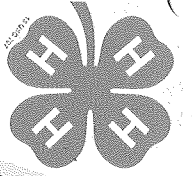


County _____

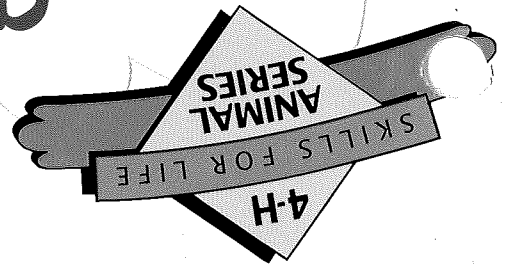
Name _____

Sheep Project Activity Guide



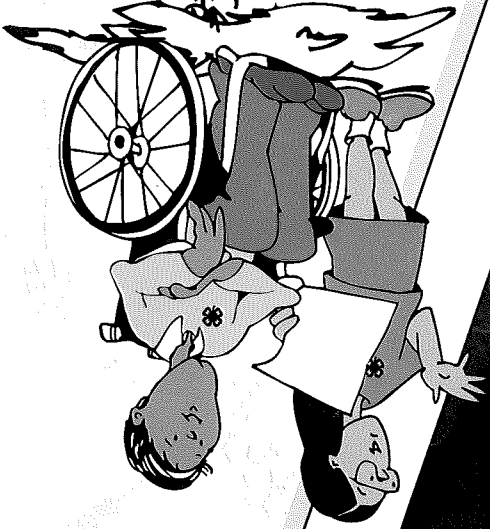
Sheep

Shear Delight



REVIEWED & RECOMMENDED

National 4-H Curriculum



Note to the Project Helper

If you were a project helper for one or more youth involved in completing Sheep 1 you know what a great experience this important role is. As a helper you are in a perfect position to help youth grow and develop in positive ways as they learn about sheep and about themselves. You can nurture and cultivate their interest in this project by guiding their planning, helping them carry out their projects and recognizing them for a job well done.

Your Role

- Become familiar with the material in this activity guide and the *Helper's Guide*.
- Support youth in their efforts to set goals and complete each achievement program.
- Date and initial the activities on the Sheep Achievement Program as they are completed and the two of you discuss them.
- Help youth to get to know themselves, including their strengths and weaknesses.
- Encourage the use of the experiential learning cycle described on this page.

The Sheep "Skills for Life" Series

This guide, *Shear Delight* is the second in the series of three for youth, which also includes Sheep 1 *Rams, Lambs and You*, Sheep 3 *Leading the Flock* and the *Sheep Helper's Guide*. The three youth guides have been designed to be developmentally appropriate for grades 3-4, 5-7 and 6-9 respectively, but may be used by youth in any grade based on their project skills and expertise.

All activities in the guides have several parts: A description of the skills to be practiced; discussion questions, suggestions for additional activities and additional helpful information. The "Show of Success" listed for each activity is an excellent way to evaluate the youth's success. Each of the guides also includes an achievement program to encourage youth to learn more about sheep while developing important life skills. In the *Helper's*

Acknowledgments

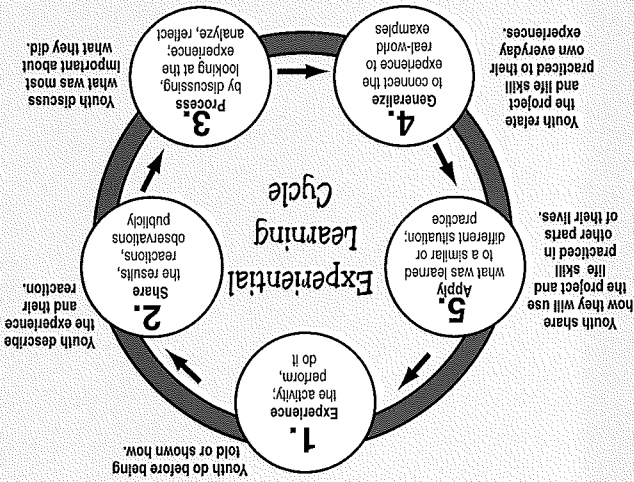
Revision Team: This revision of the four sheep activity guides was accomplished by the Sheep Design Team comprised of Joe D. Camarillo, Chair; Marvin Dehie, Washington; C. J. McCabe, Wyoming; Marc Horney, California; Jim Mueller, Nebraska; Rosie Noid, Nebraska; Lisa Rothenburger, New Jersey; M. J. Wylie, Wisconsin; and Tom Zurcher, Director and Editor.

Design Illustration and Production: Northern Design Group, White Bear Lake, Minnesota.

Word Processing: Nancy Hatmaker, Michigan.

Original Series Writing Team: Doyle Woverton, Nebraska; La Mar Graff, Iowa; Gary Wilson, Ohio; Roger Haugen, North Dakota; Kris Torman, Nebraska; and Tom Zurcher, Project Coordinator and Editor.

Experiential Learning Model



Feffer, J.W., & Jones, J.E., "Reference Guide to Handbooks and Annals" © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

"Evaluating the Impact." Complete this before the youth begins each level and after completing each level. Each activity is designed so the young person has an opportunity to learn by doing before being told or shown how. Your challenge is to "sit on your hands" while the youth explores the activity and learns from the experience, even when it doesn't work the way it's expected to. You can most effectively help with the learning by listening as the young person considers the questions and draws conclusions. At times the activity may call for you to be a resource person for content or ideas.

The fourth publication in this series, *Sheep Helper's Guide*, provides additional learn-by-doing activities that can be adapted to the family, the classroom, after school child care, 4-H project groups, clubs or other groups. You'll also find helpful hints about characteristics of youth, life skill development, teaching experientially, meeting ideas as well answers to many of the activities in the youth guides.

This five-step model is included in each activity in this series. As you can see, the youth first attempt the activity on their own. After the youth do as much as they can and answer the questions, you then meet together and discuss: What they did? How does what they did relate to their lives? And finally, how might they use the life and project skills practiced in the future? Sample questions are included following each experience. Your ability to ask additional thought-provoking questions and to clarify and expand the youth's ideas will add to the educational experience.

Good luck in your role as Project Helper!

What's Inside?

For more on sheep... look for these other guides in this set.

Shear Delight

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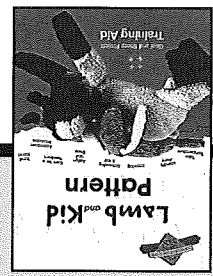
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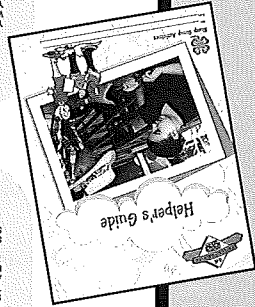
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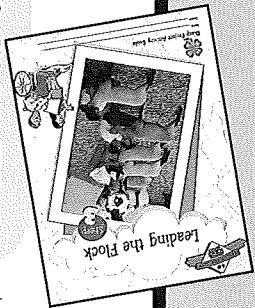
Ever wonder how a lamb is born?



Use this pattern to make a realistic model kid or lamb.



Helper's Guide



Leading the Flock



Rams, Lambs and You

Helper's Guide

Your Sheep Group Activity Guide Inside Front Cover

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Having Fun With the Sheep Project

I'm confident you can complete Level 2.



Sheep 2 Project Guidelines

- Do a minimum of seven activities in Level 2 of the Sheep Achievement Program each year and complete Level 2 within three years
- Practice and develop the life skills of making decisions, leading self and others, relating to change and planning and organizing
- Participate in a minimum of five of the learning experiences listed on the Planning Guide each year
- Keep the Planning Guide current by setting project goals and recording project highlights you experience
- Increase your sheep knowledge and skills

Sheep Achievement Program

The activities will challenge you to explore areas of the project you perhaps haven't experienced before. Do your best to complete each activity and answer the questions. Work with your helper to complete each experience. You may need additional resources to complete some of the activities. Sheep magazines, internet sites, books, tapes, commodity groups, feed and equipment manufacturers, and marketing groups are good resources. The library will also have several references to help you.

Remember this is your own personal project activity guide. As you complete the activities, answer the questions and record your project highlights you'll realize how much you have accomplished in this project. Have fun!

Your Project Helper

The choice is yours! The person you choose to be your project helper needs to be willing to support your efforts to complete Level 2 of the Sheep Achievement Program. Your helper will meet with you to set goals, plan activities, suggest resources to use, discuss each activity with you and date and initial your achievement program each time you have successfully completed an activity. Write the name, phone number and e-mail address of your project helper here:

My Project Helper _____

Phone # _____

E-mail address _____

Good Luck with Sheep 2

Let's get started! This guide is an important part of the sheep project. Sheep 2 offers you new challenges and opportunities to explore a wide range of activities related to sheep. You'll also have fun meeting new people, becoming better acquainted with your community and expanding your interests and goals. Like Sheep 1, an achievement program is included to guide your efforts and provide you with an opportunity to be recognized for meeting your goals. Here are some of the many activities you can choose to do:

- Place a class of lambs and present reasons
- Identify parts of ruminant digestive tracts
- Name a prevention and cure for sheep health problems
- Identify different feeds and the nutrients they provide
- Demonstrate how to deliver lambs in abnormal positions
- Demonstrate how to save a weak, newborn lamb
- Do six sheep management practices
- Identify parasites that attack sheep
- Locate sheep information on the World Wide Web
- Outline a budget for a market lamb
- Discuss ethical and non-ethical behaviors in the sheep project
- Determine the yield grade of several carcasses
- Identify the important management practices during eight production periods
- Cook lamb meat

You'll be surprised at the many fun and interesting things you'll learn. Don't be afraid to jump right in, and don't give up if the activity doesn't work out the first time. You're still learning, right? The most important thing is to try. Once you try, then think or talk about what happened or didn't happen and why.

Sheep 2 Planning Guide

My Sheep Project Goals

Name _____

My Sheep's Name _____ Breed _____

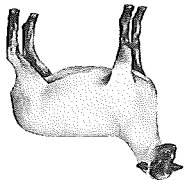
What I want to do and learn in Sheep 2: _____

1. _____
2. _____
3. _____
4. _____

Learning Experiences
Complete at least five of these activities each year.

Activity	Year		Year		Year	
Give a demonstration or speech						
Attend three sheep project meetings						
Help organize a sheep show						
Recruit a sheep project member						
Exhibit at a fair						
Participate in a judging contest						
Help conduct a sheep skillathon						
Participate on a sheep quiz bowl team						
Help organize a sheep showmanship contest						
Help a younger project member						
Your own activity						

Shear Delight Completion Certificate



I certify that _____

has completed all requirements of the *Shear Delight* Achievement Program in the National 4-H Curriculum Sheep "Skills for Life" Series.

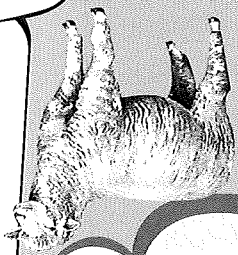
Signature _____

Date _____

A picture of my project animal and me.

Sheep Project Highlights
Date and list the exciting things you do and learn.

Talking Sheep



Sheep Project Skill: Judging and presenting reasons

Life Skill: Communicating with others

Show of Success: Judges a class of market lambs and presents reasons for your ranking.

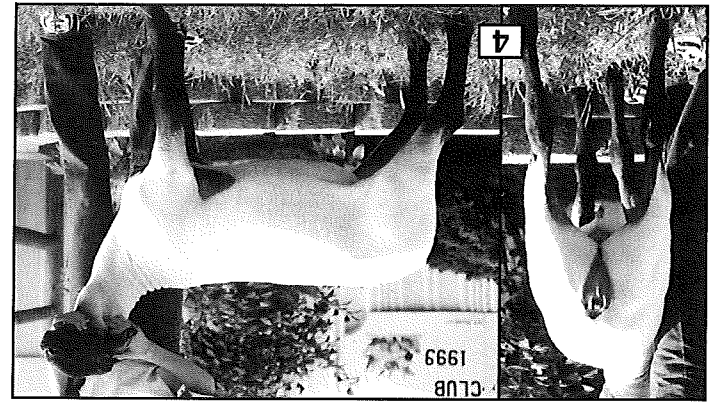
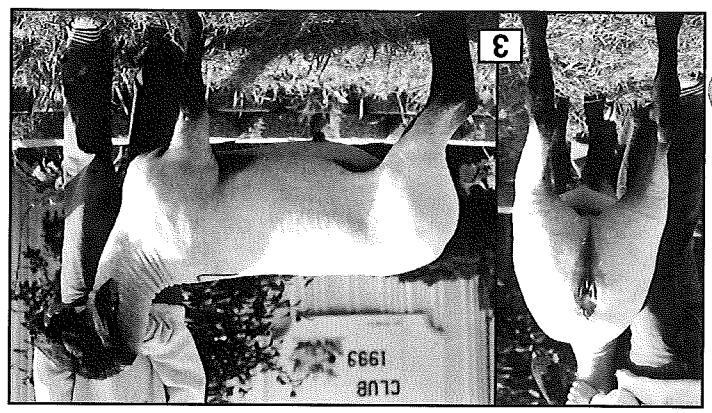
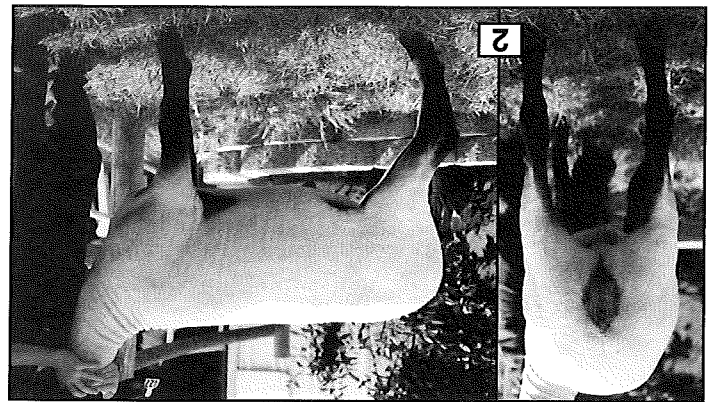
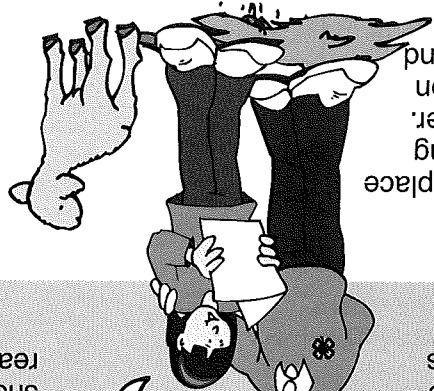
This looks like a placeable class.

This activity will give you an opportunity to practice judging sheep and then presenting reasons for your decisions.

In the first level of the sheep project you learned about sheep body parts and what they should look like. No sheep is perfect, with all of the parts exactly as you would like them. That means you need to know how to choose between animals that aren't perfect. This is known as "judging."

Your Challenge

Look at the class of market lambs and place each animal. Take notes on your placing and present your reasons to your helper. Ask your helper to give you feedback on the accuracy, delivery, completeness and length of your reasons.





I need to remember to compare animals and not describe them.

- Lead in Granting Terms**
- Heavier muscled, higher cutting
 - Higher % lean
 - Longer, leaner carcass
 - However, I will grant ...
 - On the other hand ...
 - I did recognize that ...
 - Admittedly ...

- Carcass**
- Leaner with less fat trim
 - Produce a trimmer carcass
 - More correct fat cover

- Trimness**
- Greater loin expression
 - Greater muscle volume
 - Thicker, more muscular

- Muscle**
- Tighter, stronger shoulder
 - Leveler, stronger top
 - Squarer, stronger leg structure

- Structural Correctness**
- Greater capacity and higher volume
 - Later maturing
 - Taller fronted
 - Longer bodied, stretchier

- Frame and Scale**
- Use terms acceptable to sheep breeders. Use comparative terms when comparing pairs of sheep.

Comparative Terms

Length
Never go over two minutes for a class of four.

Completeness
Bring out all the major differences.

Organization
Bring out the more important and general points first.

Delivery
Present your reasons confidently and sincerely standing about six to eight feet from the judge with your hands behind your back.

Accuracy
Point out the obvious and most important points in the class.

Organization
Present your reasons confidently and sincerely standing about six to eight feet from the judge with your hands behind your back.

Delivery
Present your reasons confidently and sincerely standing about six to eight feet from the judge with your hands behind your back.

Accuracy
Point out the obvious and most important points in the class.

Organization
Bring out the more important and general points first.

Completeness
Bring out all the major differences.

Length
Never go over two minutes for a class of four.

Oral Reasons Hints

How you placed the class is not nearly as important as the reasons for your placing. Here are some guidelines to help you improve your reasons and your scores.

Accuracy
Point out the obvious and most important points in the class.

Delivery
Present your reasons confidently and sincerely standing about six to eight feet from the judge with your hands behind your back.

Organization
Bring out the more important and general points first.

Completeness
Bring out all the major differences.

Length
Never go over two minutes for a class of four.

Reasons Note Card

Class _____

I placed this class of _____

I placed _____ over _____ in my top pair because

I grant _____ was _____

Going to the middle pair, I placed _____

over _____ because _____

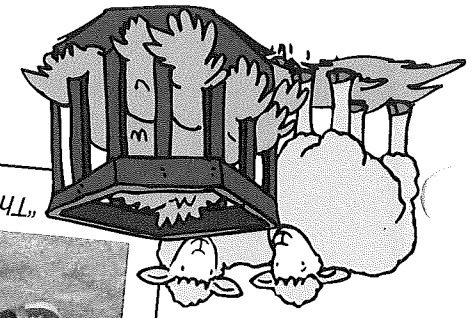
I admit _____ was _____

I placed _____ over _____ in my bottom pair

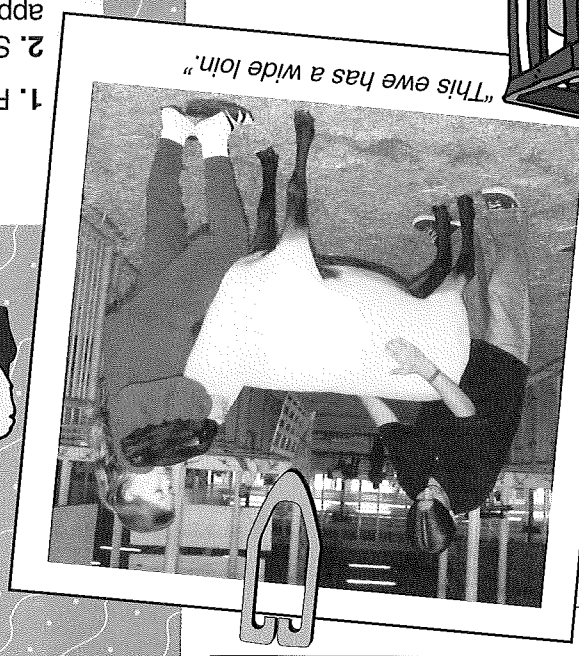
because _____

I realize _____ was _____

However, I faulted _____ and _____ placed it last in this class because



"This ewe has a wide loin."



What can you do to help yourself become a smooth and organized speaker?

Imagine what's next

What other times have you given reasons for doing or believing something?

Explore what you learned

How does giving reasons help you communicate your thoughts more clearly?

Tell what's important

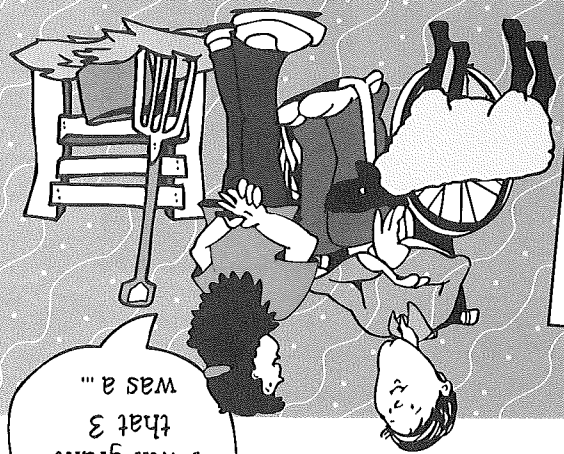
- How did you feel when you gave reasons?
- What differences did you see in the lambs?

Share with your helper

Talk It Over

1. Participate as a member of a judging team.
2. Serve as the official judge or as an apprentice judge for a judging contest or a sheep show.

More Challenges



However, I will grant that 3 was a ...

I placed this class of Hampshire ewes 1-2-3-4. I started with 1 as she was the largest framed, longest bodied, most feminine ewe in the class. I realize she wasn't the highest capacity ewe. In the top pair, I placed 1 over 2. One was a more upstanding, nicer balanced ewe with a more angular front and straighter topline. I grant 2 was a deeper ribbed and higher volumed ewe, yet I criticized her and placed her second as she was coarser shouldered and had more slope to her rump. In the middle pair, I placed 2 over 3. Two was a larger framed, higher capacity, heavier muscled ewe that was wider chested and thicker topped. I grant 3 was nicer patterned, but I criticized her and placed her third as she was a flat ribbed, shallow bodied ewe that was flatter muscled in her leg. In the bottom pair I placed 3 over 4. Three was a larger framed, longer bodied growthier ewe that was longer in her head, neck and cannon bone than 4. I grant 4 was a heavier muscled female, but I criticized her and placed her last as she was the earliest maturing, smallest framed, shortest bodied ewe in the class.

Basic Sample Reasons



Meating the Grade

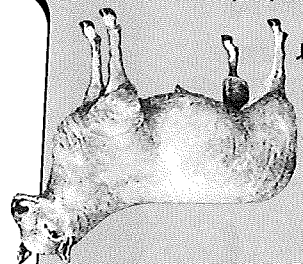
When in the showing, you may hear the judge refer to the "end product" of your market lamb. The end product is the lamb meat that comes from the market lambs you raise. Many of the factors that affect how a market lamb places in the showing, also affect the value of the lamb meat. Consumers

are interested in lamb meat that has a small amount of fat and bone in comparison to the amount of meat.

Sheep Project Skill: Determining lamb yield grades

Life Skill: Making decisions

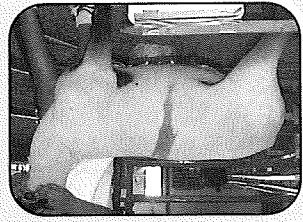
Show of Success: Calculates the yield grade and matches the live animal views with the corresponding carcass photos.



Your Challenge

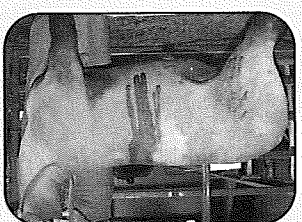
From the information given in Sheep Facts, determine the yield grade of lambs A and B. Then match the pictures of the lamb carcasses

Lamb A

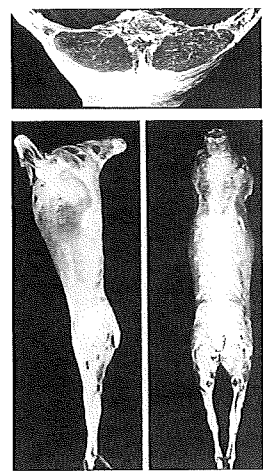


Lamb A is very heavy muscled and has only about a tenth of an inch (0.1) of fat cover. It would probably place very well in the showing. What is Lamb A's yield grade?

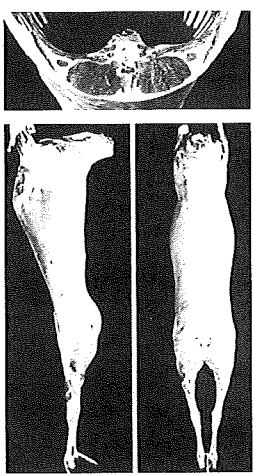
Lamb B



Lamb B is an average lamb with average muscling and a fat cover of about two-tenths of an inch (0.2). It would probably place near the middle of a group in the showing. What is Lamb B's yield grade?



Yield Grade 1 carcass
This lamb carcass would likely come from Lamb # _____.



Yield Grade 2 carcass
This lamb carcass would likely come from Lamb # _____.



Yield Grade 3 carcass
What yield grade do you think this carcass is?

Talk It Over

Share with your helper
 ● What differences did you see in the lambs and carcasses?

Tell what's important

What are the main differences between a yield grade 1 and a yield grade 4 animal?

Explore what you learned

What things do judges do to help them determine the fat and muscling on a lamb?

Imagine what's next

How will you use this information in selecting your next market lambs?

Talk Words • Yield grade • cutability • fat thickness

Relationship between Yield Grade, Fat Thickness and Cutability

Yield Grade	Fat Thickness, inches	% Cutability
1	0.15 or less	51.0
2	0.16 - 0.25	49.7
3	0.26 - 0.35	48.4
4	0.36 - 0.45	47.1
5	Over 0.45	45.8

Written by Rosie Noid

Yield Grade and Cutability



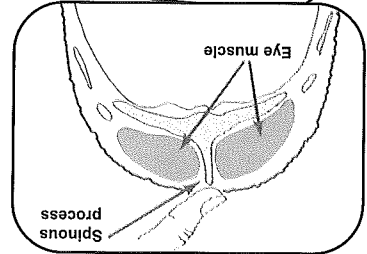
The standards for determining yield grades are determined by the United States Department of Agriculture (USDA). The numbers 1, 2, 3, 4 and 5 identify the USDA yield grades for lamb. The yield grade is a simple way of estimating the cutability of the lamb carcass. Cutability is the yield of closely trimmed retail cuts from major wholesale cuts of the lamb carcass, expressed as a percentage of carcass weight. This means that if a lamb carcass has a 50% cutability, one-half, or 50%, of the weight of that carcass will become retail cuts, such as lamb chops, that consumers will eat. A yield grade 1 carcass has better cutability than a yield grade 5 carcass.

Cutability

The major factor that affects cutability is fatness of the lamb carcass. A lamb carcass that is leaner will have a higher cutability than a carcass that is fatter. A fat carcass will produce more waste than a lean carcass. Fat thickness is the measurement that is used to determine the yield grade of a carcass.

Fat thickness

Fat thickness is measured at the twelfth rib, over the rib eye muscle. Lambs have 13 ribs, so on a live lamb, this area would be very close to the front of the loin. The rib eye is the major muscle that lies on both sides of the backbone, down the top and loin of the lamb. Judges usually feel the loin area on a lamb to help them determine fat thickness and the size of the rib eye muscle.

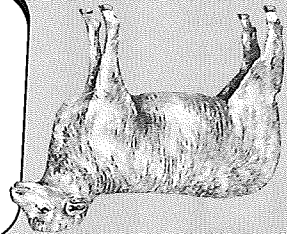


More Challenges

1. Visit a farm or feedlot that has a variety of market lambs and estimate the yield grade on five different animals.
2. Visit a local locker plant and look at a lamb about to be processed. Estimate its yield grade and then look at the carcass when it is hanging on the rail.

Rumen Along

Why are sheep, cattle and horses fed hay and grass while pigs are fed primarily grain? The answer lies in the differences in their digestive systems. In this activity you'll

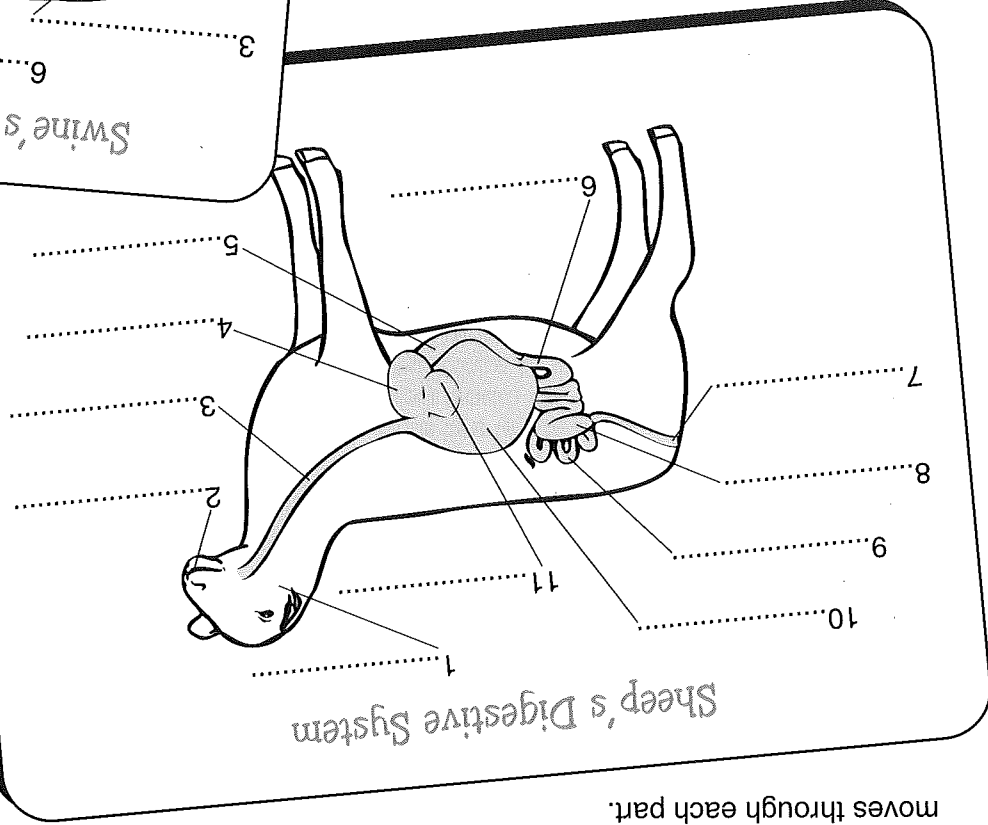


Sheep Project Skill: Exploring the digestive process
Life Skill: Communicating with others
Show of Success: Identifies the parts and differences of a sheep's and pig's digestive system.

compare how feed moves through the digestive systems of sheep and pigs.

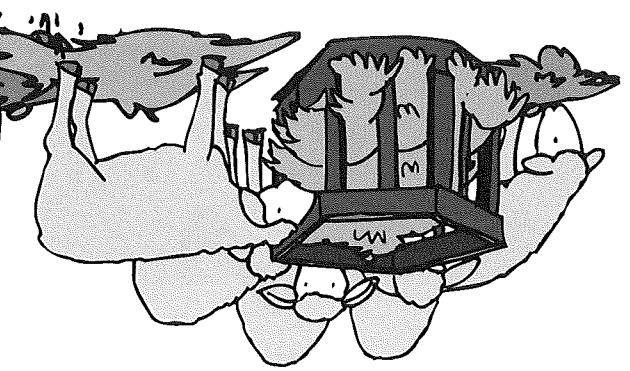
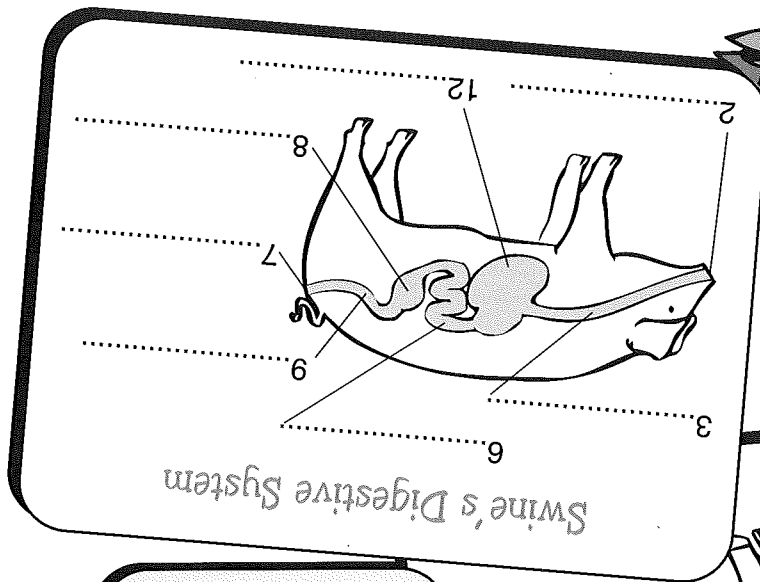
Your Challenge

Identify the parts of both the sheep's and pig's digestive system. Then prepare and make a presentation on how feed moves through each species' digestive system. Include a brief description of what happens as the feed moves through each part.



- Digestive System Word Bank
- a. Abomasum
 - b. Cecum
 - c. Esophagus
 - d. Large Intestine
 - e. Mouth
 - f. Omasum
 - g. Rectum
 - h. Reticulum
 - i. Rumen
 - j. Salivary Glands
 - k. Small Intestine
 - l. Stomach

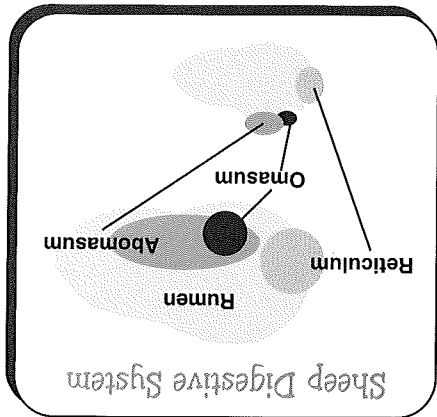
Where is the cecum?



Digestive System Differences



Before you did this exercise did you know that some animals have different organs for digesting their food? Sheep, cattle



and goats have a large compartment in front of their stomach (abomasum) called a 'rumen'. Animals that have this kind of digestive system are called 'ruminants'. What makes the rumen special? It is home to millions of bacteria and protozoa that help to digest plant fibers. Without them, your sheep could digest grass no better than you. Not all animals that eat plants have a rumen, though. Horses have a digestive system similar to a pig's or a person's, except that horses have a much larger cecum. Like the rumen, the cecum is also home to microorganisms. In most animals, the cecum is too small to be much help in digestion.

Digestive System Parts

Each part of an animal's digestive system serves a purpose. Here is a quick overview.

Teeth - Breaks the feed into small particles.

Salivary glands - Secrete fluid to moisten food and make it easier to swallow. In ruminants saliva functions to maintain consistency of the cud and to neutralize acids formed by many microorganisms.

Esophagus - Moves the food from the mouth to the stomach. In ruminants it allows the food to be moved from the rumen back to the mouth for further chewing (rumination).

Small Intestine - Very long complex tube composed of duodenum, jejunum and ileum. More nutrients are absorbed here than anywhere else.

Cecum - Sometimes called the 'blind gut' because it doesn't really go anywhere. This is another place in the digestive tract where microorganisms live. It is large enough in horses to allow them to digest fibrous foods, but it is very small in most other animals (including pigs and people).

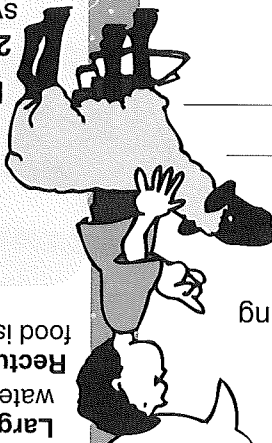
Large Intestine - Its main function is to absorb water and water-soluble nutrients (like B-vitamins).

Rectum - Organ through which the undigested portion of the food is eliminated.

More Challenges

1. Make a game by drawing the digestive system of a sheep and cutting it into pieces. Have your family put the parts in the correct order and then identify each part.

2. Look for books that have pictures of the digestive systems of a horse and a chicken. In what way are their digestive systems similar to and different from a sheep or a pig's?



Talk It Over

Share with your helper

- How does feed move through each species' digestive system?
- What differences are there between the two systems?
- How did you learn the parts of each digestive system?

Tell what's important

What organs from page 10 does feed pass through on its trip through a lamb's and a pig's digestive system?

What differences are there between the two digestive systems?

Explore what you learned

What do you consider your strengths when giving presentations to others?

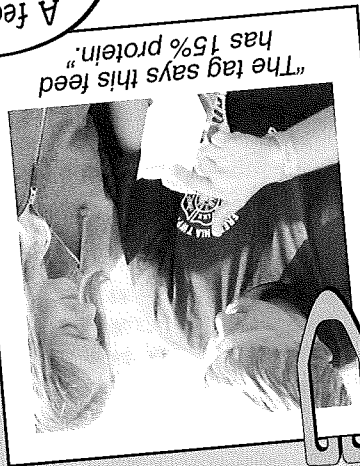
Imagine what's next
Besides using good speaking skills, how could you improve your presentations to make them interesting and easy for listeners to follow?

Feed Tag Fun

Have you ever gone to the grocery store and looked at the label on a package of food? Food package labels tell you what kind of nutrients are in the food, how much of them there are and, if the food product has been made by mixing other foods together, what the ingredients are. A feed tag will tell you some of the same things

Your Challenge

Compare the feed tag below to the requirements listed for the example feeder lamb. Complete the table by stating whether or not the lamb's nutritional requirements (or put "don't know" if you can't be sure). For fun see if you can find the feed ingredients in the Word Search.



A feed tag is like the Nutrition Facts label on my cereal box.

about the feed you buy for your sheep. If you know what nutrients your sheep require, you can use a feed label to make sure that they are getting enough of what they need.

Sheep Project Skill: Understanding a feed tag

Life Skill: Comparing and evaluating

Show of Success: Recognizes nutrients from feed tag descriptions.

Feed Tag

LAMB GROWER

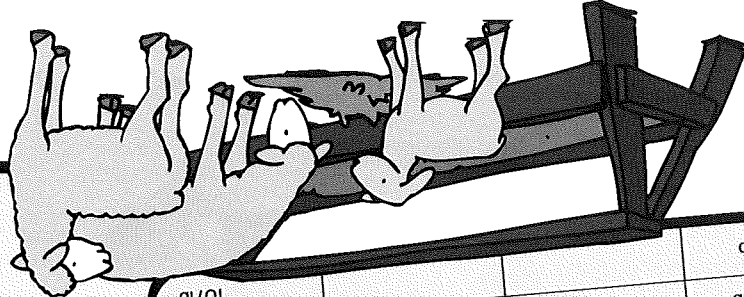
GUARANTEED ANALYSIS

- CRUDE PROTEIN, Not less than16.0%
- CRUDE FAT, Not less than2%
- CRUDE FIBER, Not less than16.0%
- Calcium (Ca), Not less than0.8%
- Calcium (Ca), Not more than1.3%
- Phosphorus (P), Not less than0.4%
- Salt (NaCl), Not less than0.3%
- Salt (NaCl), Not more than0.8%
- Selenium (Se), ppm, Not less than0.3%
- Vitamin A, Not less than4,500 I.U./lb.
- Vitamin D3, Not less than450 I.U./lb.
- Vitamin E, Not less than10 I.U./lb.

INGREDIENTS

Grain Products, Processed Grain By-Products, Forage Products, Molasses Products, Calcium Carbonate, Salt, Ammonium Chloride, Sodium Selenite, Cobalt Carbonate, Ferrous Sulfate, Manganese Sulfate, Potassium Iodide, Vitamin D3 Supplement, Vitamin A Acetate, Vitamin E Supplement.

Manufactured By
Wylie Feeds
Sheep Division
Your Town, USA



Nutrient	Requirement	Amount in Feed	Meets or Exceeds Requirement? (Yes, No or Don't Know)	How much over or under?
Energy				
Total Digestible Nutrients (TDN)	72%			
Digestible Energy (DE)	1.45 Mcal/lb			
Metabolizable Energy (ME)	1.14 Mcal/lb			
Crude Protein (CP)	14.7%			
Calcium (Ca)	0.51%			
Phosphorus (P)	0.24%			
Vitamin A	493 IU/lb			
Vitamin E	7 IU/lb			

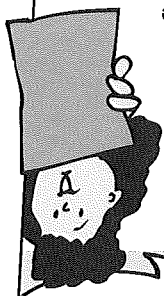
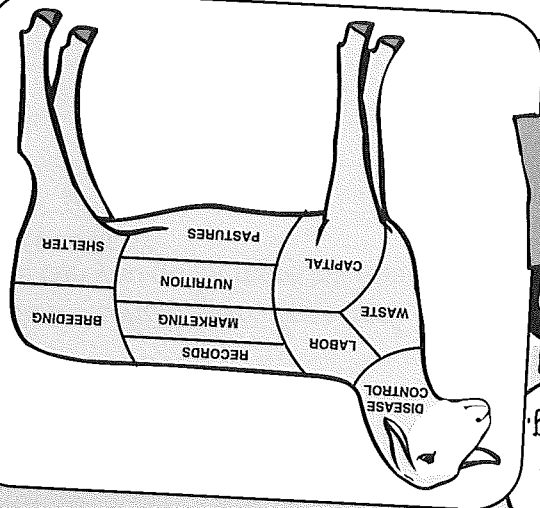
Nutrient Requirements, 66 lb feeder lamb fed to gain 0.65 lbs per day

8. Late Gestation (November to April)	4. Growing (April to August)
7. Early Gestation (September to January)	3. Weaning (April to June)
6. Breeding (September to November)	2. Lactation (February to June)
5. Prior to Breeding (June to October)	1. Lambing (February to April)

Production Periods

Your Challenge

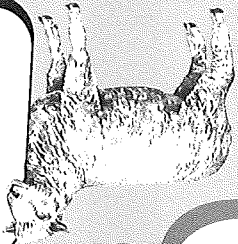
Record the management practice or practices that should take place for each production period. Use the practices listed as a guide. Some management practices may be used more than once. After you have discussed your answers with your helper, make a matching game with cards to use with your family.



To be a good manager takes careful planning.

To be a good shepherd of your flock, knowing what should happen when is important. Good planning will help you be ready. This activity helps you explore many of the management practices that occur during the sheep production cycle.

Planning Ahead



Sheep Project Skill: Understanding the sheep production period
Life Skill: Planning and organizing
Show of Success: Matches management practices with production periods.

Share with your helper

- How did you decide what should occur when?
- What practices did you find that were missing?

Tell what's important

Why is it important to be organized if you are a farmer?

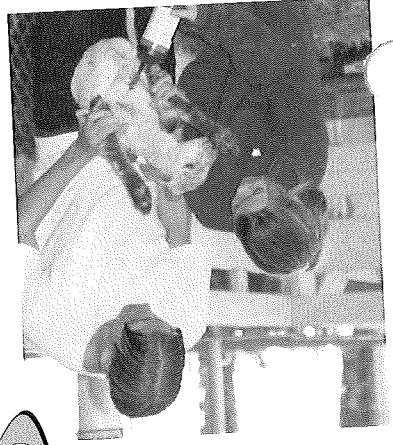
Explore what you learned

What do you do each day to keep yourself organized?

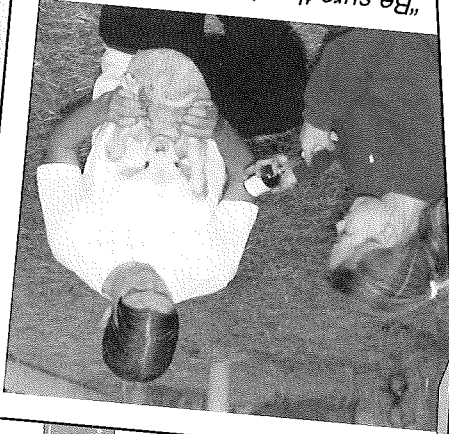
Imagine what's next

What can you do now to plan your future?

Every lamb's navel is dipped in iodine to prevent infection.



"Be sure the dosage is correct."





Sheep Management

Practices

- Introduce lambs to creep or grain
- Watch for maggot infestations
- Watch for mastitis in ewes
- Add grain to ewe ration
- Cull ewes with problems (foot/udder/lambing)
- Strip teats of ewes
- Drench ewes for internal parasites
- Provide fresh water and trace mineral salt
- Keep ewes on maintenance-only diet
- Castrate ram lambs at 2-3 days
- Vaccinate lambs for enterotoxemia
- Drench lambs that are not gaining
- Feed rams more than maintenance
- Vaccinate lambs for tetanus
- Feed maintenance ration to ewes and rams
- Check ewes for health problems
- Identify lambs with ear tags
- Have plan to handle orphan lambs
- Vaccinate ewes for vibriosis 2 weeks before breeding
- Market lambs at 115-140 pounds
- Dock tails at 2-3 days
- Feed lambs on growing/finishing feed
- Turn rams in with ewes
- Observe lambs for coccidiosis
- Feed ewes
- 2 pounds grain a day
- Gradually reduce grain to ewes

This activity helped me be a better manager.

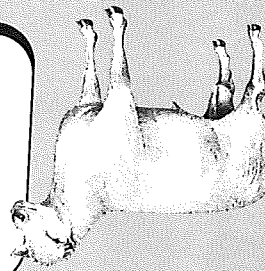


More Challenges

- On a calendar record all the sheep management practices and activities (including show-related activities) that you will need to do during a 12-month period.
- Visit a manager or owner of a sheep farm in your area. Discuss and compare your answers in the activity above with the management practices used in that operation.

Buy Low, Sell High

What does it cost to raise a market lamb from the time you buy it to the time you sell it? What will be your expenses? How much money can you expect to receive when it is ready for market and sold? It is important to plan your expenses so you know how much



- Sheep Project Skill:** Paying the bills
- Life Skill:** Planning and organizing
- Show of Success:** Figures the cost of raising a market lamb from buying to selling time.

money you'll need. This activity will be good practice in case you need to get a loan in the future.

Your Challenge

Pretend you are just getting started in the sheep project. You plan to begin with a 50-pound market lamb. With the help of an older youth who raises

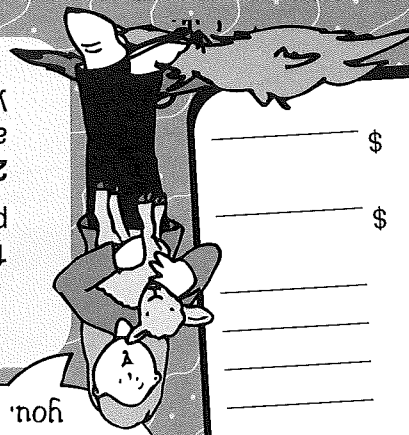
Budget Tips

- A lamb needs about five pounds of feed (hay and concentrate) to make one pound of gain. Feed costs about five cents a pound
- Miscellaneous expenses average about \$2.50 per lamb from 50 to 120 pounds
- About 3 to 7.5 hours of time is required per ewe plus 2.5 hours per lamb

My Market Lamb Budget

Income	
Expected market lamb sale	\$ _____
price (120 lbs)	
Wool	_____
Other (fair premiums, etc.)	_____
Total income	\$ _____
Expenses	
Feeder lamb purchase price	\$ _____
(or value)	
Feed	_____
Veterinary service	_____
Supplies	_____
Other expenses	_____
Total expenses	\$ _____
Total profit or loss	\$ _____

Let's see how much it will cost to raise you.



More Challenges

1. Interview someone who raises sheep for profit. Share what you learn with your helper.
2. Make a graph of market lamb prices over a two-month period. Explain your graph to your helper.

Share with your helper

- What income and expenses did you include?
- Where did you get the prices for feeder lambs and market lambs?

Tell what's important

What surprised you about your budget? Why is it important to plan things step by step before you do them?

Imagine what's next

How could you use a budget to plan how to spend your allowance, gift money or other spending money you receive?

Explore what you learned

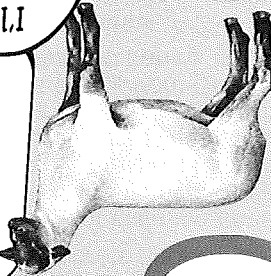
Why is it important to plan things step by step before you do them?

Talk It Over

sheep or your project helper, fill in the budget outline below. Use market figures for both buying and selling.

Heads or Tails?

Lambing time is probably the most satisfying part of sheep raising. A good lamb crop is a measure of the success of your breeding program and how well you have taken care of your ewes and newborn lambs. This activity will help you be prepared.



I'll need a good plan to be successful

- Sheep Project Skill: Identifying normal and abnormal lamb presentations at birth
- Life Skill: Planning for lambing
- Show of Success: Develops a plan of action for lambing ewes.

Your Challenge

Pretend that you have five ewes that are all expected to lamb in the next 10 to 15 days. These ewes are the first that you have ever had lamb. Indicate in the Plan of Action what you would do to prepare for this first lambing.

Plan of Action

1. Lambing Supplies Needed _____

2. Medications Needed _____

3. Lambing Area Preparation _____

4. Emergency Phone Numbers _____

5. Special Care for the Ewes _____

Talk It Over

Share with your helpers

Tell what's important

Why is it important to keep the lambing area and equipment as clean as possible?

Why is it important to make a list of experienced helpers prior to lambing?

Explore what you learned

What preparation did you make before lambing season started?

Imagine what's next

How does planning for an emergency help you in your life?

Preparing for Lambing

1. Provide clean, dry bedding. Assuming ewes go through a lambing facility, clean, dry bedding is essential for dirt floors or concrete floors.
2. Provide jugs or claiming pens. Make pens from 5-foot panels wired or hinged together (25 square feet per ewe). Be sure lower slats of the panels are close enough together to prevent lambs from getting out if solid or plywood panels are not used.
3. Provide heat lamps. A 250-watt infrared heat lamp is satisfactory. A heat lamp should be enclosed with a simple, box-like, fireproof structure. Don't leave lamps under lambs too long or pneumonia may develop. Use the heat only until the lamb is dry, warm and doing well - not to exceed 2 or 3 days at the most.
4. Provide a hospital cabinet containing lambing aids. Your aids should include:
 - an ovine esophageal probe (baby lamb revolver - see page 21)
 - a 50 cc pistol-grip syringe
 - sterile 10 cc syringes (disposable type); if reusable type, sterilize each time before use
 - hypodermic needles (18 G x 1 inch)
 - injectable antibiotic
 - head snare
 - lambing cords (or a manufactured lamb puller)
 - intrauterine tablets
 - soap, disinfectant, obstetrical lubricant
 - clean towels or paper towels
 - clean pail for warm water
 - tincture of iodine
 - oxytocin (POP)
 - disposable, arm-length gloves

Attending the Flock at Lambing Time

- Ewes prefer to lamb alone and will often go off by themselves to lamb. As long as all goes well, leave them alone. Signs of lambing include restlessness, raising the dock (tail), stretching, lying down with the head extended and obvious straining. A strong ewe will get up and down fairly often immediately preceding and often during delivery. This is nothing unusual.
- Help only those ewes that really need it. Watch for a ewe in trouble, and act promptly before she gets into extended labor.

Lambing Ewes



The embryonic sack, or water sack, appears first when the birthing process has begun. The front feet appear shortly after the water sack is presented. The picture shows one foot; the other will appear shortly. Note that the top of the foot is showing, indicating that the lamb is coming from feet first.



The birthing process has progressed to where the head and front legs appear. Note that the embryonic sack has not broken yet. Once the head is out, the rest of the delivery is usually fast and easy.



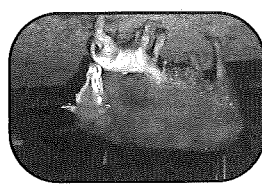
The lamb is delivered to its hips. The birth is about completed. Note that the embryonic sack has not broken yet.



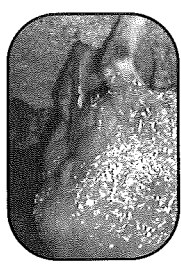
The ewe is cleaning the embryonic sack from the lamb's head. She will lick the lamb to stimulate it. At this point the lamb may look dead but the ewe's licking stimulates the lamb.



Alert and ready, the lamb is trying to get to its feet.



The lamb is looking for the ewe's udder and something to eat.



This ewe has not shed her afterbirth. A ewe can shed her afterbirth during birth or up to several hours later without health problems.

Acknowledgment: Thanks is extended to the University of California, Davis for providing the lambing photos.

Lambing Ewes

Signs of Lambing

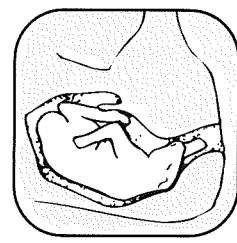
When a ewe is close to lambing you'll notice several signs:

- The udder will begin to fill
- The vulva will show a soft, shiny appearance and be enlarged
- A mucous discharge from the vulva during the last 24 hours before lambing
- The ewe will stop eating a few hours before delivery
- The ewe will lie down and get up often
- The ewe will walk around in a small area

Difficult Births

If the lamb is not born within about one hour after the water sac first appears help may be needed. If you are not experienced try to find someone to assist you. Here are some tips:

- Wash your hands and arms with soap and water
- Cover your hands and the ewe's vulva with a disinfectant liquid soap
- Apply soap flakes or mineral oil to the moistened hand and arm for longer lasting lubrication
- Be sure your fingernails are closely trimmed
- Check to see how the lamb is being presented



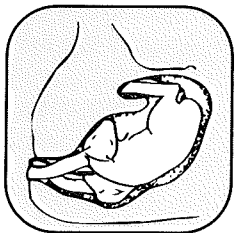
One leg back

One Leg Back
 Deliver the lamb by pulling on the head and the leg that is showing. In extreme cases the lamb's head must be pushed back far enough to insert a hand and pick up a leg that is back. When both legs are out, the lamb can be delivered normally. A similar procedure is followed if only the head is showing. Pull the lamb firmly and slowly toward the hocks or udder, not straight out. Pull until the lamb is completely delivered to avoid causing the ewe to prolapse.

More Challenges

1. Using a fabric lamb, demonstrate at least four abnormal lamb presentations. (See page 23).
2. Prepare and present a demonstration to other youth on preparing the ewe before, during or after lambing.
3. Video tape a ewe giving birth and critique what steps in birthing are taking place.

Twins Coming at the Same Time

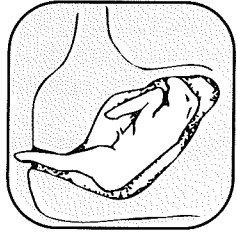


Twins coming at the same time

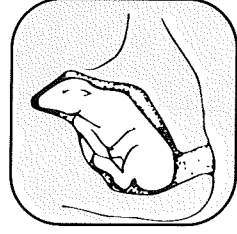
Line up the lambs and make one wait its turn by inserting a hand and finding which leg belongs to which lamb. Push back the leg that doesn't belong to the lamb with its head showing. Once the extra leg is out of the way, the first lamb can be delivered. The second lamb can be delivered by finding the front legs and pulling them out.

Other Helpful Tips

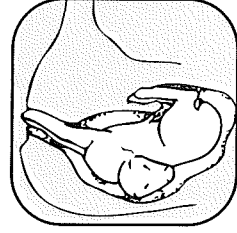
- If the tops of the feet are seen, the lamb is coming or head first. If the bottom of the feet are showing the lamb is coming breach or backwards.
- Pull the lamb firmly and slowly until the lamb is completely delivered to avoid causing the ewe to prolapse (the uterus turns inside out).
- Check to see if the lamb is alive by inserting a finger in its mouth — if there is a sucking reflex, the lamb is alive.
- To temporarily stop a ewe from pushing (birth contractions) ask an assistant to open the ewe's mouth and pull her tongue forward.



Hind end first (breach)

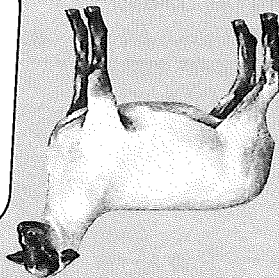


Upside down or crosswise



Head back

Save That Lamb



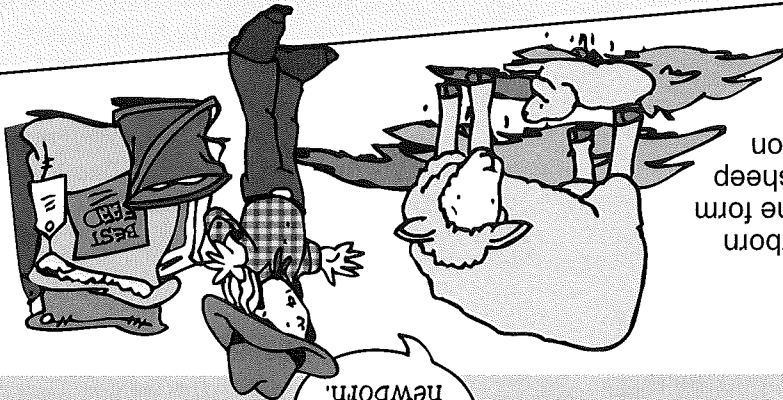
Every second counts when trying to save a newborn lamb. A newborn lamb's survival may depend on your help. By planning ahead you will be in a position to act fast and save a life.

- Life Skill:** Saving cold and weak newborn lambs
- Project Skill:** Planning and organizing presentation on saving a weak, chilled lamb.
- Success:** Plans and presents a presentation on saving a weak, chilled lamb.

I can rescue this newborn.

Your Challenge

Outline a plan for saving a weak newborn lamb and then present your plan in the form of a demonstration to your family or sheep group. Include the major demonstration points below.



Demonstration Outline

Title _____

Introduction (attention getter)

Body (supplies and equipment, steps, grafting, etc.)

Conclusion (summary of key points and answering questions)

Planning a demonstration helps me learn the skill better.

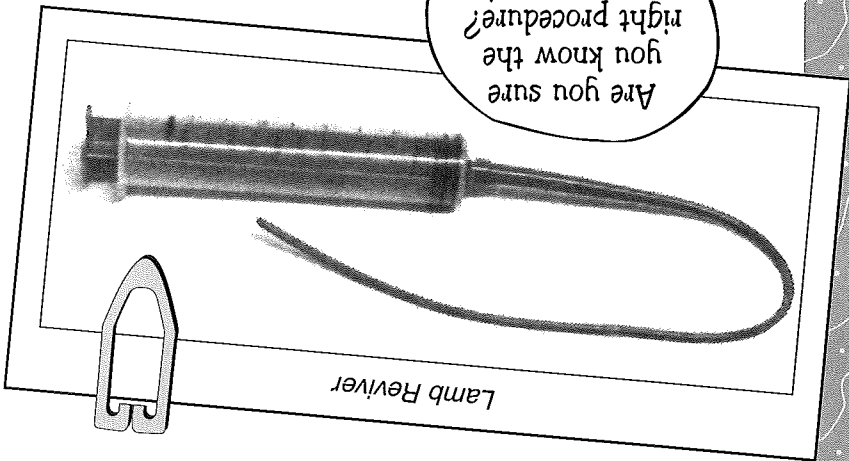


1. With help, sew a cloth model lamb that can be used to demonstrate several management practices, including tubing a weak newborn lamb.
2. Plan and conduct a lamb management skillathon for six or more people. Possible learning stations might include castrating, delivering, docking, ear tagging, tubing and vaccinating.

More Challenges



Are you sure you know the right procedure? Better check!



Lamb Reviver

Some new lambs need encouragement to breathe. It is most important that the lamb takes that first gasp of air. One way to get it to breathe is to take a small straw or stem of hay and push it gently into its nose. Usually, it will sneeze and take a breath of air. If this does not work, give the lamb artificial respiration by raising a front leg. This helps expand the chest cavity and draws air into the lungs. Push the leg down and repeat until the lamb starts to breathe. Mouth-to-nose resuscitation or a veterinary aspirator will also work.

Clearing the Airway

- Not breathing
- Cold
- Starvation
- Pneumonia
- Scours (Diarrhea)
- Navel ill
- Entropion (Inverted eyelids)
- Urinary Calculi (Water Belly)

Lambing Losses
Be prepared to avoid losing lambs to these six causes:

Life Saving Measures



Talk It Over

Share with your helper

- What did you include in your plan?
- What part of the plan is most important?

Tell what's important

Why is it important to warm a cold lamb as quickly as possible?

Explore what you learned

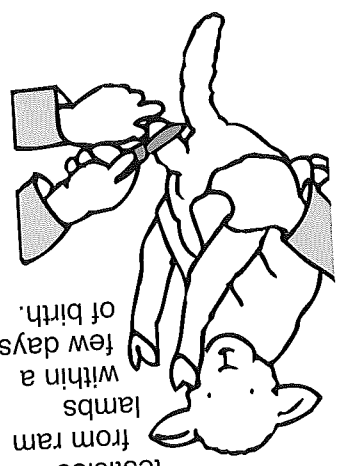
Why is it important to plan ahead when you expect fast action later?

Imagine what's next

How does planning help you accomplish what you want in life?


Tubing a Lamb

Weak or chilled lambs that have no sucking reflex should be fed 10 cc of colostrum per pound of body weight with a 14- to 16-inch stomach tube and 60 cc hypodermic syringe. Insert the tube gently into the esophagus. Feel it as it goes down. Check to be sure the tube is not in the lungs. If bubbles are seen when the opposite end is put in water, or if a wet finger feels cool from moving air, remove it and try again.



A knife, emasculator, burdizzo or elastic band is used to remove the testicles from ram lambs within a few days of birth.

Castrating



Internal parasites are a major cause of death and poor growth. They can be controlled by injection, pills, dry medication mixed in the feed or a liquid drench. When drenching, the lamb's head is held in a normal position. The drench gun is inserted in the side of the mouth over the tongue.

Deworming



An emasculator, burdizzo or elastic band may be used to remove the tail so fecal matter and mud don't accumulate and lead to a maggot infestation. The tail should be left at least two tailbones long.

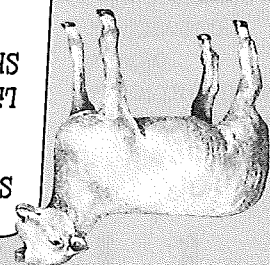
Docking

Practice with a friend the six sheep management practices — castrating, deworming, docking, ear tagging, hoof trimming and vaccinating. Then demonstrate each one to your helper using a cloth model lamb or another training aid. A short description of each has been included. You'll want to check additional resources to prepare for your demonstration.

Your Challenge

Six important management practices are necessary to identify problems and keep a lamb healthy. It takes practice to develop the skills necessary to do them in ways that will cause as little discomfort to the lamb as possible. In this activity you will learn and demonstrate each of the six skills.

From Deworming to Docking

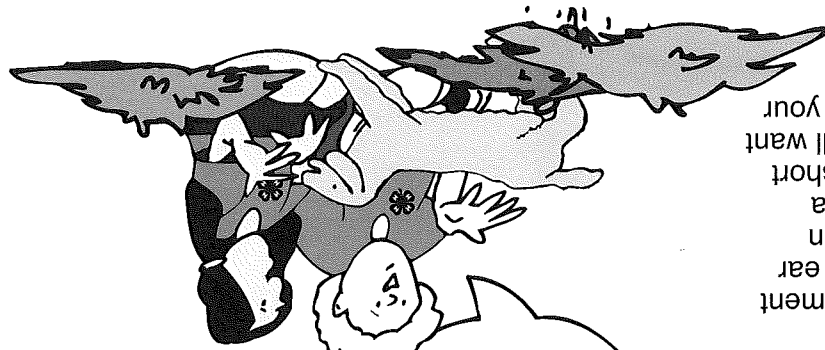


Sheep Project Skill: Castrating, deworming, docking, ear tagging, hoof trimming and vaccinating

Life Skill: Learning to learn

Show of Success: Practices six management practices and demonstrates each.

Let's practice our demonstration with this cloth lamb.



1. Work with a sheep producer and help him or her actually do each of the six management practices shown in this activity.
2. Make a video tape of how to do at least two management practices. Show the tape to your family or sheep project group.

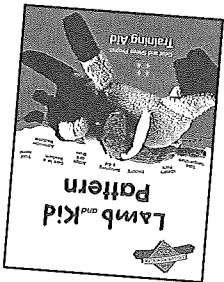
More Challenges

Imagine what's next
 How can you learn about sources of information in your community that you can use in the future?

Explore what you learned
 Why is it important to check a variety of sources when you are trying to learn something new?

Tell what's important
 Where did you find additional information to help you learn how to do each practice?

- What did you learn as you did each management practice?
 - What is the purpose of each practice?
- Share with your helper*



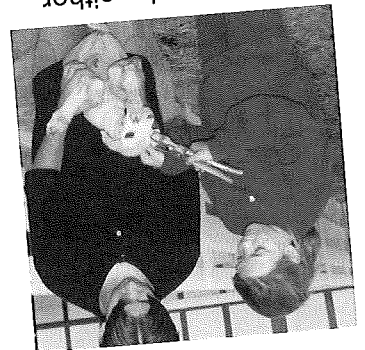
Sew a realistic 15-pound lamb using this pattern. The model lamb can be docked, castrated, tubed, ear tagged, temperature taken, shown, vaccinated and used to demonstrate other management practices. See Resources page 36 for ordering information.

Extra! Extra!

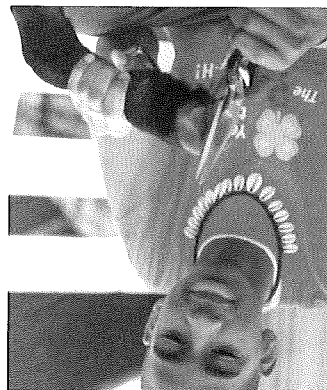
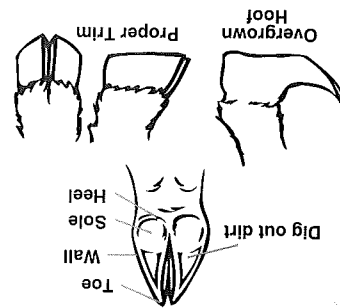


Talk It Over

Ear tags can be either plastic or metal. Care should be taken to avoid any large blood vessels when punching a hole in the ear. Ear tags are used to identify which lambs and which ewes belong together and for registration purposes.



Ear Tagging



Hoof Trimming

The hoof should be trimmed until the edge of the hoof is level with the sole of the foot. Hoof trimming is usually necessary on young lambs going to market.

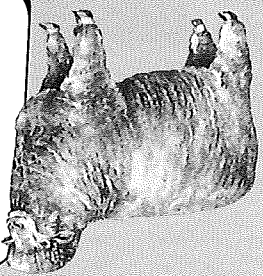
Lambs are usually vaccinated for tetanus and enterotoxemia and may be given injections for parasites. The neck muscle is used for intramuscular injections, while subcutaneous (under the skin) injections may be given in the neck or flank areas. Careful attention to dosages and withdrawal time is very important.



Giving Injections

Call the Vet!

Like all animals sheep sometimes get sick. If you learn ahead of time about the health problems sheep may have, you can diagnose and treat many of the problems that may occur.



Sheep Project Skill: Exploring sheep diseases and health problems
Life Skill: Learning to learn and possible health problems with possible cures.
Show of Success: Matches the symptoms and possible health problems with possible cures.

Your Challenge

Here are 14 sheep health problems. Select a symptom and a means of curing or preventing each problem. When you have matched each one and discussed your answers with your helper, make a matching game with note cards and play it with your family.

Sheep Health Problems

<p>Symptoms</p> <ol style="list-style-type: none"> 1. Cold, listless lamb 2. Rectum hangs out 3. Difficult birth 4. Thin listless lamb 5. Stiff joints, no appetite 6. Sudden death of a healthy lamb 7. Hot swollen udder 8. Straining as lamb tries to urinate 9. Weeping eye in newborn lamb 10. Scabs around mouth or teats 11. Lameness—no swelling 12. Listless lamb with trouble breathing 13. Stiff muscles hunched back 14. Listless ewe—late gestation 	<p>Sheep Health Problems</p> <p>Enteroxemia _____</p> <p>Foot rot _____</p> <p>Dystocia _____</p> <p>Ketosis _____</p> <p>Mastitis _____</p> <p>Hypothermia _____</p> <p>Starvation _____</p> <p>Entropion _____</p> <p>Sore mouth _____</p> <p>Pneumonia _____</p> <p>Tetanus _____</p> <p>White muscle disease _____</p> <p>Urinary calculi _____</p> <p>Rectal prolapse _____</p>	<p>Prevention or Cure</p> <p>A. Get lamb milk B. 45–50 degree water, ammonia chloride</p> <p>C. Foot bath, keep facilities clean</p> <p>D. Antibiotics, keep facilities clean</p> <p>E. Selenium/vitamin E shot</p> <p>F. Surgery</p> <p>G. Vaccinate early</p> <p>H. Surgery, injection in eyelid</p> <p>I. Vaccinate</p> <p>J. Assist ewe—keep facilities clean</p> <p>K. Get lamb colostrum, warm lamb</p> <p>L. Vaccinate early</p> <p>M. Clean and warm housing, antibiotics</p> <p>N. Feed higher energy level</p>
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Share with your helper

- Where did you find the answers to complete the matching activity?
- What diseases were new to you?

Tell what's important

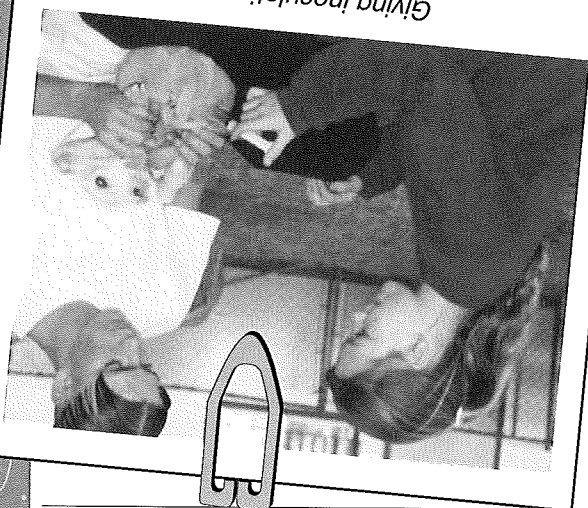
What did you learn about sheep diseases?

Explore what you learned

Why is it important to know where to find answers?

Imagine what's next

What else could you learn using the resources you used for the matching activity?



Giving inoculations.

Common Sheep Diseases



White Muscle

White muscle disease is a problem in many areas. It is caused by a lack of selenium and/or Vitamin E in the diet of the ewe and/or lamb. The characteristics of white muscle disease are stiffness in the hind legs and a hunched or arched back. It affects the heart and skeletal muscles. It affects the heart and skeletal muscles. If not treated it can cause death of a lamb in 1 to 3 days. Prevention of white muscle disease can be accomplished by having adequate selenium in the ewe's diet, usually by feeding salt with selenium added. Also an injection of Bose (contains selenium) given subcutaneously at birth is effective if your veterinarian recommends this for your area.

Enterotoxemia (Overeating Disease)

Increasing the energy level of feed too rapidly can cause enterotoxemia, or overeating disease. The disease is prevented by a series of vaccinations for *Clostridium perfringens*, types C and D, the bacterial organisms that cause the disease. Also energy levels of the feeds should be increased gradually. The only symptom of this disease is usually sudden death, in an otherwise healthy lamb. Talk to your veterinarian for vaccination instructions.

Scrapie

Scrapie is the biggest problem in the sheep industry today. It is a disease of the central nervous system that progresses over a period of years from incordination to convulsions and finally death. Little is known about how it is spread. There is no known cure. It affects ewes 3-5 years old. Your part in getting rid of this disease in the United States is making sure any stock that you buy is from a flock that is certified scrapie free.

Keys to Prevention of All Diseases

- Facilities kept clean
- Vaccination program
- Balanced diet
- Fresh clean water
- Adequate housing and space
- Predator and rodent control
- Control of exposure to other species and new animals
- Internal and external parasite control

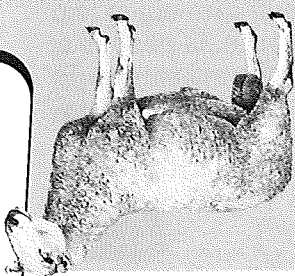
Caution

Some states do not allow leaders to treat or diagnose club lambs. Check with your local Extension Office for local policies.

More Challenges

1. Accompany your veterinarian for a day and see how she/he diagnoses and treats animal diseases.
2. Give a presentation on one sheep disease that is a problem in your area.

Sheep Freeloaders



Did you know that there are some living things that live off others? They are called parasites. When sheep have parasites, much of the food the sheep eats goes to support the life of the parasites. This means the sheep may eat more, but they get less energy and fewer

Your Challenge

First match the seven parasites with their descriptions. Then give a presentation to your family or a sheep youth group about a parasite that is a problem in your area.

Parasite Matching Activity

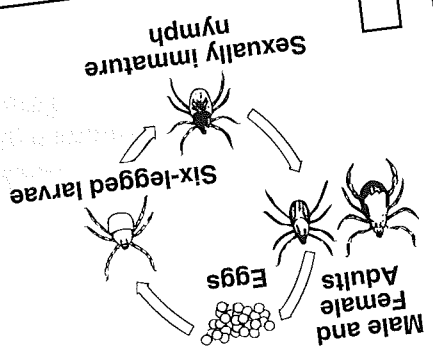
Description

- A.** Requires a snail to serve as an intermediate host for part of its life cycle.
- B.** Sheep raised on rangeland, particularly in brushy areas, are more exposed to this bloodsucking parasite than sheep kept in confinement.
- C.** This external parasite, usually visible to the naked eye on close examination, spreads rapidly among sheep that are kept in confinement. Affected animals may rub and scratch frequently.
- D.** In lambs this parasite can cause bloody diarrhea, depression and weight loss. Discovery of oocytes in fecal samples and a history of diarrhea constitute a positive diagnosis.
- E.** Larvae burrow into abomasal glands and remain there through dormancy. Symptoms include fluid accumulation in lower body parts, one example being "bottle jaw".
- F.** This long internal parasite may cause digestive upset in young sheep. Not affected by many common anthelmintics, although Albendazole, Fenbendazole and Morantel Tartrate can be effective.
- G.** Sheep may try to protect themselves from this pest by standing in groups with their heads together, hiding their noses in the grass.

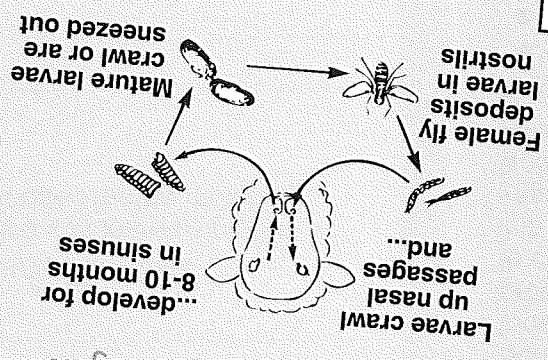
Sheep Project Skill: Studying sheep parasites
Life Skill: Communicating with others
Show of Success: Gives a presentation about sheep parasites to a group.

nutrients from the food they eat. Consequently, the sheep lose weight or have lower production.

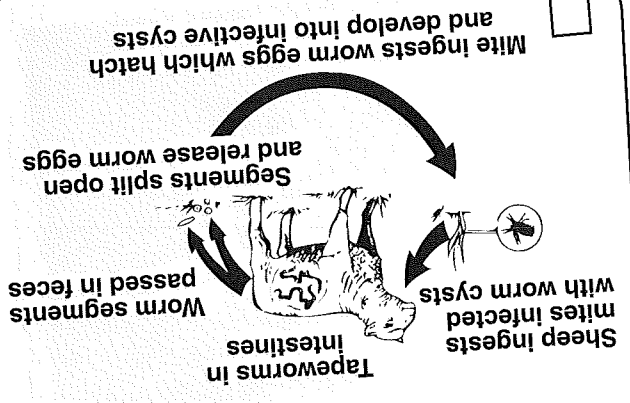
Pacific Coast Tick Life Cycle



Nose Bot Fly Life Cycle



Tape Worm Life Cycle



Share with your helper

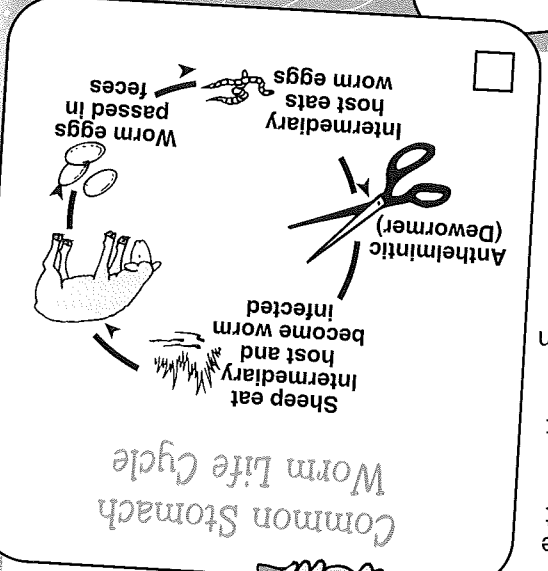
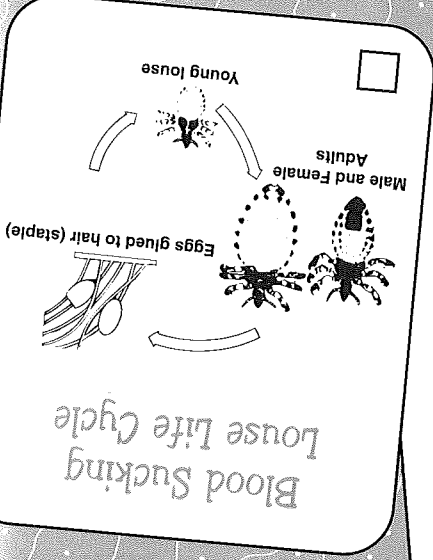
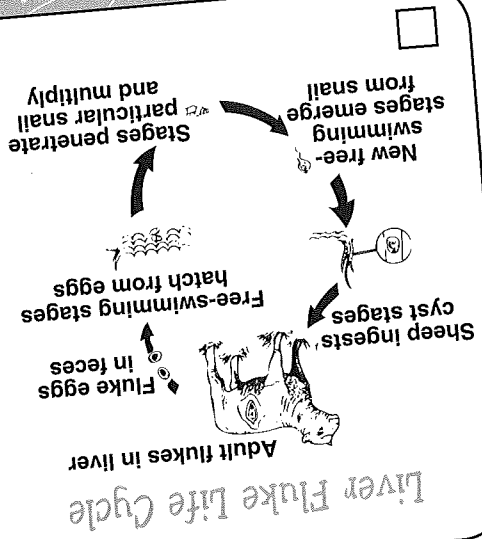
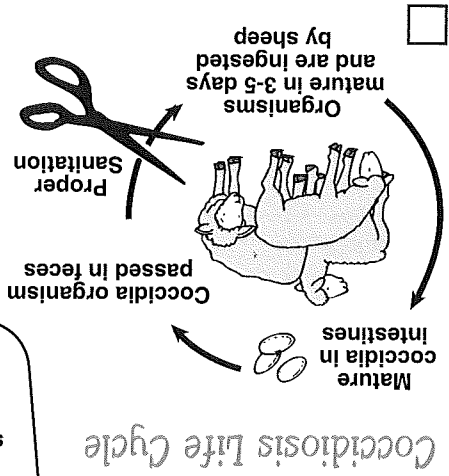
- Where did you find information on sheep parasites?
- What new information did you discover?

Tell what's important

What are ways to prevent or at least reduce the number of parasites a sheep may have?

Explore what you learned
How did using posters help you share information about parasites with others?

Imagine what's next
What can you do to communicate with others even better in the future?



Internal and External Parasites



Parasites can live inside a sheep or outside under the wool. Common internal parasites are liver flukes, tapeworms, Haemonchus (large stomach worm), Osteragia (brown stomach worm) and Trichostrongylus (stomach hair worm). Common external parasites include ticks or keds and maggots. Lambs should be dewormed about once a month; adults should be dewormed about every 6-8 weeks from thaw to first frost. If you live in an area that is warm all year, then sheep should be dewormed throughout the year.

Knowing life cycles helps me stop problems.

1. Demonstrate to your helper your technique to deworm a sheep by drenching.
2. Outline a one-year parasite prevention plan and share it with your sheep group or class.

More Challenges

Treatment Date	Animal ID Number	Reason for Treatment	Treatment Given (name of medication, dose and route)	Milk/meat Withdrawal (days)	Prescribed By	Date Withdrawal Completed

Treatment Record

Using the information from this situation and from the bottle label, fill in all the requested information on the treatment record.

Today is June 15, 200X. You have 15 different market lambs that you are raising this summer. "Bum", started having a great deal of trouble breathing yesterday. This morning, he didn't eat and wouldn't move unless forced to do so. At your request, Dr. John E. Disease, the local veterinarian, examined your lamb and diagnosed it with pneumonia. He administered medication and recorded the treatment on a treatment record you provided. He left you the records and more medicine for you to give.

Scenario

John E. Disease, DVM
 Hometown, NE 57777
 Owner: You
 Date: June 15, 200X
 Indications: Pneumonia
 Animal ID: Lamb no. 0018

Directions: Give 10 ml (cc) subcutaneously each day for the next three days (June 16, 17 and 18).

Precaution: Use care giving injections to avoid infection.

Warning: Use of this drug MUST be discontinued 7 days before slaughter or market for food.

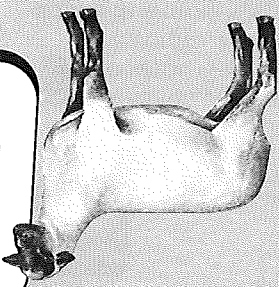
Active Ingredient: Earthomycin

Expiration Date: August 15, 200X

Read the scenario and then read the medication label and its insert. Complete the treatment record.

Your Challenge

Consumers are concerned about more than just nutritional quality of the foods they eat. They are also concerned about food safety. As a producer of lamb meat, you are one of the "links in the chain" that is necessary to bring safe, wholesome food to consumers. Food safety is not someone else's responsibility, it is EVERYONE'S.



Assuring Quality

Sheep Project Skill: Practicing food safety and quality assurance

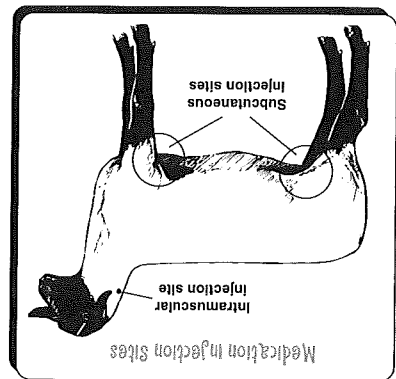
Life Skill: Keeping records

Show of Success: Completes a treatment record.

Read the directions to do the right thing.

responsibility. Food safety must be addressed at all levels, including production, slaughter, processing, retail and the consumer level. In this activity, you will learn about some of the things that you can do to help assure food safety as you raise your lambs.

Quality Assurance Principles and Practices

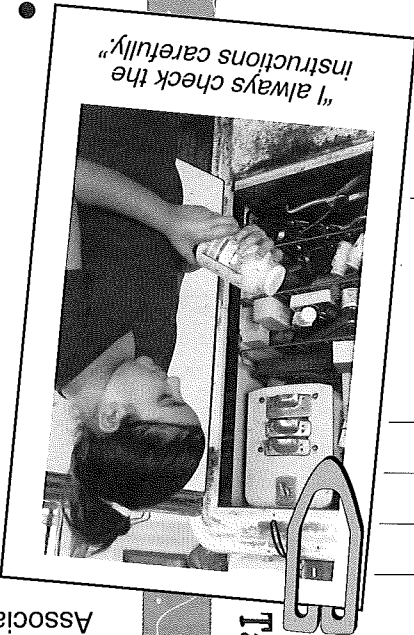


Quality assurance is a term used by producers to describe practices they do to ensure that only animals that will produce safe and wholesome meat are being sent to market. The beef and swine industries have adopted national programs to help educate and to certify producers in quality assurance. The American Sheep Industry Association has developed a similar program. Although no certification is offered, there are a number of quality assurance principles that can be followed to help ensure the safety and wholesomeness of lambs produced.

- Identify animals to which drugs were administered
- Maintain medication and treatment records that include:
 - animal(s) treated
 - date(s) of treatment
 - product(s) administered
 - who administered the product(s)
 - how administered (intramuscular, subcutaneous, etc)
 - amount administered
 - withdrawal time to slaughter

- Properly store and label all animal health products, including feeds
- Be sure to properly dispose of sharps e.g. used needles
- Follow all label directions for over-the-counter (OTC) drugs. Obtain and use only licensed veterinarian based on a valid veterinarian/client/patient relationship.

- Educate all employees and family members involved in treating, hauling and selling animals on:
 - reading labels
 - proper drug administration techniques
 - proper locations for injections
 - observance of withdrawal times
- Provide proper animal care, including nutrition, shelter and general management.



Talk Words: quality assurance • withdrawal time

Share with your helper

- What did you learn from the information on the label?

Tell what's important

Why should directions be closely followed when administering drugs?

Explore what you learned

Why should you be concerned about quality assurance issues?

Imagine what's next

Why do you need to follow a doctor's orders when taking medications?

1. Give a presentation on three different ways to give injections to a sheep and when each might be used.
2. Make a display of different needle sizes and lengths and explain which needles are appropriate for various uses.
3. Make a poster of the proper sites to give injections.
4. Visit a local veterinary clinic and talk to a veterinarian about quality assurance.

More Challenges



Talk It Over

- Share with your helper
- What was the most fun about conducting the tasting activity?
 - Why did you choose the meat cuts that you did?

Tell what's important
Why is it important to experiment and investigate a subject before making a decision?

Explore what you learned
What did you discover about people's differences?

Imagine what's next

What other decisions are you currently making where you could do some experimenting to investigate the possible results of your action?

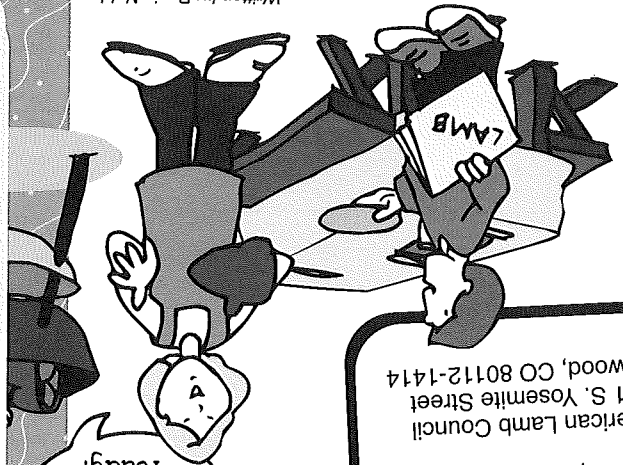
Extra! Extra!

For more information about lamb wholesale cuts, retail cuts, meat preparation and recipes contact:

American Lamb Council
6911 S. Yosemite Street
Englewood, CO 80112-1414

Talk Words • mutton • moist heat cookery • dry heat cookery

The leg of lamb is almost ready.



Written by Rosie Noid



Lamb

Lamb is the term used to describe meat from sheep that is harvested at less than one year of age. Mutton is the term for meat from sheep that are harvested at two years of age or older. Sheep known as "yearlings". Lamb has a much milder flavor than mutton. The United States produces approximately 250 million pounds of sheep meat each year, of which nearly 235 million pounds are lamb meat. Most lambs in the United States are harvested between 5 and 7 months of age.

Consumption

Almost all lamb meat produced in the United States is sold in supermarkets and restaurants. Lamb consumption is greater on the east and west coasts, due to higher ethnic populations than in the Midwest. People of Hispanic, Greek and Middle Eastern origin generally consume more lamb than consumers of other ethnic descents. Lamb is a nutritious food. A three ounce serving of lean lamb, such as lamb leg, has only 160 calories and provides the following percentages of U.S.

Recommended Daily Allowances

Protein:	43%
Iron:	17%
Zinc:	30%
Riboflavin:	15%
Niacin:	30%
Vitamin B-12:	74%

Cooking Methods—Moist and Dry Heat

There are two basic methods of cookery for lamb: moist heat cookery and dry heat cookery. Moist heat cookery uses liquids. The liquids help tenderize less tender cuts of lamb, such as neck slices, shoulder cuts, ribs, breasts and shanks. Types of moist heat cookery include cooking in liquid and braising. In braising, only a small amount of liquid is used and resulting steam helps tenderize the meat. Dry heat cookery is used for most cuts of lamb, including most types of lamb chops, roasts, leg of lamb and ground lamb. Types of dry heat cookery include grilling, broiling, roasting and pan-frying.

More Challenges

1. Participate in meat judging contest.

2. Give a presentation about the nutritional value of lamb and demonstrate how to cook it.

3. Interview a grocery store meat department manager to discover the most popular lamb cuts and what types of questions consumers ask about lamb.

		Registering a breeding ewe that was born December 29 as being born January 2
		Helping younger exhibitors in the club select their lambs for the fair
		Holding a lamb off water for two days to make a certain show weight
		Bracing your lamb as the judge handles it
		Having an adult do some of the washing and clipping on your lambs
		Docking the tails of your lambs when they are born
		Excessively running your lambs on a treadmill everyday
		Providing water to another exhibitor's lamb when not asked to do so
		Feeding your lambs a special "show lamb" protein supplement
		Buying a lamb a week before the fair and identifying it as one of your own, original lambs
		Asking a neighbor to care for your lambs while you are gone to a 4-H activity for a weekend
		Walking your lambs for 30 minutes each day
		Lifting your lambs feet off the ground while showing it
		Showing a lamb that has active ringworm or club lamb fungus
		Teaching your lamb to lead
		Surgically removing all tail bones and some vertebrae to dock a lamb
		Using wet towels on your lamb's back before entering the show ring
		Forcing your lamb back into a wall to make it brace harder
		Having a friend be the "judge" when practicing with your lamb at home
		Painting your lamb's underside black before the show
		Using antibiotics on your lambs to help them get over a cough
		Paying someone else to feed and care for your lambs all summer

What I Believe	Situation
OK (Ethical)	Not OK (Not Ethical)



For the more difficult decisions, consider these questions in making your decision:

1. Who will be affected by this decision?
2. How will they be affected?
3. What decision would provide the most good to the most people?

There are probably many things you do everyday with your sheep project that demonstrate your ethics and character. Listed are several situations that you may or may not have already encountered. Decide for yourself whether or not each is okay according to your own feelings and beliefs. Discuss your responses with your helper.

Your Challenge

project, you are faced with many decisions. Some decisions become a question of ethics and will be a reflection on your character. For example, being responsible about caring for your lambs, being honest about the ownership of your lambs, and treating other exhibitors with courtesy and respect are all part of being ethical and showing good character.

All people have a personal code of ethics. Ethics deal with the ability to distinguish right from wrong. A person's character is a reflection of commitment to do what is right. Sometimes it is very easy to distinguish right from wrong, sometimes it is more difficult. There is not always a single "right" or ethical response to a problem, but some actions or behaviors are more ethical than others. Throughout your participation in the sheep

Sheep Project Skill: Determining and forming a basis for a moral position

Life Skill: Critical thinking and ethical decision-making

Show of Success: Identifies ethical and non-ethical behaviors in the sheep project.



Practicing Ethical Decision Making

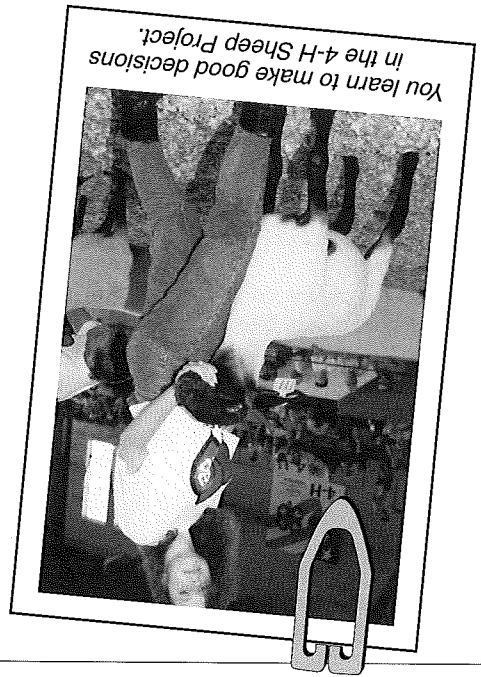
Talk It Over

Share with your helper
 ● What are your beliefs about each situation described?

Tell what's important
 Which if any of the situations do you need more information in order to make the best decision? What kind of information do you need?

Explore what you learned
 How do you decide whether an action is ethical or unethical?

Imagine what's next
 Do any of the situations described raise public concern about animal welfare and/or animal rights? Why?



Written by Rosie Nold.

Animal Welfare and Animal Rights



Animal rights and animal welfare are two terms that are sometimes used interchangeably and are used to refer to proper animal care. However, the two terms have very different meanings and supporting philosophies.

Animal Welfare

Animal welfare refers to the proper care and management of animals. It is the foundation for good animal husbandry. Without concern for animal welfare, there are no good caretakers nor profitable producers. This philosophy centers on excellent animal care and management and the wise use of animals for worthwhile purposes. Society has generally accepted the use of animals for biomedical research, food, fur, fiber and as companions. Acceptance of animal use has been based on the potential benefits that each use could yield for human suffering from disease, improved nutrition, clothing and companionship.

Animal Rights

However, in more recent years, the animal rights philosophy has become more prevalent. The animal rights philosophy is based on the idea that humans have no right to use animals for their own purposes. Believers in this philosophy challenge the right to eat animal products or to use animals for biomedical or agricultural research. The animal rights philosophy may not be totally focused on the welfare of the animal.

Sheep Industry Example

An example in the sheep industry that may help demonstrate this difference is the issue of coyotes killing sheep. In concern for the welfare of the sheep, the philosophy of animal welfare would say that the population of coyotes should be reduced through hunting or other means. In doing so, sheep would be protected and provided good care. However, from an animal rights perspective, no one should be raising sheep for meat and wool in the first place. Therefore, a coyote killing sheep is no more wrong than the humans raising sheep.

More Challenges

1. Tour a local university where animal research is being conducted.

2. Give a demonstration on some animal management practices, such as giving

an animal is considered when doing these practices.

Sheep Talk 2

This is the second of three Sheep Talk glossaries for you to use to increase your "sheep" vocabulary. See how many of these words your family knows.

- A**
Abomasum - The "true" or gastric stomach in a ruminant.
Abortion - Premature expulsion of the undeveloped fetus.
Accelerated lambing - The practice of having a ewe give birth more than once a year.
Afterbirth - The placenta and membranes that are expelled from the uterus after lambing.
Anatomy - The branch of biology that studies structures of the body.
Animal rights - The philosophy that people do not have the right to use animals for any purpose.
Animal welfare - The proper care and management of animals that includes excellent health care and alleviation of any pain and suffering.
As-fed (AF) - Feedstuff has not been dried to remove water. Nutrient values and feeding instructions do not need to be adjusted for moisture.
B
Bolus - A mass of chewed food; a pill.
Breecb - A birth in which the rear portion of the fetus is presented first.
Breed type - The combination of characteristics that makes an animal better suited for a specific purpose.
Demorning - Giving a chemical to an animal orally or through injection to prevent or destroy any internal worms.
Digestible energy (DE) - The amount of energy in a feed that an animal can digest (what energy disappears between the feed bunk and the manure). Usually expressed in Kcals or Mcals.
Drenching - Oral administration of a liquid, usually a medicine for internal parasites.
Dry matter (DM) - The proportion of completely dry material in a sample.
Dystocia - A difficult birth.
- C**
Card - A hand tool used to fit show sheep; also a machine used to separate wool fibers.
Cecum - A pouch found at the juncture of the small and large intestines where additional microbial fermentation can take place. Usually small in most domestic animals other than horses, and, except for horses, is not believed to contribute very much to digestion.
Condition - The amount of fat an animal has.
Crimp - The natural waviness of wool fiber.
Crossbreeding - Mating of rams and ewes of different breeds.
Crude fiber (CF) - An old measure of fiber content, but is still commonly included on feed tags. Usually expressed in percent (or parts per 100).
Crude protein (CP) - "Crude" is an old expression meaning "total." Crude protein means the total protein in the feed. Usually expressed in percent (or parts per 100).
Cutability - How much saleable meat an animal can produce. Cutability is the relative amount of trimmed meat harvested from an animal expressed as a percent of the carcass weight.
D
Ferment - The digestive process, as it is called in bacteria.
Fertility - Proportion or percentage of ewes lambing that were exposed to rams. Also refers to the ability of the ram to effectively breed the ewes.
Finish - To fatten a market animal. Also, the degree of fatness of such an animal.
Foot rot - Contagious condition caused by an organism that affects the hoof and sole.
Forage - Roughage such as grasses and legumes used for animal feed; it may be fed as pasture, hay or silage.
Free choice - Providing all the feed the animal will eat throughout the day.
E
Early maturing - Becoming sexually mature at an early age.
Early weaning - Weaning lambs at eight to twelve weeks of age or earlier than four months.
Energy - Nutrient supplied by fats and carbohydrates.
Epididymis - An elongated structure next to the testis that stores and concentrates sperm.
Epididymitis - Inflammation of the epididymis.
Esophagus - The flexible tube that connects the mouth to the reticulo-rumen. The esophagus has muscles that allow food to be swallowed and regurgitated.
F
Family - Ancestry; line of breeding.
Feed conversion - A measurement of the amount of feed an animal must eat in order to gain a pound of weight. Expressed as "X:1", meaning "X" pounds of feed to one pound of gain. Measured by weighing the total amount of feed eaten by an animal and dividing that amount by the weight it gained during the same period. Also called feed efficiency.
Ferment - The digestive process, as it is called in bacteria.
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Forage - Roughage such as grasses and legumes used for animal feed; it may be fed as pasture, hay or silage.
Free choice - Providing all the feed the animal will eat throughout the day.
G
Grading up - The continued use of purebred sires of the same breed in a grade flock.
H
Hand feeding - Giving lambs a measured amount of feed 2-3 times a day.
Hypocalcemia - Low blood calcium caused by sudden calcium demand placed on ewe by rapid fetal growth and beginning of milk production.
Hypothermia - Inability to keep warm, often caused by cold or wet weather.
I
Intramuscular injection - An injection given in the neck muscle of an animal.
Intravenous injection - An injection given directly into an animal's bloodstream.
K
Ked - An external parasite that affects sheep.
L
Lactation - Period of time when ewes are nursing young lambs.
Large intestine - The last section of intestines, where water and water-soluble vitamins are absorbed.
Lamb meat - Meat from sheep harvested at less than one-year of age.
Legume - A plant with nodules on the roots containing special kinds of bacteria that are able to convert atmospheric and soil nitrogen into protein. Beans, clover and alfalfa are legumes.
M
Mating system - How selected breeds and individuals will be paired at mating.
Mutton - Meat from sheep that are harvested at two years of age or older. Has a stronger flavor than lamb meat.

Nutrient - A chemical substance that nourishes, such as protein, carbohydrates, minerals or vitamins.

Nutrition - The process of providing, digesting and metabolizing nutrients.

Ovine - A term that refers to sheep.

Omasum - The compartment of the ruminant stomach between the rumen and the abomasum. The omasum works like a filter, trapping undigested food in the rumen and letting small food particles pass to the abomasum.

Ovine - A term that refers to sheep.

Parasite - An organism that lives on another organism.

Parturition - The act of giving birth.

Pedigree - A written statement giving the record of an animal's ancestry.

Pelt - The skin from a slaughtered sheep before the wool on it has been pulled.

Placenta - A sac-like tissue that contains the fetus during its development and connects the fetus to the dam.

Pregnancy - The period of time in which a female animal carries a developing embryo or fetus inside the uterus.

Pregnancy toxemia (ketosis) - Disease of pregnant ewes caused by a diet deficient in energy in late pregnancy when fetal growth is rapid.

Pregnancy testing - An evaluation of an animal on the basis of the performance of its progeny (offspring).

Protein - A large nitrogen-containing molecule that is made of a chain of amino acids. Proteins come in many shapes and forms and are critical for most bodily functions. Enzymes and muscle tissue are made mostly or entirely of protein.

Pure breeding - Mating of rams and ewes of a common genetic group (usually a breed).

Quality assurance - Practices that help ensure that any animals processed produce a safe and wholesome product.

Quality grade - Grade for lamb carcass that reflects differences based on the eating quality and evaluated by flank streaking and maturity.

Regurgitation - A process in which the contents of the stomach are carried through the esophagus back to the mouth.

Replacement - An animal selected to be kept for the breeding flock or herd.

Retailer - People that sell directly to consumers (usually through supermarkets).

Reticulo-rumen - A very large digestive organ found only in ruminants and members of the camel family. The rumen fills up most of the left side of the abdominal cavity and contains water, food particles and microorganisms. Rumen microorganisms digest ("ferment") the plant fibers that the animal eats. The small food particles then wash down to the abomasum through the omasum.

Reticulum - The rumen compartment below the esophagus where food is collected and regurgitated back up the esophagus. See "rumination."

Roughage - Bulky feeds like hay that are low in energy.

Rumen - The largest compartment of the stomach of cattle, sheep and goats.

Ruminant - An animal with cloven hooves and a large microbial fermentation chamber that comes before the gastric stomach.

Rumination - A process in animals with a rumen in which the food is regurgitated as a bolus (cud), chewed and reswallowed.

Shapes and forms - Proteins come in many shapes and forms and are critical for most bodily functions. Enzymes and muscle tissue are made mostly or entirely of protein.

Pure breeding - Mating of rams and ewes of a common genetic group (usually a breed).

Quality assurance - Practices that help ensure that any animals processed produce a safe and wholesome product.

Quality grade - Grade for lamb carcass that reflects differences based on the eating quality and evaluated by flank streaking and maturity.

Regurgitation - A process in which the contents of the stomach are carried through the esophagus back to the mouth.

Replacement - An animal selected to be kept for the breeding flock or herd.

Retailer - People that sell directly to consumers (usually through supermarkets).

Reticulo-rumen - A very large digestive organ found only in ruminants and members of the camel family. The rumen fills up most of the left side of the abdominal cavity and contains water, food particles and microorganisms. Rumen microorganisms digest ("ferment") the plant fibers that the animal eats. The small food particles then wash down to the abomasum through the omasum.

Reticulum - The rumen compartment below the esophagus where food is collected and regurgitated back up the esophagus. See "rumination."

Roughage - Bulky feeds like hay that are low in energy.

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Salivary glands - Glands located in the mouth cavity that secrete fluids to keep the mouth moist and aid in digesting and swallowing food.

Self feeding - Allowing lambs to eat as much as they want, whenever they want, from self feeders.

Service - The mating of a female animal by a male.

Sharps - Term used to describe needles, scalpel blades, broken glass and other items capable of breaking the skin that present a danger to humans if disposed of improperly.

Small intestine - Connects the stomach and the large intestine. In the duodenum, the first part of the small intestine, hydrochloric acid from the stomach is neutralized by bicarbonate secreted by the pancreas. In the jejunum and ileum, the second and final sections of the small intestine, fats and proteins are broken down into fatty acids and amino acids and absorbed into the bloodstream through villi that line the interior walls.

Species - A group of animals with certain common characteristics.

Stillborn - A fetus that is fully mature but dead at birth.

Sore mouth - A contagious disease caused by a herpes virus that causes sores on the mouth and lips. It can be transmitted to humans.

Stomach - The common name for the gastric stomach in non-ruminant animals (it is called the "abomasum" in ruminants). Food is delivered to the stomach from the esophagus, where it is mixed with hydrochloric acid and passed on to the small intestine.

Subcutaneous injection - Means "under the skin." Some injections are given just under the skin and not in the muscle.

Total digestible nutrients (TDN) - An estimate of a feed's energy value. Less accurate measure of energy than DE, ME and NE but still commonly used because it is simpler to understand. Usually expressed in percent (or parts per 100).

Umbilical cord - The part of the pregnancy membranes that carry blood to and from the mother's body and the forming fetus.

Vaccination - An injection of disease organisms that are either dead or modified to be harmless and which will stimulate an animal's immune system to protect itself against the real disease.

Wholesale cuts - Carcass parts, such as leg, loin, rack, flank, breast and shoulder before they are cut into smaller retail cuts.

Withdrawal time - The amount of time between when a drug is administered and there is no minimal chance for drug residues in the meat.

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Sheep Resources

The following are examples of resources to help you complete the activities and learn more about this exciting project. The Extension Service does not endorse any non-extension resources or web sites.

4-H Sheep Internet Site
<http://members.aol.com/culham/b/sheepweb.htm>

Sheep on the Web
<http://members.aol.com/culham/b/sheepweb.htm>

Sheep Publications
National 4-H Curriculum
 BU-06367
 Sheep 1 Rams, Lambs and You
 BU-06368
 Sheep 2 Shear Delight
 BU-06369
 Sheep 3 Leading the Flock
 BU-06370
 Sheep Helpers' Guide
 BU-07514 Lamb and Kid Pattern

Books
Beginning Shepherd's Manual
 Barbara Smith et al.
 Paperback—160 pages 2nd edition (January 1997)
 Iowa State University Press;
 ISBN: 081382799X
Raising Sheep the Modern Way
 1991
 by Paula Simmons
 Storey Communications, Inc.
 Pownal, VT 05261
Sheep & Goat Science
 M.E. Ensminger
 Interstate Printers & Pub;
 ISBN: 0813431166
Sheep Production Handbook
 Sheep Industry Development
 Program, Inc.
 200 Clayton Street
 Denver, CO 80206
[www.sheepusa.org](http://members.aol.com/culham/b/sheepusa.org)
Your Sheep: A Kids Guide to Raising and Showing by Paula Simmons

Sheep Magazines
www.sheepmagazine.com
The Shepherd's Journal
www.shepherdjournal.com/index.htm

Am Hampshire Sheep Assn
 1557 173rd Ave # 8
 Milo, IA 50166-9667
 515-942-6402

Am Cheviot Sheep Society
 Rt 1, Box 100
 Clarks Hill, IN 47930-9726
 765-523-2767
<http://members.aol.com/culham/b/sheepusa.org>

Am Corriedale Assn
 PO Box 391
 Clay City, IL 62824-0391
 618-676-1046

Am & Delaine Merino Record Assn
 1026 CR 1175
 Ashland, OH 44805-9523
 419-281-5786

Am Sheep Industry Association
 6911 South Yosemite Street,
 Suite 200
 Englewood, CO 80112-1414
 303-771-3500 ext. 46
www.sheepusa.org
 Sheep Breeds
 Sheep Breed Associations
 Industry Efforts
 Product Information
 Make It Yourself with Wool
 Contest
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 Wool Production
 Lamb and Wool Marketing
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National Lamb Feeders Association
www.wlcs.com/~nfla-sheep/
www.maaonline.org/links.htm

National Meat Association
www.nsla.org/

National Sheep Improvement Program
www.nslp.org/

Breeds and Breed Associations
<http://www.ansl.okstate.edu/BREED/S/SHEEP/>

Am Cheviot Sheep Society
 Program
 Upper Sandusky, OH 43351-0000
 740-482-2748

Columbia Sheep Breeders
 PO Box 272
 PO Box 272
 Upper Sandusky, OH 43351-0000

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 PO Box 391
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USDA National Sheep Database Project
www.reeusda.gov/agys/as/adds/lives/tok/sheep/nshd.htm

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University and Cooperative Extension Service
Cooperative Extension Service
Sheep Links
<http://www.msue.msu.edu/lac/agn/c/gtrist/animshsee.htm>

Cornell University Sheep Program
<http://www.ansl.cornell.edu/sheep/sheep.htm>

Michigan State University Sheep Extension Programs
<http://www.canr.msu.edu/dept/ansl/sheext.htm>

Oklahoma State University Virtual Livestock Library - Sheep LIBRARY/sheep.htm
<http://www.ansl.okstate.edu/LIBRARY/sheep.htm>

Purdue University Extension Sheep Publications
<http://ag.ansc.purdue.edu/sheep/>

<http://www.agcom.purdue.edu/AGkids/sheep.htm>

Am N Country Cheviot Sheep Assn
 8708 S CR 500 W
 Reesville, IN 46171-0000
 765-672-8205 H
 yuccaff@cortc.com

Am Rambouillet Breeders Assn
 2709 Sherwood Wy
 San Angelo, TX 76901
 915-947-3660

Am Shropshire Reg Assn
 24905 Streit Rd, PO Box 635
 Harvard, IL 60033-0635
 815-943-2034

Am Southdown Breeders Assn
 HC 13, Box 220
 Fredonia, TX 76842-9702
 915-429-6226
 southdown@clesc.net

Nat'l Suffolk Sheep Assn
 1120 Wilkes Blvd
 Columbia, MO 65201-7605
 573-442-4103
www.dkloosra@socket.net

United Suffolk Sheep Assn
 17 W Main, PO Box 256
 Newton, UT 84327-0256
 435-663-6105 H
 435-663-9356 F
www.u-s-s-a.org

Government
USDA National Sheep Database Project
www.reeusda.gov/agys/as/adds/lives/tok/sheep/nshd.htm

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 1557 173rd Ave # 8
 Milo, IA 50166-9667
 515-942-6402

Am Cheviot Sheep Society
 Rt 1, Box 100
 Clarks Hill, IN 47930-9726
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<http://ag.ansc.purdue.edu/sheep/>

<http://www.agcom.purdue.edu/AGkids/sheep.htm>

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 1557 173rd Ave # 8
 Milo, IA 50166-9667
 515-942-6402

Am Cheviot Sheep Society
 Rt 1, Box 100
 Clarks Hill, IN 47930-9726
 765-523-2767
<http://members.aol.com/culham/b/sheepusa.org>

Am Corriedale Assn
 PO Box 391
 Clay City, IL 62824-0391
 618-676-1046

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 419-281-5786

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National Lamb Feeders Association
www.wlcs.com/~nfla-sheep/
www.maaonline.org/links.htm

National Meat Association
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National Sheep Improvement Program
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Breeds and Breed Associations
<http://www.ansl.okstate.edu/BREED/S/SHEEP/>

USDA National Sheep Database Project
www.reeusda.gov/agys/as/adds/lives/tok/sheep/nshd.htm

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<http://www.msue.msu.edu/lac/agn/c/gtrist/animshsee.htm>

Cornell University Sheep Program
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Michigan State University Sheep Extension Programs
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my Heart to greater loyalty,
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my Health to better living,
for my club, my community,
for my country, and my world.

