Sheep Leader Notebook

Level II

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Setting Goals for Your 4-H Sheep Project
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• How to set goals

ABOUT THEMSELVES:
• Importance of setting goals

Materials Needed:
• Paper and pencils
• Sheep Member Guide and Annual Report (MG-37)
• Flip chart and markers

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

Goals should indicate growth in the project as well as the member’s learning. Each year the goals should include at least one new skill to learn.

The MAP Worksheet defines the steps that members must go through to set their goals for Level II.

Leader Notes:

Have each member tell what goals he or she met or accomplished during the last year in this project. For example: raised two market lambs, gave a project talk, etc. Using the flip chart, list problems that members had in the project last year. Do any of the problems indicate things to work on this year?

Hand out a copy of MG-37, Sheep Member Guide and Annual Report, to each member.

Provide members a list of lesson titles from Level II. Develop a list of possible things to learn during the project year.

After they have developed a good list, have the members write their goals for the year on their MAP.

Have the members share their goals for the year with each other and the group. With these goals in mind, you can plan the project meetings so that the members will be able to accomplish many of their goals.
ACTIVITY

SETTING GOALS FOR YOUR 4-H SHEEP PROJECT

Leader Notes

DIALOGUE FOR CRITICAL THINKING:

Share:
1. What is one skill that you learned from your sheep project last year?

2. What is the goal that you have for our sheep project this year?

Process:
3. What problems did you have with your sheep project last year?

4. Why do you think you had those particular problems?

Generalize:
5. Does setting goals help you solve sheep problems?

6. Does setting goals help you solve your own problems?

Apply:
7. How will you use goal setting the next time you plan an activity?

REFERENCES:

Author:
James P. Adams, Extension Specialist, 4-H and Youth Problems, Kansas State University

Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
Understanding U.S. Sheep Breeds
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Define the basic types of sheep
• Be aware of the breeds of sheep in the U.S.

ABOUT THEMSELVES:
• The importance of sheep products in their lives

Materials Needed:
• Activity Sheet 1, Breed Use Summary
• Member Handout 1, Sheep Breed Descriptions
• Video or set of slides of as many breeds as possible
• Access to pictures or breed magazines
• Flip chart and markers

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY
It is important for the members to know the characteristics of many
different breeds. When selecting lambs for show or to keep, the breed will
tell you many things. Muscling, reproductivity, wool characteristics are
all traits that differ greatly by the breed of the sheep. We will feature local
breeds, but cover many different breeds common to the United States.
There are also many other breeds that do exist, but do not contribute
greatly to sheep production in the U.S.

Remember, sheep can be classified in three different ways:

1. By the product they produce—meat, wool, or both (dual-purpose)

2. By their wool type—fine, medium, long, or hair

3. By their commercial use—ram, ewe, or both (dual-purpose)

Meat type sheep are those breeds raised for the production of meat with
very little consideration for anything else. Common meat breeds include
Suffolk, Hampshire and Dorset. Other meat breeds include Cheviots,
Shropshire, Southdown and Texel.

Leader Notes
Review Sheep Breed Groups lesson from Level I. This lesson will discuss
and add more breeds to the groups.
Concentrate on the breeds in your area, but expose members to others.

Show slides or pictures of breeds and
discuss the traits and purpose of each
breed.

List breeds by type on a flip chart as you
look at pictures and discuss.
Wool breeds are grown for a high quality fleece or a heavy fleece with less emphasis on growth and muscle. Wool breeds are divided into fine, medium, long, or hair types. Fine is the most valuable, with hair being the least valuable. Fine wool breeds are Rambouillet, Merino, Booroola and Debouillet. Medium wool breeds include most meat and dual-purpose breeds such as Suffolk, Hampshire, Dorset, Shropshire, Southdown, Cheviot, Montadale, Columbia, Corriedale, Oxford, Targhee, Polypay and Finnsheep. Long wool breeds include the Lincoln, Romney, Cotswold and Border Leicester. These breeds may produce wool over eight inches long. Hair breeds include St. Croix, Barbados Blackbelly and Katahdin.

Dual-purpose breeds try to place emphasis on both meat and wool; such as Columbia, Corriedale, Montadale and Targhee. This category also includes those breeds which combine increased prolificacy (multiple births) with meat or wool production such as Finnsheep, Polypay and Booroola Merino.

Most commercial sheep operations use a crossbreeding system that mates ewes of one breed to a ram of another breed. The most common commercial cross is a white faced fine wool Rambouillet or Merino as the ewe breed mated to a meaty and fast growing ram breed such as Suffolk or Hampshire.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. How many breeds of sheep can you name?
2. How many breeds of sheep can you recognize?
3. What new breeds did you learn from this lesson?

Process:
4. What problems did you have in identifying different breeds? Why?
5. Why do you think there are so many sheep breeds?
6. What are two common meat breeds? Wool breeds? Dual-purpose breeds?

Generalize:
7. What roles do breeds play if you were starting your own flock of sheep? If you were purchasing show lambs?
8. What impact do breeds have on you as a consumer?

Apply:
9. How will knowledge of sheep breeds be useful to you and the consumer in the future?
GOING FURTHER:
• Members can select one breed of sheep and write the breed association for more information.
• Members can attend livestock shows and identify the different breeds and their characteristics.

REFERENCES:
Kansas 4-H Beef Leader Notebook (LN-1), 2nd ed.
SID Handbook

Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
Develop this summary as a reference for the breeds you study.

<table>
<thead>
<tr>
<th>Breed</th>
<th>Product (Meat, Wool, Dual-purpose)</th>
<th>Wool Type (Fine, Medium, Long, Hair)</th>
<th>Commercial Use (Rams, Ewes, Dual-purpose)</th>
</tr>
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</table>
UNDERSTANDING U.S. SHEEP BREEDS
SHEEP, LEVEL II
Member Handout 1, Sheep Breed Descriptions

Barbados Blackbelly  brown and black hair sheep from the Caribbean
Booroola Merino    similar to the Delaine-Merino, smaller and highly prolific
Border Leicester   white faced, longwool breed originating in England
Cheviot            small, white faced, meat breed from Scotland with erect ears
Columbia           largeframed, white faced, dual-purpose breed originating in the U.S.
Corriedale         medium sized, white faced breed from New Zealand with black nose and hooves
Delaine-Merino     white faced, horned breed from Spain with very fine wool
Dorset             (horned or polled) white faced, meat breed known for out-of-season breeding
Finnsheep          small framed, fine boned, highly prolific breed from Finland
Hampshire          large framed, black faced, meat breed with wool cap and wool on legs
Lincoln            large framed, long wool breed from England
Montadale          medium sized, white faced breed originating in the U.S. (Columbia X Cheviot cross)
North Country Cheviot similar to Cheviot, but larger
Oxford             similar to but slightly smaller than Hampshires, face and leg color is dark brown instead of black
Polypay            white faced, highly prolific breed from the U.S. (1/4 Targhee, 1/4 Dorset, 1/4 Rambouillet, 1/4 Finnsheep)
Rambouillet        (horned or polled) white faced, fine wooled breed from France, very popular
Romanov            highly prolific Soviet breed with black and whiteface and legs and grey wool
Romney             white faced, long woolled English breed
Shropshire         English meat breed, similar to Hampshire and Oxford
Southdown          very small-framed meat breed from England
Suffolk            large framed, fast growing, black faced, meat breed from England, very popular, no wool on face or legs
Targhee            white faced, dual-purpose breed from the U.S. (1/2 Rambouillet, 1/4 Columbia, 1/4 Corriedale)
Texel              medium sized, “double” muscled breed from the Netherlands
Tunis              red faced, fat tailed breed from northern Africa
Sheep Handling Facilities
*Sheep, Level II*

What Members Will Learn . . .

**ABOUT THE PROJECT:**
- The space requirements for lambs
- The basic components of a sheep handling facility

**ABOUT THEMSELVES:**
- The importance of planning ahead

**Materials Needed:**
- Member Handout 2, Sheep Facilities
- Activity Sheet 2, Your Sheep Pen

**ACTIVITY TIME NEEDED:** 45 MINUTES

**ACTIVITY**

A facility is something we build, such as a barn or pen, as a place to keep our sheep. A good facility should provide for the needs of the lamb(s) and the owner. The basic facilities that a lamb requires include:

1. Protection or shelter from summer heat and winter cold.
2. A convenient feed trough.
3. Available fresh water.
4. Enough space for exercise.

For the owner of the lambs, a good facility should reduce the time and labor involved in working sheep, provide a safe working environment for both lamb and owner, and be built as strong, yet economical as possible.

**HOUSING:**

Kansas summers can get pretty hot and uncomfortable for the lambs. It is important to have cool areas for the lambs. A barn, shed or even a big tree can provide shade and much needed relief from the heat.

In the winter, lambs must have protection from wind, rain and snow. The best housing facilities are as open as the weather allows. A good roof and walls that block the wind will provide a dry environment for the lambs. It is also best to keep the feed trough under the roof or a cover of some kind to keep the feed from getting wet.

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**Leader Notes**

In this lesson, members should learn a little about the space requirements of lambs and be exposed to various types of sheep handling facilities.

You may use Activity Sheet 2, Your Sheep Pen, before this lesson or as a follow-up activity.

Show sample shed on Member Handout 2, Sheep Facilities.
The barn or shed should be large enough to comfortably hold all the sheep. Thirty to 110 lb lambs need 8 to 10 square feet of floor space each. The floor of the barn should be covered with clean, dry bedding. This will help reduce fly problems, and keep the facility warmer in winter. Straw is generally a good winter bedding. A shed should also have electricity and adequate lighting.

**EXERCISE PEN:**
Lambs will spend most of their time in the exercise pen or lot. Besides exercise, an outdoor lot may provide grazing for the lambs as well. Each lamb needs 20 to 30 square feet of lot space. Construction of a lot should be done with drainage as a priority. There should always be dry places for the lambs. Also make sure that the lot drains away from the barn or shed. Pens and fences can be constructed of wire, metal or wood.

**FEED AND WATER TROUGHS:**
All lambs should have continual access to clean, fresh water. Each lamb may drink several gallons of water a day. The water location should be away from the feed trough. Electric waterers are convenient, but not a necessity. As long as a source of running water is close to the barn or lot, water can be carried to the pens. Large tanks or even five gallon buckets can work as water troughs. In the winter, the water must be managed so that it doesn’t freeze.

Hay feeders should be large enough to allow access by all lambs. They can be made of wood or wire, as long as they hold hay, and are slatted to allow lambs to eat without wasting too much.

Feed troughs can be made from any solid material. If the lambs are limit fed, the trough should be long enough to provide 9 to 12 inches of feeder space per head. If lambs are on a self feeder, they only need 1 to 2 inches per head, as they will not all be eating at the same time.

**FEED STORAGE:**
A separate building or room should be set aside for feed storage. It should be large enough to hold an adequate amount of feed for the flock. It is important to keep the feed dry so it doesn’t get rotten or moldy. Also, keep in mind that mice and other rodents will try to get at the feed as well. Hay and straw can be stored either inside a shed or in a separate lot. It is important that the construction of the hay and feed storage areas be good enough to keep the sheep from getting into it and overeating.

**WORKING FACILITIES:**
There are several reasons why we work sheep. We may give them medicine, weigh them, shear them or sort them. We sort sheep for a number of reasons. We may wish to sort the “good” ones from the “bad” ones, rams from ewes, ewes from lambs, or to pick the lambs out that we want to take to the fair. A good facility makes these activities much easier. For some of these activities, access to electricity is needed.

Show sample handling facility on Member Handout 2, Sheep Facilities.
The catch or holding pen should be a corral large enough to hold all the sheep at one time. It is advantageous if all lots and pastures open into the catch pen. A rounded design makes the sheep easier to move, since there are no corners to stop them. At one end of the crowding pen is the catch pen, usually consisting of a long swinging gate on the side of a somewhat triangular pen. The size of the crowding pen depends on the number of sheep you feel comfortable working with and the size of the working chute. It should hold a manageable portion of your lambs. The crowding pen crowds the lambs into the working chute. Chutes with solid sides work well. The chute should be narrow enough that the sheep must go through single file and not be able to turn around. The chute should be high enough to keep the sheep from jumping out, yet low enough for ease of handling. At the end of the chute should be a system of doors that allows one person to sort the sheep into at least two different pens. Some chutes may have access to a loading dock, which is a ramp allowing easier loading onto a truck or trailer. Some chutes may also have access to a scale allowing the weighing of individual lambs.

In some situations, permanent working facilities are not necessary, especially if you only have a few sheep. An adequate temporary facility can be made using steel posts, wire and wooden panels. Keep in mind that facilities should be economical, safe for both lamb and owner, and reduce the time and labor involved in working sheep.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What are the basic parts of your sheep pen? How might these parts change if your animals were not tame or halter broke?
2. What changes or improvements might you like to make to your pen? Why?

**Process:**
3. What aspects of sheep handling facilities are most important? Why?
4. What characteristics of sheep behavior have you encountered?
5. What type of facility design best accommodates an animal’s behavior? Why?

**Generalize:**
6. How would you plan for facility design if you were only feeding out market lambs? How does this differ from a lambing operation? How would it differ if you did both?

**Apply:**
7. What features would you include in an ideal sheep handling facility?
Leader Notes

ACTIVITY

8. What are important aspects of the work environment where a person works each day?

GOING FURTHER:
• Tour sheep farm and observe facilities.
• Tour a livestock auction and observe facilities.

REFERENCES:
Kansas 4-H Beef Curriculum
SID Sheep Production Handbook
SID Sheep Production Youth Guide
Sheep Housing and Equipment Handbook, 1982

Author:
Jereme Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
SHEEP HANDLING FACILITIES
SHEEP, LEVEL II
Member Handout 2, Sheep Facilities

SAMPLE HANDLING FACILITY

SAMPLE SHED FOR MARKET LAMBS

Open side fences
Solid chute panels (wood or steel)
Swinging gates

GATHERING PEN
FORCING PEN
SHEEP
GATE
SHED
PEN AREA

Water Bucket
Feed Trough

SORT PEN 1
SORT PEN 2

Drop Gate
Sort Gate
Sort/Treat Chute
Swinging Forcing Gate

Bucket
Feed Trough

15–Sheep, Level II
Directions: Answer the questions about the pen you keep your sheep in and then draw the pen. You will need a tape measure or yardstick to measure your pen. When you have finished, take this Exercise Sheet to the next meeting for your leader to check.

1. How many sheep do you keep in this pen?

2. Is your pen square, round, a rectangle, or another shape?

3. Is your pen inside or outside of the barn?

4. How tall are the gates? _______ feet and _______ inches

5. How long are each of the sides of the pen? Write their length next to your drawing.

6. How long is your feed bunk? _______ feet and _______ inches

7. How deep is your feed bunk? _______ feet and _______ inches

8. How long is your water tank? _______ feet and _______ inches

9. How deep is your water tank? _______ feet and _______ inches

10. Draw your pen below and remember to write how long each side of the pen is.
Sheep Behavior
*Sheep, Level II*

What Members Will Learn . . .

ABOUT THE PROJECT:
- Why sheep act the way they do

ABOUT THEMSELVES:
- Why their behavior is sometimes not perfect
- How they can change their own behaviors

Materials Needed:
- Activity Sheet 3, Behavior Jumble
- Leader’s Key, Activity Sheet 3, Behavior Jumble
- Flip chart and markers

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

Have you ever watched how sheep act around people or other animals?

There are many reasons why sheep act the way they do. Sheep mostly act out of instinct, but sometimes from learned experience. By understanding these factors, you can create a more stress-free environment for the lambs, and reduce the labor involved in managing them.

First of all, sheep are “gregarious.” That is, they like to stay together. It is known as flocking instinct. Where one sheep goes, the rest will likely follow. The flocking instinct is not as strong in some breeds (particularly black-faced breeds) as it is in others (wool breeds).

Lambs need companionship from other sheep, just as we like to have our friends and families around us. Lambs that have competition for food will eat more and generally be happier and healthier than those with no competition.

Because of the position of their eyes, sheep can see almost all the way around themselves.

The only real blind spot is directly behind the sheep. However, sheep have poor depth perception. This is the reason they tend to jump and be frightened by shadows or uneven floors. Some sheep may balk, and refuse to cross shadows. It is a good idea to keep your working chutes free from shadows.

Leader Notes

Ask members to name positive and negative sheep behaviors. List on flip chart.

Ask: What are the advantages of sheep staying in groups? List on flip chart.

Have the members see what their vision is. Have one person look straight ahead and another stand on each side of them. Without turning their head, check when they can see the other people.

Ask members to list some things that might scare sheep or cause them to balk, jump or run.
When trying to herd sheep, it is best to remain calm and try to stay behind them. If they see people to the side or in front of them, they may refuse to move forward. Also, sheep are very sensitive to loud noises.

Quieter, rattling noises are more effective because yelling and screaming causes the sheep to become confused and excited, and that makes them harder to work with. Sometimes it may be easier to get sheep through a gate by leading them with a feed bucket than by trying to chase them through.

Sheep will often remember previous experiences for up to a year or more. Older sheep may often remember the way to move through a chute or corral making sorting easier. However, sheep also remember the bad experiences. They may begin to associate the working chute with painful things such as vaccinations or ear tagging. In this case, it would get harder and harder to work them.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What did you find unusual about sheep behavior? Why?
2. What was one thing that you learned that you did not know before?

**Process:**
3. Why should you always remain calm with sheep?
4. What is “gregarious?” How can you use this when herding sheep?

**Generalize:**
5. Do you think people are “gregarious?” In what way?
6. When are some times in your life when it is best to remain calm?

**Apply:**
7. How can you use people’s behavior to get along better with others?
8. What is one of your behaviors that you would like to change? Why?

**GOING FURTHER:**
- Watch a flock of sheep and see how they behave.
- Go to a mall and watch people’s behavior. Is it similar to that of sheep? How?
REFERENCES:
Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
Complete the following word scramble. Each “jumble” of letters spells a word found within the discussion on sheep behavior. Using the clues, decipher the words and write them out in the spaces provided. To check yourself, write down (in order) all the circled letters in the spaces at the bottom of the page.

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<thead>
<tr>
<th>Clue</th>
<th>Jumble</th>
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<tr>
<td>sheep need ______________ from other sheep</td>
<td>CPMOANNOIPIHSH</td>
<td>_ _ _ _ _ _ _ _ _ _ _ _</td>
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<tr>
<td>sheep have poor depth ______________</td>
<td>PTIONCREEP</td>
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<tr>
<td>sheep like to stay together because they are __________</td>
<td>GGAROUSIRE</td>
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<tr>
<td>sheep often remember ______________</td>
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<td>OSRTHE</td>
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<td>ISTINTCN</td>
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<tr>
<td>Sometimes it’s easier to lead sheep with a feed __________</td>
<td>BTUCKE</td>
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# SHEEP BEHAVIOR

## SHEEP, LEVEL II

**Leader’s Key, Activity Sheet 3, Behavior Jumble**

Complete the following word scramble. Each “jumble” of letters spells a word found within the discussion on sheep behavior. Using the clues, decipher the words and write them out in the spaces provided. To check yourself, write down (in order) all the circled letters in the spaces at the bottom of the page.

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(check): **SHEEP ARE NOT STUPID**
Common Feedstuffs
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Basic ingredients in a sheep’s diet
• Basic roughages and concentrates

ABOUT THEMSELVES:
• The importance of a balanced diet

Materials Needed:
• Molasses
• Feed samples
• Activity Sheet 4, Feedstuff Definitions
• Leader’s Key, Activity Sheet 4, Feedstuff Definitions
• One or two human food product labels

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

Just as you or I eat a wide variety of foods, there are a number of grains and roughages that can make up a sheep’s diet. In addition to water, vitamins and minerals, sheep will graze on grasses or forbes and eat hay. They will also consume a variety of grains. The importance of water and some of the other nutrients is discussed in an earlier lesson.

Although grains (also known as concentrates) and roughages provide some of the vitamins and minerals necessary for healthy growth, some supplementation may be necessary.

Vitamin premixes—Supplement added to a ration to insure an adequate supply of the essential vitamins.

Salt—Commonly available as all livestock require salt to maintain healthy tissue.

Other minerals, such as calcium and phosphorous, are available in a variety of supplements. Trace mineral salt can be fed to take care of any other mineral deficiencies.

A large portion of many sheep diets comes from grazing on grasses and forbes. In addition, many plants are harvested and fed as hay when grazing is unavailable. Two commonly fed hays are alfalfa and brome.
Common Feedstuffs

Activity

Grass. Roughages provide bulk in the diet and are easily digested by ruminants.

Alfalfa—A very popular hay as it meets most of the sheep’s nutritional requirements and is very palatable to sheep.

Brome—A less expensive hay, fed to sheep with lower nutritional requirements.

Grains or concentrates are fed to sheep that require more energy than hay or grass can provide. When higher consumption is desired, grain is fed as it takes less storage space than bulkier hay.

Corn and milo—Grains which are high in carbohydrates and promote the fattening process.

Oats—It is higher in fiber and lower in energy than corn and milo and tends to promote more growth and less fat deposit. Generally more expensive than other grains.

Barley—Similar to corn and milo, except higher in protein and fiber. May be slightly less palatable to sheep than corn or milo.

While these grains provide energy, they may not provide enough protein. Therefore, we add a protein supplement.

Soybean meal—A common protein supplement. It is high in energy and palatability.

Sometimes, a well-balanced ration may not appeal to sheep. Sweeteners can be added to increase the palatability. These are especially necessary when young lambs are first learning to eat grain.

Molasses—A common feed additive that increases the palatability of the ration.

These are some of the common ingredients in many sheep rations. There are many others available. Most market lamb feeders will purchase a commercial completely balanced pelleted ration designed for a particular weight of lamb. Balancing rations will be discussed in other lessons.

Dialogue for Critical Thinking:

Share:
1. What ingredients are in your sheep’s feed?
2. Does your lamb like a certain kind of feed better than another? Why?
ACTIVITY

Process:
3. What is the main purpose of roughages? Minerals? Concentrates?
4. What type of feedstuff is needed most by a lamb? Why?

Generalize:
5. What types of food do you need the most? Why?
6. How are the foods you need different from those your parents need?

Apply:
7. Where do you find nutrient information for your food?
8. How do you know if you are eating a balanced diet?

GOING FURTHER:
- Visit a local feed mill and see how the ingredients are weighed and processed to make a complete ration.

REFERENCES:
Kansas 4-H Beef Leader Notebook (LN-1), 2nd Ed.

Authors:
Jeremy Geske, former Extension Assistant, Kansas State University
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Sheep Design Team
COMMON FEEDSTUFFS
SHEEP, LEVEL II
Activity Sheet 4, Feedstuff Definitions

Match the definitions with the appropriate feedstuffs.

___ Molasses  A. Mineral fed free choice to maintain healthy tissue
___ Salt  B. Added to rations to increase protein content
___ Oats  C. Grains high in carbohydrates and energy
___ Vitamin premixes  D. Bulky hay fed to sheep with lower nutrient requirements
___ Alfalfa  E. Elements such as calcium and phosphorus necessary for bone and other tissues
___ Corn or milo  F. Grain higher in fiber and lower in energy than corn or milo
___ Soybean meal  G. Grain similar to corn and milo with higher protein
___ Brome  H. Feed additive that increases the palatability of the ration
___ Barley  I. Necessary to maintain proper body functions
___ Minerals  J. High quality, high protein hay that is very palatable to sheep
COMMON FEEDSTUFFS  
SHEEP, LEVEL II  
Leader’s Key, Activity Sheet 4, Feedstuff Definitions

Match the definitions with the appropriate feedstuffs.

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How to Read a Feed Tag

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Identify five types of feed nutrients
• Identify feed nutrient sources
• Identify feed tag information

ABOUT THEMSELVES:
• Identify human foods and their primary nutrient
• The importance of a balanced diet

Materials Needed:
• Activity Sheet 5, Feed Tag Quiz
• Activity Sheet 6, Cereal Box Quiz
• Feed Tags from rations (Have members bring tag from their feed sack)
• Two or more cereal boxes
• Flip chart and markers

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Understanding the information written on a feed tag will help a member identify the ingredients of a specific feed, understand the nutrient requirements of an animal and eventually learn how to balance a ration.

Proper animal nutrition is the key to a successful livestock operation or 4-H livestock project. Sheep that don’t receive proper nutrition for growth and development will not be profitable and may even die.

Generally, feeds are classified into two categories: roughages and concentrates. Roughages are typically leafy green plants such as alfalfa or prairie hay, straw or silage. Roughages are less digestible than concentrates, meaning that it takes longer for them to pass through a sheep’s digestive system. Young ruminants do not have the capacity to eat enough low-quality roughage to achieve normal growth.

Concentrates include cereal grains (corn, wheat, barley and milo), oil meals (soybean, linseed and cotton seed), fish meal, packing plant by-products, molasses and dried milk products. Concentrates are high in energy, low in fiber and highly digestible.

Leader Notes
Since knowledge of feed constituents is necessary for this lesson, it is recommended that you conduct the lesson on common feedstuffs before teaching this lesson, OR, take a break at the feed mill and then continue with this lesson.
Leader Notes

Remind members that this is a review of the five food groups from Level I. List nutrient on flip chart and solicit purpose and sources from the group before listing on the chart. Show physical sample if still at the feed mill.

ACTIVITY

Regardless of feed type, all feeds include five basic nutrients: protein, energy (carbohydrates and fats), minerals, vitamins and water. Knowing what combination of these nutrients your feed supplies is critical to a good feeding program.

**Protein** supplies the materials essential for the growth and development of body tissues such as muscle. Most grains and roughages do not contain enough protein to meet the requirements of a young, fast-growing lamb. Therefore, protein supplements such as soybean, linseed and cotton seed meal are used to balance the lamb’s ration. Protein is expensive, so most producers try not to feed extra protein. For that reason, it is important to know your lamb’s requirement as well as the composition of the feed ration.

**Energy** is to your lamb what gasoline is to a car. Energy sources, such as corn, milo or barley, provide the energy for walking, exercise, growth, production and so on. Excess energy is stored as fat until needed by the body.

**Minerals** build strong bones and teeth as well as support other life functions of the lamb. Sheep need 16 different minerals in their diet. Calcium, phosphorus and salt (sodium chloride) make up the largest portion of a lamb’s mineral needs. Producers may add bone meal, dicalcium phosphate or limestone to achieve the proper balance of calcium and phosphorus. Trace mineral salts can be added to supply salt and a number of minor minerals.

**Vitamins** are also important, but needed in smaller amounts than other nutrients. Some rations may require a vitamin pre-mix (adding vitamins A & D) for proper nutrition.

Without **water**, life would not be possible. Many people consider water to be the most important nutrient in a lamb’s diet. Water is the cheapest and often the most neglected part of a lamb’s diet. A lamb’s body is over two thirds water, and water is necessary for many body functions. Most feedstuffs contain a small amount of water, not nearly enough to meet the lamb’s needs. Silage contains much more water than other feedstuffs.

Have you ever wondered what goes into a prepared lamb ration? The feed tag is an important tool. It tells us what ingredients are in the feed, as well as how much of various nutrients are contained in the feed. The tag may also include the weight of the feed, the brand name and manufacturer of the feed and feeding instructions. In some ways, a feed tag is a lot like the nutritional facts table on the side of the cereal box.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**

1. What are the feed nutrients?

2. What is the protein content for the feed you give your lamb?

30–Sheep, Level II
Process:
3. What is the main purpose of each nutrient?

4. What nutrient is needed most by your lamb? Why?

Generalize:
5. What nutrient might you find in other animal feeds?

6. Why do nutrient requirements vary for different ages of animals?

Apply:
7. Where else do you find nutrient information?

8. What nutrient is the most important on the label of the food you eat? Why?

GOING FURTHER:
• Arrange a trip to a local feed mill to see how the ingredients are weighed and mixed to make a complete ration.

REFERENCES:
Zurcher, Thomas D., University of Minnesota, Ag. Extension Service AS-11, ’81.
Kansas 4-H Beef Curriculum

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Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
HOW TO READ A FEED TAG
SHEEP, LEVEL II
Activity Sheet 5, Feed Tag Quiz

Carefully read the feed tag supplied by your leader and answer the following questions.

1. Which ingredients are the major energy sources of your ration?

2. Which ingredients are the major protein sources of your ration?

3. Which ingredients are mineral or vitamin sources of the ration?

4. What is the percent crude protein of your ration?

5. What is the percent crude fiber of your ration?

6. Does your ration contain molasses?

Molasses does contain energy and protein, but what is the major reason it is added to lamb rations? *(Hint—it is the same reason some people add sugar to their cereal.)*
Cereals are required to include nutritional information on the box. The label includes a list of ingredients as well as the percentages of recommended daily allowances, and amounts of some nutrients per serving. Compare two cereals.

1. Name of cereals:
   A: _________________________________  B: _________________________________

2. Main ingredient(s):
   A: _________________________________  B: _________________________________

3. Serving size (also servings per box):
   A: _________________________________  B: _________________________________

4. What does U.S. RDA mean?

   ________________________________________________________________________

5. Which vitamins are listed?
   A: _________________________________  B: _________________________________

6. Does the cereal provide 100% of your daily need of any of the nutrients? If so, which ones?
   A: _________________________________  B: _________________________________

7. Which nutrients increase when milk is added?
   A: _________________________________  B: _________________________________

8. Which nutrients are minerals?

   ________________________________________________________________________
Identifying the Parts of a Lamb And Wholesale/Retail Carcass Cuts

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• To identify the parts of a live lamb
• The wholesale cuts of a lamb carcass
• Major retail cuts of lamb

ABOUT THEMSELVES:
• Their preferred style of learning

Materials Needed:
• Activity Sheet 7, Parts of a Lamb
• Leader’s Key, Activity Sheet 7, Parts of a Lamb
• Activity Sheet 8, Lamb Carcass
• Leader’s Key, Activity Sheet 8, Lamb Carcass

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

LIVE LAMB PARTS
One of the first things that a member must know before moving on to different aspects of the sheep project are the proper names for the parts of their lamb. This will serve as the basis for many things such as judging, selection, and general discussion of sheep.

Leader Notes
There are many ways to teach this lesson.

1. Distribute Activity Sheet 7, Parts of a Lamb, with blank lines to be filled in by the members. Have members work in pairs to fill in as many as possible and then use the leader key to discuss answers and assist the members in completing their worksheet.

2. Using Activity Sheet 7, Parts of a Lamb, or a large drawing or poster, point out the different parts and have different members name the part. Team competition can be accomplished by having animal part names on slips of paper, dividing the group up into teams and having them take turns to see which team can identify where the part is on the animal. To add interest, put Velcro on the back of lamb part cards and have members stick them on a live lamb.
WHOLESALE CARCASS CUTS

Let’s review some terminology.

Carcass—the part of the animal we eat after the pelt and offal is removed

Lamb—the meat from young sheep

Mutton—the meat from mature sheep

Consumer—people who use lamb and wool

One of the major uses of sheep in this country and around the world is for meat. It is important to understand the different parts of a lamb carcass; and from which of these parts are the popular and expensive cuts made. The lamb carcass is divided into 6 wholesale cuts by the processing plant.

The most expensive retail cuts (those sold at the grocery store) such as lamb chops and rack of lamb come from the loin and rack. Lambs with a lot of muscle in these areas are desirable. A large portion of the meat obtained from a lamb carcass comes from the leg. It is commonly used in roasts and referred to as leg of lamb. The shoulder provides a lot of meat and is less expensive than the meat from the leg, loin or rack. It is typically used for roasts or arm chops. The breast and foreshank provide a relatively small amount of the total meat produced by a lamb carcass. The meat from these parts is inexpensive compared to the loin, rack and leg. Most common retail cuts from the breast and foreshank are riblets and ground lamb.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. What sheep animal parts did you already know?
2. What new parts did you learn?
3. What wholesale carcass parts did you know? Learn?

Process:
4. Why is it important to know the parts of a lamb?
5. Which parts do you think are the best indicators of muscling in a lamb? Why?
6. What are the similarities and differences between live and carcass parts?

Generalize:
7. What techniques did you use to learn the parts of an animal that will help you learn other things?
8. What did you discover about your learning habits?
ACTIVITY

Apply:

9. How will knowing the parts of a lamb help you in the future?

10. What learning techniques might you use next time to learn the purpose or importance of each part in addition to the name?

GOING FURTHER:

- Visit local processing plant.
- Prepare an exhibit showing the different parts of a lamb.
- Illustrate the parts of a sheep with a live sheep, allowing members to touch the sheep.

REFERENCES:

Kansas 4-H Beef Leader Notebook (LN-1), 2nd ed.
SID Sheep Production Youth Guide

Authors:
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IDENTIFYING THE PARTS OF A LAMB AND WHOLESALE/RETAIL CARCASS CUTS
SHEEP, LEVEL II
Activity Sheet 7, Parts of a Lamb

Match the part of the lamb with the correct number

**Parts**

1. chest (also known as the breast)
2. dew claws
3. dock
4. ear
5. eye
6. flank
7. hock
8. hoof
9. knee
10. leg
11. loin (together, the loin and rump make up the hind saddle)
12. muzzle
13. neck
14. pastern (area between the hoof and dew claws)
15. poll
16. ribs
17. rump
18. shoulder
19. back/rack
## Identifying the Parts of the Lamb and Wholesale/Retail Carcass Cuts

**Sheep, Level II**

**Leader’s Key Activity Sheet 7, Parts of a Lamb**

Match the part of the lamb with the correct number.

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![Image of a sheep with numbered parts]
IDENTIFYING THE PARTS OF THE LAMB
AND WHOLESALE/RETAIL CARCASS CUTS
SHEEP, LEVEL II
Activity Sheet 8, Lamb Carcass

Label the six wholesale cuts. Draw a line from the retail cut to the proper wholesale cut.
IDENTIFYING THE PARTS OF THE LAMB
AND WHOLESALRE/RETAIL CARCASS CUTS
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 8, Lamb Carcass

Label the six wholesale cuts. Draw a line from the retail cut to the proper wholesale cut.
IDENTIFYING THE PARTS OF A LAMB
Beginning Lamb Judging
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Major parts of the lamb
• What to look for in judging sheep
• Procedure to follow in judging a class of animals

ABOUT THEMSELVES:
• Importance of planning tasks step by step
• Decision-making process

Materials Needed:
• Sheep for judging, if possible 2 to 4 market lambs or 2 to 4 ewes, pictures or slides
• Activity Sheet 7, Parts of a Lamb (from previous lesson)
• Member Handout 3, The Ideal Lamb, Side View
• Member Handout 4, The Ideal Lamb, Rear View

ACTIVITY TIME NEEDED: 2 TO 6, 45 MINUTE SESSIONS

ACTIVITY

Learning to properly judge sheep for contest or business purposes is one of the best ways to become aware of sheep production goals. Sheep are raised according to guidelines set forth by individuals, businesses and research, but most of all by the demands of the consumer as to the type of product they desire. So, as lamb is being produced, producers are striving to supply the consumer with what they want in order to receive top price from the buyer.

Before beginning to judge, there are several factors to consider before placing or rank ordering, a group of animals:

1. Why do we judge lambs? (market or reproduction)
2. What characteristics make an animal valuable for the purpose?
3. How do the animals compare with the ideal animal?

JUDGING MARKET LAMBS
As you judge, develop a definite pattern or system. The first step is to get a good overall impression of the group and of each individual. You can get this best from about 25 feet away from the class.
Live market lamb evaluation is essentially an estimation of important carcass characteristics. The purpose of a market lamb is to produce a lean, heavily-muscled carcass. All other traits are relatively unimportant. The first thing we want is for our market lamb to have lots of muscle. We look for muscle in two main places, down the top and in the rear legs. If a lamb has a thick, firm top, it will have a lot of muscle in the loin. The loin muscle runs along either side of the spine, from the shoulder to hip. Longer-bodied lambs are desirable because they will have more length of loin. Also, a market lamb should have a thick, bulging rear leg. The leg also produces a large portion of the more valuable cuts of a lamb carcass. A lamb that is narrow and pointed along its top, and flat along its rear leg is light muscled and will yield a poor carcass.

**Side View**
The following characteristics should be considered when viewing the lamb from the side:

1. General conformation and size. A good animal is rectangular in appearance.
2. Straightness of top and bottom lines.
3. Length of rump.
4. Levelness of rump.
5. Length of body measured from nose to tailhead.
6. Trimness of body.
7. Length of leg.
8. Correctness of leg (straightness).
9. Amount of muscling in forearm and leg.
10. Trimness and cleanliness of breast.

**Rear View**
In observing a lamb from the rear, the lamb is evaluated for:

1. Width and depth of leg.
2. Depth of twist.
3. Turn or roundness of top.
4. Uniformness of width in back, loin, and dock.
ACTIVITY

Front View
In observing a lamb from the front, the following characteristics are observed:

1. Width between the front legs.
2. Muscling in the shoulders.
3. Trimness of breast.
4. Soundness and correctness of front legs.
5. Size and shape of head.

The second thing to look for in a market lamb is the amount of fat, also known as finish or condition. It is desirable for lambs to be very lean. Some good places to look for fat on lambs are down the spine, along the ribs behind the front leg, and across the chest. Run your fingers down the center of the top of the lamb. The leaner the lamb, the more easily you will be able to feel the bumps indicating the bones of the spine. It will be more difficult to feel the spine on a fatter lamb. Next, run your fingers along the ribs, right behind the front legs. On a lean lamb, you should easily be able to feel each rib. As lambs get fatter, the ribs will be covered and more difficult to feel. Also, the lamb may deposit condition on its chest. Feel the chest to check for this. If you are unable to handle the lambs, judging becomes more difficult. Then you have to train your eye to see differences in fat and muscle. Remember—muscle is round or curved and fat is flat!

A few other things may influence the final placing of a market lamb class. The size of the lamb may be important, as a larger lamb may yield a heavier carcass with the potential for more total pounds of muscle. The normal range for market lambs is from 90-140 pounds. Lambs should be level topped, and deep bodied, yet trim middled. A lamb with a big belly could be a wasty lamb.

PLACING A CLASS
Now you know what to look for in an ideal lamb and you are ready to compare lambs or judge a class of four sheep. The sheep will be numbered from left to right with you standing behind them. Place the lamb that is closer to the ideal first, the next one second and so on.

If you become confused, step back and remember what the class is being judged for (market or breeding) and how the lambs compare to the ideal. Remember, your first impression is usually correct.

An orderly system of judging should be followed each time a group of sheep is judged. Judging is composed of five steps: 1) an overall view; 2) side view; 3) rear view; 4) front view, and 5) close inspection.

Leader Notes
Refer to Member Handout 3, The Ideal Lamb, Side View, while discussing the front view of the lamb.

If it is possible, have two market lambs to compare, or a class of four animals as a summary to this session. Have members select the best animal in each pair or place a class and tell why they selected the animals. Pictures or slides could also be used.
JUDGING BREEDING SHEEP:
Visual evaluation of breeding sheep is more difficult because there are a lot more factors that need to be considered. The profitable breeding sheep is structurally and reproductively sound, highly productive, growthy and efficient. Although muscle is still important, it is not as important as in market lambs. Also, breeding sheep do not need to be as lean as market lambs, but still shouldn’t be excessively fat.

A growthy sheep is a big framed animal. One that is tall at the shoulder, and very long from front to rear. A good sound structured sheep will be more efficient, more productive and live longer than a poor structured sheep. A sound structured sheep is heavy boned, stands straight and square on all four legs, and walks with a long, easy stride. A sound structured sheep is also level down its top, from shoulder to dock, giving it more internal volume in which to take in feed and convert that feed to energy and growth.

The purpose of breeding stock is to reproduce; therefore, visual evaluation of the external reproductive organs is important. In addition, a lamb should be well-balanced, alert and generally eye appealing. Ewes should have a refined, feminine appearance. Rams should be rugged and masculine. If evaluating wool breeds, quality of fleece is another consideration. The fleeces of wool breeds should be fine, dense and uniform (as discussed in other lessons on wool and wool judging). Breed characteristics may also be important.

When judging a class, rank the lambs in order from the one you feel combines the most of the “good” qualities with the fewest “bad” qualities to the lamb that has the least “good” qualities and the most “bad” qualities.

SUMMARY
Live animal appraisal is used by all segments of the sheep industry—whether you are a producer selecting a project animal or a member of a livestock judging team.

DIALOGUE FOR CRITICAL THINKING:
Share:
1. What items do you see best from each view? (Rear, side, front)
2. What items do you determine by touch?
3. What was the most difficult item to determine? Easiest? Why?
ACTIVITY

Process:
4. What are the major differences to consider when selecting market versus breeding sheep?

5. Why is it important to develop a pattern, procedure, or sequence when judging sheep?

Generalize:
6. When do you need a procedure or pattern to do other things? List and discuss.

7. What did you learn about yourself as a result of the process in this lesson?

Apply:
8. When might you use this evaluation process in the future? Why?

GOING FURTHER:
- Evaluate your project animal(s) and describe good and bad points.
- Judge your project animals. If there is more than one, select the best animal. Tell why the decision was made.
- Visit a local livestock auction and practice evaluating animals and guessing weight.
- Participate in a livestock judging contest.
- Take a field trip to a livestock show and judge animals in a class. Compare decisions with an official judge.
Leader Notes | ACTIVITY
---|---

**REFERENCES:**
4-H Livestock Judging Guide, S-92, Kansas State University Extension Distribution Center
Kansas 4-H Beef Leader Notebook, LN-1, 2nd Ed., Kansas State University

**Author:**
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**Reviewed by:**
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Sheep Design Team
BEGINNING LAMB JUDGING
SHEEP, LEVEL II
Member Handout 3, The Ideal Lamb, Side View

- straight topped
- muscular, thick, long loin
- long, level rump
- square rump and dock
- deep, full, bulging leg
- legs set wide apart
- trim fronted
- trim breast
- deep bodied
- trim middle
- correct set of legs
- heavy boned
BEGINNING LAMB JUDGING
SHEEP, LEVEL II
Member Handout 4, The Ideal Lamb, Rear View

- muscular, deep loin edge
- clean turn of top
- deep, full leg
- thick and square through dock
- thick, meaty and full through center and lower leg
- legs placed wide apart

- muscular forearm
- muscular deep loin

- trim neck and breast
- muscular arm and forearm
- deep, wide chest floor
- bold spring of rib
- deep bodied

- trim, firm finish
- firm, trim leg
- plump and full through center and lower leg
- long across stifle
- correct set of legs

50–Sheep, Level II
ABOUT THE PROJECT:
• Methods of identifying lambs
• Why identification is important

ABOUT THEMSELVES:
• The importance of good identification

Materials Needed:
• Activity Sheet 9, Let’s Play Tag
• Ear tags and applicators
• Ear notcher
• Tattooer
• Paint brands
• Strips of corrugated cardboard

ACTIVITY TIME NEEDED: 45 MINUTES

ACTIVITY

One of the major tasks of a sheep breeder is to obtain or design and implement a record-keeping system. Record keeping is exceedingly important if you are to utilize any type of selection or evaluation program. If you don’t have records, it is difficult to make accurate decisions regarding the management of your sheep flock. A record-keeping system can be very extensive. Records may be kept on everything from lamb weights and sale prices to feed costs and feed usage. One constant; however, to any “good” record-keeping system is some form of individual identification.

Sheep can be identified in a number of different ways. Paint brands and chalk marks are short-term, temporary methods of identification. For example, when administering some form of medication to the flock, chalk marking the ones that have received the medication prevents any from being missed or from receiving multiple doses. Paint brands last a little longer than chalk, but are still only temporary, and may de-value the fleece. By paint branding a ewe and her lambs with the same number, a shepherd can identify those ewes which weaned the best lambs. This does not, however, reveal any previous years performance. In other words, you only have the current year’s production to base your selection on. Paint branding is easy to do and can be read from long distances; however, it can be messy.

Leader Notes

This lesson is for members to learn about identifying lambs at birth for a flock. Be sure to talk about the weighing and tagging system used for county and state shows.
The most common method of sheep identification is ear tagging. There are many different types of tags and applicators. Most 4-H lambs are identified with ear tags. Ear tagging is an easy, relatively inexpensive method that usually lasts much longer than paint branding. It is not, however, permanent, as tags may be lost. Ear tags are usually made of plastic and come in a variety of colors, shapes and sizes. Ear tags are relatively easy to read if done properly and with the appropriate size of ear tag. Some tags may have the flock name printed on back as a means of identifying ownership.

The tag should be attached to the outer half of the ear. Puncture the ear between the veins to avoid excess bleeding.

The type of ear tag you use on your sheep often depends on personal preference. A good ear tag is easy to read, convenient to use and is difficult for the sheep to lose.

Tattooing is one permanent method of identification. Many registered sheep are tattooed in the ear to insure correct identification in the event that the ear tag is lost. In order to read a tattoo, the sheep must be restrained. A tattoo tool is sort of like pliers. It has a flat end, and a jaw for the adjustable number needles. A lamb’s ear should be cleaned. Squeeze the tattoo plier with the number needles on the inside of the ear. Remove the plier and rub the tattoo ink on the inner ear where the needles contacted the skin. The ink dries in the depressions made by the needles and you have a permanent mark inside the lamb’s ear. There are a variety of tattoo applicators available. Most have three or four adjustable numbers and/or letters which can be arranged into the desired tattoo. As you might expect, tattoos are more difficult to read on black faced sheep.

Ear notching is a very old method of permanent identification. It can be done with a pocket knife or a commercial notching plier. Typically, notching the end of the ear is used more as a means of culling than as a means of identification. At any time during the year, the shepherd may notch the ear of any sheep he or she feels must be culled. When it comes time to sell, the sheep with ear notches are easy to sort from the rest. Also, you don’t have to worry about misreading an ear tag, or losing the list of tag numbers of the sheep you had written down to cull.

Another method of permanent identification is nose printing. That will be discussed in another lesson.

Once you decide on a method of identification, a numbering system must be installed. This applies mostly to ear tags, but may also be used for paint brands or tattoos. The numbering system can be very simple to very complex, depending on your needs. Some ear tags are pre-numbered, while others are blank. Blank tags allow you to develop a more complex numbering system. Typically, a lamb’s ear tag should convey at least two items of information, the lamb number and the year of birth. Some
systems may also include some reference to sire or breed. It is important to develop a system that you, the owner, can understand. For example, lamb # 9401 or # 94-1 might indicate the 1st lamb born in 1994. Conversely, # 9513 or # 95-13 might be the 13th lamb born in 1995. It may be difficult to put more than 4 or 5 numbers on a sheep ear tag; therefore, if you have a large number of lambs, you may need to alter the system. Sometimes, producers change the color of the tag each year. For instance, lamb # 201 with a green tag might be the 201st lamb born in 1993, while lamb # 002 with a blue tag might be the 2nd lamb born in 1994. The year could be shortened to just 1 digit like 3-27 (being the 27th lamb born in 1993). On the other hand, some sheep live for more than 10 years which could lead to more than one sheep with the same number in your flock. This could cause havoc with your records. A letter code could be used for year such as 7Z or 3X (being the 7th lamb born in 1990 and the 3rd lamb born in 1988, respectively). If color of tag is not being used to indicate year, it may be used to indicate sire. For example, all lambs with red tags are by sire A, lambs with white tags are by sire B and lambs with black tags are by sire C. If a flock consists of multiple breeds, a numerical or alphabetical code may be used to indicate breed of lamb or of sire.

Typically, when a lamb is born, it is given a number. That number and the dam’s number are recorded. Any future data collected can then easily be traced to the individual, its’ dam and possibly sire as well. Data can be used to make selection decisions on the lambs and the parents. It sounds very complex, but it can be as simple as you want to make it. It all depends on how much information you wish to know simply by looking at the ear tag.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. How do you identify your sheep? Why do you do it this way?

2. Do you think if you had a large flock of sheep your I.D. method would change? Why or why not?

**Process:**
3. Why are some sheep tattooed?

4. Is ear tagging a permanent method of Identification? Why or why not?

**Generalize:**
5. Why is it so important to have a good, functional and efficient I.D. system?

6. What kind of identification do you have? Why is it so important?
Leader Notes | ACTIVITY
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**Apply:**

7. What would happen if you were watching a football game on TV and all the players had the same numbers and looked the same. How could you tell who the quarterback was, or what his statistics were?

8. What forms of identification will you need in the future? Why?

**GOING FURTHER:**

- When buying show lambs, ask the producer to explain I.D. of the lambs you purchase.
- Have a sheep producer come in and talk about his/her identification system.

**REFERENCES:**

Kansas 4-H Beef Leader Notebook (LN-1), 2nd ed.
SID Sheep Production Handbook

**Author:**

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Sheep Design Team
WHICH ONE? LAMB I.D.
SHEEP, LEVEL II
Activity Sheet 9, Let’s Play Tag

1. On tag (A), indicate how you might identify the 43rd lamb born in 1995, if you had a small flock and used only one sire.

2. Repeat this for tag (B), but assume that you are expecting more than 1,000 lambs to be born in 1995, and that you aren’t concerned about sire.

3. Repeat part two for tag (C) assuming that you used multiple sires, that this lamb is out of sire J, and that sire information should be indicated by the tag.
Nose Printing Lambs
Sheep, Level II

What Members Will Learn...

ABOUT THE PROJECT:
• The purpose of nose prints.
• The market lamb show nomination process.
• How to take a good print.

ABOUT THEMSELVES:
• Importance of sequence and timing.
• Patience.

Materials Needed:
• Market Lamb Nose Print Nomination KJLS and KSF, MG-30,
  (Minimum one card per lamb or member)
• Nose board
• Two or three lambs
• Terry towel
• Felt ink pad
• Black ink
• Small clip board
• Member Handout 5, Nose Print Samples

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Nose printing is a supplemental identification process to other identification procedures such as ear tagging. To be effective, nose printing requires:

• clear prints with good definition
• an experienced print reader

Nose prints are a dependable way of identifying individual lambs. The “nose print” pattern does not change and is individualistic like fingerprints. The print pattern can be stretched, skewed to one side or compacted, depending on how the lamb is held. Stretching, skewing or compacting the pattern makes the print difficult to compare to a print from a more normal, relaxed position of the nose surface.

Leader Notes
To illustrate what will happen with sheep, use the equipment to fingerprint each member. Compare fingerprints to lamb nose prints. When are human fingerprints used? Why?

Discuss with the group the purpose of nose printing (permanent identification). When is this helpful? Why is it required for major shows?
THE SYSTEM
The first step in the system is to take the nomination prints. This is usually done along with ear tagging when a member declares a lamb as an official nominee in a lamb show. (Approximately 90 days before the show.) The nomination card, with the nose prints on the card, is sent in with the appropriate fee to nominate a lamb. If the prints are legible, the nomination is accepted and the lamb is eligible to be entered in the show requiring the nose print nomination.

Additional prints are taken to confirm the identity of the lamb. The second (or additional) print is compared with the nomination print. If the reader declares that they match, the two prints are stapled together and refiled.

Additional prints may be taken:
• when the lamb loses an ear tag
• when the lamb is brought to a show
• when there is a challenge or dispute regarding identity
• when the lamb places in the top two of its class at a show

PROCEDURE
The nose printing operation should be set up in a convenient place, both for bringing in the lamb and for the nose printer. A metal fence section in a runway or a metal gate works quite well. A nose board will help constrain the lamb. The board is about 10” × 14” with an oval hole approximately 3” × 4” in the middle. The side of the board facing the lamb and the edge of the hole should be padded to protect the lamb. Carpeting or carpet padding works well. A 1/4-inch hole in each corner of the board allows wiring to fence rails. The board should be positioned to match the nose height of most lambs to be printed. A helper can also constrain a lamb by standing over the lamb and holding the head up with one hand on either side of the head. It is very important that the head be held still during printing. Any movement will blur the print.

The following procedure is suggested:

1. Clean and dry the nose with a terry towel.

2. Ink the nose by “patting” the nose with a “felt” ink pad that has had a light to moderate application of black ink. Using a “foam” pad, pressing too hard, and/or having too much ink on the pad will result in prints with little or no definition.

3. Pat the card against the nose to take the print. A light, quick pat or press will result in an acceptable print. Movement of the nose, rolling, and/or pressing the hand will result in poor prints.
From the time the nose is cleaned, the printer has about 2 to 5 seconds to get a print before the nose becomes too moist. White face, fine wool lambs seem to remoisten the nose surface faster than black-faced lambs. A lamb’s nose will moisten quickly on a hot afternoon or evening, especially after being hauled in an enclosed trailer. If a lamb “wets-up” its nose too quickly to permit a good print, try printing that lamb early in the morning.

If the print is smeared, take it again. Start all over by cleaning the nose. If the print is light, press harder or add a small amount of ink to the pad.

Each printer will have to develop their own style of pressing the card against the nose. Putting the card on a small clipboard works for some. Clipping the card to a piece of cardboard is another method. Another successful method is to attach the ink pad case to one side of a board or clipboard and use clips to hold the card on the other side. This allows you to quickly ink the nose and print the lamb after cleaning and drying the nose.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What was the result of your first attempt to nose print? Why?
2. What was the most difficult aspect of nose printing?

**Process:**
3. What is the purpose of nose printing?
4. Why are lambs nominated with a nose print for shows?
5. What is significant about the sequence of the steps in the nose printing procedure? Why?

**Generalize:**
6. What other skills have you learned that require a set procedure?
7. How important is patience when learning a procedure? Why?

**Apply:**
8. What is the significance of human finger printing in the current society? (Ex. Identify lost children, etc.)

**GOING FURTHER:**
- Observe lamb nose printing at a weigh-in or show.
- Demonstrate to a group how to take a nose print.
- Learn to read and compare noseprints.
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<th>Leader Notes</th>
<th>ACTIVITY</th>
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<td>REFERENCES:</td>
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<td>This lesson was modified from original material in the Texas 4-H Sheep Project Lessons by David E. Kehler, County Extension Agent, Kansas with adaptation by: James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University</td>
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NOSE PRINTING LAMBS
SHEEP, LEVEL II
Member Handout 5, Nose Print Samples

ACCEPTABLE PRINTS

UNACCEPTABLE BECAUSE OF MOVEMENT

UNACCEPTABLE BECAUSE OF MOISTURE

61–Sheep, Level II
Recording Your Sheep Project

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• How to record receipts and expenses
• How to record feed fed
• Other costs involved in a sheep project

ABOUT THEMSELVES:
• Importance of record keeping

Materials Needed:
• Sheep Member Guide and Annual Report (MG-37)
• Activity Sheet 10, Sheep Project Worksheet (2 pages)
• Pencil
• Flip chart and markers

ACTIVITY TIME NEEDED: 45 MINUTES

ACTIVITY

After you have bought your lamb, the work really begins. It is now time to record your learning and doing goals on the Member Achievement Plan (MAP) of your Sheep Member Guide and Annual Report.

MAP Step 8 of the member guide is where you record what you learn about your lamb and yourself and also what you do, have trouble with, or maybe what you tried and could not do!

But, where do you record what it costs to feed and take care of your lamb? Some may wish to list these items in their Journal (Map Step 8) while others may keep a notebook in the barn. It doesn’t really matter “where” you keep this information, but it is important to keep the information where you can easily find it and know what your lamb is doing and the costs involved in keeping a lamb.

This information needs to be available so that you can use it in times of sickness, to prepare a talk, or maybe to share with a banker to help get another loan for additional feed.

Here is another option to record your project information. The Sheep Project Worksheet may be used for lambs, ewes, or flocks. A ewe production record is in Level III for older members.
The summary page of the Member Guide and Annual Report includes a description of your animals and their weight and value at the beginning and end of the project, etc.

The income portion of the worksheet includes sheep and wool sold plus any show premiums won.

The expense portion of the worksheet begins with a place to list all sheep purchased for the project. List all feed costs including any hay or grain grown at home that is fed to your sheep. Home grown feed should be weighed and given a market value at the time it is fed.

Pasture rent for ewes should be listed by number of days and rent price or value for the specific type of pasture (native, brome, stalks, etc.).

Other expenses include everything you bought or paid for except original cost of animals and feed costs. This might include costs of implants, eartags, shots, registration fees for ewes, veterinary costs, feed pans or buckets, pens, shed, halters, grooming supplies, show expenses, such as entry fees, and gas for the pickup (when buying, selling, or showing).

The profit or loss summary is where you add up all of your income after you sold a market animal or the value of a ewe at the end of the year. Subtract all of your feed costs (including pasture), other expenses, and of course, your cost of paying for the lamb at the beginning.

If you sold your lamb at a premium auction rather than on the regular market, figure your profit or loss using both income values and compare the differences.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**

1. What do you think will be the largest expense? Smallest expense? Why?

2. What do you think will be the most difficult part of the worksheet? Easiest? Why?

**Process:**

3. Why is it important to keep a recording of what happens in a sheep project and the costs involved?

4. What is the difference between “market price” and a “premium price” that you might receive at a 4-H auction?

**Generalize:**

5. What will you learn from using this worksheet? Why?
### ACTIVITY

#### Apply:

6. How can similar worksheets be used in other projects or with personal purchases that you make?

7. How might a computer enhance your record keeping efforts?

#### GOING FURTHER:

- Compare this record to those your parents keep.
- Visit a producer or downtown business and ask them to show and explain their record keeping system.
- Put your records on a computer and develop your own form.
- Give a talk on record keeping.
- Ask a banker what records are required for a loan.

#### REFERENCES:

Kansas Beef Leader Notebook

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**Reviewed by:**

Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University

Sheep Design Team
## Sheep Project Expenses

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<tr>
<th>Date</th>
<th>Description of sheep bought</th>
<th>Hd/lbs</th>
<th>Price Hd. or lb.</th>
<th>Expense</th>
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**Total cost of sheep (A)**

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<th>Date</th>
<th>Description of feed costs</th>
<th>Quantity</th>
<th>Price/Unit</th>
<th>Expense</th>
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**Total Feed Costs (B)**

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<tr>
<th>Date</th>
<th>Other expenses (labor, rent, entry fees, supplies, etc.)</th>
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**Total Other Expenses (C)**

**Total all Expenses (A + B + C) = D**
RECORDING YOUR SHEEP PROJECT
SHEEP, LEVEL II
Activity Sheet 10, Sheep Project Worksheet, continued

Sheep Project Income

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<thead>
<tr>
<th>Date</th>
<th>Description of sheep sold</th>
<th>Quantity (Hd/lbs)</th>
<th>Price (Hd/lbs)</th>
<th>Income</th>
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Total income from sheep/lambs (E)

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<thead>
<tr>
<th>Date</th>
<th>Wool sales</th>
<th>Quantity</th>
<th>Price/lb</th>
<th>Income</th>
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Total income from wool (F)

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<th>Date</th>
<th>Other Income (show premiums, etc.)</th>
<th>Income</th>
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Total Other Income (G)

Total all Sheep Income (E + F + G) = H

Profit <Loss> of sheep project (H – D) =
Setting a Sheep on its Rump

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
- Proper way to catch and hold a lamb
- How to set a lamb on its rump

ABOUT THEMSELVES:
- The value of practice when learning skills

Materials Needed:
- Small pen
- Live lamb

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

When working with sheep, there are several management practices, such as shearing and trimming hooves, that can be accomplished easier if the sheep is set on its rump. By using the proper technique, a sheep can be set on its rump with little effort by the member and little chance of injury to the sheep or the handler.

The first step to catch a sheep is to reduce the space the sheep has to run. Move quietly and slowly to herd the sheep into a crowding/sorting pen or section off a small area of the barn with portable sheep panels. Position yourself behind the lamb and quickly grab the rear flank and lift it off the ground and toward your body. Place your free hand under the lamb’s jaw. Release the flank and place that hand on the neck or behind the lamb’s head. If you try to grab a sheep by the leg it will kick, causing injury to the lamb, the handler, or both. Also, you should not grab a sheep by the wool as it will cause bruises that reduce the value of the carcass. When you have a hold of the sheep’s head, (under the jaw) it will be easier to control if you tilt the nose upward. A sheep with its nose tilted up will be less likely to move forward, but may try to back up if the nose is tilted too high.

Now that you have control of the sheep, the next step is to set the sheep on its rump. You should be standing with your knees pressed against the sheep’s left side with your left hand under the sheep’s jaw (sides may be opposite for left-handed members). Being contrary in nature, the sheep will push against your knees. This is to your advantage as the sheep is

Leader Notes

Study lesson on sheep behavior before this lesson.

Have one or two older members try to catch a lamb and set it on its rump without telling them the proper method. Observe and comment on difficulties. Note: Start in a small pen so members don’t chase and scare lambs.
then slightly off balance. In one smooth, quick motion, twist the sheep’s head sharply over its right shoulder, remove your knees from the sheep’s side and press your right hand against the sheep’s right hip. By doing these three things at the same time, the sheep’s rump should swing around toward you and the sheep should be off its feet. The sheep should be braced in a sitting position between the handler’s knees. With none of its feet touching the ground, the sheep should not struggle very much, and the handler’s hands should be free to trim the hooves or otherwise treat the lamb.

There are other methods for setting a sheep on its rump; however, when done properly, this method is easiest and it is very safe for both sheep and handler.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What happened when you first tried to catch your lamb? Why?
2. What was the most difficult part of setting your lamb on its rump? Why?

**Process:**
3. What problems did you have when catching and setting your lamb on its rump?
4. When do you need to use this method of holding a lamb?

**Generalize:**
5. What skills did you need to do this activity?
6. How important is practice when learning new skills?

**Apply:**
7. What other things do you do that require lots of practice?
8. What are some skills that you have that did not require lots of practice? Why?

**GOING FURTHER:**
- Watch a sheep shearing demonstration or visit a flock at shearing time.
- Observe a shepherd catch and inspect a lamb.
REFERENCES:
Michael Malinski, University of Minnesota, Ag. Extension Service AS-56 ‘81.

Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

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Sheep Design Team
How to Give a Shot
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Different types of shots given to sheep
• How to give intramuscular, intravenous and sub-cutaneous shots to sheep
• How to identify various syringes

ABOUT THEMSELVES:
• Sometimes it is necessary to get a shot to ensure good health
• Importance of using medicines or drugs according to the directions

Materials Needed:
• Disposable 100 cc syringes (1 per group)
• Disposable needles (1 per group)
• Various sizes of disposable syringes
• Bananas (1 per group)—oranges may be used if bananas are unavai-
  lable
• Water in a cup (1 per group)
• Flip chart and markers

ACTIVITY TIME NEEDED: 30 MINUTES

ACTIVITY

Just like people, sheep must have their shots in order to stay healthy. There are many different kinds of shots and each kind has its own way of working in the lamb’s body. Some vaccines work best when they are inserted just below the skin, but not into muscle. Some should be given into the muscle and some are even given directly into the vein. We’re not going to talk about which ones go where, because there are so many, but we’re going to talk about the places to give the shot.

There are many kinds of syringes used to give shots. Some are plastic and are used a few times and thrown away. Some are glass and metal and can be used many times. There are many sizes of syringes, because some vaccines require small amounts to be effective while others require large amounts for larger animals.

We are going to use real needles and syringes to learn how to give shots today. So, you must be very careful. Do not play with them. They are

Leader Notes

Survey members to see what type of shots they have had and why.

Show the different kinds of syringes, but do not pass them around. Set up a display table where the members can see the syringes after the lesson.

To each group, hand out a banana, cup of water, and syringe with the needle already on it and still covered.
sharp and could puncture your skin. The banana has a thick skin, just like a sheep, and we can use it to learn how to give shots.

**INTRAMUSCULAR**
The first shot we’ll give is intramuscular or IM. “Intra” means within, and “muscular” means the muscle, so intramuscular means within the muscle. So, when we insert the needle, it needs to go through the skin and inside the muscle of the lamb. This shot is for medicine or vaccines that must be absorbed slowly by the lamb. Intramuscular shots should be given in the neck muscle behind the ears. Do not give these shots in the rump or leg as there is a possibility of leaving a residue or scar area in the most valuable meat of the lamb.

Taking turns and being very careful, let one person in the group take the cap off the needle. Holding the needle facing the table top and away from people, pull the plunger back to fill the syringe with air. Push it out to get the feel of the syringe. Then place the end of the needle into the cup of water and pull the plunger back again to fill the syringe with water. Now, pick up your banana. Insert the needle through the skin of the banana and into the soft “meat” of the fruit. The needle should go into the banana nearly the full length of the needle. Holding the syringe steady, push the plunger in slowly so that you release a little water into the fruit. Don’t release very much as the fruit isn’t big enough to hold much extra water. When you’ve released the water into the banana, let go of the plunger and holding the syringe, pull it slowly out of the banana. Put the cap back on the needle and hand it to the next person in your group.

**SUB-CUTANEOUS**
The next shot is called sub-cutaneous. “Sub” means under or below and “cutaneous” is the skin. So, “sub-cutaneous” means under the skin. This shot is not to be given in the meat of the lamb, but just under the skin. So, when we practice, we need to be careful that we only get the water under the skin of the banana. It is most common to give this shot in the skin of the lamb’s neck.

Carefully take the cap off the needle (there should still be water in it from the first time) and pick up the banana. Holding the syringe at a slight angle with the banana, slowly insert the needle into the skin and slide it just under the skin of the fruit, not into the meat. Holding the syringe steady, slowly release a little water into the fruit. Then withdraw the needle, put the cap back on and hand it to the next person in your group.

**INTRAVENOUS**
The last shot is called intravenous. What does “intra” mean again? “Intra” means within and “venous” means the vein. So, what does “intravenous” mean? It means within the vein. This may be used to draw blood from the lamb or give it a medicine that must get into its system very quickly. The vein that is usually used to give an intravenous shot is the jugular vein in the neck of the animal alongside the throat.

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**Be sure everyone understands the danger of the needles and do not let anyone misuse them!** You should stand at the front or middle of the group with your own equipment to show how to do the shots. Let members work in pairs. One hold the banana and one give the shot, then switch.

As members give shots; record the types of shots, their uses and locations on the flip chart.
ACTIVITY

Pick up your banana. The edge that runs along the side of the banana is going to be the vein for us today. So, you will want to insert the needle into the vein, but not through it. Carefully take the cap off the needle and hold the syringe at a slight angle to the banana. Push the needle through the first layer of skin and slowly push it along the vein until most of the needle is buried in the skin. Do not get under the skin as in the last shot, you should still be inside the skin and in the edge of the banana. Slowly release some water into the banana and withdraw the needle and put the cap back on.

Now, let’s review these shots and the locations we give sheep.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. Which shot was most difficult? Easiest?

2. What types of shots (injections) did your lamb need? Why?

Process:
3. What problems did you have while giving the shots? Why?

4. Why is it important to give a shot (injection) in the correct place or manner?

5. Which type of shot is absorbed fastest? Slowest? Why?

Generalize:
6. How important are shots, vaccinations, or injections in other animal projects?

7. When have you needed a shot? Why did you need it?

Apply:
8. How will understanding shot location help you understand the purpose of the medicine in the future?

9. What can you do differently next time to make it easier to give each type of shot?

GOING FURTHER:

• Visit a veterinarian and watch him/her give shots to live animals.
• Visit each member’s home and give their lamb the shots it needs.
• Have group members give demonstrations on giving shots at a club or project meeting.

Leader Notes

All shots for each lamb should be recorded by date, type and purpose. If this information is first recorded on a calendar or pocket notebook, transfer the information to your permanent records.

Review the three types of shots from the flip chart and show the location on a live lamb, picture or drawing.
Leader Notes

ACTIVITY

REFERENCES:
Kansas Beef Cattle Handbook, Animal Sciences and Industry, Kansas State University, Weber Hall, Manhattan, Kansas

Author:
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Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University Sheep Design Team
Common Sheep Parasites
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• How to identify the common sheep parasites
• The life cycle of worms
• Prevention and treatment of various parasites

ABOUT THEMSELVES:
• Importance of parasites
• The significance of each phase of a cycle

Materials Needed:
• Member Handout 6, Life Cycle of a Parasite
• Activity Sheet 11, Pest Test
• Leader’s Key, Activity Sheet 11, Pest Test
• Slides or pictures of various internal and external parasites or sheep infested with such parasites.
• Diagram of the life cycle of certain parasites.

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

First, let’s define parasite. A parasite is an organism that lives on or within another organism at the expense of the “host” without offering anything in return. There are two basic categories of parasites that infest sheep, internal and external. Internal parasites are those that live within the body of the sheep, while external parasites live or feed on the outside of the sheep’s body.

The most common internal parasites are worms. Worms are a serious problem in Kansas because they can easily be transmitted from sheep to sheep. If one sheep has worms, it is highly likely that most of the flock will also have worms. Worms cause damage by eating the food the sheep eats before the sheep has time to digest the nutrients. In other words, the sheep does the work of eating and the worm gets the nutritional benefit. Worms may also damage the lining of the sheep’s digestive tract making it more difficult for the sheep to digest food.

Sheep with worms don’t gain weight as well as they should. Other symptoms may include diarrhea, coughing, weight loss, going off feed, difficult breathing and blood in the manure. However, these symptoms are

Leader Notes
Read through the discussion on parasites and show the pictures as you discuss the different parasites.
The next lesson will cover how and when to worm sheep.

Pass out Member Handout 6, Life cycle of a Parasite, and review the diagram as you discuss the life cycle.

Pass out Activity Sheet 11, Pest Test, to review information learned.

common to many forms of illness. How do we tell if a sheep has worms? The only way to be sure is to have a manure sample tested for worm eggs and larvae by a veterinarian.

If worms are diagnosed in your flock, you may control them by using a dewormer. Deworming medications are known as anthelmintics. Anthelmintics come in several forms including boluses, feed additives and injectibles, but the most common form is drench. Drenching refers to the administration of a liquid medication. To successfully control worm problems, sheep need to be dewormed more than once. Anthelmintics kill the adult worms inside the sheep; however, there are still eggs and larvae outside the host that the sheep may pick up again. Deworming accompanied by moving to a fresh pasture is the most effective control method.

Pass out Activity Sheet 11, Pest Test, to review information learned.

Pasture rotation will minimize egg build up in the manure. Other worm prevention methods include disposing of sheep carcasses without allowing dogs or cats to feed on the scraps. The family dog or cat can host the same type of worms as sheep, thus deworming the family pets will help the sheep flock.

Now, let’s review how worms spread, so we can consider the best time to prevent or control them.

Adult worms lay eggs inside the sheep. The eggs are passed out of the body with the feces. The eggs hatch and larvae infest the bedding and grazing areas of the sheep. Sheep inadvertently ingest worm larvae as they graze. Once inside the sheep, the larvae grow to adults and begin laying eggs.

There are several types of worms, and certain medications may not control all types. The large stomach worm (barber pole worm) is the most common round worm affecting sheep. Lungworms, tapeworms and liver flukes may also be a problem.

Most external parasites cause damage by biting or sucking blood from the host. Various types of flies and lice can cause damage to sheep. The external parasite responsible for the most economic loss to sheep producers is the ked. Although commonly called the “sheep tick” the ked is actually a wingless fly. Keds suck blood and damage the hide (cockle).

Some external parasites, such as lice and keds, spend their entire life cycle on the host. Others, such as biting flies may only attack the sheep when feeding. The female sheep ked deposits full grown larvae which pulate almost immediately and attach to the wool. In about three weeks, adult keds emerge. These parasites are spread by close contact from one sheep to the other.

Medication for external parasites is commonly administered in the form of dips, pour-ons or sprays. Most adult keds are removed during shearing.
ACTIVITY

By treating the sheep a few days after shearing, the newly emerging adults are also killed. Ked-infested wool should not remain in areas where sheep have access.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. How can you tell if your lamb has any parasites?
2. What was the most interesting aspect of the life cycle of a parasite?
3. What methods can you use to control these parasites?

Process:
4. What are the problems that each of the parasites discussed cause?
5. What should you do if one of your sheep has worms?
6. How are keds removed from sheep?

Generalize:
7. What parasites affecting other animals have you learned about?
8. What is unique about some of the sheep parasites compared to others?
9. How else might the word parasite be defined?

Apply:
10. How will your knowledge of parasites be useful in the future?
11. What parasite control measures will you use for improved results?

GOING FURTHER:
- Read the labels from various parasite control products to see common ingredients.
- View damage from wool infested by keds.
Leader Notes

ACTIVITY

REFERENCES:
Intro to Veterinary Entomology, Bay, D.E. and R.L. Harris, 1988
Kansas 4-H Beef Leader Notebook (LN-1), 2nd ed.
SID Sheep Production Youth Guide
SID Sheep Production Handbook

Author:
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COMMON SHEEP PARASITES
SHEEP, LEVEL II
Member Handout 6, Life Cycle of a Parasite

while grazing, sheep ingest larvae

eggs hatch into larvae which attaches to leaves of plants

eggs pass from the body with the feces

adult worms living within the intestines
Organisms that live off of other organisms without providing anything beneficial to the host are called _______________. Worms and other _______________ parasites can cause sheep to lose weight and perform poorly. Adult worms live in the sheep’s digestive tract and lay _______________ which are passed in the manure. Eggs hatch into _______________ which attach to grass and are eaten by the sheep. The most common round worm affecting sheep is the _______________ _______________ worm. Worms can be controlled using medications known as _______________. These worming medications are usually administered in the form of a liquid _______________.

Flies, ticks and lice which bite and suck blood from the outside of the sheep are called _______________ parasites. The external parasite that causes the most economic loss to sheep producers is the _______________ also known as the “sheep tick.” The sheep tick is not really a tick, but is actually a _______________ _______________. Medications in the form of sprays, dips or _______________ - _______________ are generally used to treat external parasites.
Organisms that live off of other organisms without providing anything beneficial to the host are called **parasites**. Worms and other **internal** parasites can cause sheep to lose weight and perform poorly. Adult worms live in the sheep’s digestive tract and lay **eggs** which are passed in the manure. Eggs hatch into **larvae** which attach to grass and are eaten by the sheep. The most common round worm affecting sheep is the **large stomach** worm. Worms can be controlled using medications known as **anthelmintics**. These worming medications are usually administered in the form of a liquid **drench**.

Flies, ticks and lice which bite and suck blood from the outside of the sheep are called **external** parasites. The external parasite that causes the most economic loss to sheep producers is the **ked** also known as the “sheep tick.” The sheep tick is not really a tick, but is actually a **wingless fly**. Medications in the form of sprays, dips or **pour-ons** are generally used to treat external parasites.
How to Worm Your Sheep

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
- Importance of worming
- When to worm sheep
- Methods of worming

ABOUT THEMSELVES:
- When worms might be a hazard to their health

Materials Needed:
- Dewormer samples
- Deworming equipment
- Member Handout 7, Sheep Worming Summary

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Throughout the year, many sheep are infected by worms such as the large stomach (barber pole) worm, lung worm, tape worm or liver fluke. If left untreated, these worms may cause severe economic losses to the operation. Fortunately, deworming sheep is a simple task that every sheep producer should know how to do.

A producer may suspect worms if his/her sheep are unusually thin, or cough a lot. The producer may even notice worm larvae or eggs in the feces. Worms are easily spread from animal to animal; therefore, every sheep in the flock needs to be treated with an anthelmintic (dewormer). There are a couple of dewormer medications approved for use on sheep. There are others developed for cattle, that may be used if approved by your veterinarian. The different worming medications may be effective on different types of worms. Some may control other internal parasites such as nasal bots. It is important to work closely with your veterinarian to make sure that you are using a safe, effective deworming medication. Also, worms may build up an immunity if the same drug is used over and over. It is a good idea to change the dewormer medication every couple years to avoid the immunity problem.

There are three strategic times to worm your flock in order to prevent infestation. The first is in the spring when ewes are turned out to grass. This helps prevent pasture infestation. The second time is at the end of
July or early August as most worm populations increase dramatically over the summer. The third time is about 40 days prior to lambing. A parasite infested ewe will have difficulty raising her lambs. At this time, make sure your dewormer is safe to use on pregnant ewes. Feeder lambs should be wormed at the beginning of the finishing period or when purchased.

Some anthelmintics come in injectable form. They are administered in much the same way as you would give a shot. Others are boluses (pills) that are given with a bolus gun. The bolus may be dipped in mineral oil to aid in swallowing. The bolus gun allows the producer to place the bolus into the throat without sticking his/her hand into the sheep’s mouth. A plunger expels the bolus from the gun into the sheep’s throat. The sheep’s head should be tilted up to prevent the sheep from spitting out the bolus.

While these methods work fine, drenching is probably more effective and less expensive. Drenching refers to administering liquid medication that the sheep must swallow. An experienced drencher, with the proper equipment and handling facilities can safely and effectively deworm a large number of sheep in a relatively short period of time. The sheep should be placed in a crowding pen or working chute with little room for the sheep to move around. As you move through the chute and drench the sheep, it may be a good idea to mark the “drenched” sheep with a chalk mark on the back. This prevents you from missing any or giving any more than one dose. The drench usually comes in a plastic bottle that can be strapped to your back. A plastic or rubber tube runs from the bottle to the drenching gun. The gun will have a device to set the proper dosage. Consult the drench container for dosage recommendations. Dosage is usually given on a by weight basis, so you need to have a general idea of how much your sheep weigh. The operator moves along the chute standing just behind the sheep’s shoulder. Place the free hand under the jaw and insert the nozzle of the drench gun into the mouth, over the tongue. Keep the head in a normal position. If the sheep’s head is tilted or the neck twisted too much, the drench may go into the lungs instead of the stomach. This could lead to choking and even pneumonia.

Remember, consult your local veterinarian when implementing a deworming program for your flock. Your veterinarian will know which parasites are most likely to cause problems in your area, and can help you determine which anthelmintics will work best in your situation.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**

1. Which deworming method have you seen?

2. What was the most difficult aspect of the method viewed? Why?
**ACTIVITY**

**Process:**
3. What are some symptoms of wormy sheep?

4. When should sheep be wormed? Why?

**Generalize:**
5. What other animals have worm problems?


**Apply:**
7. When might you need to be concerned about becoming infested with worms?

**GOING FURTHER:**

**REFERENCES:**

**Author:**
Jeremy Geske, Extension Assistant, Kansas State University  
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HOW TO WORM YOUR SHEEP
SHEEP, LEVEL II
Member Handout 7, Sheep Worming Summary

I. Strategic Times to Worm
   A. Spring—before ewes turned out to grass
   B. August
   C. 40 days prior to lambing (wormer specified for pregnant ewes)
   D. Feeder lambs when purchased or before finishing period

II. Worming Methods
   A. Injectable—follow label directions
   B. Bolus (pill)
      1. Use bolus gun to expel bolus into sheep's throat
      2. Tilt sheep's head up slightly and hold mouth shut until bolus is swallowed
   C. Drenching—least expensive
      1. Fill crowding pen or working chute with sheep
      2. Chalk mark each sheep when drenched
      3. Use drenching gun attached to supply bottle
      4. Follow label directions for dosage
      5. Standing just behind sheep's shoulder, place free hand under the jaw and insert nozzle of
         drench gun into mouth over the tongue.
      6. Keeping head in normal position, hold mouth closed and expel correct dosage into back
         of mouth
   D. Consult your veterinarian on best de-wormer to use for your area
Diseases and Risk to the Members

Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Common Sheep Diseases

ABOUT THEMSELVES:
• The importance of prevention

Materials Needed:
• Pictures of diseased sheep
• Club Lamb Fungus Video, order through local Extension office from K-State Research and Extension Distribution Center
• Activity Sheet 12, Diseases Summary
• Flip chart and markers

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Several sheep diseases can also affect humans. Two commonly occurring diseases that affect young lambs and are easily transmitted to people are sore mouth and club lamb fungus. The purpose of this lesson is to learn how to recognize the signs of these diseases, and what to do if the lamb or the member becomes infected.

Sore mouth, also known as Orf or contagious ecthyma, is a highly infectious, highly contagious virus. It is common in young lambs from three to six months of age, a typical age for 4-H lambs at the time of the county fair. A lamb with sore mouth will develop scabby sores on the muzzle and lips. The virus is spread from these scabs to any cuts or wounds that come in contact with them. Sore mouth can be prevented by vaccinating the lambs, but be careful, the vaccine is a modified live virus; follow the directions closely. The disease will run its course in about one to four weeks, and is rarely fatal to the lamb. If possible, leave the infected lambs alone, and the virus will go away. If you must handle the lamb, use extreme caution. Wear gloves if you will be working with the head of the lamb, because the virus can enter any cuts on your hands, too. Sore mouth isn’t very dangerous, but it is extremely painful and will leave ugly scabs on your hands. If you get a case of sore mouth, see your doctor immediately. Don’t bring lambs with sore mouth to the fair. They could transmit the disease to other lambs. It is against acceptable policy to show lambs with sore mouth.

Leader Notes
While discussing sore mouth, show pictures of affected lambs. Have members list preventions, symptoms, treatments on a flip chart.
Club Lamb Fungus is a highly contagious, ringworm-like skin lesion that is caused by up to three types of fungi. The infections transmit readily to other animals or to humans. Human infection may result in acute inflammatory lesions that are accompanied by scar formation.

Following are symptoms for Club Lamb Fungus in sheep:

1. lesions
2. thick, dry scaly pustules about the head and ears
3. pustules found on the body enlarge, form scabs and cause the wool to become matted
4. wool pulled from the area leaves the underlying skin with a raw ulcer appearance
5. wool in the infected area thins out and much of it falls out; subsequently, the wool regrowth is darker or black

The following conditions will aid the transmission of the disease:

1. direct contact with other lambs at shows; risk increases proportionally with the number of shows attended
2. frequent washing and/or shearing of lambs
3. indirect contact through such means as:
   A. contaminated pens or washracks
   B. contaminated equipment such as clipper blades or blankets
   C. handling of lambs by judges

The incidence of Club Lamb Fungus is reduced by keeping the previously discussed conditions at a minimum. The use of an antifungal shampoo as a prophylactic rinse prior to and after attending a show sometimes serves as a prevention. A 1% solution of alum or a solution with 1 part chlorine bleach diluted with 10 parts of water is sometimes used as a preventative spray or dip. It is important to administer preventatives and most importantly cures under the direction of a veterinarian. Some effective cures or treatments are available, but most are legal only when used as the result of a veterinarian-client relationship.

If you contract club lamb fungus, see your doctor immediately.
DIALOGUE FOR CRITICAL THINKING:

Share:
1. What sheep diseases have you seen before? Where?
2. What new diseases did you learn about?

Process:
3. What is the significance of sore mouth and club lamb fungus?
4. Why is it important to prevent sheep diseases?

Generalize:
5. How do these diseases affect people?

Apply:
6. How will you act differently in the future as a result of this lesson?

GOING FURTHER:
• Invite a veterinarian to discuss disease prevention.
• Plan a health program for your flock.

REFERENCES:
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Jeremy Geske, former Extension Assistant, Kansas State University
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### DISEASES AND RISK TO MEMBERS

**SHEEP, LEVEL II**

Activity Sheet 12, Disease Summary

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Basic Fitting For the Show
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Why fitting is important
• What equipment is needed in fitting a lamb
• The steps to properly fit a lamb

ABOUT THEMSELVES:
• The importance of appearance
• Importance of personal grooming habits

Materials Needed:
• Wool cards
• Hand shears
• Spray bottle
• Trimming stand
• Sheep blanket
• Live lamb

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Fitting a lamb is very important. Proper fitting techniques make your lamb look the best it possibly can. The right fitting equipment is important. Without this equipment it is very difficult to make your lamb look its best.

HOW TO USE THE EQUIPMENT . . .
The trimming stand holds the lamb in place, allowing you to do a smooth fitting job. Occasionally, the lamb will try to move sideways causing it to fall; therefore, you must always have at least one person present who is able to lift the lamb back on the stand. After a couple of falls, the lamb quickly learns to stand still. This teaches the lamb to remain still while it’s head is restrained, which will be helpful when trying to show the lamb. Never leave a lamb unattended up on a stand. The lamb could fall and be seriously injured.

Market lambs are generally shown slick shorn, with as little wool left as possible at the time of the show. They don’t need to be carded or trimmed with the hand shears. They can be shorn the day before the show with an electric shearmaster. Once shorn, all that is left is to wash the lamb.

Leader Notes
It is important for young members to get used to using the fitting equipment as soon as possible. Have a lamb with a reasonable amount of wool on a trimming stand or at least haltered and tied to a post. The leader should demonstrate the use of the equipment, from carding to putting on the blanket. Have each of the members practice carding and trimming.
The fitting of a breeding lamb should begin long before the county fair. Preferably, about a month before the show, the lamb should be “cut out.” A lamb that is “cut out” is mostly slick shorn except a fair amount of wool is left down the top (on the back from shoulder to dock) and on the rear legs. By doing this, it will enhance the lambs muscular appearance. Shearing the other areas slick saves time by removing wool that will be trimmed off anyway. The month will allow enough wool to grow in the slick shorn areas to be able to do a nice smooth fit job. Also, removing a lot of wool at this time will make washing the lamb much easier. For beginning fitters, have someone remove most of the fleece, leaving about 2 to 2 ½ inches of fleece. This amount will be less intimidating and easier for a beginner to handle. At the fair, the lamb’s belly and the top of its neck (where the head piece of the trimming stand will hold the lamb) can be slick shorn again. The next step is to wash the lamb as described in the lesson in Level I.

Breeding ewe lambs and ram lambs are almost always fit by hand rather than slick shorn. Although you will eventually trim off most of the wool, enough wool is left in strategic areas to make your lamb look it’s best. The purpose of fitting a lamb, is to make it look as attractive and as close to the ideal as possible.

The wool cards are used to pull the wool fibers out so that they may be trimmed to an equal length. Much the same way a barber would comb your hair out while cutting it. Hold the wool card in a way that is comfortable and gently but firmly place it against the wool. The curved teeth of the card will grab the wool fibers and pull them out as you pull the card away from the lamb. It will seem a little like separating two strands of velcro. It will take a little practice to get used to doing this properly. It is easier to fit a lamb when the fleece is slightly moist. It cuts easier and packs down more uniformly. After the lamb has been carded, use a spray bottle to mist clean water over the fleece.

The hand shears should also be held in a comfortable manner. Place one blade, at an angle away from you, into the wool at the depth you want to cut. Hold that blade steady and cut with the other. While cutting, slide the shears slowly along the lamb at a pace you are comfortable with. Go slow at first until you get the hang of it. It will take a lot of practice to become good at this, so the earlier you start the better. Remember, you can always cut more wool off, but you can’t put it back once it’s been trimmed off.

Ideally, you’d like the lamb to look nice and smooth all over. Trim the lamb in such a way that when viewed from the front, the lamb’s back end is wider than it’s front. When viewed from the top or side, the lamb should look square. The lamb should look level from shoulder to dock.

Start at the head and blend the neck down into the shoulder. Take most of the wool off the neck to give it a long trim appearance. The front shoulders and chest should also be trimmed very close. Next, trim the lamb’s
topline from shoulder to dock. Make the top look wide and level. Don’t trim off quite as much wool because a little wool on the top will make the lamb look taller. Next, trim the sides. Decide how wide you want the top to look, then trim the side so that the lamb looks square from top to bottom. Blend in the top by rounding the edge just a little to give the lamb a more natural appearance. Also blend the side into the belly in a similar manner. The sides, along the widest part of the ribs should have very little wool left by time you’ve squared the lamb from top to bottom. Finally, do the back legs. Give the legs a rounded shape that emphasizes the muscle shape.

Periodically, step away from the lamb and observe it from a distance. If there are any unsatisfactory parts, card them up and trim them over again. Finally, blanket the lamb and return it to it’s pen.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What was the hardest/easiest thing to fit on the lamb? Why?

2. Did you feel more comfortable fitting your lamb when you started or when you were done? Why?

**Process:**
3. What problems did you encounter?

4. What part of fitting do you think is most important? Why?

5. Why should you fit breeding lambs and market lambs differently?

6. Why is the appearance of your lamb important?

**Generalize:**
7. When is it important for you to look your best? Why?

8. Why is your appearance important when doing something special?

**Apply:**
9. What do you do to enhance your appearance for special occasions? Why?
Leader Notes

ACTIVITY

REFERENCES:

Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

Reviewed by:
Clifford Spaeth, Extension Specialist, Animal Sciences and Industry, Kansas State University
Sheep Design Team
Anatomy of Male and Female Reproductive Tracts
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Identify the parts of a male ovine reproductive tract
• Identify the parts of a female ovine reproductive tract
• Learn how the anatomy is related to its function

ABOUT THEMSELVES:
• The contribution of each part to the success of a whole system

Materials Needed:
• Activity Sheet 13, Male Ovine Reproductive Tract
• Leader’s Key, Activity Sheet 13, Male Ovine Reproductive Tract
• Activity Sheet 14, Female Ovine Reproductive Tract
• Leader’s Key, Activity Sheet 14, Female Ovine Reproductive Tract
• Large blank diagram of each activity sheet
• Pencils
• Tape
• Small pieces of paper with names of the various parts of the male and female ovine reproductive tracts written on the paper
• Access to a ram would be helpful in order to point out the external anatomy (optional)

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Let’s discuss the male reproductive tract first. The main purpose of the ram is to breed ewes and produce lambs. The organs of the reproductive tract each have their own purpose or function which allows the ram to do his part in producing lambs.

This is the sheath, it provides protection for the penis.

The penis is the organ used to breed the ewes. Semen or sperm cells are deposited into the female tract from the penis.

The sigmoid flexure is a muscle which keeps the penis inside the ram’s body most of the time and allows it to be extended from the body during mating.

The retractor muscle is responsible for pulling the penis back into the body after mating.

Leader Notes
Post an enlarged copy of Activity Sheet 13 and 14, Male Ovine Reproductive Tract and Female Ovine Reproductive Tract, on a wall without the names of the parts on it. Give each member a piece of paper with the name of a part on it and have them tape the part onto the diagram in what they believe is the correct location.

Hand out Activity Sheet 13 and 14, Male Ovine Reproductive Tract and Female Ovine Reproductive Tract, so that the members can follow along.
The scrotum covers and protects the testicles. It also helps to maintain the proper temperature of the testicles to insure fertility.

The testicles are the organs which produce sperm cells. They contain many little tubules in which sperm cells are made. The testicles also produce a hormone called testosterone. Testosterone is a chemical that signals the body to develop masculine traits.

The epididymis is the tube where sperm is stored. Sperm cells mature here while waiting to be transported from the testicles during mating.

These are the important organs in the ram’s reproductive tract. The tract is a continuous tube running from the testicles through the penis. As sperm cells travel along the tract, “accessory sex glands” add fluids and materials to the sperm that will help it survive once inside the female tract. This mixture of sperm cells and fluid is called semen.

Now let’s discuss the female reproductive tract. The main purpose of the ewe is to produce lambs. Each organ within the ewe’s reproductive tract serves a specific purpose allowing the ewe to produce lambs.

The vulva is the external opening to the female reproductive tract.

The vagina is the tube connecting the vulva to the uterus. During mating, semen is deposited in the vagina.

The cervix serves as a protective barrier for the uterus. It is a coil of muscles that remain tightly closed to keep out of the uterus any organisms that may cause infection. It opens slightly during mating to allow semen to pass through. It also opens to allow birth to take place.

The uterus is where the fetus, or baby lamb, develops during pregnancy. In the ewe, the uterus has two halves called horns that curl under. The uterus expands during pregnancy to allow for growth of the fetus. After birth, it will return to nearly its’ original size.

The ovary is the organ which produces the female sex cells, the eggs. The ovaries also produce hormones such as estrogen and progesterone. These hormones are chemicals which signal the body to develop feminine traits.

The oviducts connect the ovaries to the uterine horns. Fertilization, or the union of egg and sperm, takes place here.

The process from fertilization to pregnancy to birth is very complex. These are the organs which have major roles in the reproductive process.
KANSAS 4–H and Youth Programs

DIALOGUE FOR CRITICAL THINKING:

Share:
1. What parts of the male reproductive tract were the easiest to identify? Hardest?
2. What parts of the female reproductive tract were the easiest to identify? Hardest?

Process:
3. Trace the route the sperm takes through the ram’s reproductive tract from start to finish. Why is knowledge of this route important?
4. Trace the route the egg takes through the ewe’s reproductive tract from start to finish. Why is knowledge of this route important?
5. What is the purpose of each ram reproductive tract part? The ewe’s? List and discuss.

Generalize:
6. If a ram is infertile (cannot produce normal sperm) what impact or problem would that have on a ewe flock?
7. What is the economic impact of having ewes that have trouble getting bred or cannot become pregnant?

Apply:
8. How can information in this lesson be useful in preventing future breeding problems?
Leader Notes

ACTIVITY

REFERENCES:
Kansas 4-H Beef Leader Notebook (LN-1), 2nd ed.
SID Sheep Production Guide

Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

Reviewed by:
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Sheep Design Team

100–Sheep, Level II
ANATOMY OF MALE AND FEMALE REPRODUCTIVE TRACTS
SHEEP, LEVEL II
Activity Sheet 13, Male Ovine Reproductive Tract
ANATOMY OF MALE AND FEMALE REPRODUCTIVE TRACTS
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 13, Male Ovine Reproductive Tract

- sheath
- penis
- testicle
- scrotum
- retractor muscle
- sigmoid flexure
- epididymus
ANATOMY OF MALE AND FEMALE REPRODUCTIVE TRACTS
SHEEP, LEVEL II
Activity Sheet 14, Female Ovine Reproductive Tract
ANATOMY OF MALE AND FEMALE REPRODUCTIVE TRACTS
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 14, Female Ovine Reproductive Tract

- ovaries
- oviducts
- uterine horns
- uterus
- cervix
- vagina
Common Sheep Predators
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• The most common predators of their sheep

ABOUT THEMSELVES:
• The dangers of talking to strangers

Materials Needed:
• Activity Sheet 15, Predator Review
• Leader’s Key, Activity Sheet 15, Predator Review
• Photos of different predators (optional)
• Flip chart and markers

ACTIVITY TIME NEEDED: 45 MINUTES

ACTIVITY

A predator is an animal that lives by killing and eating other animals. Predation, primarily by coyotes and dogs, is an irritating reality to many sheep producers. In the western United States, estimates of annual losses of sheep due to coyotes are 4 to 8 percent of the lambs and 1.5 to 2.5 percent of the ewes. Coyotes are the number one predator of livestock in Kansas. Members with lamb projects should become aware of the dangers caused by predators. Understanding a little about the predators will give the members insight on how to protect their sheep.

Since coyotes are the major sheep predator, let’s discuss them first. Coyotes normally eat rabbits, rodents and small deer; however, they are opportunistic, and will eat livestock if it is available to them. They will generally kill small lambs or old, sick ewes, but are capable of preying on healthy, adult sheep as well. Coyotes usually kill only for food. They almost always kill by biting the throat, which suffocates the victim.

The next most common predators of sheep are dogs, both wild and domestic. It is usually easy to tell the difference between coyote and dog attacks. First of all, dogs leave much larger tracks than coyotes. Dogs cause more losses by playing than actual desire to hunt and kill. Dogs enjoy chasing and biting sheep. In the event of a dog attack, usually larger numbers of sheep are killed or injured. Sheep are usually bitten and torn in a variety of places, especially on the rear legs. Dogs rarely feed on the sheep they kill.

Leader Notes

Begin the lesson by looking at photos of common sheep predators or invite a wildlife damage control specialist to your meeting.

Use the flip chart to list characteristics of coyote and dog attacks as experienced by the members. Use text to check member responses for accuracy.
Leader Notes

ACTIVITY

Most other predators cause very little sheep damage. Wolves, bears and mountain lions can easily prey on sheep; however, they aren’t that common in areas inhabited by sheep. Bobcats, foxes and eagles may also prey on small lambs, but the frequency of such attacks is low. Bobcats and mountain lions generally bite the lambs in the head. The presence of claw marks on the body, and larger, rounded paw prints help distinguish these attacks from that of a coyote or dog. Eagles usually attack the lamb’s skull and feed on the brains. Foxes, eagles and other birds are more likely to scavenge off the carcass of a sheep that is already dead than they are to kill one.

Methods for preventing predator attacks will be discussed in another lesson.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. Did you know some of the predators before this lesson? Which ones?

2. Have you ever had any sheep killed? What kind of predator did it?

Process:
3. Why do most predators prey on sheep?

4. Why aren’t there more sheep losses to bears, wolves, or mountain lions?

5. Why do dogs prey on sheep?

Generalize:
6. Dogs are generally nice, but they can kill sheep. Why? Can people seem nice when they really aren’t?

7. Do you think children are easier victims for crimes than adults? Why?

Apply:
8. Why is it important to be with someone else when you are around strangers? Make a list of situations when you should/should not talk to someone you do not know.

GOING FURTHER:

• Visit a zoo and watch a coyote’s actions.
• Visit a farm with sheep and see how they keep out predators.
• Attend or help arrange for a predator control meeting with area sheep producers.
ACTIVITY

REFERENCES:
SID Sheep Production Handbook
SID Sheep Production Youth Guide
Managing predator problems.... KSU Ext. Serv

Author:
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Sheep Design Team
COMMON SHEEP PREDATORS
SHEEP, LEVEL II
Activity Sheet 15, Predator Review

Review the list of animals below. Circle any of the animals that could be predators of sheep.

- wolf
- donkey
- eagle
- fox
- wild dog
- cattle
- blue jay
- bobcat
- domestic or pet dog
- mountain lion
- bear
- antelope
- coyote
- beaver
- snake

Of these predators, the _______________ causes the most sheep losses.

How do you tell the difference between coyote and dog attacks?
COMMON SHEEP PREDATORS
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 15, Predator Review

Review the list of animals below. Circle any of the animals that could be predators of sheep.

wolf  donkey  eagle  
fox  wild dog  cattle  
blue jay  bobcat  domestic or pet dog  
mountain lion  bear  antelope  
coyote  beaver  snake

Of these predators, the ___________ coyote ________________ causes the most sheep losses.

How do you tell the difference between coyote and dog attacks?

**Coyotes:**

1. Normally kill small lambs or sick ewes.
2. Usually kill one or two lambs for food.
3. Attack by biting the throat of sheep.

**Dogs:**

1. Leave larger tracks.
2. Tend to play with or scatter sheep.
3. Chase or bite several places, especially back legs.
4. Will injure or kill several sheep with each attack.
5. Rarely eat what they kill.
Raising Orphan Lambs
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• Importance of raising orphans in large flocks
• Value of colostrum
• What “grafting a lamb” means

ABOUT THEMSELVES:
• The importance of food
• Their feelings about helping the needy in their community

Materials Needed:
• Farm flock
• Orphan lambs
• Creep feed samples
• Colostrum and milk replacer samples
• Member Handout 8, Orphan Summary

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Extra or orphan lambs appear in most flocks at lambing time. They are the result of ewe death loss, ewes rejecting their lambs, or ewes producing multiple births beyond their capability of milk production. Some ewes, especially ewe lambs, may only have enough milk for a single lamb, while others are quite capable of raising triplets if fed properly. Unfortunately, not all ewes will be able to raise every lamb they give birth to. It is estimated that 10 percent of the nation’s lamb crop dies from starvation within the first week after birth. These extra lambs can be saved if proper management is practiced.

The most desirable method of raising orphan lambs is to “graft” them on to another ewe. This can be successful when the orphan lamb is born very close to the same time that another ewe gives birth to a single. The orphan lamb should be covered with the afterbirth of the “adopting” mother. This may fool the ewe into thinking the orphan lamb is actually one of her own. Extra training may be needed to make sure the “adopting” ewe will claim the orphan lamb and allow it to nurse.

If grafting is not possible, then lambs must be artificially reared. This means feeding milk replacer. Generally, due to the high cost of milk replacer, the extra labor involved and the high death rate of “bottle”

Leader Notes
If at all possible, teach this lesson on a field trip to a farm flock. Let members feed an orphan lamb. Discuss with the shepherd how orphans are raised. Compare samples of colostrum and milk replacer. Look at creep feed samples.
lambs, it is not very profitable to raise the orphan lambs. If a flock annually only has a few head of orphan lambs, it is better to sell them to someone who will be raising a large number of them. If, on the other hand, a flock has a significant number of orphan lambs and the proper labor-reducing facilities are available, raising orphan lambs may be profitable if you can wean them from milk replacer and get them eating creep feed as soon as possible.

Colostrum is the antibody-rich, first milk of the ewe that supplies the newborn lamb(s) with protection against disease, while the lamb’s immune system is still developing. Lambs must receive this colostrum, or a substitute soon after birth or the chances of survival are poor. Colostrum may be collected from the mother or another ewe that has lambed about the same time. Colostrum may be frozen and stored until needed. When needed, it should be thawed and fed at room temperature so as not to destroy the antibodies. If ewe colostrum is not available, cow colostrum may be used. Lambs should be fed four to six ounces of colostrum every four hours for at least a day.

After this, lambs should be fed milk replacer. A good lamb milk replacer should contain 30 to 32 percent fat, 22 to 24 percent protein and 22 to 25 percent lactose. Lambs should receive their fill of milk replacer; however, some lambs may overeat, get sick and even die. Milk replacer mixes most readily with warm water; however, it should be fed at cooler temperatures (33 to 40 degrees) to reduce digestive disorders and prevent ingredient separation.

At about a week of age, lambs should be exposed to creep feed. Creep feed for young lambs must be highly palatable. If it doesn’t taste good, lambs will just drink milk replacer and not eat the grain. Creep should be high in protein, and of a physical form acceptable to the lamb. Soybean meal is an important ingredient in lamb rations. Although they will initially only eat small amounts, this exposure will help orient their digestive system. By about four weeks of age, the lambs should be ready to be weaned off milk replacer, and on a complete solid diet. The creep feed is less expensive than milk replacer and offers the essential nutrients for fast, efficient growth. Along with creep feed, lambs should have access to clean, fresh water, trace mineral salt and a roughage (hay or grass).

The number of lambs to be reared should determine the type and amount of equipment to be used. Equipment should be simple to use, easy to clean and as inexpensive as possible. If only a few lambs are orphaned, they can be bottle fed. They should be fed every three hours for the first week, and after that, three to four times per day until weaned. If several lambs are to be raised, some type of milk-dispensing, self-feeder is essential to reduce labor. Choose one that is economical, easy to clean, simple for the lambs to figure out and that will prevent wastage. Sanitation is very important to insure lamb survival.
ACTIVITY

Lambs should be protected from cold and drafts, although good ventilation is necessary. Pens should be kept dry and well-bedded. Heat lamps may be necessary in severe weather.

One other possibility is to raise the orphan lambs on dairy goats. In addition to her own kids, a nanny may raise up to three orphan lambs at a time. Since the length of lactation is longer for dairy goats than sheep, a nanny could raise up to fifteen different orphan lambs depending on the length of the lambing season. Again, the idea is to get them going on creep and weaned from the goat as soon as possible to free up the goat for new orphans. Ideally, the nanny should be bred to give birth two to three weeks before the lambing season. It will take some training to convince the goat to allow the lambs to nurse, and to teach the lambs to nurse from the goat. Goats tend to behave differently than sheep, and their presence may require a change in management techniques and/or equipment.

DIALOGUE FOR CRITICAL THINKING:

Share:
1. Have you ever watched or fed a newborn animal on a bottle? What happened?
2. What is the most difficult part of bottle feeding? Why?

Process:
3. Why do so many lambs become orphans?
4. Why is it important for lambs to receive colostrum?
5. What does “grafting” mean?

Generalize:
6. How do you prevent hunger in other animals?
7. What is the significance of hunger issues in your community?

Apply:
8. What can you do to help prevent hunger?
RAISING ORPHAN LAMBS

Leader Notes

ACTIVITY

REFERENCES:
SID Sheep Production Handbook
Recommendations for Sheep Management Programs, NCR Ext. Pub. 240
Wes Limesand, Shepherd, North Dakota State University Sheep Unit

Author:
Jeremy Geske, former Extension Assistant, Kansas State University
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Sheep Design Team
RAISING ORPHAN LAMBS
SHEEP, LEVEL II
Member Handout 8, Orphan Summary

I. Causes of Orphans
   A. Ewe death
   B. Rejection
   C. Multiple Births

II. Methods of Raising Orphans
   A. Grafting
   B. Bottle feed
      1. Feed colostrum immediately
         a. From another ewe
         b. From frozen supply
         c. Frozen supply from a cow
         d. Four to 6 ounces every 4 hours on the first day
      2. Milk replacer—every 3 hours first week, then 3 to 4 times per day
      3. Expose to creep feed at one week of age
         a. High protein
         b. Highly palatable
      4. Wean from milk replacer
      5. Provide creep feed, fresh water, trace mineral salt and roughage
   C. Milk dispensing self-feeder
      1. When several lambs are being raised
      2. Easy to clean—sanitation very important
      3. Simple for lambs to use
      4. Prevents waste
   D. Housing
      1. Dry well-bedded pen free from drafts
      2. Heat lamp in severe weather
   E. Raise on Dairy Goat
Wool Quality
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• What makes wool dirty
• How wool is graded
• Physical properties of wool

ABOUT THEMSELVES:
• The importance of wool in their lives

Materials Needed:
• Activity Sheet 16, Wool School
• Leader's Key, Activity Sheet 16, Wool School
• Examples of different grades of wool
• One or two tied fleeces
• Flip chart and markers

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Let's look at this pile of wool on the table. What do you see? How does it feel? Why? Where did it come from? How did we get the wool?

This pile of wool from one sheep is called a fleece and was removed from the sheep by shearing. This shorn wool that has not been washed is called grease wool. When the grease is removed and processed it is called lanolin and is used in lotions and other products. The weight of this fleece would be called the grease fleece weight and is used to help determine the value or price received.

A single piece or strand of wool is called a fiber. The quality of the fiber is determined by its length (staple length), the crimp or natural waviness and its diameter or grade.

Now let's talk about the value of wool. The most important factor in determining the price of wool is the grade. Grade may range from 36s to 80s. Finer wool is generally more valuable. For example, a fine fleece from a Rambouillet may have a grade of 64s or 70s. A fleece from a Suffolk might have a grade of 54s. The higher the number, the finer the fleece. Yield is also very important. Yield refers to the amount of clean wool compared to the grease fleece weight. Yield is typically around 50%.

Leader Notes

Have one or two tied fleeces on a table for members to look at as they arrive. Have members describe what they see and feel. List comments on the flip chart.

List main points on the flip chart.
percent. A higher yield is desirable. Coarser fleeces tend to be higher yielding as they have less grease. However, fine wool breeds tend to have heavier grease fleece weights. A third important factor is staple length. Coarse fleeces must have long staple length or they won’t be acceptable.

There are several other factors which may affect the value of wool, including crimp, color, purity and secondary cuts. As far as color is concerned, white is desireable. Other colors, such as black fibers, are discounted. Purity refers to the presence or absence of other materials. Things that make wool dirty include: straw, hay, feed, paint brands, twine, manure and soil. Clumps of wool full of manure and dirt are called tags and are usually found on the udder or near the tail or dock.

Now let’s talk about some of the physical properties or characteristics of wool that affect its total value. Wool is very elastic—that is, it can be stretched and then regain its original shape and length. Thus, garments made from wool will retain their shape well. The strength of a wool fiber is often indicated by the crimp. A distinct crimp indicates a well-grown, healthy, sound fiber of uniform diameter and length. Wool has a very low density, meaning that it is very light in weight compared to its volume, or space it takes or fills. Wool has a very unique relationship with moisture or water. Water is not absorbed into the inner portion of a wool fiber, but attaches to the surface of the fiber. Thus, wool helps keep the sheep’s skin dry in rainy weather. Because of the crimp, bulk and resilience of wool, it is an excellent insulator which keeps the sheep warm in winter. That is why people often wear wool clothing during the winter.

**DIALOGUE FOR CRITICAL THINKING:**

**Share:**
1. What did the wool feel like? Could you tell a difference between the different types?

2. Was the wool “greasy”? If so, why?

**Process:**
3. What dictates the grade of the wool?

4. What is implied if you have a higher grease fleece weight?

**Generalize:**
5. What types of clothing are made out of wool?

**Apply:**
6. Look at the labels of your clothing. Do they have wool in them? What other things are made from wool?
GOING FURTHER:
• Visit a sheep farm and watch them shear sheep.
• Compare prices of wool clothes with other fabrics.

REFERENCES:
Author:
Jeremy Geske, former Extension Assistant, Kansas State University
James P. Adams, Extension Specialist, 4-H and Youth Programs, Kansas State University

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Sheep Design Team
WOOL QUALITY
SHEEP, LEVEL II
Activity Sheet 16, Wool School

Each year we remove wool from sheep by ___________________ them. The wool from one sheep is called its ___________________. It is called _______________ _______________ before washing.

It is important to keep my sheep’s wool clean. Some things that can make it dirty are _________________, hay, _________________, paint brands, _________________, manure and soil.

___________________ refers to the fiber diameter, and is the most important factor in determining the price of wool. _________________ refers to the amount of clean wool compared to grease fleece weight. Finer fleeces are usually _________________ yielding than coarser fleeces. _________________ is the natural waviness of wool fibers.

Wool is very _________________ because it can regain its original shape and length after it is stretched. Wool has a very low _________________ since it is light weight compared to the space it fills. Wool helps keep you and the sheep warm in the winter because it is a good _________________.

120–Sheep, Level II
WOOL QUALITY
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 16, Wool School

Each year we remove wool from sheep by _______shearing______ them. The wool from one sheep is called its __________fleece________. It is called _______grease wool_______ before washing.

It is important to keep my sheep’s wool clean. Some things that can make it dirty are

__________________, hay, __________feed__________, paint brands, __________twine__________, manure and soil.

__________________ refers to the fiber diameter, and is the most important factor in determining the price of wool. __________Yield____________ refers to the amount of clean wool compared to grease fleece weight. Finer fleeces are usually _______lower__________ yielding than coarser fleeces. __________Crimp__________ is the natural waviness of wool fibers.

Wool is very _______elastic__________ because it can regain its original shape and length after it is stretched. Wool has a very low _______density_________ since it is light weight compared to the space it fills. Wool helps keep you and the sheep warm in the winter because it is a good _______insulator__________.
Marketing Your Product
Sheep, Level II

What Members Will Learn . . .

ABOUT THE PROJECT:
• The different possibilities that exist to market sheep
• What the potential is locally for different markets

ABOUT THEMSELVES:
• There are many solutions to a problem

Materials Needed:
• Activity Sheet 17, Market Options
• Leader’s Key, Activity Sheet 17, Market Options
• Flip chart and markers

ACTIVITY TIME NEEDED: 60 MINUTES

ACTIVITY

Let’s discuss the different products you might get from a sheep operation that would be available for sale. The two major products are meat and wool. Within these areas, there are other products including breeding stock, cull rams and ewes, feeder lambs and market lambs. Some sheep may also be used for milk production.

There are several marketing options to consider when selling sheep products.

Although many producers raise sheep for meat production, they usually don’t sell meat. They sell live animals that will be slaughtered at various packing plants across the country. Market lambs can be sold at a public auction or sale barn. They may also be sold electronically, either by teleauction or computer auction. A producer with a large enough number of lambs may sell directly to a feedlot, packer or order buyer. There are also various pricing options. Generally, market lambs are sold by the pound (live weight). There may be adjustments to the price, usually because of weight restrictions. You may also sell grade and yield, where you are paid on the carcass merit of your lambs.

There are several ways to market the wool we produce. You may sell to a local wool buyer, or, if you have a large quantity, directly to a warehouse or mill. You may also solicit sealed bids from a number of buyers and sell to the highest bidder. You could consign your wool to a large wool

Leader Notes

Begin by having members brainstorm ideas for marketing sheep or sheep products. List these on a flip chart. Discuss each method and then mark the most common marketing tools used in your community. Some ideas may require more study beyond this lesson.
Leader Notes

ACTIVITY

auction. Many small producers may get together and form a wool pool. By putting together a large quantity of wool, they can attract more buyers and hopefully receive higher prices. In some areas there are also specialty markets for colored wool. A value added product might be spinning and dyeing your own wool and using the yarn to weave rugs or clothing items to sell.

Breeding stock may be sold privately, off the farm, or at public auctions. Many are consigned to special sheep sales (either local or national). If you have large enough numbers, and a good reputation you may hold your own sale.

Cull rams and ewes are often sold at public auctions. If there is a demand, they may be marketed as breeding stock at the sale barn or off the farm.

Feeder lambs, produced for show, may be consigned to sales or sold privately. Many market show lambs are sold at premium sales or at regular market price after the shows are over.

A new market has recently begun for frozen semen. Semen has been collected from some of the top purebred rams for the purpose of artificial insemination. Usually, it would be sold by private treaty or through a semen distribution company.

As you can see, there are several options to consider when marketing your products. You need to find the market that offers the most potential profit for your situation.

DIALOGUE FOR CRITICAL THINKING:
Share:
1. What markets did you know about before this lesson?
2. Do you think that you can pursue any of these markets? How?

Process:
3. Why are many of these markets dependant on their location?
4. Do you think you can make more profit using a specialized market? Why?

Generalize:
5. When was one other time when you realized that you had more options than you realized?
6. Do you think that the most popular answer is always the right one? Why or why not?

Apply:
7. How do you plan to use computers to solve problems in the future?
<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>Leader Notes</th>
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<tbody>
<tr>
<td><strong>GOING FURTHER:</strong></td>
<td></td>
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<tr>
<td>• Have a sheep buyer come and speak about his/her occupation.</td>
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<tr>
<td>• Tour a purebred sheep farm and ask the owner how they market their purebred sheep.</td>
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<td><strong>REFERENCES:</strong></td>
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<td>SID Sheep Production Handbook</td>
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<td><strong>Author:</strong></td>
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<td>Jeremy Geske, former Extension Assistant, Kansas State University</td>
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<td>Sheep Design Team</td>
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MARKETING YOUR PRODUCT
SHEEP, LEVEL II
Activity Sheet 17, Market Options

Most market lambs are sold at a ______________ auction. Sheep may be sold electronically
by ______________ or ______________ auction. Large volume producers may sell
______________ to a feedlot or packer. When the price is based on the carcass merit, it is
called ______________ and ______________.

You may sell wool to a local ______________ or directly to a ______________. Some produc-
ers solicit ______________ bids from several buyers. Many small producers may get together
and form a wool ______________.

______________ ______________ may be sold privately, in public auctions or consigned
sales. Old rams and ewes sold at public auctions are called ______________.
MARKETING YOUR PRODUCT
SHEEP, LEVEL II
Leader’s Key, Activity Sheet 17, Market Options

Most market lambs are sold at a ______________ auction. Sheep may be sold electronically by ______________ or ______________ auction. Large volume producers may sell ______________ to a feedlot or packer. When the price is based on the carcass merit, it is called ______________ and ______________.

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______________ ______________ may be sold privately, in public auctions or consigned sales. Old rams and ewes sold at public auctions are called ______________.