

PENNSSTATE



College of Agricultural Sciences • Cooperative Extension

# REFERENCE GUIDE

# *4-H Market Lamb Project*



Name \_\_\_\_\_

Address \_\_\_\_\_

Name of Club \_\_\_\_\_

Leader's Name \_\_\_\_\_

Name of Project \_\_\_\_\_

# CONTENTS

## Section 1: Getting Started

Introduction .....	1
How to Use Your Reference Guide .....	1
Purpose of the 4-H Market Lamb Project .....	1
Project Options .....	2
What Do You Need? .....	2

## Section 2: Knowledge and Skills Checklist

Project Requirements .....	3
Required Market Lamb Activities, years 1 and 2 .....	4
Required Life Skills Activities, years 1 and 2 .....	4
Additional Market Lamb Activities, years 3 and beyond .....	4
Additional Life Skills Activities, years 3 and beyond .....	6

## Section 3: Background Information

Why Do We Raise Sheep? .....	8
What Do We Call a Sheep? .....	8
The Sheep Industry in the United States .....	8

## Section 4: Breeds of Sheep

Major Breeds .....	10
Your Lamb's Pedigree .....	14
Registration of Purebred Sheep .....	14
Advantages of Crossbreeds .....	14

## Section 5: Selecting Project Animals

Naming External Parts of the Lamb .....	16
Selecting Feeder Lambs .....	16
How Big Should My Feeder Lamb Be? .....	18
Deciding How Much to Pay .....	19
When You Get Your Lambs Home .....	20
Market Lamb Budget .....	21

## Section 6: Caring for Your Lamb

Housing Needs .....	22
Keeping Your Lamb Clean .....	23
Handling Equipment .....	23
Feeding Your Lambs .....	23
How Much Feed Will My Lamb Eat? .....	26

## Section 7: Observing Lamb Behavior

How Lambs Behave .....	28
------------------------	----

## Section 8: Keeping Lambs Healthy

How Lambs Digest Food .....	30
What Makes Lambs Sick .....	30

## Section 9: Quality Assurance

Antibiotic Use .....	33
Live Animal Treatment .....	34
Meat Quality .....	34
Lamb Quality Assurance .....	34

## Section 10: The Roundup

Why Show Your Lamb? .....	36
Ethics .....	36
What Do You Need to Do and Have? .....	36
Loading and Unloading Lambs .....	37
Showing Your Lamb .....	38
Fitting Your Lamb .....	40
Being a Good Sport .....	41
Questions From the Public .....	41
The Sale .....	41
Code of Ethics .....	45

## Section 11: Keeping 4-H Records

Why Keep Records? .....	47
Kinds of Records .....	47
Market Lamb Performance Traits .....	49

## Section 12: Meat, Wool, and By-Products

Lamb .....	51
Wool .....	51
Other Products from Sheep .....	52

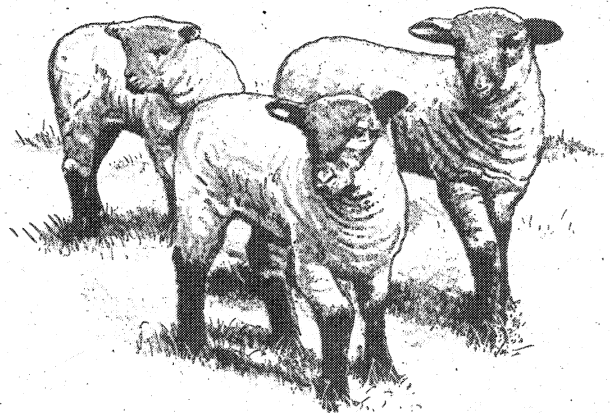
## Section 13: Market Lamb Management Schedule

Schedule .....	55
----------------	----



## 1

# Getting Started



## Introduction

Welcome to the 4-H market lamb project! This project can be an unforgettable learning experience. You will do many things that will help you grow personally and develop skills that will help you become a more responsible person. Skills you learn from raising a lamb will be valuable in the future and will carry over into other aspects of your experience as a 4-H'er. We hope you will have fun, too.

This book will teach you most of the things you need to know to raise a 4-H market lamb. There are skills to learn and activities for you to do. There are some activities that everyone should do and others you may choose to do. You should complete six activities per year. Twelve of these activities are required and should be completed in the first two years of the project. After the first two years, select six activities from either the suggested activities list of this book or the "4-H Skills for Life" series, if your county uses that series. Do as many of the activities as you can by yourself, but be willing to call on others for help. As you get older and advance through the market lamb project, you should select more advanced activities to accomplish. Your parents and project leaders will be happy to teach you all they know about raising sheep!

## How to Use Your Reference Guide

Your reference guide is designed to fit into a three-ring notebook with your project record books. You will receive only one reference guide

for your entire 4-H career, so take care of it! It contains a checklist of things you should do and learn to complete your project. The things to do and learn are grouped into lessons about sheep. Each lesson includes:

- objectives for that lesson
- information about sheep and how to care for them
- words to learn
- ideas for presentations and talks
- suggested activities
- things to talk about with your leaders and other 4-H'ers

## Purpose of the 4-H Market Lamb Project

Using the *4-H Market Lamb Project Reference Guide*, you will learn the fundamentals of being a good sheep producer and build skills that will prepare you for life. Some of the things you will learn about sheep management are:

- why people raise sheep
- how to select sheep
- how to feed and care for sheep
- how to keep your sheep healthy
- what is normal sheep behavior
- the parts of the lamb
- how to fit and show sheep
- how to keep records
- how to prepare for the roundup

Working with your lambs and taking part in 4-H activities will help you to develop personally and

build skills for living. These skills include:

- being a leader
- being a citizen
- communicating effectively
- developing personally
- relating to people
- developing values
- preparing for a career

### Project Options

Two basic kinds of 4-H sheep projects are:

1. Market Lambs—selection and feeding of one or more feeder lambs to market weight.
2. Breeding Sheep—care and management of sheep raised for breeding purposes. This includes:

- selection and management of one or more ewes to breeding and lambing age, or
- management of ewes and their lambs (not recommended for beginning 4-H members).

You will be responsible for caring for your sheep. You may choose to take market lambs, breeding sheep, or both kinds of projects each year. Some things for you to think about when choosing market or breeding projects are:

- Do you want a short-term or long-term project?
- How much money can you afford to spend?
- What kinds of buildings, equipment, and feeds do you need?
- How much help can your parents give?

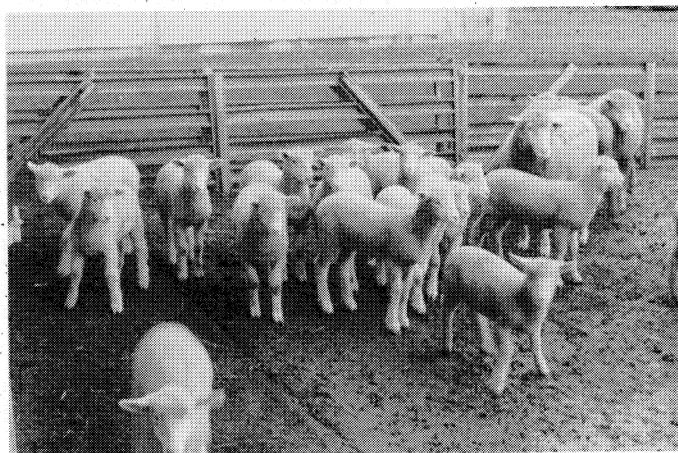
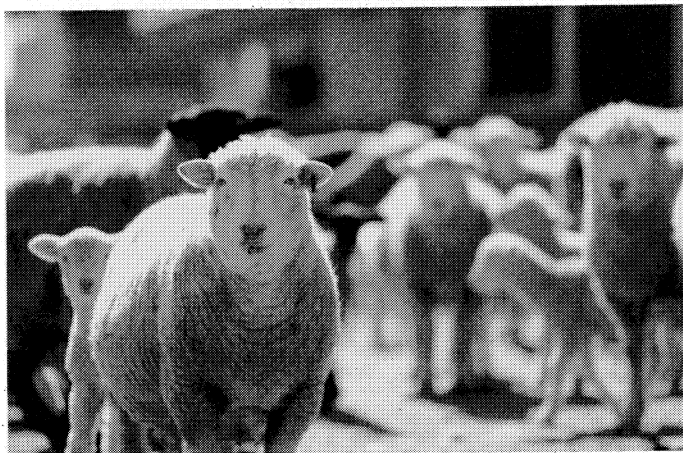
Market lamb projects can be completed in a few months and require fewer facilities and management skills than breeding sheep projects. Breeding sheep projects usually are continued for more than one year.

This book contains information on market lamb projects only. You will need to get a different reference book if you elect to take a breeding sheep project.

### What Do You Need?

Before purchasing any lambs, make sure you have everything you need to properly manage them and keep them healthy. If you plan to take a market lamb project, you will need:

- an interest in sheep
- a place to keep your lambs
- equipment for feeding, watering, and handling sheep
- money to purchase and care for your sheep
- support from your parents and leaders



# 2

## *Knowledge and Skills Checklist*



### **Project Requirements**

Your market lamb project has three major parts:

1. Caring for one or more market lambs each year.
2. Completing activities and learning skills needed to finish the project. For each of the first two years of the project, you should complete three market lamb activities and three life skills activities, for a total of 12 required activities. Lists of these activities for the first two years are found on page 4. After the first two years, choose six activities a year from either the lists of additional activities on pages 4-7 in this book or from the "4-H Skills for Life" series. You may do more than the six required activities if you want to.
3. Keeping records. The records you should keep are:
  - A 4-H Animal Project Record for Beginning Members. It is suggested that members keep these for the first two or three years, Start a new one each year. More experienced 4-H'ers should keep a 4-H Livestock Record for Intermediate and Advanced Projects instead.
  - The Knowledge and Skills Checklist found in your reference guide.
  - A record of your entire 4-H career. Your leader may ask you for this information if you want to be considered for some 4-H awards.

Do these things each year:

1. Plan with your parents and leaders what you will do for your project. Identify the skills you would like to learn and the activities you

would like to do. Write your goals in your 4-H project record book.

2. Prepare a budget for your 4-H market lamb project (see Section 5).

3. Select and care for one or more market lambs.

4. Keep records of your goals, numbers of lambs, things you do to feed and care for them, money you spend and receive, and your 4-H experiences. Write them in your 4-H project record.

5. Participate in 4-H meetings and activities.

6. Do at least six activities each year. During the first two years, select three activities a year from each of the two required lists. After the first two years, choose six activities from the lists of additional activities in this book. Have your leader or parent sign the checklist as you finish each activity. You may substitute other activities from the "4-H Skills for Life" series with your leader's permission.

7. Turn in this reference manual and your project record to your leader by the due date for your club or county.

### Required Market Lamb Activities, Years 1 and 2

Choose three the first year and three the second year.

Activity	Date Done	Signature
Explain the meaning of these sex-related terms for sheep: ewe, wether, ram.		
Name and locate at least 10 of these body parts on a live lamb or diagram of a lamb: leg, loin, rump, shoulder, forerib, breast, dock, twist, hock, pastern, and hoof		
Show and tell the proper way to catch, hold, and move a sheep.		
Lead your parent or project leader on a tour of the place where you keep your sheep and point out the things you are doing to take care of your lambs.		
Name at least three signs you might see, hear, or measure when a sheep is sick.		
Explain the meaning of the age-related terms for sheep: lamb, yearling, mature.		

### Required Life Skills Activities, Years 1 and 2

Choose three the first year and three the second year.

Activity	Date Done	Signature
Know and recite the 4-H Pledge, the 4-H Club Motto, and colors.		
Plan what you will do for your project with your parents or leaders each year.		
Select one or more market lambs using your knowledge of parts and desirable types.		
Keep records of your goals, numbers of sheep, things you did and accomplished with them, money spent and earned, and your 4-H activities in your 4-H project record.		
Give a presentation about something you learned about sheep at a club meeting or your county presentation contest.		
Prepare an exhibit of your lamb or something you made for this project at your county roundup.		

### Additional Market Lamb Activities, Year 3 and Beyond

Choose three of these activities each year after the first two years.

Activity	Date Done	Signature
Tell what to look for when choosing animals for market lamb projects.		
Give examples of two breeds of sheep raised primarily for wool and two breeds raised primarily for meat.		
Identify at least six breeds of sheep from their photos or from seeing live sheep.		
Describe the important characteristics of your breed of sheep.		
Visit a fair or show and listen to the sheep judge give reasons for placing the lambs the way he or she did.		

(continued)



<b>Activity</b>	<b>Date Done</b>	<b>Signature</b>
Attend a fitting and showing clinic.		
Train and fit a lamb for show.		
Visit an auction to learn how lambs are bought and sold or to look for lambs that might make suitable project animals.		
Describe a method for controlling internal parasites in sheep.		
Find out what veterinary examinations and documents are needed to show a lamb at a state show, such as the Pennsylvania Farm Show.		
Describe or demonstrate proper hoof trimming.		
Keep a journal or chart about the health of your lamb.		
Label the wholesale or primal cuts of lamb on a diagram of a lamb carcass.		
Name four or more nutrients people get from eating lamb and tell a use for each in the human body.		
Describe a method for docking tails and explain why it is done.		
Start your own library of books, leaflets, and magazines about sheep.		
Make a kit filled with first-aid supplies and equipment needed to keep your lambs healthy.		
Properly skirt and tie a fleece.		
Build a grain or mineral trough.		
Identify energy and protein ingredients from your feed tag.		
Explain the proper way to use and care for fitting equipment such as hand shears and wool cards.		
Make a rope halter or simple sheep blanket.		
Know the normal body temperature of a sheep and show or tell how to use a veterinary thermometer to measure a sheep's temperature.		
Determine a sheep's age by looking at its teeth.		
Write an essay on the use of production records in a market lamb enterprise.		
Graph futures prices for a feed grain (such as corn) over an eight-week period.		
Find ten Web sites about selecting, feeding, or showing lambs.		
Develop your own activity with your leader's approval.		

### Additional Life Skills Activities, Year 3 and Beyond

Choose three of these activities each year after the first two years.

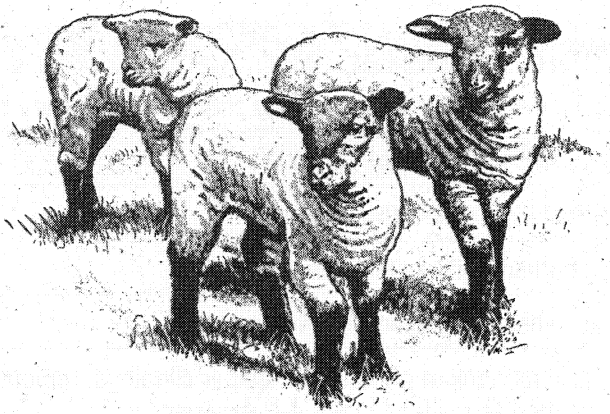
Activity	Date Done	Signature
Lead the Pledge of Allegiance at a 4-H meeting.		
Lead the 4-H Pledge at a 4-H meeting.		
Lead a song or game at a 4-H meeting.		
Serve as a committee member.		
Serve as chair of a committee.		
Serve as an officer of your club.		
Help plan your club's yearly program.		
Help with a fund-raiser for 4-H.		
Help with a parents' night or club achievement program.		
Help with a 4-H event or activity.		
Help with a community service project.		
Give a committee or officer's report to your club.		
Give a talk to your club about something you learned or did with your sheep project.		
Give a presentation or talk to a group other than your club.		
Act out a skit or pretend you are making a radio or television commercial about 4-H or lamb.		
Make a poster to tell people about 4-H or something you have learned in this project.		
Help prepare a booth or window display to tell about lamb, sheep, or 4-H.		
Help prepare a parade float to tell about lamb, sheep, or 4-H.		
Help educate the public about the benefits of raising sheep, eating lamb, or using wool.		
Write a letter to someone you want to buy your market lamb. Tell why he or she should buy your lamb.		
Write a thank-you letter to a buyer of your lamb or someone who helped you or your 4-H club.		
Write a news story about your club or your project for a local paper or a 4-H newsletter.		
Bring a friend who is not a 4-H member to a 4-H meeting or activity to interest him or her in 4-H.		
Attend a 4-H camp or overnighter.		

(continued)

<b>Activity</b>	<b>Date Done</b>	<b>Signature</b>
Attend a livestock or meats judging practice session, workshop, or clinic.		
Participate in a quiz bowl contest.		
Participate in a skill-a-thon contest.		
Help another 4-H'er with his or her project.		
Teach a sheep skill to another 4-H member.		
Start a scrapbook of photos, newspaper clippings, ribbons, and other materials related to your 4-H experiences.		
Develop your own activity with your leader's approval.		

# 3

## Background Information



There are some things you should know about lambs before you get started.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Name the two major products we get from a market lamb.
2. Write the scientific name for sheep.
3. Explain the differences among the terms sheep, lamb, feeder lamb, ram, ewe, and wether.
4. List differences between western range and eastern farm flocks.

### Why Do We Raise Sheep?

Sheep were one of the first domesticated species. Historically, sheep have been used to produce both wool and meat. Wool from one sheep is called a fleece. A fleece is sheared from a sheep and spun into yarn, which is used to make clothing. Three factors that influence a fleece's value are clean yield (wool is sold by the pound), staple length (longer wool is usually worth more money), and fiber diameter (small-diameter fibers generally make a fleece more valuable). Wool is one of the few natural fibers that can keep you warm when it is soaking wet. Certain breeds of sheep have been bred to specialize in wool production.

Your project lamb probably will be of a breed or cross that has been bred especially for meat production. Meat from young sheep (less than

one year old) is called lamb. Meat from older sheep is called mutton and has a strong flavor. Leg of lamb and rack of lamb are two lamb cuts you may be familiar with. The fleece of lambs raised for meat usually is not a good source of wool.

Before you purchase your first lamb for a market lamb project, you must realize that at the end of the project, your lamb's purpose is to produce meat for people to eat.

### What Do We Call a Sheep?

The scientific name for domestic sheep is *Ovis aires*. "Sheep" is a generic word, generally used in reference to any and all *Ovis aires*. "Lamb" is a term used for sheep under one year of age. "Yearling" is used to identify sheep between one and two years of age. "Feeder lamb" is a term that refers to young, newly weaned lambs.

Sheep also have different names depending on their gender. "Ewes" refers to all female sheep. "Ewe lambs" are ewes less than a year old. "Yearling ewes" are female sheep between one and two years of age. Uncastrated male sheep are called "rams" or "bucks." Rams under a year of age are "ram lambs," and rams between one and two years of age are "yearling rams." "Wethers" are castrated male lambs. Any sheep over two years of age is "mature."

### The Sheep Industry in the United States

Sheep are ruminants, which means that they have special stomach compartments that make them



capable and efficient digesters of forages such as grasses and hay. This means that sheep (especially breeding sheep) are normally raised in areas where they have access to pastures. Sheep production is normally divided into two types: western range flocks and small farm flock enterprises.

In the western United States, large numbers of sheep are raised for both wool and lamb production. "Bands" or "flocks" of ewes and their lambs are pastured in the summertime in high mountain areas where grass is plentiful. In the fall, the ewes are herded to lower elevations and their lambs are weaned. Lambs are either sold directly to slaughter or fed in lamb feedlots for a short period before slaughter. Pregnant ewes are wintered in lowland winter pastures and may be fed stored hay. Wool from the ewe flocks is removed (sheared) in the spring, usually about three weeks before lambing. After all lambs are born and the grass has turned green, western flocks are again moved to high mountain pastures for summer grazing.

Small farm flocks are prevalent throughout the midwest and northeast United States, including Pennsylvania. Usually, small farm flocks contain fewer sheep and have less land available than western range flocks. Although wool is also removed from these sheep on a yearly basis, the wool quality is generally low because these flocks are raised primarily for meat production. Eastern sheep producers usually wean their lambs at an earlier age and feed them more intensively than producers in the West. Lambs are often sold at a very young age to people in the cities for holiday meals.

### Words You Should Know

***Ovis aires*:** The scientific name for domestic sheep.

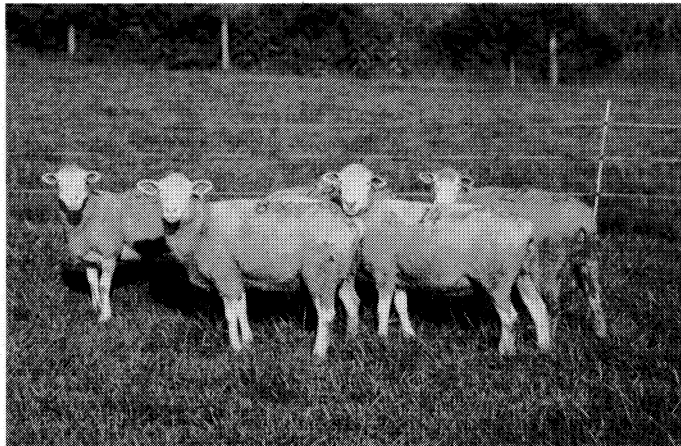
**Sheep:** Generic term for all *Ovis aires*.

**Lamb:** Sheep under one year of age.

**Feeder lamb:** Newly weaned lamb.

**Ewe:** Any female sheep.

**Ram or buck:** A male sheep that has not been castrated.



**Wether:** A male lamb that was castrated at a young age.

**Castration:** Removal of a male's testes.

**Mature:** Any sheep over two years of age.

**Flock:** A group of sheep.

**Band:** A group of at least 1,000 sheep.

### Suggested Activities

- Make a chart of the different names used for sheep.
- Have members of your club answer roll call at a meeting with one name used for sheep.
- Name the two major products we get from sheep.

### Extra Activities to Try

- Ask a local sheep producer if the names he or she uses for lambs mean the same thing as the names you've learned.
- List all the wholesale and retail cuts of lamb you can think of.

### Ideas for Presentations and Talks

- The history of sheep domestication
- The qualities of wool
- Differences between western range and eastern farm flocks.

### Things to Talk About

- How will you react when your project lamb is sold for slaughter?

# 4

## Breeds of Sheep



Sheep breeds generally are grouped by their primary purpose in life, either meat or wool production. Some breeds have been developed as “dual-purpose” and excel in producing both meat and wool. Breeds are groups of sheep that look alike and originated from the same area. Breeds can be identified by special characteristics such as face color, body shape and size, and kind and amount of wool. There are more than 200 breeds of sheep worldwide, but only about 35 in the United States. Most of the sheep in this country belong to about ten major breeds.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Name examples of wool and meat breeds of sheep raised in Pennsylvania.
2. Identify at least four of the major breeds from looking at photos or from seeing live animals.
3. Identify and describe the important characteristics of your selected breed of sheep.
4. If your project is a crossbred, name the breeds of the sire and dam and describe the traits that each of those breeds possesses.
5. List some advantages crossbred lambs have over purebred lambs.

### Major Breeds

Breeds can be grouped in several different ways. Some people group breeds according to whether

their main use is to produce wool or meat. Breeds developed primarily for wool production are called “wool breeds.” Breeds developed for meat production are known as “meat breeds.” Sheep also may be grouped based on how they are used in a crossbreeding system. Some examples of these groupings would be “ram or sire breeds” (heavily muscled, fast-growing breeds), “ewe breeds” (good mothering ability), or “dual-purpose breeds” (can be used successfully as either ram or ewe breeds in a crossbreeding program).

Sheep producers choose certain breeds based on that breed’s ability to produce meaty market lambs or high-quality wool. Sometimes breeds are chosen for their mothering ability or their ability to have lambs at any season of the year. For example, breeds with white faces often are good mothers and have the highest quality wool, while breeds with pigmented faces tend to sire thick, fast-growing market lambs when used in a crossbreeding system.

A third way to classify sheep is based on the kind of wool they produce: fine, medium, or long. Most of the sheep in Pennsylvania are members of the “medium wool breeds.” Their wool is neither very coarse nor very fine. Many of the medium wool breeds used in Pennsylvania are very meaty and also could be classified as sire, or at least dual-purpose, breeds.

Some of the most popular medium wool breeds have gray or black faces and originated in the downs (or hills) of England. Examples of

these are Suffolk, Shropshire, and Hampshire. Other medium wool breeds from the downs of England have white faces such as Dorsets, Southdowns, Cheviots, and Oxfords. A recently imported white-faced breed from the Netherlands is the Texel, a very heavily muscled breed used almost strictly as a sire breed. Lambs from these medium wool breeds are meaty and grow quickly, making them popular for 4-H market lamb projects. Most of these breeds have lambs only once a year, usually in the spring.

Other white-faced medium wool sheep more commonly used as dam breeds include Montadale, Columbia, Corriedale, and Polypay. The Polypay is known for its ability to have two or more young at lambing. Most of the white-faced breeds are capable of lambing in any season, often more than once per year.

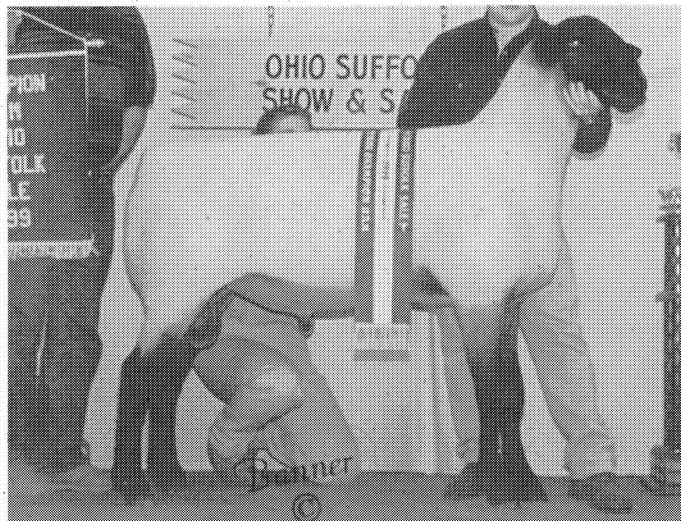
Some of the examples of medium wool breeds raised in Pennsylvania are listed in the table at right. You will notice that many of the white-faced breeds look very similar. Other breeds are more popular in other parts of the country, where wool production is at least as important as meat production.

Fine wool breeds produce wool that is prized for making high-quality yarns and fabrics. They are less muscular than most of the medium wool breeds. The most popular fine wool breed is the Rambouillet, which comprises most of the range flocks found in the western United States. Rambouillets tend to have an extended breeding period, like many white-faced breeds. Rambouillets are large in size with white faces and wool on their legs. They originated in France. Another fine wool breed is the Merino, which originated from the Spanish Merino, and is popular in many southwestern Pennsylvania flocks.

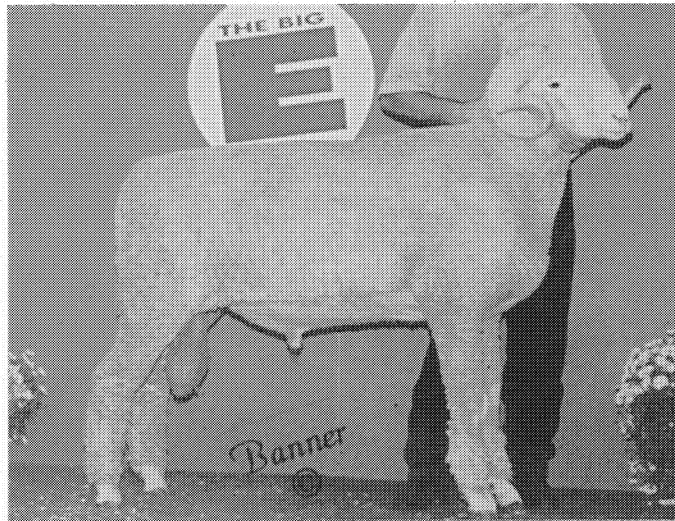
Long wool breeds also are known for their long, coarse wool rather than their meat. Hand-spinners like their wool and use it for making rugs and carpets, rather than cloth. Examples of long wool breeds are the Romney, Lincoln, Leicester, and Cotswold. All have white faces.

<b>Breed</b>	<b>Origin</b>	<b>Characteristics</b>
Suffolk	England	Meat breed. Large size with bare black head and legs.
Hampshire	England	Meat breed. Large size with wool on forelegs and top of a black head.
Shropshire	England	Meat breed. Medium to large size with dark face.
Texel	Netherlands	Meat breed. Medium size, heavily muscled breed with a white face.
Southdown	England	Meat breed. Medium to small size with light brown face.
Dorset	England	Meat breed. Medium size with white face and wool on legs.
Cheviot	Scotland	Meat breed. Small size with white face and bare head and legs.
Montadale	United States	Meat breed. Medium size with a white face and bare head and legs.
Columbia	United States	Wool breed. Large size with white face and wool on legs.
Corriedale	New Zealand	Wool breed. Medium size with white face and wool on legs.
Rambouillet	France	Wool breed. Large size with white face and wool on legs.

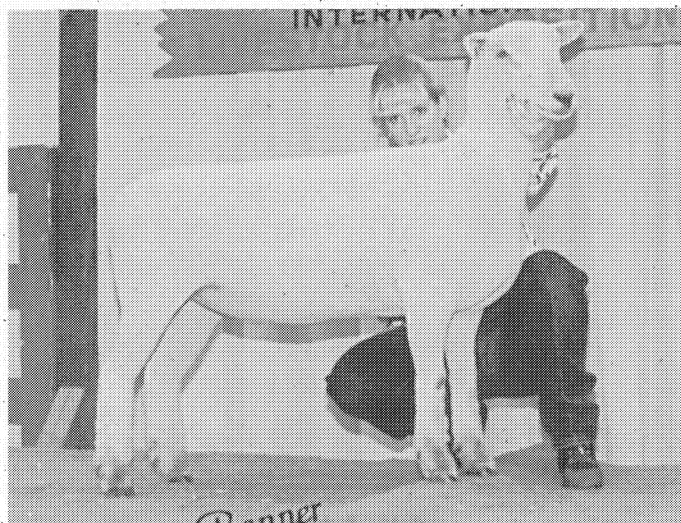




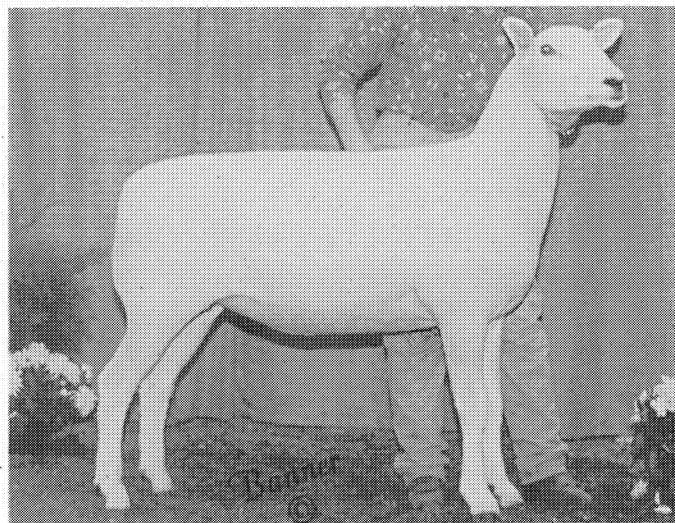
Suffolk ram



Rambouillet ram



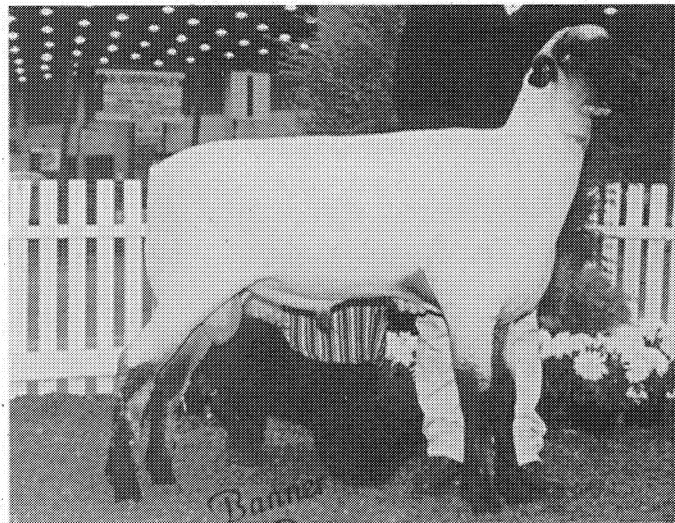
Southdown ewe



Montadale ewe

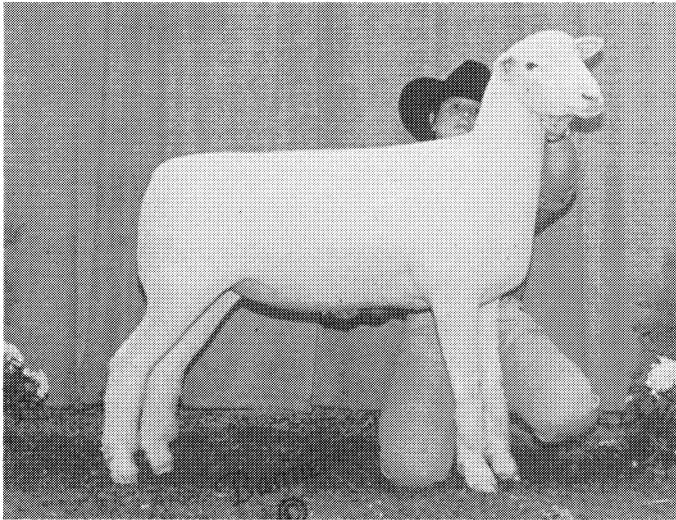


Shropshire ewe

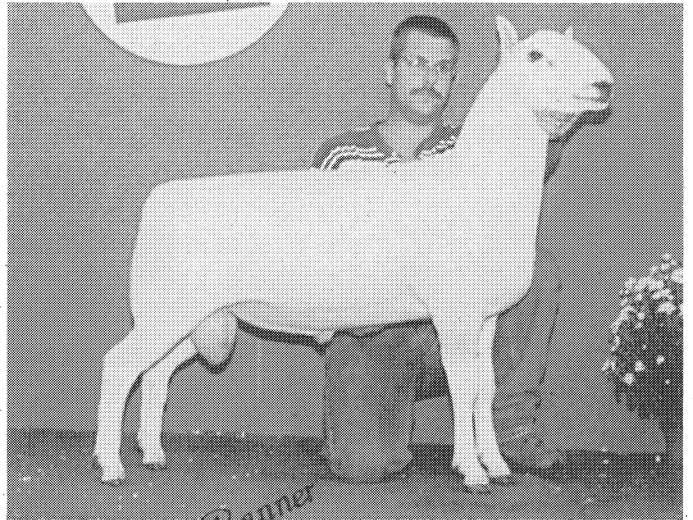


Hampshire ram





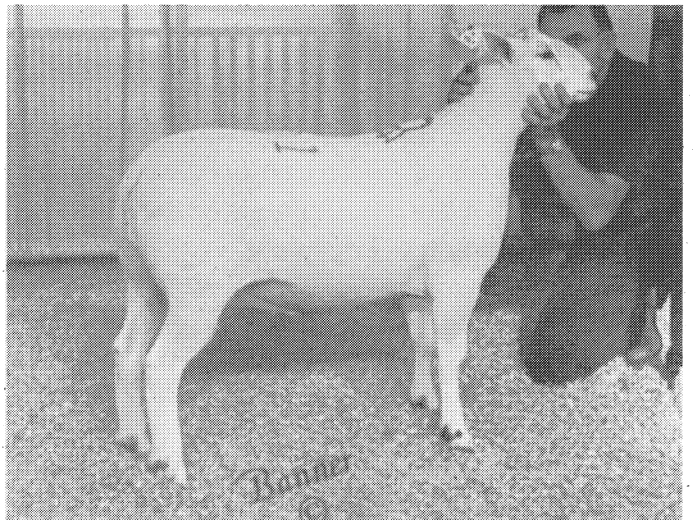
Dorset ewe



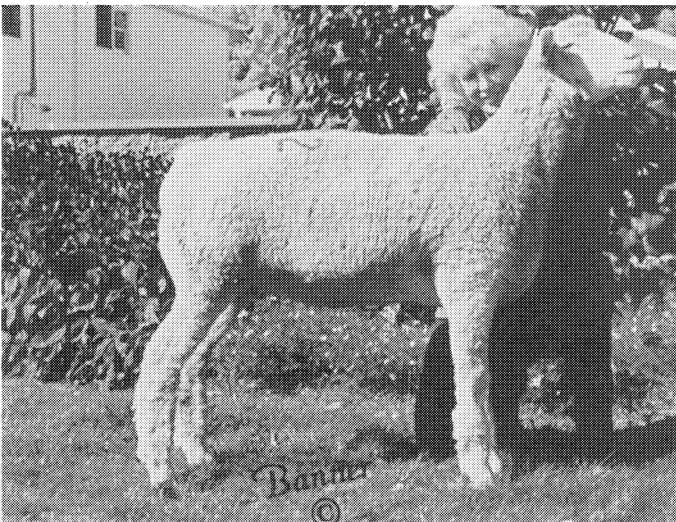
Cheviot ram



Corriedale ram



Texel ram



Columbia ewe

PHOTOS: GREG A. DEAKIN, *THE BANNER SHEEP MAGAZINE*

### Your Lamb's Pedigree

A written record of the names of a lamb's parents, grandparents, and other ancestors is called its pedigree. Some words you will see used on a pedigree, and their meanings, are listed below.

**Sire:** The lamb's father.

**Dam:** The lamb's mother.

**Grandsire:** The father of the sire or dam (the lamb's grandfather).

**Granddam:** The mother of the sire or dam (the lamb's grandmother).

### Registration of Purebred Sheep

When both of a lamb's parents are registered members of the same breed, the lamb is purebred. If its parents are members of different breeds, it is crossbred. A registered lamb is a purebred lamb whose name, herd and registration numbers, date of birth, pedigree, and name of owner are recorded with a breed registry association. A lamb must meet all of the requirements of the breed registry association to be registered.

Breed registry associations issue registration certificates or papers to owners of registered sheep. When a registered animal is bought or sold, the seller must send the registration certificate back to the breed association so ownership can be transferred to the new owner. If you buy a registered animal, make sure that the seller transfers the registration papers for you. If you plan to show the animal, make sure that ownership is transferred to you before the show's entry deadline.

If you would like to find out more about a breed, write to the breed registry association for information. Addresses for the various breed associations can be found at <http://www.ansi.okstate.edu/breeds/sheep/> on the World Wide Web.

### Advantages of Crossbreeds

Crossbred lambs have some advantages over purebred lambs because of heterosis. For most important traits, heterosis is the improvement of a crossbred over the average of its parent pure-

breeds. For example, if the average daily gain of a Hampshire purebred was .7 pounds per day and the average of a Dorset purebred was .6 pounds per day, we would expect the average daily gain of a Hampshire x Dorset crossbred to be .65 pounds per day. The actual average daily gain might be something closer to .8 pounds per day, which is higher than either of the parent breeds. The improvement of the actual daily gain over the expected daily gain is a result of heterosis.

Heterosis affects several important traits in lambs. In addition to improvements in average daily gain, crossbred lambs are usually leaner, more heavily muscled, and resist disease better than purebreds.

### Words You Should Know

**Breed:** A group of animals that have unique color patterns or body structure because they share common ancestors that were selected for those characteristics.

**Dual-purpose:** Breeds that excel at producing both meat and wool, or breeds that can be used as either a sire or dam breed in a crossbreeding program.

**Purebred:** An animal with parents from the same breed.

**Crossbred:** An animal with parents from different breeds.

**Sire:** The lamb's father.

**Dam:** The lamb's mother.

**Heterosis:** The usual improvement of a crossbred over the average of its parent purebreds in a certain trait.

### Suggested Activities

- Answer the roll call at a meeting with the name of a major sheep breed.
- Look through sheep magazines to find pictures of different breeds. Make a poster or display with pictures of the major breeds of sheep. Describe the special uses and features of each breed pictured.
- Visit a fair or show and try to identify the different breeds. For crossbred lambs, try to identify the breeds used in the cross.

- Write to the breed association to find out more about the breed of your project lamb. Be able to describe what is special about the breed of lamb you have chosen.
- Make a poster to promote or advertise your favorite breed of sheep.
- List some advantages crossbreds have over purebreds.
- Ask the manager or owner of a purebred sheep farm what performance records they keep and use when selecting replacement breeding stock.

### Extra Activities to Try

- Start a collection of model lambs or pictures of different breeds or your favorite breed.
- Discuss with a producer which breed traits are important to his or her breeding program.
- Ask the manager or owner of a purebred sheep farm why he or she raises a particular breed of purebred sheep.

- Examine the registration papers of a registered ram or ewe. Be able to name the sire and dam of that animal.

### Ideas for Presentations and Talks

- Make a poster with photographs or drawings of the major breeds of sheep, then use it to lead a discussion of the different characteristics of each breed.
- Describe the important characteristics of your breed of sheep and tell why these characteristics are economically desirable.

### Things to Talk About

- What are the major breeds of sheep raised in Pennsylvania?
- What are some major characteristics associated with each breed of sheep?
- What is a crossbred lamb?

### A sheep's pedigree

EXTENDED PEDIGREE—THE CONTINENTAL DORSET CLUB HUDSON, IOWA							
NAME	Cardinal Creek S 831	SEX	Male	ASS'N NO.	P-42956	DATE OF BIRTH	2/16/98
				EMPEROR		SIRE	Worth Haven 831, A-284030-A-Tw
				SIRE	Morehead 1259, P-343656-F	DAM	Morehead 316, P-265846-S-Tw
	CELEBRATOR					SIRE	Morehead 714, P-311312-F-Tw
	SIRE	Cardinal Creek 112, P-396844-F		DAM	Myers DY521, P-344699-F	DAM	Myers 272, P-300130-S
	SIRE	Cardinal Creek Farm 265, P-411089-F				SIRE	Stony Point 9K, P-282971
				MODERN TIMES		DAM	Poynter 46, P-261859
				SIRE	Poynter 203, P-300221-S-Tw	SIRE	Stony Point 9K, P-282971
	DAM	Poynter 390, P-331089-S-Tw		DAM	Poynter 197, P-300221-S-Tw	DAM	Poynter 91, P-280690
						SIRE	Raders 113, P-315877-S
				SIRE	Raders 358, P-359441-F-Tw	DAM	Raders 71, P-311730-F
	SIRE	Raders 701, P-371690-F-Tw		DAM	Morehead 1037, P-343728-F-Tw	SIRE	Stony Point 98F, P-241623-S
						DAM	Hitschman 1069, P-293590-S
	DAM	Cardinal Creek Farm 361, P-411096				SIRE	Worth Haven 831, S-284030-S-Tw
				EMPEROR		DAM	Morehead 316, P-265846-S-Tw
				SIRE	Morehead 1259, P-343656-F	SIRE	Morehead 714, P-311312-F-Tw
	DAM	Cardinal Creek Farm 46, P-380099-S		DAM	Myers DY 521, P-344699-F	DAM	Myers 272, P-300130-S
REMARKS:							



# 5

## Selecting Project Animals



The conformation and size of the lamb you choose will affect the success of your project. Try to choose healthy, high-quality, meaty animals that will be productive. You don't need the most expensive animals to succeed.

### Objectives

After studying these materials and completing the suggested activities, you should be able to:

1. Name the external parts of the lamb and be able to point them out on a live lamb or label them on a diagram.
2. Calculate how heavy your feeder lamb should be.
3. Tell what to look for when choosing animals for market lamb projects.

### Naming External Parts of the Lamb

It's important to know the words used by sheep producers. When you know and use the right words, other people who own sheep will be able to understand you.

The parts of a lamb's body have special names. Some parts have the same names as the meat products produced from them. For example, the hind leg of a lamb is simply called the leg. Of course, this is where the leg of lamb we eat comes from.

Learn the terms listed on the diagram on page 18. On a ewe, you also should be able to identify the vulva. On a ram, you should be able to locate the scrotum and testes.

### Selecting Feeder Lambs

You may choose to buy feeder lambs from a reliable source or raise your own for your project. Market lambs are raised to be slaughtered for meat. Choose healthy lambs that will grow quickly and efficiently and that have the potential to produce meat that people will want to eat. Consumers prefer to eat lamb that is lean and has very little waste fat, so we need to grow meaty lambs that will stay lean.

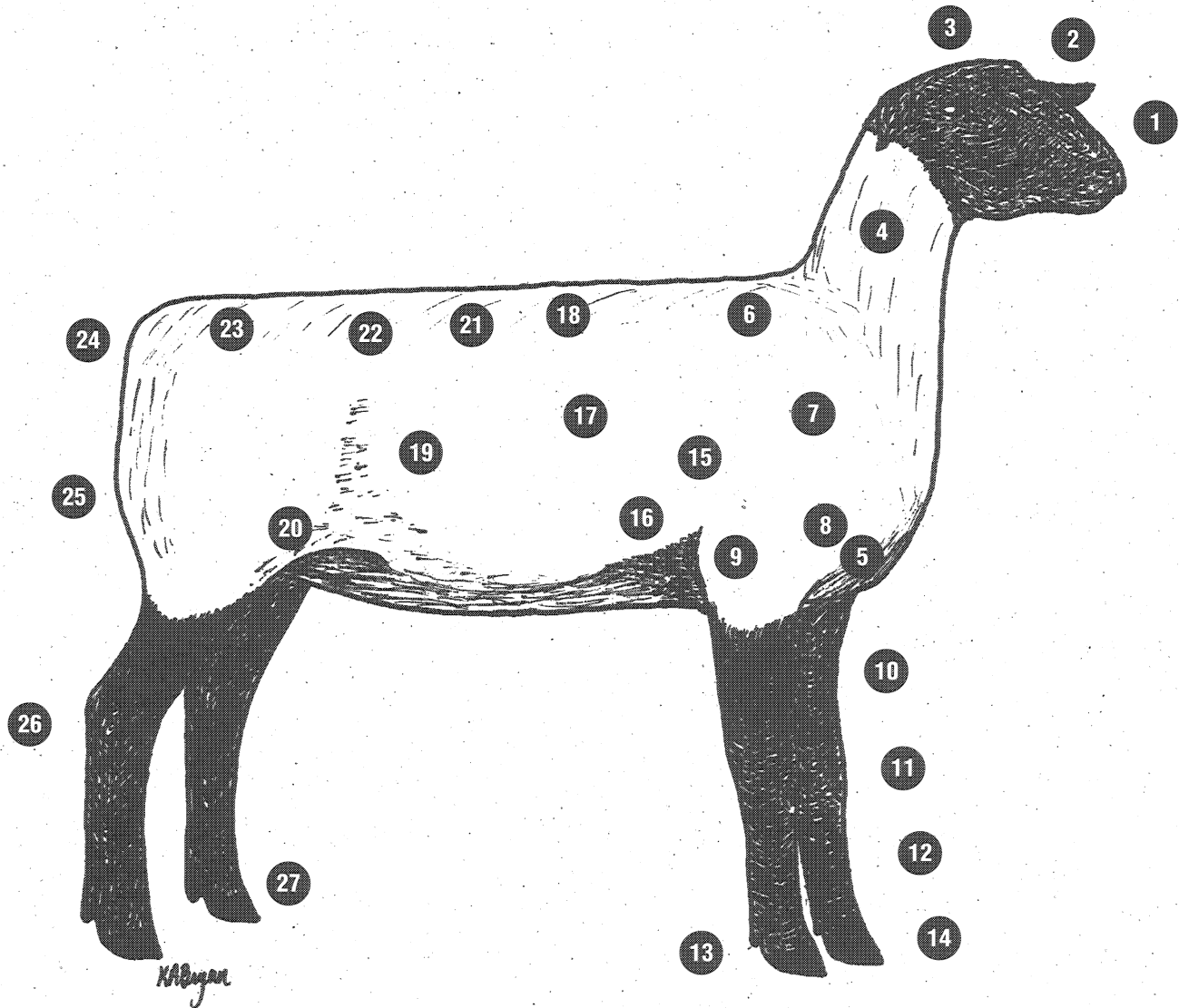
Most lambs are marketed and slaughtered when they weigh between 90 and 130 pounds. Lambs from larger-framed breeds will be heavier at slaughter than lambs from smaller-framed breeds. The average market weight is around 115 pounds. Lambs that have between one- and two-tenths inch of back fat, measured at the 12th rib, are preferred.

When slaughtered, ideal market lambs are long-bodied with level tops and rumps. They have wide, muscular loins, and large, meaty legs. They should be trim shouldered, long fronted, and deep bodied. Lambs should be free of excess fat covering their rib and loin.

For your project, select healthy feeder lambs that are big for their age and have sound feet and legs. They should walk easily. Look for long-bodied lambs with level, muscular tops and muscular legs at a young age. Check to make sure the mouth closes evenly. Neither the top nor bottom jaw should extend past the other. At slaughter weight, wethers are generally leaner and more heavily muscled than ewes. Wethers



## EXTERNAL PARTS OF THE LAMB



- |   |                   |    |               |    |            |
|---|-------------------|----|---------------|----|------------|
| 1 | face              | 10 | forearm       | 19 | middle     |
| 2 | forehead          | 11 | knee          | 20 | rear flank |
| 3 | poll              | 12 | cannon        | 21 | loin       |
| 4 | neck              | 13 | dewclaw       | 22 | hip        |
| 5 | breast            | 14 | foot          | 23 | rump       |
| 6 | top of shoulder   | 15 | forerib       | 24 | dock       |
| 7 | shoulder          | 16 | lower forerib | 25 | leg        |
| 8 | point of shoulder | 17 | rib           | 26 | hock       |
| 9 | elbow             | 18 | back or top   | 27 | pastern    |

should be castrated, preferably by surgical castration, and healed.

The lambs should be free of parasites when you buy them. Ask the person from whom you are buying the lamb what treatments it has had to rid it of parasites. If you don't know whether your lamb has been wormed or not, worm it as soon as you get it home.

Your lamb's tail should be docked and healed before you bring it home. Lamb's tails are routinely shortened at a very young age to prevent manure from building up in the wool of the tail. Matted tail wool makes a perfect place for flies to lay their eggs. Developing fly larvae will feed not only on the manure, but on an undocked lamb's tail as well.

Lambs should be vaccinated for enterotoxemia types C and D (overeating disease) and tetanus before they go on full feed. Check with the person you are buying your lamb from to see if these vaccinations have been given. The enterotoxemia vaccine requires a booster shot, which you may have to give. A single tetanus vaccination should be sufficient to keep your lamb safe until market weight, but check with your veterinarian to be sure.

### How Big Should My Feeder Lamb Be?

In the "real world" of sheep production, lamb producers try to get lambs to market weight as fast as possible. Four-H market lamb projects are different from the real world of sheep production because you are trying to get a lamb to the correct size (100–120 pounds) on the day of the show. Use the table below for some background information when selecting feeder lambs.

The size of lamb you start with is closely related to the size of lamb you end up with on show day. You can use the following four steps to estimate the size of lamb you should buy.

The first step is to figure out how many days you will be feeding your lamb from the day you buy it until show day. You may have to use a calendar to count the days. This feeding period is usually between 80 and 110 days. The second step is to estimate how fast your lambs will grow. An "average" medium-framed lamb eating a balanced, self-fed diet will gain about .7 pounds per day. Some lambs will gain weight faster depending on genetics, health, and whether the lamb is a wether or a ewe. Wethers usually grow faster than ewes. Crossbreds grow faster than purebreds. Large-framed breeds such as Suffolks grow faster than small-framed breeds such as Cheviots or Southdowns. Ask the person from whom you are buying the lamb how fast his or her lambs usually grow.

The third step is to calculate the amount of weight your lamb will gain during the feeding period. This is done by multiplying the number of days in the feeding period by the amount of weight you expect your lamb to gain each day. For instance, if you are feeding a medium-framed lamb for 100 days and you expect it to gain .7 pounds per day, your lamb should gain 70 pounds.

The fourth step is to calculate the size of lamb you should start with. Subtract the expected weight gain (70 pounds in this example) from the desired ending weight (115 pounds). In this example, you should start with a lamb weighing about 45 pounds ( $115 - 70 = 45$ ). You can use the

<i>Frame size</i>	<i>Example breed</i>	<i>Estimated finished weight</i>	<i>Estimated daily gain</i>
Large	Suffolk	130 pounds	.9 pounds per day
Medium	Hampshire	115 pounds	.7 pounds per day
Small	Cheviot	100 pounds	.5 pounds per day

table below to estimate the size of lamb you should start with:

Days Till Show	Size of Lamb (Pounds)		
	<i>Small-framed</i>	<i>Med-framed</i>	<i>Large-framed</i>
80	60	59	58
90	55	52	49
100	50	45	40
110	45	38	31

Remember that these are only guidelines. Your lambs may grow faster or more slowly than the average lamb.

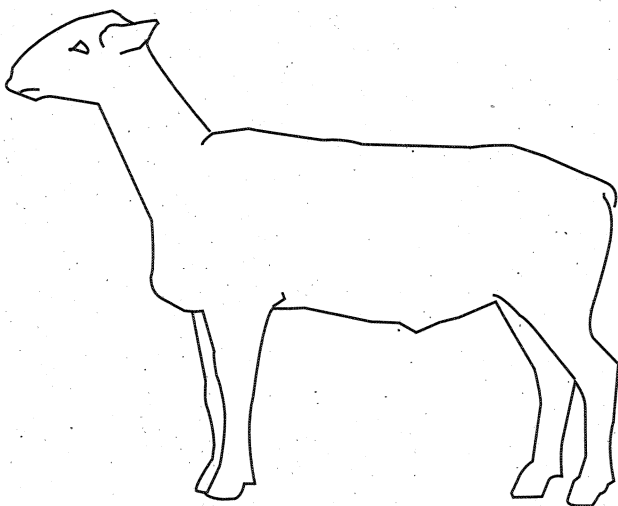
### Deciding How Much to Pay

Lambs for 4-H projects can be bought from different places. Many 4-H members buy lambs from the farms of neighbors or other persons known to raise high-quality, healthy lambs. Lambs also may be bought at feeder lamb auctions. Some people are paid to take orders for lambs and buy them for other people. Look for lambs from producers who have a record of producing lambs that have

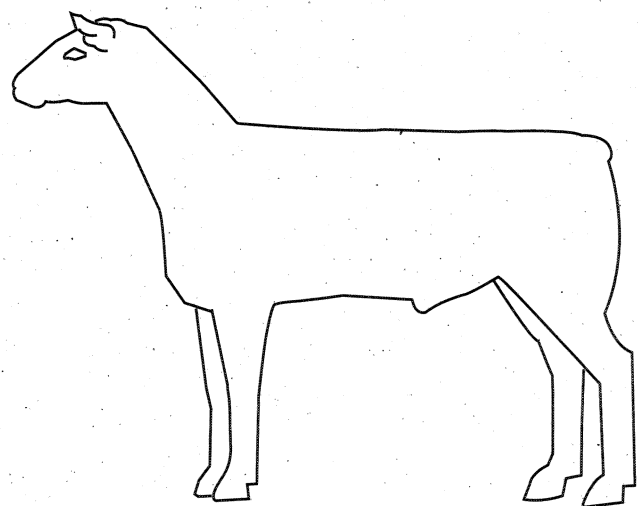
done well in market lamb shows. Try to buy lambs from someone who can show you good records of the vaccinations, other shots, and dewormers the lambs have had.

Farmers who feed and sell lambs for a living need to get more money when they sell their lambs than it costs to raise them to market weight, or they will lose money. If you pay too much for your lamb or spend too much to feed and care for it, and you do not get a high enough price when you sell your lamb, you will lose money too.

Before you purchase a feeder lamb, you need to fill out a budget for your entire project. A sample budget can be found on page 21. To decide how much you can afford to spend to purchase your lamb, first estimate what it will be worth when you will sell it. Subtract what you think it will cost to pay for feed (see "How Much Feed Will My Lamb Eat?" in Section 6), veterinary care, supplies, transportation, bedding, marketing costs, entry fees, interest on borrowed money, and other costs. The difference is the most you can afford to spend to avoid losing money.



Off-balance, steep-rumped, coarse-fronted lamb



Nicely balanced, level-rumped, clean-fronted lamb

Lambs sold at 4-H auctions, especially champions, often sell for more money than lambs sold at local sale barns. Most 4-H lambs will not be champions, so don't expect a grand champion price when you make your plans for the year. Real-world prices for lambs change from day to day, so it's a good idea to follow market reports in farm newspapers or on the radio to find out what most lambs are worth. Ask your leader or extension agent for help with estimating your expenses.

### When You Get Your Lambs Home

Much of the training needed to show your lamb correctly should be done at home before the roundup. When you first bring your lamb home, spend time in the pen each day to allow it to get used to you. Lambs soon will approach you out of curiosity. Move slowly to avoid scaring them. Allow them to sniff your hands and body. You soon will gain their confidence and trust. With time, your lambs will see you as simply another part of their pen—and the bringer of feed!

### Words You Should Know

**Budget:** An estimation of the profitability of raising market lambs.

**Conformation:** A general term describing the way a lamb is put together and its appearance.

**Feeding period:** The time from when you buy your lamb until the show.

**Sound:** Free from defects.

**Tail-docked:** Has had the tail cut short.

### Suggested Activities

- Label the parts of a lamb on a diagram or point them out on a live lamb.
- Have members of your club answer roll call at a meeting with the name of a lamb part.
- Participate in a sheep judging practice session, workshop, or contest.
- Select a project wether or ewe lamb using your knowledge of parts and desirable type.
- Visit a fair or show and listen to the sheep judge give reasons for placing the lambs the way he or she did.

- Visit a feeder lamb auction to learn how lambs are bought and sold or to look for suitable project animals.
- Calculate how big your feeder lamb should be, based on the dates of your show.
- Compare your budget with "real-world" lamb and feed prices.

### Extra Activities to Try

- Visit a feeder lamb sale.
- Look up the local market price of lambs each week in a farm newspaper or other source of price information. Make a graph of sheep prices each week for several months.
- Check feed prices with a local feed supplier.

### Ideas for Presentations and Talks

- Identifying the parts of lambs
- What to look for when selecting project market lambs
- What it costs to buy and raise a lamb

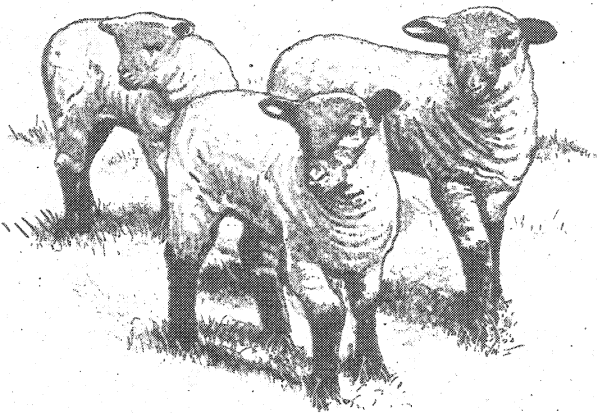
### Things to Talk About

- What are the main parts of a lamb's body?
- What factors should you look for when choosing feeder lambs for market sheep projects?
- What is the normal weight of market lambs when they are sold for slaughter?



# 6

## *Caring for Your Lamb*



Taking proper care of your project lamb will be a great learning experience for you. Your lambs have many needs that must be met in order to live comfortably. To grow and produce efficiently, lambs need clean, comfortable housing, fresh air, clean water, and a good supply of feed.

### **Objectives**

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Outline the basics of sheep care, including proper bedding and living conditions.
2. Lead a parent or project leader on a tour of the place where you keep your lambs and point out what you are doing to take care of them.
3. Calculate the amount of feed required to feed out a market lamb.

### **Housing Needs**

Don't buy any lambs until you have a good place to keep them. In some areas, people are not allowed to keep livestock. Find out if local regulations restrict where you can keep your lambs. Also find out if there are special laws or rules you must follow to care for your sheep.

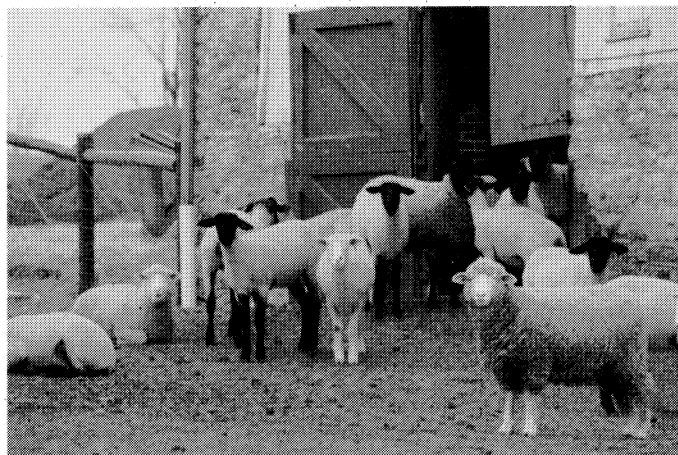
Make sure you have the right kind of facilities and equipment to house and care for your lambs. Lambs don't need fancy or expensive facilities to do well. Lambs can be fed in a dry lot, indoor pen, or small pasture. If housed outdoors, lambs should have access to shelter. A small building with a sloping roof will make a good shelter. The

building may have an open front facing south-east, but it should have enclosed sides during fall, winter, and spring. The floor of the shelter should be elevated to provide a dry place for lambs to lie down in wet weather.

Lambs need space to lie down, move around, and eat. Provide at least ten square feet of barn or pen space for each lamb to be housed in a shelter or pen. Dry lots should contain at least 20 square feet for each lamb.

When lambs breathe stale air, they may get sick or grow more slowly than they should. Make sure lambs have plenty of fresh air (ventilation), but keep your sheep out of drafts that could make them sick.

Lambs don't grow very well when they are too hot or too cold. Market lambs are most comfortable and grow best when the temperature is between 55 and 70°F.





Freshly shorn lambs, without their protective wool covering, sometimes can get too cold. Lambs that shiver are usually too cold. Cold lambs will use most of their feed to keep warm instead of to grow. If the place where you keep your lambs is too cold, provide straw or other bedding so the lambs can lie in it and keep warm. In cold weather, provide a well-bedded, dry, draft-free place for your lambs to rest.

During hot weather, lambs may breathe very rapidly or with their mouths open if they are too hot. When lambs are too warm, they will grow slowly because they don't eat enough feed. Keep the fleece cut short in the summertime to help keep lambs cool. Provide shade to keep your lambs comfortable in the summer. A good, inexpensive source of shade for lambs kept outdoors is a frame of poles covered with straw, cornstalks, or plastic feed bags. Trees will provide shade, too.

### **Keeping Your Lamb Clean**

Keep the pens of your sheep clean to reduce the chance of disease. Some sheep barns are built in ways that keep manure from piling up in them. If yours is not, you will need to remove the dirty bedding and manure from your pen often to keep it clean. Keep waterers and feed troughs clean because lambs will not drink stagnant water or eat old, stale, or soiled feed.

Sheep manure contains nitrogen, phosphorus, and potassium. All three nutrients are necessary to make plants grow. If you have a garden, you can use the manure your lambs produce instead of buying commercial fertilizer. Large-scale lamb producers who feed lambs in confinement are required to have a certified plan for where their manure will be spread so that the nutrients in the manure match the nutrient needs of plants.

Some places have laws controlling what to do with manure, so find out if there are special rules you must follow in your area.

### **Handling Equipment**

In addition to finding a place to keep your lambs, you also will need equipment to move, transport, feed, and water them.

If you keep your lambs in a fenced area, be sure the fence is strong and high enough to keep sheep in and dogs out. If you use electric fence, remember that wool is a very good insulator, so use a high-quality, well-grounded fence charger to provide enough shocking power to get the lamb's attention. Lambs should be trained to respect an electric fence when their wool is short.

Have a good loading ramp to move lambs in and out of your facilities. You can get loading chute designs from your extension agent. If you feel a loading chute is too expensive, have an area of the pen or pasture where the lambs can be cornered for easier loading. Most lambs can be lifted onto a truck bed by a strong person. Place one arm under the lamb's flank and one under the breast. Use good lifting technique so you don't injure your back.

### **Feeding Your Lambs**

Feed, hay, and water can be provided by self-feeders and automatic waterers, or you can use feed pans or tubs to feed grain and a deep pan in the corner of the pen for water. Grain also can be fed from a tray mounted on the side of the pen at about the same height as the lamb's shoulder. Provide about 12 inches of feeder space per lamb. Keeping feed and water above floor level helps keep lambs from soiling their eating and drinking space.

Nutrients found in feed help animals to stay alive, grow, and reproduce themselves. The six classes of nutrients found in feeds include water, carbohydrates, fats, proteins, minerals, and vitamins.

Water is used by sheep to carry nutrients to places in the body where they are needed, remove waste products, and help keep the body cool. Be sure to provide your lambs plenty of clean water. Lambs need to drink about 1 1/2 gallons each day in order to grow as fast as they should. Change the water in watering pans or buckets at least twice each day.

The rest of the nutrients needed by lambs are found in solid feeds. Lambs, like cattle, have a four-part stomach that allows them to digest

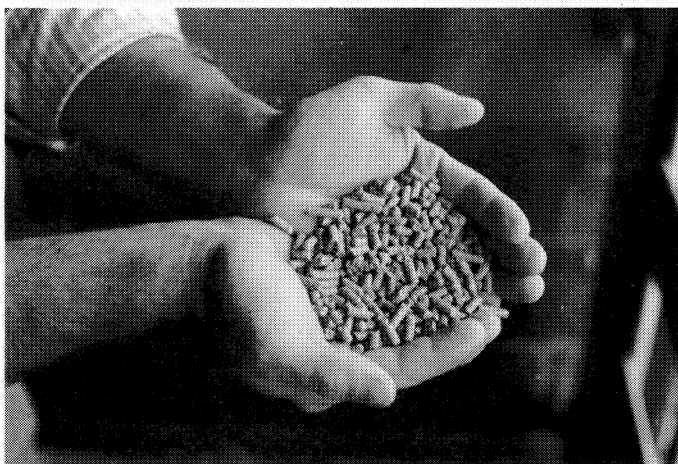
forages such as grass or hay along with grains. Some forage or hay must be included in the diet for a lamb's digestive system to work correctly. Nutrients in hay or grain include the following:

Carbohydrates such as sugars, starches, and cellulose provide the largest amount of energy in sheep feeds. Energy is used for body functions such as breathing, walking, or growing. Extra energy consumed from feed is deposited as fat. Grains such as corn are the best sources of carbohydrates and provide the largest amounts of energy. Forages contain different kinds of carbohydrates that contain less energy than grains.

Fats are concentrated energy sources. Some fat usually is present in hay and grain. Low levels of additional fat may be added to commercial sheep diets, but they normally are not necessary.



Fresh water should be available at all times.



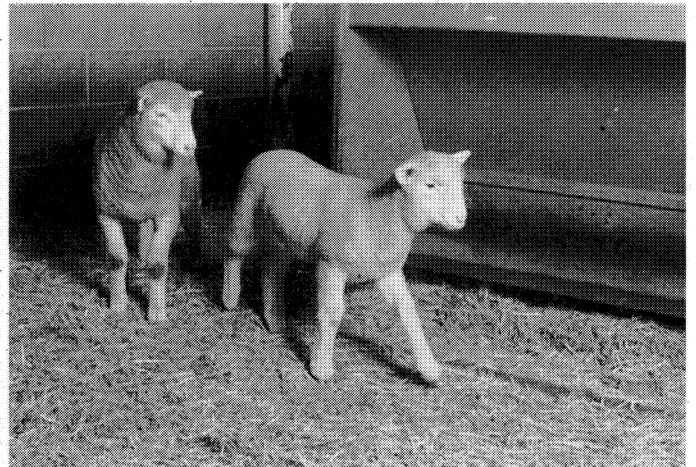
Purchased lamb feed may be pelleted.

Protein is used to make and repair muscle. It also is a major component in wool. Soybean meal, linseed meal, and legume forages (such as alfalfa and clover) are good sources of protein. Corn is a relatively poor source of protein.

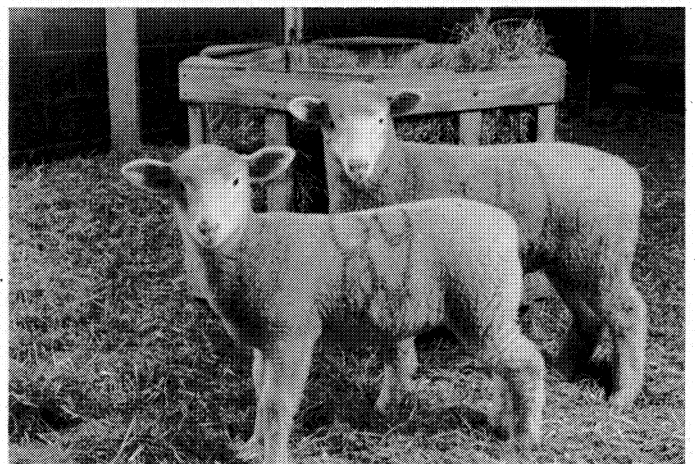
Vitamins and minerals are two other categories of nutrients commonly added to sheep diets or fed free-choice.

Minerals like calcium and phosphorus are important for bone development. Other minerals help many of the body processes work correctly. Some of the minerals a lamb needs are found in the forages and grains they eat, but others must be added to the diet in a mineral mix or fed free-choice.

Vitamins are needed in very small amounts to assist in many body functions. Some vitamins are



Lambs may be self-fed or given a fixed amount of feed daily.



Hay may be fed free-choice or included in the grain mix.

found in feed—often in forages—but additional vitamins usually are added to the feed or supplied in a free-choice vitamin/mineral mix.

Some ingredients commonly used in sheep feeds are high-quality legume (alfalfa or clover) hay, oats, shelled corn, soybean meal, minerals, and vitamins. The grain, vitamins, and minerals usually are ground and mixed together so that the nutrients needed by the sheep are eaten in the right amounts. Hay can be ground and mixed with the grain, fed with grain in a pelleted form, or fed separately. Grain mixes should be coarsely ground or pelleted.

If you follow directions carefully, the feed can be medicated. Lasolacid (Bovatec) is a feed additive that helps your lambs grow faster. It also prevents digestive problems caused by coccidia.

You may purchase commercial feed or make your own. Copper is toxic to sheep, so be sure to use a grain mix formulated especially for sheep. Feeds formulated for other animals such as horses, cattle, or hogs may contain enough copper to kill your market lamb. If you make your own feed, be sure it contains the right amounts of vitamins and minerals (use a trace mineral mix made especially for sheep) as well as protein. To avoid a disease called urinary calculi, keep the calcium:phosphorus ratio of the grain mix at 2:1 or higher.

Below is an example of a 14% crude protein grain mix that will work for feeding lambs. It includes alfalfa hay in the mix. Fishmeal has been proven to increase the rate of gain in market lambs, although it is difficult to purchase in small amounts.

Ingredient .....	Amount
High-quality alfalfa .....	15.0
Shelled corn .....	63.4
Soybean meal .....	12.0
Fishmeal .....	2.0
Limestone .....	2.0
Salt .....	0.6
Molasses .....	5.0

## 34% SHEEP CONCENTRATE

Sheep Concentrate is for starting, growing and finishing lambs. See feeding directions and caution statement on the reverse side of this tag.

### GUARANTEED ANALYSIS

Crude Protein, Min. ....	34.0%
Crude Fat, Min. ....	1.0%
Crude Fiber, Max. ....	8.0%
Calcium (Ca), Min. ....	3.0% Max. .... 4.0%
Phosphorus (P), Min. ....	0.8%
Salt (NaCl), Min. ....	3.0% Max. .... 4.0%
Selenium (Se), Min. ....	1.0 ppm
Vitamin A, not less than .....	10,000 IU per Pound

### INGREDIENTS

Plant Protein Products, Processed Grain By-Products, Animal Protein Products, Forage Products, Molasses Products, Salt, Vitamin A Supplement, Vitamin D3 Supplement, Vitamin E Supplement, Ethylenediamine Dihydrochloride, Calcium Carbonate, Cobalt Carbonate, Calcium Phosphate, Ferrous Sulfate, Manganous Oxide, Manganese Sulfate, Zinc Sulfate, Zinc Oxide, Sodium Molybdate and Sodium Selenite.

01299-MF

\*Ruminant Meat and Bone Free

Net Weight 50 lb (22.67 kg) Or As Invoiced

### FEEDING DIRECTIONS

34% Sheep Concentrate is designed to be mixed with grain for growing and finishing feedlot lamb rations. Mix 34% Sheep Concentrate as indicated below for the desired protein level.

Protein Level	16	14	12
Corn	1400	1560	1720
34% Sheep Concentrate	600	440	280
	2000	2000	2000

Molasses can be added to any ration by replacing up to 100 pounds of corn.

34% Sheep Concentrate may be topped dressed or mixed with grains as a source of needed protein and energy for ewes during breeding, late gestation or lactation. Provide 2:1 Sheep Mineral on a free choice basis.

Provide clean, fresh water at all times.

**CAUTION:** No copper compounds are added to this feed. However, naturally occurring copper in feed ingredients may combine to yield detectable copper levels. Care should be taken to minimize additional copper from forage, water or other feed stuffs available to sheep.

A tag from a commercial sheep concentrate

Ask your leader for help if you're not sure what to feed.

Be careful that your lambs do not have access to poisonous plants or shrubs. Many ornamental plants such as nightshade and yew are toxic to sheep. Make sure that your lambs are kept away from any potentially dangerous plants. Ask your extension agent for more information on poisonous plants.

### How Much Feed Will My Lamb Eat?

Start feeder lambs on a small amount of grain each day. Half a pound of 16% protein grain mix per day is a good start if your lambs were not fed grain before you brought them home. Gradually increase the amount of grain by 1/2 pound every three or four days until you reach your target feeding level.

For maximum gains, 80 percent of the feed a lamb eats should be grain. Larger-framed breeds such as Suffolks generally should be fed for maximum gains. Smaller-framed breeds such as Cheviots or Southdowns probably should be on a lower-energy diet (40–50% grain) because they could get too fat if they consume too much high-energy feed. Another way to reduce the amount of energy in the grain mix is to replace corn with a lower-energy grain such as oats. See the following table for the percent protein and maximum amount of grain to feed market lambs of different sizes. If hay is fed separately, it should be limited to the amount lambs will clean up each day in addition to their grain.

Lamb weight	Percent protein	Maximum amount of grain*
50	16	1.2
70	14	2.0
90	12	2.8
110	10	3.4

\*Amount may be slightly higher if hay is included with the grain mix.

You need to be able to calculate the total amount of feed each lamb will eat between the time you buy it until the time you sell it. This calculation is simple. First, you need to know the amount of weight you expect your lamb to gain. This will depend on your lamb's starting weight and how many days there are between purchase and show day (see "How Big Should My Feeder Lamb Be?" in Section 5). Let's say your lamb needs to gain 60 pounds. A lamb eating an 80% grain diet eats about four pounds of feed for every pound of weight it gains. So, if your lamb needs to gain 60 pounds, multiply 60 x 4 to arrive at the total amount of feed your lamb will eat. In this instance, it's 240 pounds of feed. If you are feeding your lamb for maximum gains, about 80% (192 pounds) of this feed will be grain and 20% (48 pounds) will be hay.

### Suggested Activities

- Visit a commercial lamb feeding operation and learn about feeding, watering, waste management, handling, and marketing. Also observe how the owner keeps the lambs comfortable.
- Figure out how much feed your lamb is eating each day.
- Lead your parent or project leader on a tour of the place where you keep your sheep. Point out the things you are doing to make your lamb comfortable. Show that each of the following is taken care of:

- \_\_\_\_\_ Is there plenty of feed?
- \_\_\_\_\_ Is the lamb being fed properly?
- \_\_\_\_\_ Is the water plentiful and clean?
- \_\_\_\_\_ Is the lamb comfortable?
- \_\_\_\_\_ Is the pen clean?
- \_\_\_\_\_ Is there enough fresh air?
- \_\_\_\_\_ Is it too cold or too hot?
- \_\_\_\_\_ What did the feed cost?
- \_\_\_\_\_ Are records being kept?



**Extra Activities to Try**

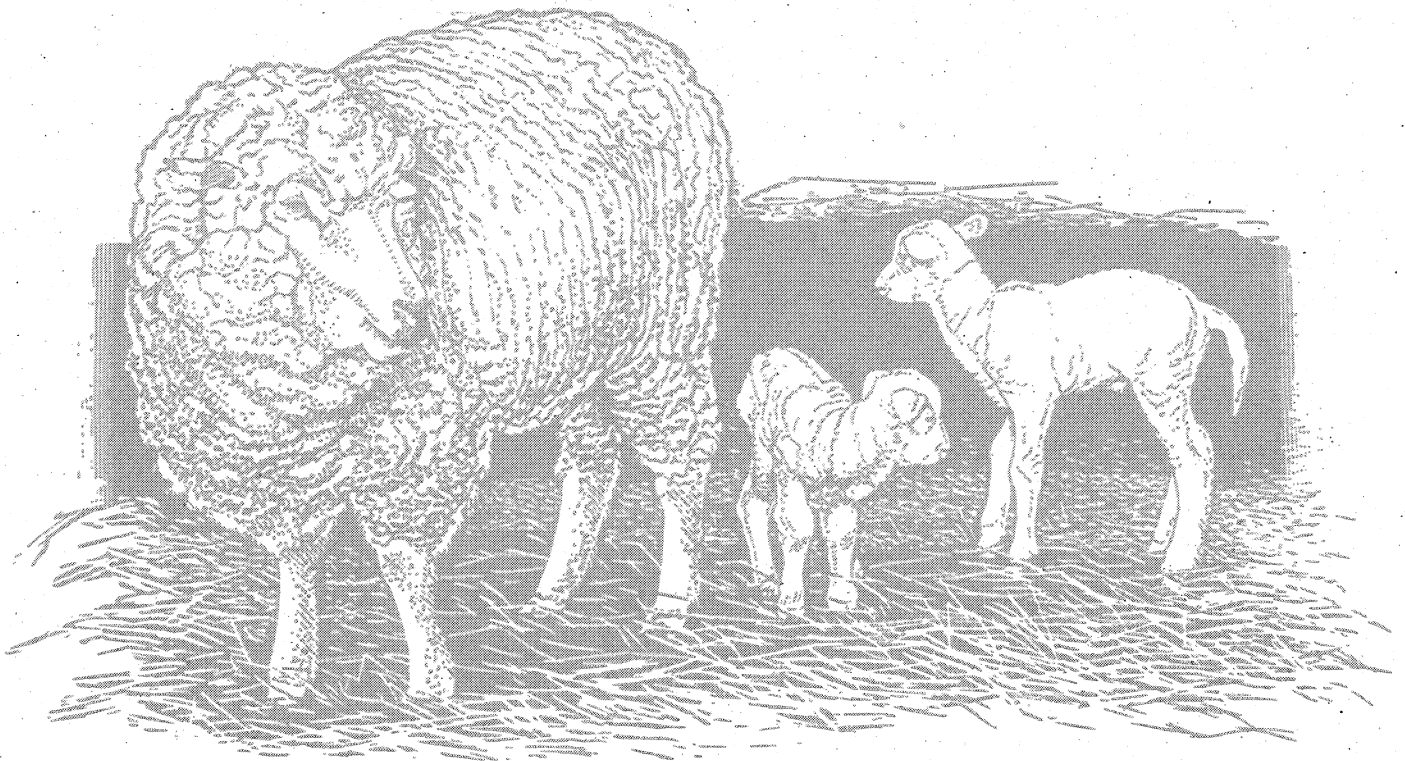
- Collect samples of ingredients typically used in sheep rations so you can learn to identify them. Discuss with your leader or parent what each ingredient contributes to the ration.
- Look at a tag from a commercial sheep feed. Name the main ingredients and tell how much protein is in the feed.

**Ideas for Presentations and Speeches**

- How I take care of my lamb
- My lamb's basic needs
- Market lamb facilities and equipment

**Things to Talk About**

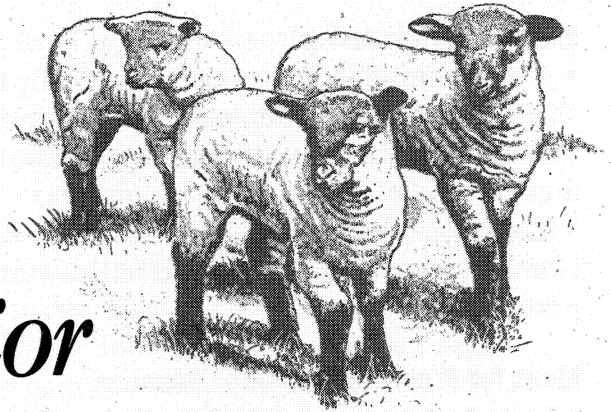
- What do you need to do to take care of your lamb?
- How do you know if your lamb is too cold or too warm?
- Why should you keep records of the feed your lamb eats?





# 7

## Observing Lamb Behavior



Lambs are fun to watch. Observe your lambs during their daily routine.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Describe the normal behavior of sheep.
2. Recognize whether your lamb is behaving normally when you watch and listen to it.
3. Compare normal behavior of sheep with behavior of other animals.

### How Lambs Behave

Sheep have a natural flocking instinct. Lambs like to be around other lambs and will often move as a group. They like to play "follow the leader." Because of this flocking behavior, it is best to feed at least two lambs together.

When resting, lambs lie on their stomachs with their legs curled beneath them. When they get up, lambs usually stretch their muscles.

Sheep eat with their lips, not their tongues like cattle. When lambs eat forages, they don't chew them immediately. Sometime later, when the lamb is lying down, the forage portion of the diet will travel back up the esophagus into the mouth for chewing. This process is called rumination, or "cud chewing."

Lambs are curious and will investigate new areas cautiously. They are timid, however, and will quickly run if they hear a strange noise or see sudden movement.

Some lambs get excited very easily. People who understand normal lamb behavior can build equipment and facilities that keep lambs calmer and make them easier to move and handle. For example, loading chutes should have solid sides so lambs will not see things on the outside of the chute that could scare them. Lambs prefer to move up an incline, toward light and away from darkness. They do not like to move toward moving objects, loud noises, or shadows. Lambs do not like to step over obstacles like a garden hose or door frame, or walk through wet areas.

Lambs are very good jumpers and can easily clear fences or pen partitions if they are frightened or hungry.

Learn to recognize normal and abnormal urine and feces (manure) from your lambs. Urine and feces may look or smell different when lambs are sick. The urine from normal lambs is clear and yellow. Lamb feces will look different depending on the age of the lamb. Lambs with runny, watery feces (diarrhea) may die if nothing is done to help them. If you notice that your lamb's urine or feces does not look right, ask your parent or leader to take a look.

### Words You Should Know

**Ethology:** The study of animal behavior.

**Rumination:** Cud chewing.

**Suggested Activities**

- Spend time observing lambs as they eat and sleep. Point out the different sounds you hear and behavior you see to your parent or leader.
- Attend a sheep show and observe the behavior of the animals.
- Observe other farm animals or house pets and compare their actions to the action of a lamb.

**Ideas for Presentations and Speeches**

- Sounds that lambs make
- How to tell if your lamb is acting normally

**Things to Talk About**

- How does a lamb usually act during a typical day?
- What sounds do lambs make and what do these sounds mean?
- What should you do if you think your lambs sound or act like something is wrong?



## 8

## Keeping Lambs Healthy



The success of a sheep operation depends upon the health of the sheep. Healthy, well-managed sheep will grow and produce efficiently. Disease in a flock of sheep can be costly and can quickly destroy a flock.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Identify signs of a healthy lamb.
2. List four or more symptoms of a sick lamb.
3. List ways to keep a lamb healthy.
4. Name the three main things that make lambs sick.
5. Show and tell how to use a veterinary thermometer.

### How Lambs Digest Food

Perhaps you've heard that cows and sheep have four stomachs. Well, they do in a way. Actually, they have a stomach with four compartments. One of these compartments is called a rumen. Here, tiny bacteria break down forages like grass and hay. This gives cows and sheep the ability to eat and digest forages. This is why we call cows and sheep "ruminants."

Along with their four-part stomach, lambs have a small intestine, a large intestine, and a liver to help digest their food. Their hearts pump blood to all parts of their body, and lambs breathe with their lungs. These internal parts of a lamb's body are very important. They all must work

properly in order for the lamb to be healthy. If your lamb is not healthy, the organs and body systems will not function properly, and your lamb will not grow.

### What Makes Lambs Sick

Knowing a lamb's normal body temperature is important because the body temperature goes up if the lamb gets sick. A higher temperature is a sure sign that your lamb is not feeling well. The normal body temperature for people is 98.6°F. The normal body temperature for lambs is 102.3°F. However, if a lamb's temperature is between 100.9°F and 103.8°F, it is normal. A veterinarian may ask for your lamb's temperature if you call when your lamb acts sick.

You should learn to use a veterinary thermometer to take your lamb's temperature. Use one that has a loop on the end. Tie a string through the loop so the thermometer will not be easy to "lose" inside the lamb. Put a clip on the other end of the string so you can clip the string to the lamb's wool. To take the lamb's temperature, place the thermometer into the lamb's rectum and leave it there about three minutes before taking it out and reading it.

A healthy lamb will eat when it is offered grain, either once or twice a day. If your lamb is not eating or drinking, it may be sick. There are three main ways that lambs can get sick. First, lambs get *diarrhea*. This affects the digestive system. Runny feces with a strong smell are characteristics of diarrhea. It is very important to

realize that the organisms that cause loose manure are contained in the diarrhea, so it is necessary to keep the pen clean. Dirty pens and equipment, contaminated water, and sick animals themselves can spread bacteria and germs that cause disease.

*Coccidiosis* sometimes causes lambs to get diarrhea. *Coccidia* are actually tiny parasites found in the intestines of infected sheep. Lambs can be fed coccidiostats to prevent coccidiosis.

Lambs with diarrhea can dehydrate very quickly. If you notice that your lamb has diarrhea, get help from an adult and try to remember when the diarrhea started.

The second kind of major health problem is *respiratory diseases*, or those related to the lamb's breathing. This problem affects the lungs, throat, and nose. The easiest way to know if your lamb has such problems is by hearing it cough, sneeze, or have trouble breathing. The biggest cause of respiratory problems is poor ventilation. The lamb is not getting enough fresh air. Germs are carried through the air or are picked up through nose-to-nose contact. Again, if you see any of these problems, ask your parent or leader for help.

Another health problem for lambs is *internal and external parasites*. Parasites affect the digestive system or the skin. *Worms* are the main kinds of internal parasites. There are many different types of worms: they come in different shapes and sizes. Some are only visible with a microscope, while others are large and look like spaghetti. Although worms rarely kill lambs, they can severely reduce a lamb's growth rate and cause it to lose body condition. Worms consume feed nutrients that lambs should be using to

grow. Sometimes you may not know that your lamb has internal parasites. Talk to your veterinarian or leader about a routine worming program for your market lambs.

*Lice* and *ticks* are the two kinds of external parasites that can affect lambs. The main thing these parasites do is drink the lamb's blood, which can make your lamb weak. To recognize lice, check under your lamb's flanks to see if you spot any tiny insects. Several treatments are available for ticks and lice. Ask your parent or leader for help if you spot either of these pests.

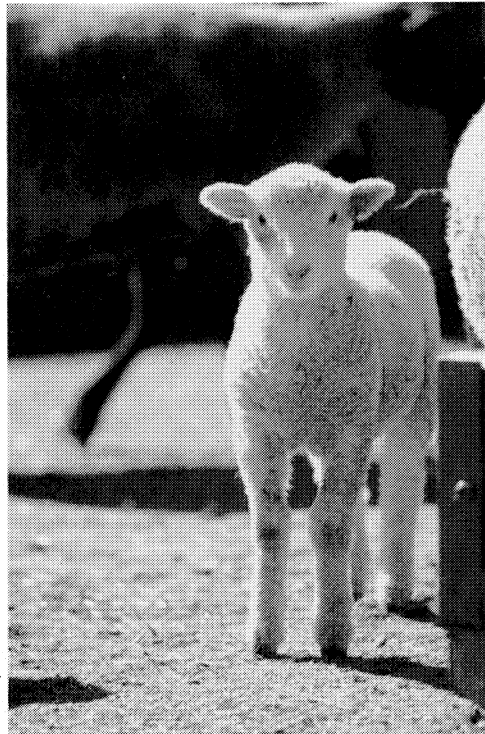
Another health problem that commonly affects market lambs is *sore mouth*. Lambs with sore mouth develop scabs around their lips and mouth. Lambs don't want to eat very much when they have a case of sore mouth. If you see scabs

around the mouth of your lamb, let an adult know as soon as possible. Sore mouth is contagious to humans, so be especially careful when handling lambs with sore mouth.

*Foot rot* is a disease caused by bacteria invading the soft tissue of the hoof. It causes tissue decay and smells very bad. Lambs usually develop a limp. Foot rot can be treated by trimming hooves, using foot baths, and moving lambs to an uninfected area. Overgrown hooves also can cause lambs to limp. Be sure to trim hooves regularly.

In addition to the health problems listed above, it is important for you to know that lambs can get many other

diseases. Such diseases may be contagious and passed from lamb to lamb and from herd to herd. Therefore, to maintain "biosecurity" (a disease-free environment), it is suggested that you do the following:





- Isolate new animals for at least ten days after bringing them home.
- Place a foot bath with disinfectant at the entrance to your barn, or wear disposable boots.
- Avoid wearing the same clothes from farm to farm.
- Don't allow people who recently have been around other sheep to be near your lambs.

The most important thing to do to keep your lamb healthy is to keep the lamb and the pen clean. Also, make sure the lamb is comfortable. Get help from an adult if you think your lamb is sick.

### Words You Should Know

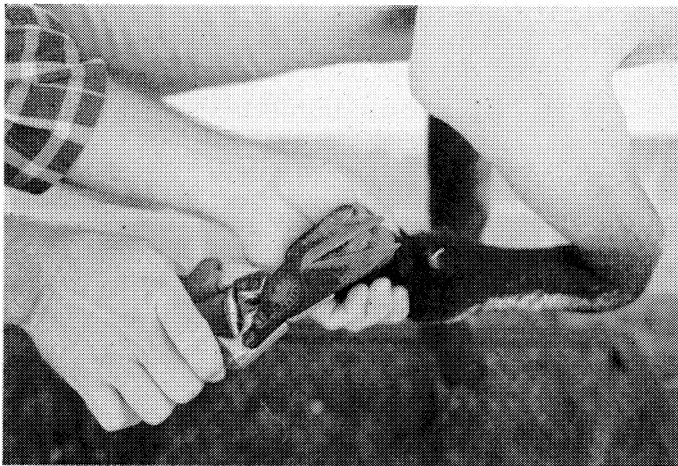
**Ruminant:** An animal that has a four-part stomach, allowing it to digest forages.

**Parasite:** A living being that lives and gets its food in or on another living being, called a host.

**External parasites:** Those parasites causing problems on the outside of the lamb, such as lice and ticks.

**Internal parasites:** Those parasites causing problems on the inside of the lamb, such as worms.

**Biosecurity:** Practices to keep your lambs from catching diseases from other lambs, people, or the environment.



Trimming a lamb's hoof

### Suggested Activities

- Name the three main things that cause lambs to get sick.
- Describe at least four signs to look for to recognize a sick lamb.
- Show or tell the proper way to use a veterinary thermometer to measure a lamb's temperature.
- Keep a journal or barn chart about your lamb's health.
- Find out what veterinary examinations and documents are needed to show a lamb at a state show, such as the Pennsylvania Farm Show.

### Extra Activities to Try

- Observe your lamb's behavior to see if it is eating, drinking, and breathing properly.
- Observe your lamb's urine and feces to see if they look normal.
- Have your parent or project leader check to see if the ventilation in your lamb's pen is okay.
- Check under your lamb's flank to see if it has ticks or lice.
- Visit a local veterinarian. Ask to see internal parasites under a microscope.
- Travel with a veterinarian and watch him or her examine a sick lamb.
- Deworm your lamb shortly after you buy it, and after it reaches 100 pounds if it is in an outside lot.
- Set up a health plan for your herd.

### Ideas for Presentations and Speeches

- The normal lamb
- Health problems that lambs can have
- How to keep my lamb healthy and happy
- Parasites and how to control them
- Biosecurity practices

### Things to Talk About

- What steps should you take to keep your lamb healthy?
- What should you do if your lamb gets sick?
- What are the three main health problems lambs can have?
- How does a healthy lamb act?



## Quality Assurance



Because you have a 4-H market lamb project, you are a sheep producer. All sheep producers are linked to the human food chain because they produce meat for people to eat. It is your responsibility that the lamb you produce is wholesome and safe.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Name two ways antibiotics can be given to lambs.
2. Tell why it is important to handle lambs carefully.
3. List three things consumers evaluate before buying fresh lamb.

### Antibiotic Use

Things you do to a live lamb can affect the safety of the meat it produces. One such practice that can produce unsafe meat is feeding or injecting lambs with antibiotics. Antibiotics in lamb feed make lambs grow faster and more efficiently. Both injectable and feed-grade antibiotics can help them get over being sick. If the lamb is slaughtered before the antibiotics have had time to clear the lamb's system, however, the meat produced by the treated lamb could contain antibiotic residues. Antibiotic residues are illegal and can be a public health hazard.

All antibiotics have an approved withdrawal time. This time is the minimum time that must

pass between when the antibiotic is given to the lamb and slaughter. This time period allows the antibiotic to clear the lamb's system. Some antibiotics have short withdrawal times, and some have long ones. It is up to you as a sheep producer to make sure you observe the proper withdrawal times for any antibiotics given to your lambs.

The withdrawal times for medicated feeds (feeds containing antibiotics) are printed on the feed tag. For safety's sake, the feed you give to your lamb for the last month or so of the feeding period should be completely free of medications. Check tags of medicated feeds fed earlier in the lamb's life, because some feed-grade medications have long withdrawal periods. If you give your lambs medicated feed, write down what medication was fed, the level of medication in the feed, and the dates when you started and stopped feeding it.

Injectable antibiotics should be used only when a lamb is sick, and then only under the supervision of a veterinarian. If you must treat a sick lamb, ask your veterinarian what withdrawal times must be observed. Record any injections given, to which lamb it was given, the date, and where you injected the lamb. All intramuscular (in the muscle) injections should be given in the neck muscle. Subcutaneous (under the skin) injections should be given in the fore or rear flank.

### Live Animal Treatment

The way you physically treat live lambs also can affect lamb quality. If you handle lambs roughly, they could have bruises that will show up on the carcass after slaughter. Bruised meat must be cut off and thrown away, lowering the value of the carcass. To avoid bruised carcasses, be especially careful when loading and unloading lambs. Never hit a lamb hard with a solid object. Also check pens, trucks, and alleyways for sharp or protruding objects that could puncture or bruise the lamb.

### Meat Quality

Meat quality is how good lamb looks and tastes to the people who eat it. Consumers look at color, leanness, and marbling in fresh lamb cuts. Color should be light red. The outside of a lamb cut should be trimmed of nearly all fat, but there should be flakes of visible fat sprinkled in the lean portion of the cut. These fat sprinklings are called marbling. Usually, the more marbling that is present, the juicier and more flavorful the lamb will be. Go to a grocery store and look at packages of fresh lamb chops to observe differences in marbling and color.

Marbling is controlled by genetics and feeding. The amount of fat remaining on the outside of fresh lamb is determined mostly by the person doing the trimming. However, lamb producers can help ensure that lamb cuts are the correct color.

If lambs are stressed in the few hours before slaughter, they stand a greater chance of producing off-color meat. Therefore, lambs should be handled carefully and calmly and should not be allowed to overheat. Also, lambs should be rested for several hours after unloading at the slaughter plant before being killed.

### Lamb Quality Assurance

Although there is not a national program for certifying sheep producers for quality assurance, it is up to you as a producer of market lambs to ensure that the lambs you raise are healthy, wholesome, and safe for consumption.

### Words You Should Know

**Antibiotic:** Substance fed or injected to improve growth rate or treat disease.

**Marbling:** Flakes of fat in lean meat.

**Quality assurance:** Assurance to the consumer that meat is safe and wholesome.

**Withdrawal time:** The minimum time that must pass between when an antibiotic or vaccination is given to a lamb and the lamb's slaughter.

### Suggested Activities

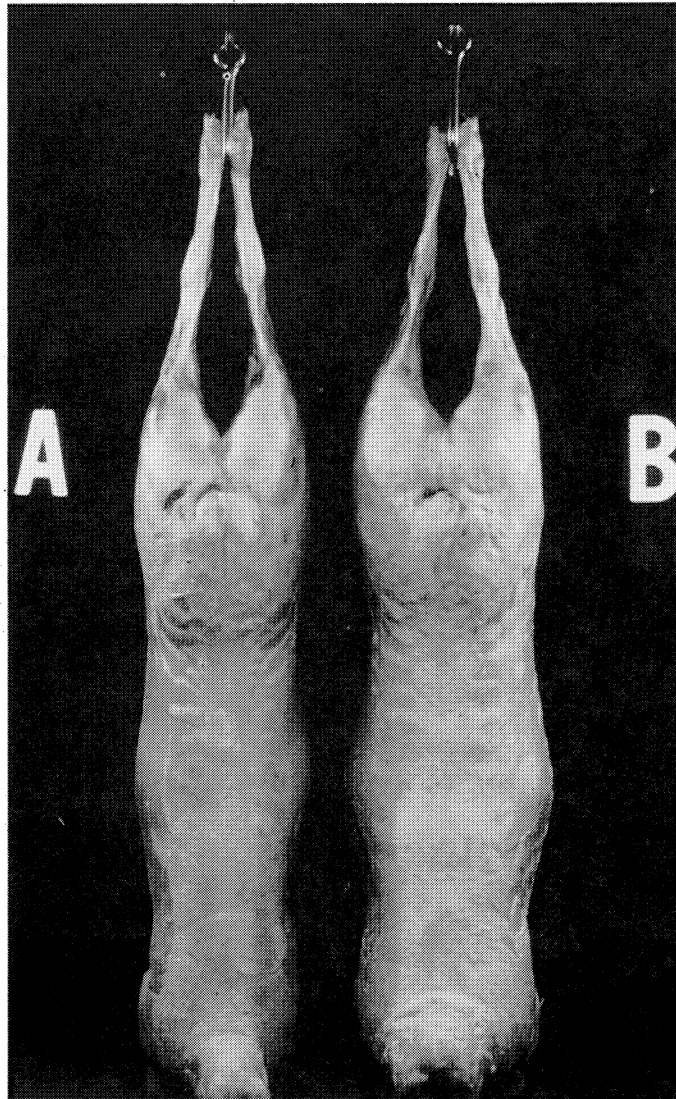
- Visit a grocery store and note differences in lamb quality, trimness, and the variety of lamb cuts offered compared to other meats.
- Ask local lamb producers what steps they take to ensure lamb quality.

### Ideas for Presentations and Talks

- Factors affecting lamb quality
- Identifying high-quality lamb in the supermarket

### Things to Talk About

- How do you ensure the meat from your lambs will be of high quality?
- What are some different definitions of lamb quality?



**Lamb carcass B is obviously more heavily muscled than lamb carcass A.**



# 10

## *The Roundup*



At the start of your market lamb project, decide if you are going to show your lamb in a livestock show or roundup. If so, you need to plan and prepare for the show.

### **Objectives**

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Plan for a sheep show from start to finish.
2. Prepare a lamb for show.
3. Acquire basic equipment needed to show a lamb.
4. Understand the basics of being a good show person.
5. Understand basic concepts of good sportsmanship.

### **Why Show Your Lamb?**

Showing your lamb has several benefits. You will learn a lot about yourself and your lamb. You are sure to learn how to be patient with your animal! Most 4-H'ers enjoy the fun and excitement of friendly competition in a show ring. Showing your lamb also will give you a chance to compare your project animal to those of other 4-H'ers.

If you plan to show your lamb, the first thing you need to do is obtain a copy of the rules and regulations for the show you want to enter. This will give you the proper dates to go by and information about the show, including prize money you could win. Where you want to show your lamb will affect where and when you

should buy your 4-H project lamb. The show rules also will tell you the following information:

- Entry forms needed
- Animal health regulations and papers needed
- Required identification (some counties require a weigh-in at the beginning of the project)

Besides continuing to feed, water, and keep your lamb clean, there are several items you need to prepare for before the roundup.

### **Ethics**

Ethics are "doing the right thing." It is your responsibility to behave ethically before and during the roundup. Things you do or say, and the way you behave toward your animals and other participants, reflect directly on the public's perception of agriculture. Many counties require roundup participants to sign the following "code of ethics" before the roundup. This code outlines ethically responsible behavior and practices, and has been used at the Pennsylvania Farm Show. It may be changed or updated, so make sure you have the most up-to-date copy available. Read the code and ask your leader to explain anything you don't understand. Ask yourself if you have followed the code of ethics while raising your lamb.

### **What Do You Need to Do and Have?**

You should start preparing for the roundup at least a month in advance. Be sure your entries are submitted well before the entry deadline. Sched-

ule a veterinarian to observe your lambs and write health papers within 90 days of the show. Arrange trucking to get your lamb to the roundup.

You probably will have to buy or borrow some equipment in order to fit and show your lamb. You will need:

- Health papers
- Proof of entry
- Project record book completed to date
- Water and a hose
- Feed pan or trough
- Bucket
- Bedding (if not provided at the roundup)
- Feed
- Pitchfork
- Clean rags
- Rice root brush
- Livestock soap
- Blocking or trimming stand
- Electric shears
- Extension cord
- Spray bottle to wet your sheep during trimming
- Metal curry comb
- Small and large wool cards
- Hand shears
- Hoof trimmers
- Sheep blankets, hoods, and blanket pins
- Show clothes (check show rules for what to wear)

### Loading and Unloading Lambs

Well before the date of the roundup, arrange to have someone truck your lamb to the roundup site. The vehicle (truck or trailer) used to transport lambs should be well constructed, well ventilated, and properly bedded to keep lambs comfortable. Check that the flooring is not slippery when it gets wet. Give some thought to how you will load the lambs. Do you have a place (ramp) that the lambs can use to walk onto the vehicle? Do you have adequate gates or panels to close off escape holes?



Gates can be used to confine lambs before loading.

If your lambs are halterbroken, you may be able to simply lead them onto the truck. Otherwise, loading works best if taken at a slow pace so that lambs have time to look around and decide that the truck or trailer isn't such a bad place to be. Use hurdles and gates to confine lambs to a small area. Give them no choice but to go onto the vehicle. If lambs refuse to walk on to the transport vehicle, they sometimes can be lured on with feed. If all else fails, find a strong person to lift your lambs onto the vehicle. Remember, the calmer you and the lambs are during the whole loading process, the easier it will go.

When you arrive at the roundup, there should be a ramp or other means to get lambs unloaded. Lambs also can be lifted from the truck to the ground. Never drop lambs from a truck tailgate to ground level.

After unloading, your lamb most likely will be weighed and tagged. Your leader or extension agent may check your project record book, so be sure it is up to date. Roundup officials will divide the classes based on lamb breed and/or weight and post the classes before the show begins.

Pen your lamb in its assigned pen, and feed and water it as soon as possible after unloading. Feed only a portion of the normal diet to avoid your lamb's getting scours. Make sure lambs can't reach a bale of hay or straw, because they will fill their bellies with the forage and will look big-middled and unbalanced on show day. Make

sure your lamb has access to shade. If your pen has a sunny exposure, you may have to hang a tarp to provide shade. You are now ready to begin the final preparations for the show.

### Showing Your Lamb

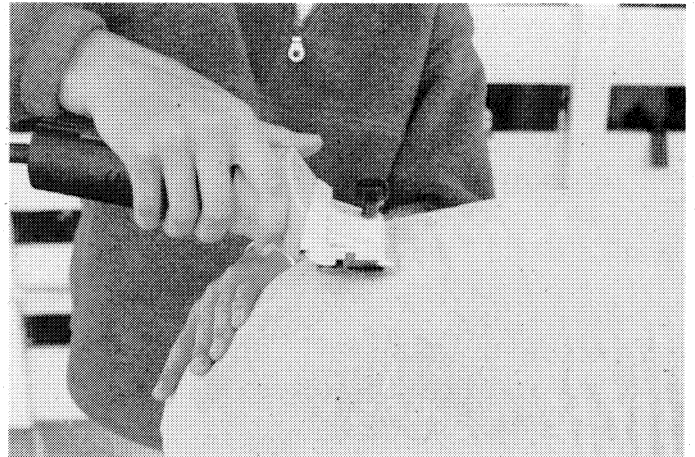
Showing a lamb is fairly easy. The best way to learn to show a lamb is by watching someone else do it. Work with an experienced show person, such as another 4-H'er in your club. He or she could practice with you, and could show you how to move and show the lamb the way you will need to.

At the show, you will be asked to lead your lamb into the show ring with other show persons and their lambs. Your job is to set up the lamb with its four feet positioned squarely underneath the body, then pay attention to the judge while keeping the lamb between you and the judge.

What will the judge be looking for in you and your lamb? There may be three things:

- Type or conformation—how similar the lamb is to the ideal animal for its purpose. For example, a class of market lambs would be judged on their degree of finish, meatiness, and structure.
- Showing—how well the show person controls and presents the animal.
- Fitting—how well the animal is cleaned and groomed.

As the roundup approaches, practice catching, leading, and setting up your lamb. Lambs can be caught by grabbing the loose skin of the rear flank with one hand and placing the other hand under the lamb's jaw. Practice leading your lamb around the pen with your left hand under the jaw, and the right hand on the dock to push the lamb. If the lamb does not need to be urged to walk, you can place your right hand behind the lamb's ears. Practice stopping and setting up the lamb at specific places in the pen. Holding your left hand under the jaw, place the rear foot closest to the judge squarely under the lamb's body. Follow by placing the other rear foot, then the front feet starting with the foot closest to the judge. Space the rear feet slightly wider than the



Slick-shearing a market lamb

front feet to make the lamb look wider and more muscular from the rear. For best control while placing the feet, lean over the top of the lamb. If you aren't tall enough to reach over the lamb, however, you may reach under it.

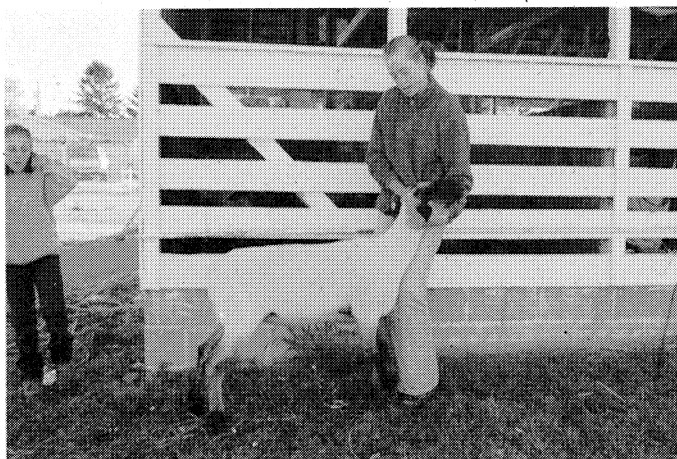
After placing the feet, you may kneel down by the lamb's head if you feel you can maintain control of the lamb from that position. If you choose to kneel, judges prefer that you don't allow your knees to touch the ground. Most show persons can maintain better control of their lamb from a standing position. If the lamb moves its foot, gently reposition it. Never rest your hand on the lamb's back. Practice slowly moving in front of the lamb to the opposite side as if the judge were walking in front of the lamb.

Also practice "bracing" your lamb by standing directly in front of the lamb with both hands under the jawbone. Place your knee into the lamb's breast and lift gently. Don't bring the lamb's front feet off the ground. Bracing makes the lamb stiffen up and handle better to the judge. You'll only brace your lamb when the judge handles it during the show. Move the lamb to a different location and set it up again. Practice until moving, setting up, and bracing becomes second nature to both you and the lamb.

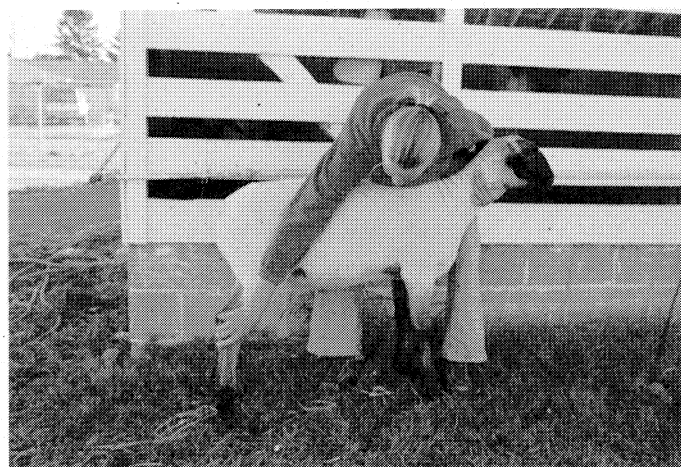
During the show, your job is to present the lamb to the judge. You'll need to be able to keep the lamb between you and the judge at all times except for a brief instant when the judge walks in



**A blanket can help keep your lamb clean at the roundup.**



**A properly braced lamb**



**Setting a rear foot**



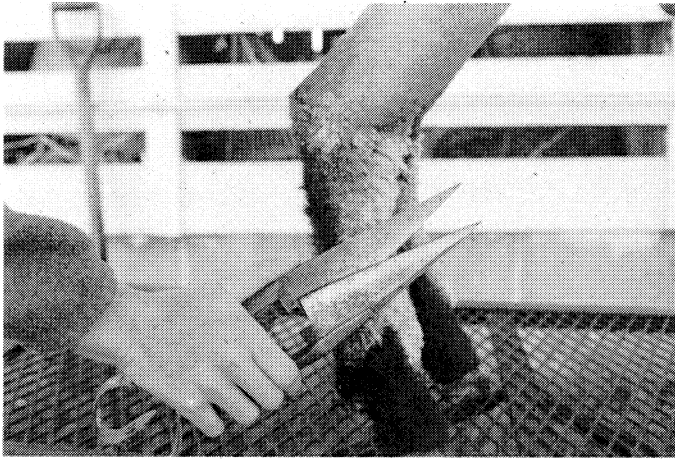
**Setting a front foot**

front of the lamb. You'll also need to be able to watch the lamb and the judge at the same time. In the show ring, set up your lamb even with the lamb ahead of you, allowing plenty of room between your lamb and the others in the class. If you can, place your lamb's front feet on a high spot in the ring. Lambs look better if posed with their front feet slightly higher than the rear feet. Set up your lamb and be ready to reposition yourself or your lamb if the judge moves in front of your lamb or handles your lamb. Pay attention to the judge and quickly and smoothly follow any instruction. Ask a parent, sister, or brother to act as a judge, and practice showing the lamb to them. If this is your first lamb, ask an experienced show person or your leader to demonstrate good showmanship and give you pointers.

On show day, make sure you and your lamb are both calm, well-rested, fed, and watered. When you enter your lamb in a show, you are also entering yourself. Keep yourself clean and neat, too. Wear clean clothes, clean boots or shoes, and brush your hair. Some shows have dress codes that must be followed. You should not wear a hat. Have your lamb up, clean, and ready when your class is called. Be prompt! If you have time, watch a few classes before you bring your lamb in, to see how the judge moves the class around from the time lambs enter the ring until they leave. Have someone help you get your lamb to the show ring and back to its pen after the class.

Always be courteous to other show persons in the class. Be pleasant and make eye contact





Proper use of hand shears



Cleaning a lamb's ears

with the judge at every opportunity. Immediately follow any instructions the judge may give. If the judge asks you to move your lamb or lead it around the ring, do so at once.

Halters have become a popular way to move and show market lambs. Training your lamb to become accustomed to a rope or leather halter requires some patience. Many successful market lamb exhibitors walk their lambs a mile or two each day for a month before the show. Walking serves to tone the lamb's muscles and make it handle better to the judge. It's OK to use a halter to make walking your lamb easier, but unless you are small and your lamb is big, it's better if you don't use a halter in the show ring.

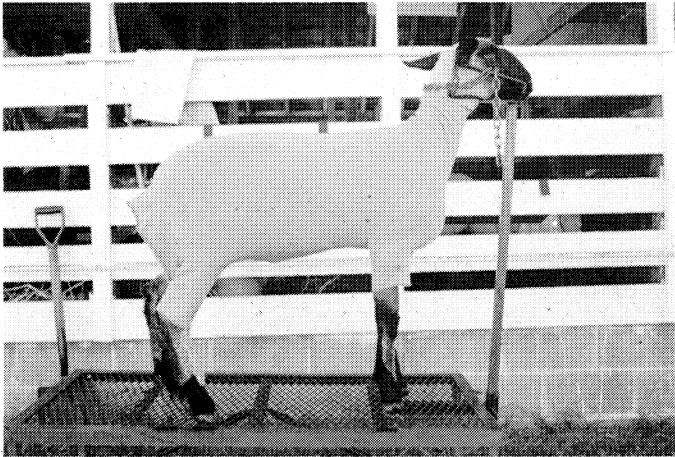
### Fitting Your Lamb

You want your lamb to look its best on show day, so start early. Trim your lamb's hooves two weeks before the show. That way if you happen to trim too closely, the lamb will have a chance to recover before the show. Hooves should be trimmed so that the outside edges are even with the bottom of the hoof. The tips of the hooves should be trimmed and rounded to blend in with the sides. If you've never trimmed a lamb's hooves before, have an older 4-H member or leader show you how.

You can wash your lamb on a blocking stand, or haltered to a solid object so it can't run away. Begin by loosening and removing all matted wool

and manure with a curry comb. Thoroughly wet your lamb with a hose. Be careful not to get water in its ears. After you wet your lamb, work in a small amount of livestock soap with your hands. Work the soap into all parts of the lamb's body. Be sure to wash the lamb's legs and under its flanks. Rinse the lamb well, making sure you get out all soap suds. Use a curry comb to brush out the majority of the water in the fleece, and dry your lamb with clean rags or towels. Cover your lamb with a sheep blanket to keep the fleece clean until show day, and return it to a clean pen. Change or wash the blanket if it gets dirty before the show. You may have to spot wash your lamb at the show to get rid of any accumulated stains.

Within a few days of the show, have your lamb shorn. You'll want to show your market lamb either completely slick shorn (some shows require market lambs to be shown slick shorn) or partially slick shorn with some wool remaining on the rump, dock, and leg for shaping and blocking. This small amount of remaining wool is called "butt wool." Butt wool can be shaped with hand trimmers to make the lamb's leg look more muscular and the dock appear more nearly level. Check show regulations concerning the amount of butt wool that can be present. Some shows require lambs to be shown with less than 1/2 inch of butt wool. If this is your first lamb, borrow a set of clippers from a more experienced show person and ask for help with clipping.



Lamb on a blocking stand

If you plan to show your lamb with butt wool, it will have to be trimmed with hand trimmers, smoothed, and blended. Wool must be carded before it is trimmed. Wool should be carded and trimmed when it is damp. To card wool, rest the teeth of the card against the wool and briskly pick the card back up. Carding serves to straighten and fluff the wool fibers, making it easier to smooth and trim unwanted wool. Use hand trimmers to shorten and shape butt wool to make the lamb look level docked and muscular. Place four fingers on one side of the hand trimmer handle and your thumb parallel to the handle on the other side. When trimming, keep your thumb still and move only the blade operated by the fingers. This takes practice! Keep the wool damp and recard the wool between passes with the hand trimmers. Carefully blend in the butt wool with the slick shorn portion of the lamb so you can't see a distinct line. Card and evenly trim the wool on the rear legs from the hock to the hoof. Clean your cards and apply oil to hand trimmer blades after trimming to keep them from rusting.

Make sure you know some information about your lamb, like when it was born and how much it weighs. The judge may ask you questions about how you fed and cared for your lamb.

On show day, feed your lamb a little less than usual. You want to make sure the lamb has the right amount of gut fill to look its best. Remove

the blanket and use a bucket of water and a brush to remove any stains from the lamb. Card the butt wool and rear leg wool from the hock down. Do any last-minute trimming. Next, clean underneath the lamb's flanks and inside the ears with a clean, damp rag. Clean any manure off the hooves. Immediately before your class is called, wipe any foreign matter off the nose, mouth, and eyes. Brush off any bedding attached to the lamb. Have your lamb at ringside when your class is called, and have fun!

### Being a Good Sport

Although everyone may deserve a blue ribbon, only one person can place first in a class. If you win a blue ribbon, be proud but don't show off. Accept congratulations with thanks and congratulate your fellow show persons. Even if you don't win a blue ribbon, remember to be proud of what you did accomplish. Most importantly, have fun and think about all the things you learned about yourself and about lambs while taking this project. Try again for a blue ribbon next year!

### Questions From the Public

You may be asked questions about your project by interested visitors to the show. If you are, be courteous, honest, and direct with your answers. Sometimes animal rights advocates attend livestock shows with the intent of creating a controversy worthy of news coverage. If you are approached by someone who accuses you of being cruel to your lamb, be polite, remain calm, answer what questions you can, and end the conversation as quickly as possible. Report the person to your parent or leader.

### The Sale

After the roundup, many counties hold a junior livestock sale where project lambs are sold. Often, lambs sold at junior livestock sales bring more than the current market price. Buyers may purchase lambs for many reasons—as advertisement for a business, as a “thank you” for doing business with them, as a source of freezer meat, or simply as a way to help young people. If you

participate in the sale, you—not your parents, leaders, or county agents—need to do some work ahead of time to ensure that your lamb will receive the best possible price.

First, find out the rules for your sale. How many lambs can you sell? What, if any, commissions are charged? Is there trucking available for buyers to send lambs to local custom butchers? Do buyers have to keep the lamb, or can they resell it? Many sales offer a buy-back program where, if a buyer does not want to keep the lamb, he or she pays only the difference between the actual bid and the current market value. Generally, a local packer or livestock market has agreed to pay the current market value for lambs bought, but not kept. Regardless of who takes your lamb home, you receive the final bid price. Therefore, it pays to contact as many potential buyers as possible about attending the sale and bidding on your lamb. The more bidders who are at the sale specifically to bid on your lamb, the more your lamb may sell for.

Begin by making a list of businesses in your area that may be potential buyers. Don't limit yourself to agricultural businesses. Restaurants, grocery stores, insurance companies, banks, lumber companies, trucking companies, and others support junior livestock sales in many areas. Next, compile a list of contact people for each of the businesses. Ask your parents, leaders, or neighbors if they know anyone who is employed by each of the businesses, preferably in a management position.

Next, make plans to contact each of the people on your list. Many 4-H'ers write letters asking for support at a junior livestock sale. Personal visits are better. Call the business and ask for a meeting with your contact person. At the meeting, be prepared to explain why you are asking for support, how buying at a Junior Livestock sale may benefit the contact person's business, and, if your county has a buy-back program, how it works. If your county has a buy-back program, make sure buyers realize they do not have to take the lamb home with them. Be sure to

note that any money they spend over and above the current market price is tax deductible. You may even have to explain how an auction works, so make sure you know!

Initial buyer contact should be made a month or so before the roundup. You should follow up with a phone call within a week of the sale to remind the buyers of the date, place, and time. Expect some people you contact to decline to participate. That's okay—at least you asked! Also, tell prospective buyers that most of all you want them to come and support the Junior Livestock sale. Second, you would like them to bid on your lamb.

On sale day, try to look up your buyers before the sale starts and thank them for coming. Immediately after the auctioneer pronounces your lamb "sold," listen carefully to who the buyer was. Put your lamb back in its pen then ask your leader or a sale clerk to point out the buyer in the crowd. Go find the buyer and personally thank him or her.

Within a week after the sale, send a thank-you note to the buyer and ask that he or she consider supporting the sale next year.

### Words You Should Know

**Fitting:** Cleaning, clipping, and preparing your animal for exhibition.

**Showing:** Exhibiting your animal in a show ring.

**Ethics:** Doing what is right.

**Sportsmanship:** Winning and losing gracefully.

### Suggested Activities

- Visit a sheep show to see how others show sheep.
- Attend a fitting and showing clinic.
- Train and fit a lamb for show.
- Show your lamb at a sheep show.
- Give a presentation or talk on how to fit and show a lamb.
- Discuss fitting and showing with an experienced show person.
- Make a poster to advertise your 4-H show or auction.

- Invite a person who is interested in 4-H to attend your 4-H show or auction.
- Write a thank-you note to the person who buys your lamb at a 4-H auction.
- On the following page, keep a list of the names and addresses of your buyers each year. Add pages if you need more space.

#### **Ideas for Presentations and Talks**

- How to prepare a lamb for show day
- Equipment needed to show a lamb

- How to fit a lamb
- Your experiences showing a lamb
- Contacting buyers for a sale

#### **Things to Talk About**

- What steps must you take if you want to show your lamb?
- How do you show a lamb in a ring?
- What equipment do you need to fit and show lambs.
- How does a good show person act?







## CODE OF ETHICS

Exhibitors of animals shall at all times deport themselves with honesty and good sportsmanship. Their conduct in the competitive environment shall always reflect the highest standards of honor and dignity to promote the advancement of agricultural education. This code applies to junior as well as open class exhibitors who compete in structured classes of competition. This code applies to all livestock offered in any event at the livestock show.

All youth leaders working with junior exhibitors are under an affirmative responsibility to do more than avoid improper conduct or questionable acts. Their moral values must be so certain and positive that those younger and more pliable will be influenced by their fine example. Owners, fitters, trainers, and absolutely responsible persons who violate the code of ethics will forfeit premiums, awards, and auction proceeds and may be prohibited from future exhibition. Exhibitors who violate this code of ethics demean the integrity of all livestock exhibitors and should be prohibited from competition at all livestock shows in the United States and Canada.

The following is a list of guidelines for all exhibitors and all livestock in competitive events:

1. All exhibitors must present, upon request of show officials, proof of ownership, length of ownership, and age of all animals entered. Misrepresentation of ownership, age, or any fact relating thereto is prohibited.

2. Owners, fitters, trainers, or absolutely responsible persons shall provide animal health certificates from licensed veterinarians upon request by show officials.

3. Junior exhibitors are expected to care for and groom their animals while at the show.

4. Animals shall be presented to show events where they will enter the food chain free of violative drug residues. The act of entering an animal in a livestock show is the giving of consent by the owners, fitters, trainers, and/or absolutely responsible persons for show management to obtain any specimens of urine, saliva, blood, or other substances from the animal to be used in testing. Animals not entered in an event which culminates with the animal entering the food chain shall not be administered drugs other than in accordance with applicable federal and state statutes, regulations, and rules. Livestock shall not be exhibited if the drugs administered in accordance with federal and state statutes, regulations and

rules affect the animal's performance or appearance in the event.

If the laboratory report of the analysis of saliva, urine, blood, or other sample taken from livestock indicates the presence of forbidden drugs or medication, this shall be prima facie evidence such substance has been administered to the animal either internally or externally. It is presumed that the sample of urine, saliva, blood or other substance tested by the approved laboratory to which it is sent is the one taken from the animal in question, its integrity is preserved, and all procedures of said collection and preservation, transfer to the laboratory, and analysis of the sample are correct and accurate and the report received from the laboratory pertains to the sample taken from the animal in question and correctly reflects the condition of the animal at the time the sample was taken, with the burden on the owner, exhibitor, fitter, trainer, or absolutely responsible person to prove otherwise.

At any time after the animal arrives on the show grounds, all treatments involving the use of drugs and/or medications for the sole purpose of protecting the health of the animal shall be administered by a licensed veterinarian.

5. Any surgical procedure or injection of any foreign substance or drug or the external application of any substance (irritant, counterirritant, or similar substance) which could affect the animal's performance or alter its natural contour, conformation, or appearance, except external applications of substances to the hooves or horns of animals which affect appearance only, and except for surgical procedures performed by a duly licensed veterinarian for the sole purpose of protecting the health of the animal, is prohibited.

6. The use of showing and/or handling practices or devices such as striking animals to cause swelling, using electrical contrivance, or other similar practices are not acceptable and are prohibited.

7. Direct interference with the judge, show management, other exhibitors, breed representatives, or show officials before, during or after the competitive event is prohibited. In furtherance with their official duty, all judges, show management, or other show officials shall be treated with courtesy, cooperation, and respect and no person shall direct abuse or threatening conduct toward them.

8. No owner, exhibitor, fitter, trainer, or absolutely responsible person shall conspire with another person or persons to intentionally violate this code of ethics or knowingly contrib-

ute or cooperate with another person or persons either by affirmative action or inaction to violate this code of ethics.

9. The application of this code of ethics provides for absolute responsibility for the animal's condition by an owner exhibitor, fitter, trainer, or participant whether or not he or she was actually instrumental in or had actual knowledge of the treatment of the animal in contravention of this code of ethics.

10. The act of entering an animal is giving consent by the owner, exhibitor, fitter, trainer, or absolutely responsible person to have disciplinary action taken by the show management for violation of this code of ethics. The act of entering an animal is giving consent that any proceedings or disciplinary action taken by the show management may be published with the name of the violator or violators in any publication of the International Association of Fairs and Expositions, including Fairs and Expositions and any special notices to members.

11. The act of entering of an animal in the show is the giving of verification by the owner, exhibitor, fitter, trainer, or absolutely responsible person that he or she has read this code of ethics and understands the consequences and penalties provided for actions prohibited by the code. It is further a consent that any action which contravenes these rules and is in violation of federal and state

statutes, regulations, or rules may be released to appropriate law enforcement authorities with jurisdiction over such infractions.

# 11

## Keeping 4-H Records



When you write down something that you did or something that happened, you are keeping a record. Records help you remember important information.

Records can prove what was done, who did it, and how much money it cost to do it. When you grow up, you will need records so you can pay taxes, borrow money, buy a house, or apply for a job. Keeping good 4-H records may help you to win an award or college scholarship.

### Objectives

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Explain why people keep records.
2. List the kinds of records 4-H members with sheep projects should keep.
3. Set up a record-keeping system for your sheep project.
4. Complete your 4-H project record book.

### Why Keep Records?

Records are used to prove what was done and to help make decisions. Good records can tell you if your lambs are costing or earning you money. They can be used to tell you if your lambs are growing as fast as they are supposed to. They can be used to identify health or nutritional problems. Records are an important part of all 4-H livestock projects.

### Kinds of Records

Several kinds of records should be kept by 4-H members who raise market lambs. These are:

- financial records
- animal performance records
- animal production records
- records of management practices used
- records of participation in training, activities, and events

### Financial Records

Financial records tell you about the value of what you own and how much money you spent and received. Your records should include these kinds of financial information:

1. *Inventories of animals and equipment.* These are lists of how many animals or pieces of equipment you owned and what they were worth when your project started and ended. If you are required to turn in your 4-H record before you have sold some of your animals, you will need to estimate what they are worth on the day your record ends. You may get a high price when you sell animals at a 4-H auction, but it's a good idea to use real-world prices to estimate what your animals are worth. Look in farm newspapers and magazines to find out prices of animals at nearby markets.

2. *Expenses.* These are amounts of money spent to buy animals and the things used to care for them. Include costs of feed, supplies, equipment, animals, and veterinary care. Feed costs



should include costs of all feed eaten, not just the feed you buy. Farm-grown pastures and feeds cost money to grow and could have been sold to someone else. They are not "free" when your animals eat them.

Your parents and leaders can help you estimate what they are worth.

3. *Income.* This is money received from selling animals, animal products, and other things related to your project. It also should include premiums won at shows. If your income is more than your expenses, you have made a profit. If your expenses are more than your income, you have a loss.

#### **Animal Performance Records**

Animal performance records track how individual animals grow and use their feed. In order to keep performance records, animals need to be identified with ear tags. Write down the identification number, date of birth, and sire and dam of each lamb, if these are known. Some examples of performance records are weights, average daily gain, amounts of feed eaten, and efficiency of feed conversion.

*Weights* can be measured using a scale. Some counties have a day when they weigh and identify lambs at the start of a 4-H project. Good times to weigh lambs are when you buy them and sell them, or when you will be doing other things to your lambs, such as deworming or vaccinating them. You should know how much your lambs weigh to calculate the dosage for some dewormers or medicines. Record the weight of your lamb at each weighing.

*Average daily gain* can be calculated if you

weigh your animals more than once. Subtract the first weight from the second to calculate pounds gained. Calculate average daily gain by dividing pounds gained by the number of days between

the first and second weighing. You should do this every month or so to see if your lamb is gaining as fast as it should.

*Feed intake* can be calculated if you keep track of what kind of feed and how much feed you give to each animal or group of animals. When you buy or mix feed, write down the

date, cost, weight, and kind of feed bought. If you mix feed at home, write down the amount of each ingredient mixed.

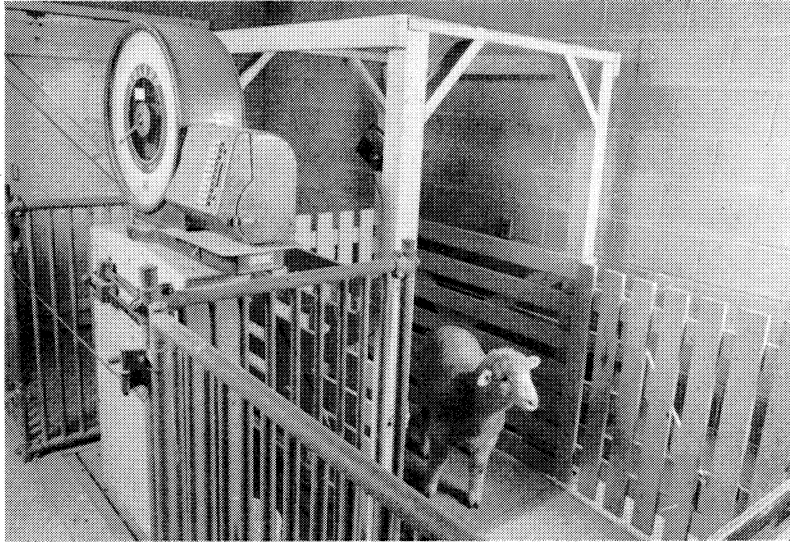
*Efficiency of feed conversion* can be calculated if you know how many pounds of feed your animals ate between weighings. You can calculate the efficiency of feed conversion by dividing the pounds of feed eaten by the pounds of weight gained.

On the next page are some average market lamb performance traits. Compare the performance of your lambs with the averages.

These guidelines are not based on any particular resource. They are simply a summary of the performance of "average" lambs. Your lambs' performance will vary depending on genetics, your management ability, and your facilities. Most lambs should fall within the ranges indicated.

#### **Animal Production Records**

Animal production records show how many lambs or other products are produced by an animal. They include dates when a ewe lambs and her lambs are weaned. They also may



## MARKET LAMB PERFORMANCE TRAITS

<b>Feed consumed per day</b>	<b>Average</b>	<b>Range</b>
50-pound lamb	1.8 pounds	1.5–2 pounds
90-pound lamb	3.2 pounds	2.7–3.6 pounds
120-pound lamb	4.2 pounds	3.6–4.8 pounds
Feed eaten per pound of weight gain	4.0 pounds	3–5 pounds
Total feed required from 50–115 pounds	260 pounds	195–325 pounds
Average daily gain from 50–115 pounds	.7 pounds/day	.5–1.0 pounds/day

<b>Carcass Traits</b>	<b>Average</b>	<b>Range</b>
Slaughter weight	115 pounds	90–140 pounds
Twelfth rib backfat	.15 inch	.005–.5 inch
Ribeye area (12th rib)	2.8 square inches	1.5–4.0 square inches
Yield (dressing percent)	50.0%	46–58%

*Some performance traits of breeding sheep are listed below. Although they don't deal specifically with your project, you need to know some of these numbers.*

<b>Breeding Sheep Performance Traits</b>	<b>Average</b>	<b>Range</b>
Gestation length	147 days	143–152 days
Length of estrous cycle	17 days	14–19 days
Age at first estrus	5 months	4–7 months
Weight at first estrus	90 pounds	80–100 pounds
Length of estrus (heat)	32 hours	20–42 hours
Weaning age	60 days	40–90 days

include the performance of her lambs. Other production records kept for animals include amounts of milk, wool, or eggs produced. Since market lambs don't produce any products other than their carcasses at slaughter, you won't need to keep any production records for market lambs.

Below is an example of an animal production record associated with breeding sheep. Can you think of others?

	<i>Average</i>	<i>Range</i>
Live lambs born per ewe	2	1-4

### **Management Practice Records**

Write down the things that you do to care for your animals. Also write down when, how, and why you do them, and which animals were involved.

Keep records of dates when you buy and sell lambs, or when a lamb dies. Other dates to write down are dates when lambs are sick, dewormed, or vaccinated. If you treat an animal with a medicine or vaccine, write down the name of the product, how much was given, which lamb(s) you treated, and why you treated the animal. These records are important for lamb quality assurance.

### **Your 4-H Accomplishment Records**

In addition to the records you will keep about what you do with your sheep, there are some other kinds of records you should keep when you are in 4-H. These include:

- Activities in which you participated, such as camps, contests, and achievement programs
- Special skills and knowledge you learned
- 4-H accomplishments, such as projects completed and things you made
- Offices and other leadership roles you held
- Awards you or your lambs received

### **Words You Should Know**

**Financial:** Related to money.

**Income:** Money someone else pays to you.

**Expenses:** Money you pay to someone else when you buy something or pay someone to do work for you.

**Profit:** Money you keep when your income is more than your expenses.

**Loss:** Money you lose when your expenses are more than your income.

### **Suggested Activities**

- With your parent or club leader, discuss records you should keep and how to keep them.
- Keep a diary or barn chart that lists dates when you do something with your animals. Be sure to include who was involved, what happened, and when, where, why, and how it happened.
- Complete a 4-H Animal Project Record for Beginners or 4-H Livestock Record for Intermediate and Advanced Projects.
- Weigh a project animal more than once. Calculate how much it gained and its average daily gain. Compare with the listed averages.

### **Extra Activities to Try**

- Discuss how to use your records to make decisions about management of your project. Do this with your leaders and members of your club.
- Calculate the efficiency of feed conversion of your lambs. Compare with the listed averages.

### **Ideas for Presentations or Talks**

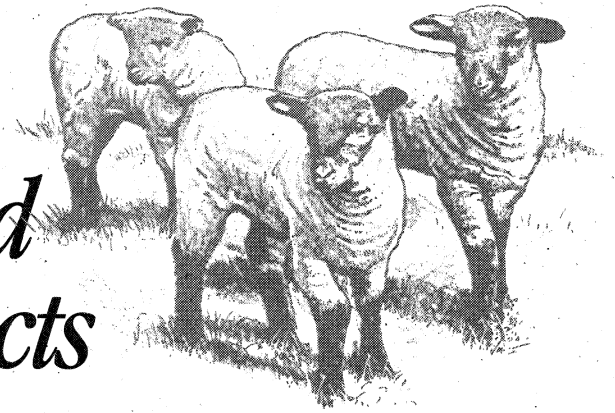
- Kinds of records to keep on your lambs
- How to fill out a sheep project record
- How to calculate profit and loss
- Why records are important

### **Things to Talk About**

- Why do people keep records?
- What kinds of records should 4-H members keep?
- What kind of information belongs in your 4-H market lamb record?
- How can you use your 4-H market lamb records to make decisions about how to better manage your animals?

# 12

## *Meat, Wool, and By-Products*



Sheep have provided people with valuable meat and wool since before history was written. Most of us can find examples of some of those products in our own homes.

### **Objectives**

After studying the materials and completing the suggested activities for this section of your project, you should be able to:

1. Explain what lamb, mutton, and wool are.
2. Tell what a nutrient is.
3. Name some of the nutrients people get from eating lamb and a use for each in the human body.
4. Describe the basic steps of processing wool from fleece to fabric.
5. Name some of the by-products that come from sheep.

### **Lamb**

Meat is the flesh of an animal after it has been killed. Meat is mostly muscle, but also contains bone and fat. People prefer to cook and eat the muscle, which is the lean part of meat. The bone and fat can be removed and thrown away before or after cooking.

Two kinds of meat come from sheep. The meat of young sheep, usually under one year old, is called lamb. Meat from older sheep is called mutton. Lamb usually tastes milder and is more tender than mutton, so it is worth more money.

People eat lamb because it tastes good and provides their bodies with nutrients, the neces-

sary chemicals in foods that humans and animals use to help support life. Meats provide nutrients such as water, protein, fat, vitamins, and minerals. Water helps move other nutrients through the body. Protein can be used to make and repair muscles. Fat provides energy. Vitamins and minerals are important to bone formation and help make the body work right. Lamb is a very good source of protein, energy, and some vitamins and minerals. Thiamin, niacin, and riboflavin are important vitamins in lamb. Lamb doesn't provide all the nutrients people need, so we need to eat other kinds of food, too.

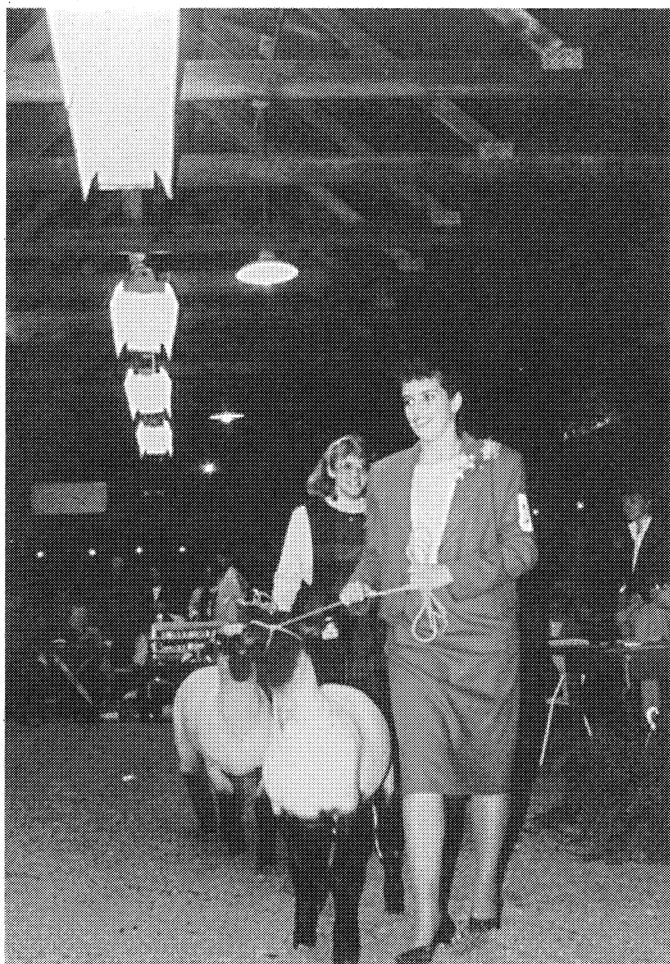
Cuts of meat from different parts of an animal's body have different names. After sheep are slaughtered, their carcasses are chilled and cut into large pieces called wholesale or primal cuts. These are specially packaged, kept refrigerated, and shipped to supermarkets. In supermarkets, they are cut into smaller pieces of meat that are ready to sell to customers. Thin pieces of lamb loin are called chops. Large, thick pieces from the shoulder or leg are called roasts. Lamb also can be ground up and made into lamb burger.

### **Wool**

The soft, special kind of hair that sheep grow is called wool. When wool is removed from a sheep (usually once each year) it is called a fleece.

Wool fibers are strong and make exceptionally warm clothing. Wool has the ability to stretch and then return to its original shape. Clothing made from wool can feel good in both cold and





Lead-line competitions showcase both lambs and wool clothing.

warm weather because wool absorbs water and lets air in and out. Wool is considered a fire retardant because it does not burn easily.

Wool is removed from the sheep during shearing. Trained sheep shearers using special clippers remove the wool from breeding sheep once per year when the wool is three to four inches long. Wool also can be clipped from the pelts of slaughtered sheep. Wool from the first shearing of a lamb is especially valuable and is called lamb's wool. After shearing, fleeces are "skirted" to remove low-quality or extremely dirty wool, tied with paper twine, and packed in large bags. Because of the small amount and short length of the wool shorn from your market lamb, it is not very valuable.

Fleeces are used to make yarns and threads. Yarn can be knitted or crocheted to make sweaters, or woven to make fabrics for clothing.

Before wool can be made into yarn, it is scoured (washed) to remove dirt and the natural grease called lanolin. Clean wool is carded to straighten the wool fibers. Long fibers are then combed. Yarn is made by spinning the carded or combed wool. Combed wool can be spun into a thinner, finer yarn than wool that is too short to comb. Yarn is then woven to make fabric, which can be cut and sewn to make clothing. Often, wool is colored with dye before spinning. Black wool can not be dyed.

#### **Other Products from Sheep**

Sheep's milk can be made into special kinds of cheeses. Lanolin from wool is used to make cosmetics and hand lotions. Pelts can be used to make seat covers, bed pads, rugs, and slippers. Some of the natural chemicals from the sheep's body have medical uses.

#### **Words to Learn**

**Processing:** The act of cutting carcasses and making them into products that can be sold.

**Nutrients:** Chemicals in foods that humans and animals use to help support life.

**Protein:** A complex nutrient the body uses to make muscle.

**Vitamins:** Nutrients needed in very small amounts to help the body work properly.

**Lamb:** Meat from sheep under one year of age.

**Mutton:** Meat from sheep over one year of age.

**Wool:** Soft, strong "hair" from sheep.

**Fleece:** The wool from a single sheep.

**Skirting:** Removing dirty, low-quality wool from the fleece.

**Pelt:** The hide and attached wool from a slaughtered sheep.

**Shearing:** The process of removing a sheep's fleece.

**Lanolin:** The natural grease in a fleece.

**Suggested Activities**

- Name four or more of the nutrients people get from eating lamb. List a use for each in the human body.
- Make a list of by-products that come from sheep. Prepare a poster showing pictures of many of those products.
- Make a list of the benefits people get from eating lamb products. Prepare a poster, display, or advertisement to share this information with your club or a market lamb buyer.
- Act out a skit or pretend you are making a radio or television commercial to tell people about lamb. For fun, have your parent or leader tape record or videotape your commercial.
- Write a letter to a person you want to buy your market lamb. Tell why he or she should buy and eat lamb or use wool.
- Help a sheep shearer remove, skirt, and tie a fleece.

**Extra Activities to Try**

- Visit a grocery store or look through the cabinets and refrigerator in your home to find products that come from sheep. Make a list and share it with your parent or leader. Don't forget to include products made with sheep by-products.
- Prepare a favorite recipe that includes lamb and serve it to your friends or family.
- Have a tasting party or picnic with your club. Bring foods made from different lamb products.
- Make a poster showing the steps a fleece goes through to become fabric.
- Enter a lead-line competition.

**Ideas for Presentations and Talks**

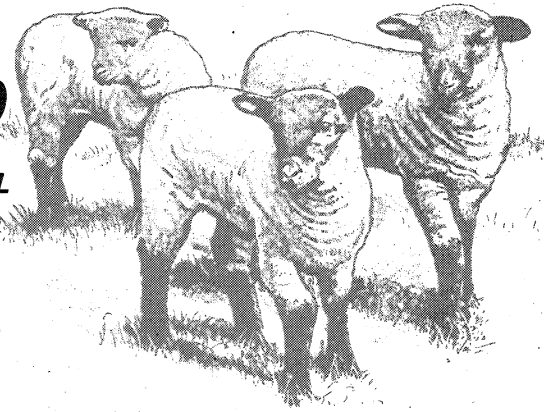
- Identifying wholesale or primal cuts of lamb
- Products people get from lambs
- How to prepare your favorite lamb recipe
- Preparation of wool from sheep to clothing

**Things to Talk About**

- What is lamb?
- What are some of the nutrients in lamb and how are they used by humans?
- Why do people eat lamb?
- What are some characteristics of wool?

# 13

## *Market Lamb Management Schedule*

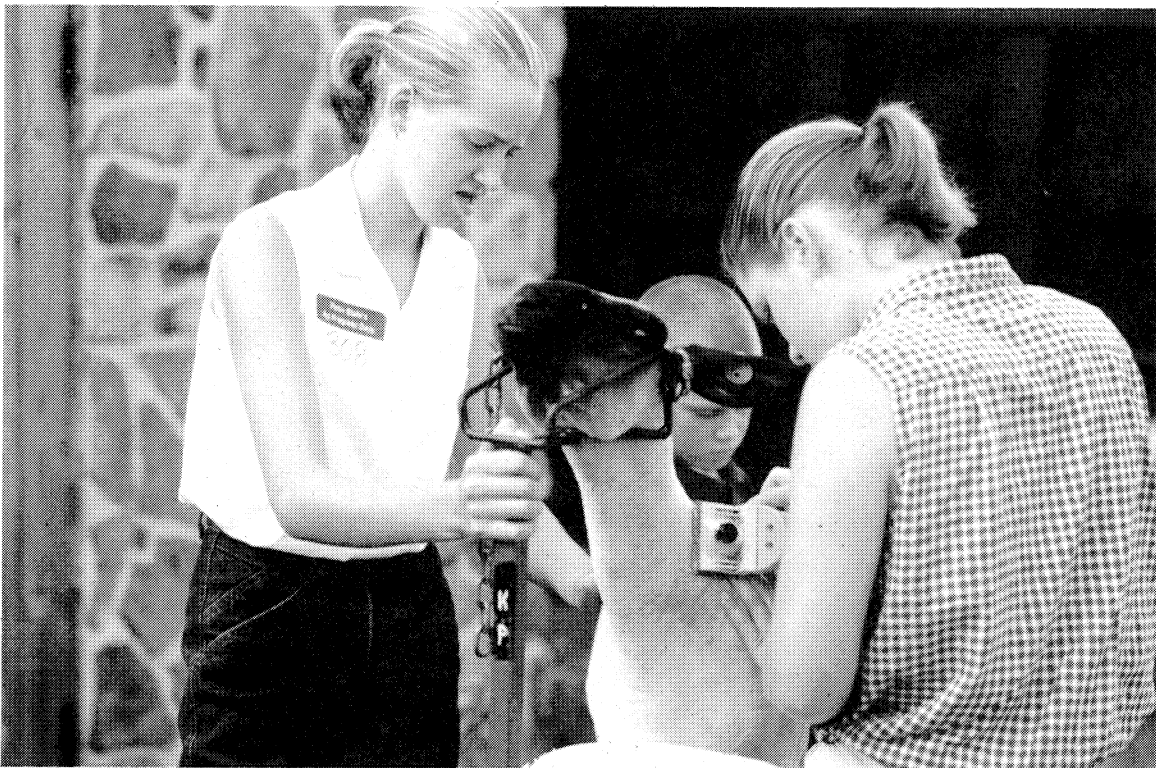


### **Plan**

Buy feeder lambs weighing 40 to 55 pounds. Market them when they are five-and-a-half months old and weigh 100 to 120 pounds.

### **Assumption**

Lambs will gain an average of .7 pounds each day.



Enter the dates for your schedule in the table below. Your dates will vary from the sample ones depending on the dates of your show.

<i>Lamb weight</i>	<i>Activity</i>	<i>Sample Dates (Show Date: Aug 15)</i>	<i>Dates For Your Project</i>
<b>Less than 60 pounds</b>	Plan project.	March-April	
	Arrange project financing.		
	Get barn and pens ready for lambs.		
	Make sure feeders and waterers are ready to use.		
	Arrange to buy feed.		
<b>60 pounds</b>	Buy lambs.	May 1	
	Keep new lambs away from other lambs for at least three weeks.		
	Deworm lambs, if not done before purchase. Ear tag, if appropriate.		
	Check lambs for lice and ticks. Treat if needed.		
	Shear lambs, if desired.		
	Give first tetanus and overeating disease (enterotoxemia types C and D) vaccination if not done before purchase.		
	Feed an 80% concentrate diet containing at least 15% crude protein (dry basis) two times per day.		
	Note: Lambs that were not creep fed should start with hay and small amounts of grain, gradually increasing to full feed.		
	Write lamb weights and prices in your record book.		
<b>70 pounds</b>	Weigh in and identify lambs at county weigh-in, if required.	May 15	
	Give booster for overeating and tetanus, if required.		
	Check lambs for worms, lice, and ticks. Treat if needed.		

(continued)

<i>Lamb weight</i>	<i>Activity</i>	<i>Sample Dates (Show Date: Aug 15)</i>	<i>Dates For Your Project</i>
<b>100 pounds</b>	Send in show entries by due date.	July 1	
	Weigh lambs and calculate average daily gain.		
	Check lambs for worms, lice, and ticks. Treat if needed.		
	Trim lamb's hooves.		
	Start training lambs for show.		
	Order new show equipment, if needed.		
	Check lambs for worms, lice and ticks. Treat if needed.		
<b>110 pounds</b>	Have veterinarian inspect your lambs and write health papers.	July 15	
	Start process of recruiting buyers (up to three weeks before show)		
<b>120 pounds</b>	Show and sell lambs.	August 15	
	Write down weights and prices in 4-H records.		
	Send thank-you notes to buyers.		



### **Authors**

Prepared by Robert E. Mikesell, senior extension associate; Robin B. Keyser, former assistant professor of agricultural and extension education; Patrick J. Carroll, graduate extension assistant; Ronald J. Knox, graduate extension assistant; and Kenneth B. Kephart, associate professor of animal science, in consultation with the Pennsylvania 4-H Animal Sciences Curriculum Development Committee. Members of the committee during the initial drafting of this manuscript were Robin Keyser, William Henning, Dale Olver, Herbert Jordan, Chester Hughes, Deborah Dietrich, Patricia House, Gere Reed, Bruce Loyd, Patsy Novak, Patricia Comerford, Gary Dean, Denise Pease, Nancy Plushanski, Shannon Davis, Alice Strause, and Penny Farmery.

### **Committee Members**

Committee members during finalization of the document were Keith Bryan, Kenneth Kephart, Norma Lash, Chester Hughes, Nancy Kadwill, Donna Zang, Missy Whetzel, Patricia Comerford, Marianne Fivek, Bob Lewis, Dale Olver, Christy Kohler, Linda Spahr, Heather Glennon, Cindy Searight, and Dustin Heeter.

### **Acknowledgments**

The authors appreciate suggestions provided by Clair Engle, extension agents, 4-H leaders, and members who pilot-tested this reference guide. Thanks to Greg A. Deakin, *The Banner Sheep Magazine*, for photos of the breeds of sheep.



### **4-H Club Motto**

“To make the best better”

### **4-H Club Pledge**

I pledge  
my head to clearer thinking,  
my heart to greater loyalty,  
my hands to larger service, and  
my health to better living, for  
my club,  
my community,  
my country, and  
my world.

### **4-H Club Colors**

Green and White

Visit Penn State's College of Agricultural Sciences on the Web: <http://www.cas.psu.edu>

Penn State College of Agricultural Sciences research, extension, and resident education programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U. S. Department of Agriculture.

This publication is available from the Publications Distribution Center, The Pennsylvania State University, 112 Agricultural Administration Building, University Park, PA 16802. For information telephone (814) 865-6713.

Where trade names appear, no discrimination is intended, and no endorsement by Penn State Cooperative Extension is implied.

Issued in furtherance of Cooperative Extension Work, Acts of Congress May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture and the Pennsylvania Legislature. T. R. Alter, Director of Cooperative Extension, The Pennsylvania State University.

This publication is available in alternative media on request.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. It is the policy of the University to maintain an academic and work environment free of discrimination, including harassment. The Pennsylvania State University prohibits discrimination and harassment against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Discrimination or harassment against faculty, staff, or students will not be tolerated at The Pennsylvania State University. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 201 Willard Building, University Park, PA 16802-2801, Tel 814-865-4700/V, 814-863-1150/TTY.