur Sheep". **PowerPoint Slide 15.**
- D. Afghanistan is home to many of Central Asia's most unique breeds of sheep that are particularly well-adapted to the local conditions and highly valuable commercially. The most notable is the largest breed of fat-rumped sheep, the Turki. The Turki has two distinct camel humps of fat on their behinds. They have a high growth rate and are a good producer of mutton, but are not a good wool producer. They are raised mostly in the northeastern parts of Afghanistan. Turki sheep accompany refugees to neighboring Pakistan where the breed is recognized as Afghani sheep. **PowerPoint Slide 16.**
- E. The Angora goat originated in Turkey and is well adapted to areas not fit for other livestock. Angoras are almost totally white at maturity and produce up to 3 kilograms of mohair each year. Angora goats are horned with long droopy ears. At maturity bucks weigh between 57 and 79 kilograms and does weigh between 36 and 41 kilograms. **PowerPoint Slide 17.**
- F. Dairy goats can produce 2.3 kilograms of milk per day and supply 1.8 percent of the milk supply in the world. Goat's milk has more minerals than cows' milk and is easier to digest by small children and elderly people. **PowerPoint Slide 18.**
- G. Meat goats are also known as Spanish goats and are used for both milk and meat. Since they can live with very little care and survive on brush and weeds, they are sometimes called brush goats. **PowerPoint Slide 19.**
- H. Cashmere goats have been developed by selective breeding. **Cashmere** is the soft under-coat of fine down produced by goats. There is usually a large demand for cashmere since it is in short supply. Solid-colored goats are preferred in cashmere production, but multi-colored goats are still used too. **PowerPoint Slide 20.**
- I. Pygmy goats were originally exported from Africa. They are only 40 to 58 centimeters tall at the withers and have horns. They can be any color or combination of colors. The main uses of pygmy goats are research, pets. **PowerPoint Slide 21.**

Use TM: 2-3 and PowerPoint Slides to show pictures of various types of goats.

Objective 4: Explain methods of producing sheep and goats.

Anticipated Problem: How do you produce sheep and goats?

IV. There are five types of sheep production systems. **PowerPoint Slide 22.**

- A. The farm flock method of sheep production describes the farm flocks that can have one sheep or thousands of them. The purposes of farm flocks are to produce market lambs and wool.
- B. A purebred flock is one that sells rams and ewes of an ideal type. The management requirements are high, and knowledge of genetics is helpful. **PowerPoint Slide 23.**
- C. The range band method of sheep production describes large bands of sheep between 1,000 and 1,500 being managed over a large area by a herder. In high vegetation areas, sheep are used for meat. In low vegetation areas, sheep are used for wool because the feed is not suitable to produce a market-quality lamb.
- D. Some producers use confinement methods. **Confinement** means raising animals completely indoors. This method is popular because of the need for less land, fewer parasite problems, increased ability to monitor animals, and the success of raising other animals in confinement. Some disadvantages include increased building costs, higher feed costs, and increased need for intense management. **PowerPoint Slide 24.**
- E. Lamb feeding production involves weaning lambs and selling them to feedlots where the lambs are fed out to slaughter weight. **PowerPoint Slide 25.**

Use TM: 2-4 and TM: 2-5 to discuss types of sheep production systems. Also, use LS 2-1 as a Lab for this lesson.

Review/Summary: Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Have students discuss terminology associated with sheep and goat production. Then describe sheep and goats as organisms and compare them externally. Next identify common breeds of sheep and goats. Finally, explain methods of producing sheep and goats.

Application: Application can involve student activity with the provided labs.

Evaluation: Evaluation should focus on student achievement of the objectives for each lesson. Various techniques can be used, such as performance on the application activities. A sample written test is attached.

Answers to Sample Test:

Part One: Matching

1 = g, 2 = a, 3 = f, 4 = e, 5 = b, 6 = d, 7 = c, 8 = h

Part Two: Completion

1. wether
2. ram
3. ewe
4. Kidding
5. Lamb
6. chammy

Part Three: Short Answer

Any five of the following answers:

- A. Price for wool changes often. Even if you are profitable today, you may not be tomorrow and vice versa. Production and consumption of wool changes constantly.

Sample Test 2-1

Name_____

Test

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

- a. Buck
- b. Kid
- c. Confinement

- b. Doe
- e. Yearling
- f. Mutton

- g. Wool
- h. Lambing

- _____ 1. A sheep's coat that is used as a fiber for products such as clothing.
- _____ 2. A male goat at any age.
- _____ 3. Meat from a sheep that is over one year old.
- _____ 4. A goat of either sex over one year, but under two years of age.
- _____ 5. A goat of either sex under one year of age.
- _____ 6. A female goat at any age.
- _____ 7. Raising animals completely indoors.
- _____ 8. The process of a sheep giving birth.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

- 1. A _____ is a male goat or sheep that was castrated when it was young.
- 2. A _____ is a male sheep that is used for breeding purposes.
- 3. A _____ is the term to describe a female sheep.
- 4. _____ is the process of a goat giving birth.
- 5. A _____ is a sheep under one year old and also the term for meat from a young sheep.
- 6. _____ is leather made from sheep and goats.

Part Three: Short Answer

Instructions. Provide information to answer the following question.

Describe five factors that are favorable or unfavorable to sheep production.

SHEEP AND GOAT TERMINOLOGY

- A doe is a female goat at any age.

A buck is a male goat at any age.

A kid is a goat of either sex under one year of age.

A yearling is a goat of either sex over one year, but under two years of age.

A wether is a male goat or sheep that was castrated when it was young.

A ram is a male sheep that is used for breeding purposes.

A ewe is the term to describe a female sheep.

Kidding is the process of a goat giving birth.

Lambing is the process of a sheep giving birth.

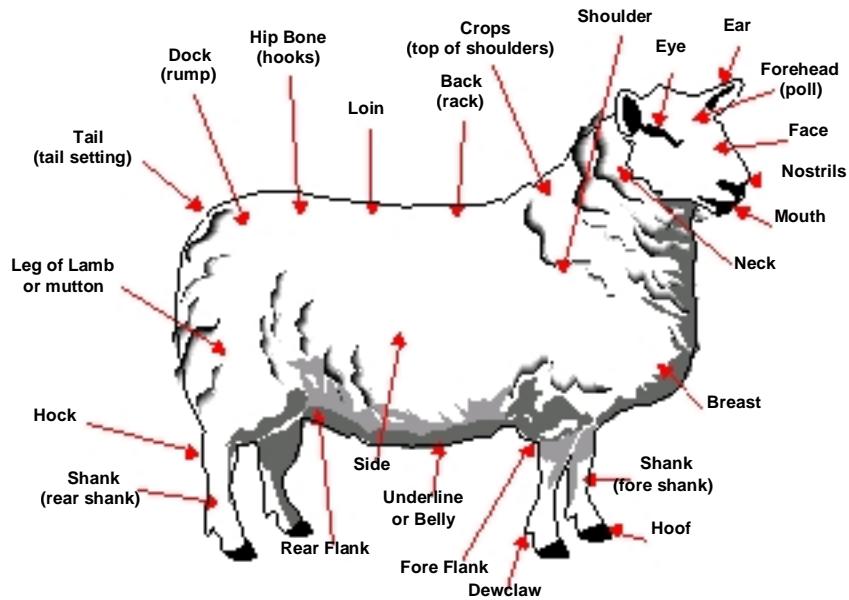
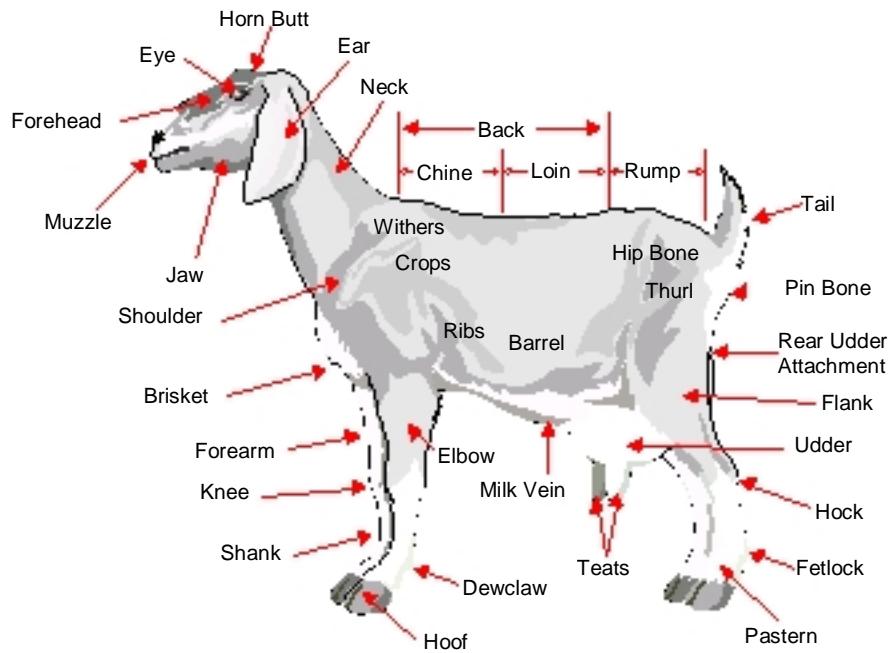
A lamb is a sheep under one year old and also the term for meat from a young sheep.

Mutton is meat from a sheep that is over one year old.

Chammy is leather made from sheep and goats.

Wool is a sheep's coat that is used as a fiber for products such as clothing.

EXTERNAL PARTS OF GOATS AND SHEEP



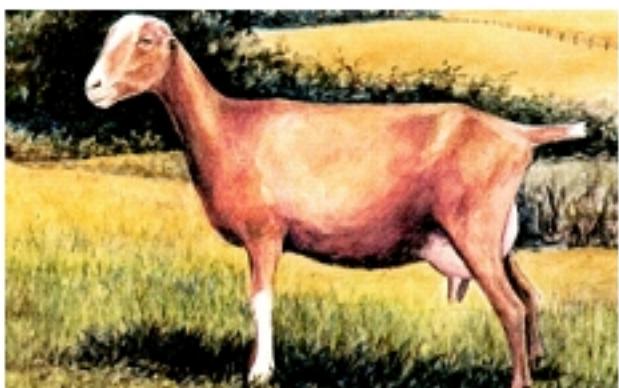
TYPES OF GOATS



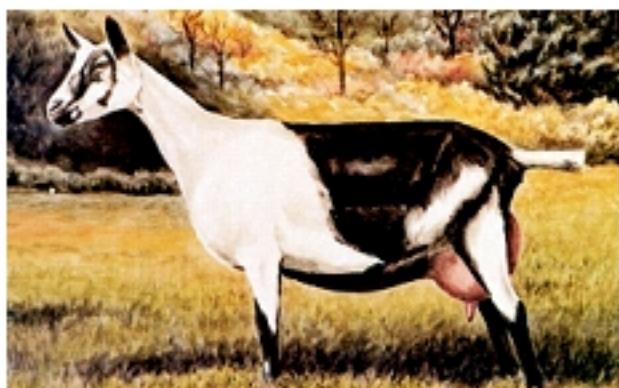
Spanish



Pygmy



Lemancha



French Alpine

FIVE TYPES OF SHEEP PRODUCTION SYSTEMS

Farm Flock

Purebred Flock

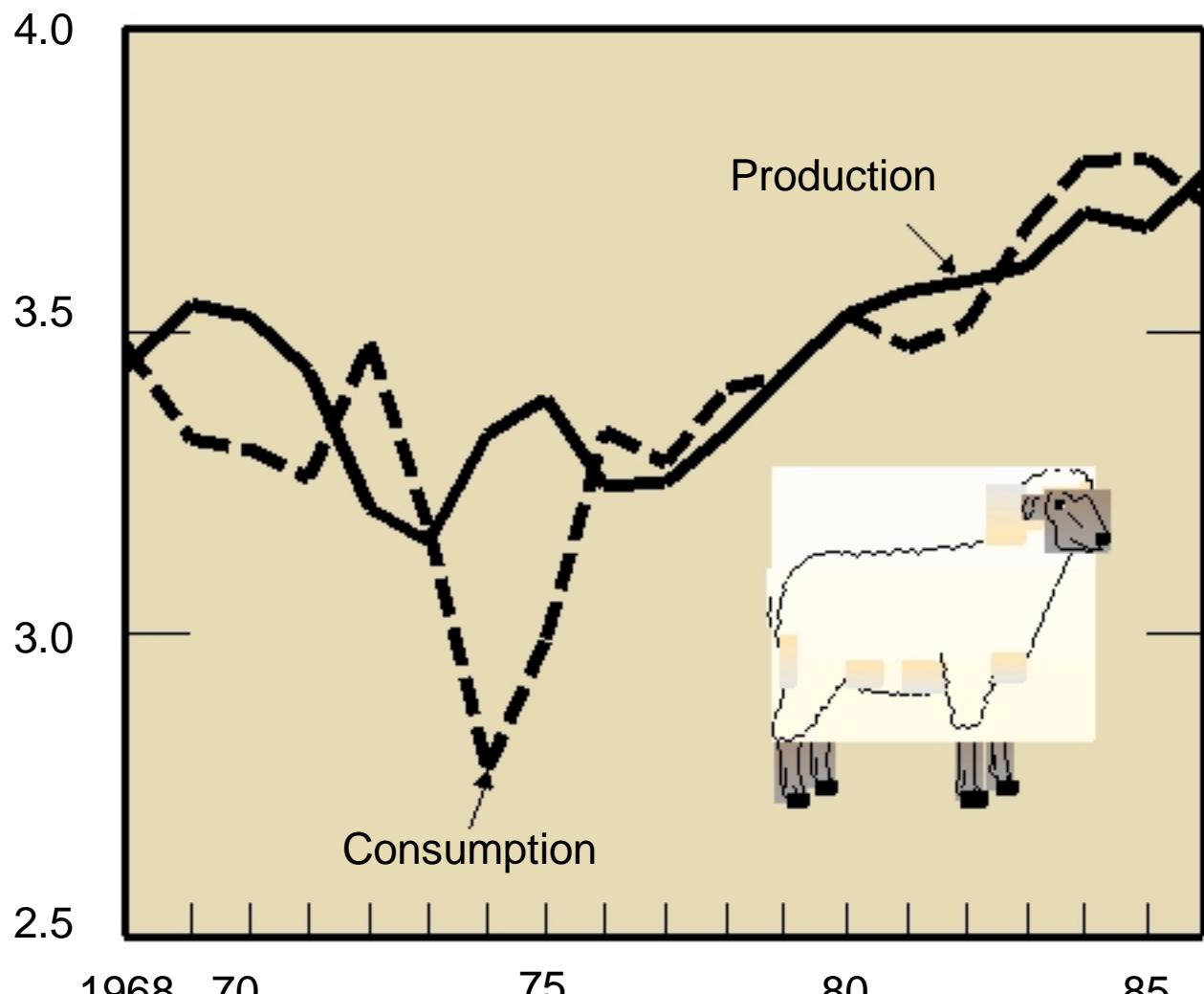
Range Band

Confinement

Lamb Feeding

WORLD PRODUCTION AND CONSUMPTION OF RAW WOOL

Billion pounds



1986 preliminary.

Clean content weight.

Production data on a marketing basis.

Lab Sheet

Invite a veterinarian or sheep producer into your classroom. Have him or her bring in equipment used to treat, handle, or breed sheep and goats. Lay the equipment on tables and have students try to guess what each piece is and its use.

	Name of tool	Use of tool
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____