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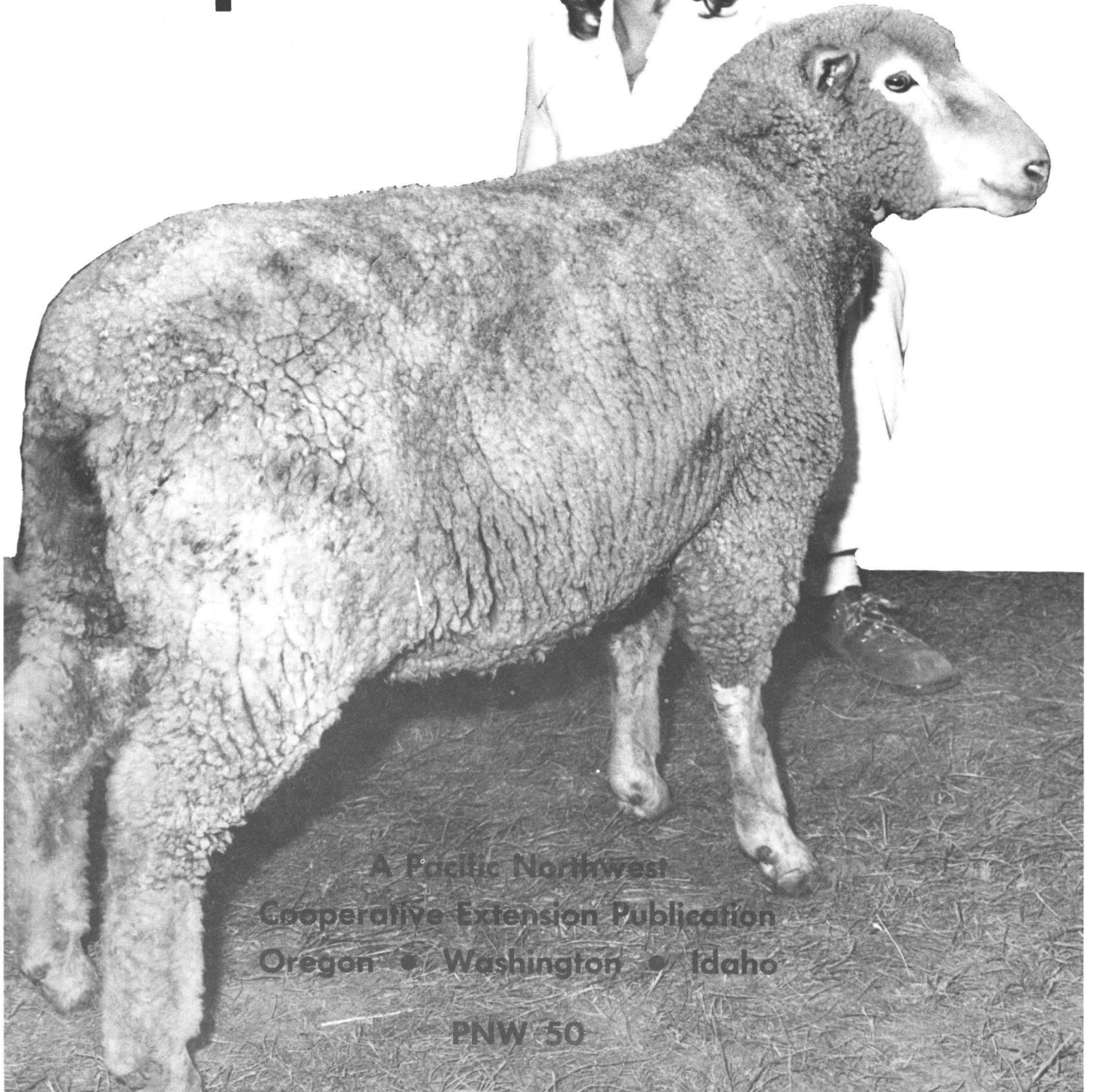
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# Sheep Project



A Pacific Northwest  
Cooperative Extension Publication  
Oregon • Washington • Idaho

PNW 50

TO: 4-H LEADERS AND MEMBERS

The 4-H Sheep project literature is being up-dated and revised. The following pages represent the first draft of these revisions.

including information that should be added or deleted. Share these ideas with your County Extension Agent. If you wish you may mail suggestions to:

We are asking for your help in making this material useful to future 4-H'ers. As you read and use this publication, look for ways it could be improved,

State 4-H - Youth Office  
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Prepared by Dr. John Landers, Jr., Extension Animal Scientist; Dr. Guy Reynolds, Extension Veterinarian; and Duane P. Johnson, Extension Specialist, 4-H - Youth.

4-H seeks the participation of all youth regardless of race, sex or national origin.

To simplify information, trade names of products have been used. No endorsement of named products is intended, nor is criticism implied of similar products which are not mentioned.

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## YOUR 4-H SHEEP PROJECT

### Purpose

Your 4-H sheep project will provide an opportunity for you:

To learn how to select and raise sheep.

To learn to accept responsibility by having an animal of your own to care for regularly.

To develop business ability by having a business of your own.

To learn how to keep and use records.

To learn how animals live and produce their young.

To learn proper feeding, insect and parasite control, and proper management of sheep.

### Advantages

Sheep make a desirable project for many boys and girls because:

Pacific Northwest climate and soil produce lots of good pasture for sheep.

You can make a profit on sheep if you raise and market them right.

Sheep can be handled by boys and girls too small to handle larger animals.

### Records

Record keeping is a vital part of the success of any 4-H project. Every sheep club member is asked to keep a livestock record of his sheep project. Members with a sheep breeding project will find it to their advantage to keep a record of their ewes by keeping a 4-H ewe production record for each ewe.

### Registration

4-H club members with purebred sheep may wish to register their animals in the breed association so they will have a complete record of the ancestry of all their sheep and their offspring.

### Suggestions

Before you start a sheep project you should make certain: you will have plenty of feed and suitable shelter for your sheep; your daily schedule will allow you ample time to care for sheep; and you have good pasture and suitable fences for sheep.

Be thrifty. Do not pay too much for your sheep. Do not pay high prices for prepared feeds when you have home-grown feeds that are just as good when properly mixed. Learn how to mix a balanced ration and how to feed for rapid, economical gains.

Be kind to your sheep. Teach them to trust and respect you.

Livestock insurance is available for valuable breeding animals.

Manage wisely. Make your animals comfortable. Be sure they have shade, fresh water, salt, and freedom from insects and other pests.

### SHEEP TALK

Blades. Hand shears used for trimming, blocking and tagging. Blades are from 5 to 6 1/2 inches long.

Blocking. Squaring or shaping of animal's body by trimming wool until it has a symmetrical and pleasing shape and appearance.

Blocking stand. Raised platform with pipe stand (stanchion) for holding sheep during blocking.

Breeding. Bringing together ewes and rams for mating.

Britch. Rear quarters; area around hind legs is referred to as britch wool.

Broken fleece. A fleece showing weak fibers.

Broken mouth. One or more teeth missing.

Buck. A male sheep, a ram.

Bummer. An orphan lamb; often fed by bottle.

Card. A tool, about 3 x 6 inches with a handle and wire teeth, for lifting wool fibers for trimming. A No. 2 or 3 card is recommended for general trimming and blocking.

Carding. Working up wool fibers with a card for trimming and blocking.

Castrate. Removal of testicles from male sheep.

Crook. A spring-type hook on a long handle used to catch sheep by hind leg. Always catch sheep above rear hock to prevent chances of breaking a sheep's leg.

Culling. Selling or removal of undesirable sheep from the flock.

Dock. The remaining stub of tail after docking.

Docking. Removal of tail.

Dodge chute. A chute or passageway with a swinging gate used to separate or sort sheep as they are driven through.

Dressing percent. Percent of carcass weight compared to live weight. Lambs normally dress from 48 to 52%.

Example: Live animal - 100 pounds  
Dressed animal - 52 pounds  
Dressing percent - 52%

Ear tag. An identification tag placed in ear to give breed association number (if registered), name of owner, and in some cases, year of birth.

Ewe. A female sheep.

Feeder. A lamb that is not finished well enough for market, requiring feedlot finishing.

Fleece. Wool shorn from body of sheep. If properly shorn, fleece will remain in one piece.

Fleece twine. A paper twine or string for tying wool.

Flush. Provide lush, fresh pasture for ewes 2 to 3 weeks prior to breeding. Grain or hay also can be used to bring ewes into thrifty, gaining condition before breeding.

Foot bath. A trough or earthenware vessel used to soak sheep's feet for treatment of hoof rot.

Gestation. Period of time between breeding and lambing. This period is 147 to 150 days for sheep.

Gummer. An old sheep that has lost most of its teeth.

Hoof trimmer. Instrument used for trimming excessive growth from bottom of hoofs. Pruning shears can be used.

Lamb. A sheep under 1 year old.

Market grades. Basis on which market lambs are sold.

1. Utility - Lambs that are not ready for market. Require additional feeding.
2. Good - Lambs that have some finish, but normally should have additional feeding.
3. Choice - Lambs that have a well-finished carcass, but not over finished. This grade provides most of our market lambs.
4. Prime - Lambs with lots of finish (fat) and with excellent conformation. Some prime lambs are so fat that some fat is trimmed off before cooking and eating.

Mastitis. Disease of udder that often results in spoiled udder. Milk may be lumpy, stringy, or there may be no milk at all. Ewes with mastitis should be culled.

Mature sheep. A sheep over 2 years old.

Overshot jaw. Lower teeth do not come out to edge of upper jaw pad. Makes eating even more difficult than an undershot jaw. It is inherited; and sheep should be culled.

Ram. A male sheep; a buck.

Self feeder. A feeder that is built so a quantity of hay can be placed in it and sheep can eat whenever they wish.

Shearing. Removal of wool or fleece from sheep.

Spoiled udder. A caked or hard udder causing ewes to have very little milk for lambs.

Syringe. An instrument used for vaccination and inoculation.

Tagging. Removal of wool from around rear quarters (britch) prior to lambing and from around the eyes to prevent wool blindness.

Tags. Pieces of wool shorn off when tagging.

Undershot jaw. Teeth in lower jaw extend beyond edge of upper jaw pad. Makes eating difficult. It is inherited; and sheep should be culled.

Wether. A male sheep that has been castrated.

Wool blindness. A condition in which the wool around a sheep's eyes is so heavy and thick it interferes with vision.

Wool, coarse. From Lincoln, Cotswold, and Romney. Used for blending with other wools to make blankets, rugs, and other articles of coarse wool.

Wool, fine. From Rambouillet and other fine wool breeds. Used in making lightweight fabrics for women's dresses and fine quality men's suits.

Wool, medium. From Hampshire, Suffolk, Southdown, Cheviot, Columbia, and Corriedale sheep. Used for jackets, overcoats, and coarser types of suiting.

Yearling. A sheep 1 to 2 years old.

Yolk. Natural grease or oil in the wool. It contains lanolin, a useful skin conditioner and softener.

## SELECTING THE BREED

When you select your sheep, one of the first decisions to make is the breed you want to raise. There is no best breed. In choosing, you must consider the breed you prefer, how the sheep fits your community, and your facilities for raising sheep.

Sheep are divided into two main classifications--mutton and wool breeds.

### Hampshire

Hampshire is one of the outstanding mutton breeds and one of the largest. They have black noses and black ears, are large bodied, and need lots of feed. Hampshire lambs grow fast from birth to weaning time. Lambs that do not reach market weight and condition on ewes will finish rapidly on dry feed. Ewes shear a fleece weighing between 7 and 8 pounds. Rams, of course, are sheared too, but in this bulletin shearing weights are given for ewes to allow comparison between breeds. Rams usually shear from 2 to 3 pounds more wool than ewes.

### Suffolk

Suffolk is another good mutton breed. They are very large and are easily recognized by their black heads and legs. They have no wool over their heads or legs. Many Suffolk rams are used for crossbreeding to range ewes for production of market lambs.

Suffolks, like Hampshires, require large amounts of feed and are adapted to farm flock areas where pasture is abundant and lambs can be sold for slaughter from ewes. They will shear 6 to 7 pounds of wool per ewe.

## Shropshire

Shropshire is a medium wool breed of sheep, somewhat smaller than Hampshire and Suffolk. They are noted for raising large numbers of lambs. Generally speaking, this breed will have more twins than either Hampshires or Suffolks.

Shropshires are excellent for small farms. Lambs finish readily on ewes; if they do not finish completely, they can be fed out on limited amounts of feed. They are good wool producers, shearing from 7 to 8 pounds. They may have to be checked for wool blindness--a condition where wool grows over the sheep's eyes.

## Southdown

Southdowns produce a light but excellent fleece and are recognized as the easiest-to-keep breed of medium wool sheep. Their fleece is the finest of the medium wool breeds. Ewes will stay fat with small amounts of feed, and lambs will finish out on ewe's milk. Lambs have a tendency to get excessively fat before reaching acceptable market weight.

The breed is light shearing, producing only 5 to 6 pounds of wool per ewe.

## Dorset

Dorset is one of the very few breeds that will produce more than one lamb crop per year. They are excellent for crossing with other breeds for improving quality of market lambs.

The ewes are excellent milk producers but need lots of feed to do well. They are comparatively few in number in comparison with other breeds. Breeding stock is sometimes hard to find.

Dorsets shear about 7 pounds of wool. Both ewes and rams have horns. Through a selective breeding program, some polled (hornless) Dorset sheep are being developed.

## Columbia

Columbia is a medium wool breed, but is heavier shearing than most of the medium wool breeds. Columbia ewes are exceptionally good mothers and give plenty of milk for the lambs. They are an excellent breed for crossing with blackfaced rams for production of market lambs. Columbias shear about 12 pounds.

## Romney

Romneys have long wool and are particularly noted for their wool production. Romney fleeces weigh about 13 pounds. The first Romney sheep in America were brought to Oregon in 1904.

## Crossbred

Crossbred sheep are a mixture of two or more breeds. Crosses involving two or three breeds are often excellent producers. If you choose a crossbred, be sure to get good stock that has not been crossed with too many breeds.

## SELECTING FOR INDIVIDUAL CHARACTERISTICS

### Size

Select a ewe which has a lot of size for the breed. Experiments show that the larger ewes within a breed will produce more twins and heavier lambs, and will shear a heavier fleece than the small ewes.

### Fleece

Pay attention to the fleece on the sheep you are going to keep for breeding. Avoid black fibers in the fleece--especially in Hampshires and Suffolks. Since black fiber cannot be dyed, it will generally result in a lower price for the wool.

## Breed conformation

Be sure your sheep has the proper breed characteristics. The head should be wide and characteristic of the breed of sheep. Look at the length of the neck and general blending of the body in determining breed characteristics. Every breed has its certain color and markings. Be sure your sheep has the proper breed markings and color.

## Body conformation

Length of body is important in selecting sheep. Ewes should have a comparatively long body with ample room for development of lambs during pregnancy. A ewe should have a deep body from top of back to underline. This shows the constitution and good feeding capacity of the ewe.

To go with length and depth of body, the ewe should be wide and should carry this width as nearly as possible from shoulder to hindquarters. You should pay particular attention to see that the ewe does not cut in too sharply back of the shoulders. Also see that the width is carried well over the rear and hindquarters and extends back over the rump region.

## Thriftiness

Thriftiness can be determined by the general condition or fatness of the ewe. A ewe that is thrifty generally will be in moderately good flesh, capable of raising her lambs and providing ample milk. The ewe that is unthrifty may have an overshot or undershot jaw. The mouth should be checked carefully when selecting a ewe for breeding purposes. A normal mouth will have teeth meeting the pad close to the front of the jaw. A ewe with an overshot jaw will have a lower jaw shorter than the upper. One with an undershot jaw will have a longer lower jaw than the upper. These characteristics can be inherited. Lambs from ewes of this type often have the same condition, or it may appear in lambs where neither parent has this deformity.

## RAISING "BUMMER" LAMBS

Raising "bummer" or orphan lambs offers an opportunity to join a sheep project without much cash outlay. The cost of milk and labor, however, may be the biggest factor in the success of raising the lamb.

There are a number of things you must consider before you start raising a bummer lamb:

A young lamb must eat often. You must be able to feed it often.

A lamb should receive colostrum (the first milk from its mother) as soon after birth as possible. This first milk contains extra quantities of proteins, minerals, vitamins, and antibodies essential to getting the lamb started. If a lamb has not received any colostrum from its own mother, milk from another ewe that has just lambed can be used. It is a good practice to keep a supply of colostrum on hand by freezing in ice cube trays which can be used for any lamb not receiving colostrum from its own mother.

## Care for first three weeks

A ewe feeds her lamb often. The first day, feed the lamb 4 tablespoonsful of milk every three hours during the day and two or three times during the night.

For the first week or two, feed the lamb whole milk. If you have a dairy cow, use milk from the same cow each time. If whole milk is not available, use evaporated milk. Mix 1/3 evaporated milk and 2/3 water and heat until milk dropped on the wrist feels warm. After about five or six days, the milk can be mixed half canned milk and half water. Increase the amount fed gradually until the lamb is eating about 1 quart daily by the time it is two weeks old. This should be divided into three or four equal feedings. Wash bottles and nipples thoroughly after each feeding.

Lambs must be watched closely for constipation. If the lamb does not have a bowel movement within 24 hours, give him a teaspoonful of castor oil.

You must be careful not to overload the young lamb's stomach, as this will cause indigestion and bloat. More bummer lambs die from overfeeding than from any other cause.

A synthetic milk substitute works well in raising orphan lambs. Commercial ewe milk replacer powder is available from most feed stores. Be particularly careful to get *ewe* milk replacer and not *cow* milk replacer. The *ewe* milk replacer contains a higher level of fat and protein which the lambs need.

Mix the milk replacer with water. It is not necessary to refrigerate nor heat the mixture if 1/4 teaspoon, or 1 cc., of 37 percent formalin is added per gallon. This holds down the bacterial growth in the milk.

Teach the lamb to feed from a bottle before putting him on a self feeding device.

Bummer lambs should be provided with the best hay available. Put it in a rack so the lambs do not walk on it.

Provide grain in a small trough placed 6 to 8 inches above the floor. This usually prevents the lambs from walking and sleeping in the grain trough. Barley, wheat, oats or corn make satisfactory creep feeds.

When the lambs weigh 25 to 30 pounds, wean them from the milk. Continue to feed *high quality* hay. Add a protein supplement such as soybean meal to the grain. Mix the grain and protein about 9 parts grain and 1 part soybean meal. It is not necessary to grind the grain. A 16 percent dairy feed pellet works well and may be the most desirable method to feed 1 or 2 lambs.

## CARE OF THE EWE AND HER LAMB

### Flushing

Both ewes and rams should be gaining weight at breeding time. This means they should be on very good pasture. Providing lush feed prior to breeding is known as flushing. In order for ewes to be ready for breeding, flushing should be started two weeks before the rams are put with the ewes. If lush, green pasture is not available, feed the ewes 1/4 to 1/2 pound grain per day. Continue feeding for three weeks after breeding starts.

### Tagging

The ewes need to be tagged before breeding. This means removing all dirty and long wool from the hindquarters. You can tag ewes either by hand or with electric shears.

Trim the ewe's feet if they are long, using a pair of pruning shears or a sharp pocket knife. Be careful not to trim the hoof so deep it bleeds.

### Breeding

The ram can be painted on the brisket with a paint made from paint powder and regular lubricating oil. When a ewe is bred, the ram will leave a paint mark on her rump. If ewes are checked daily for paint brands, you can tell when they have been bred and figure when they should lamb. Fresh paint should be put on the ram's brisket every three or four days.

It takes 147 to 150 days or about five months from breeding to lambing time. A ram will breed from 25 to 40 ewes during a breeding season. Ewes come in heat about every 17 days, starting about August 1.



## Time of breeding

West of the Cascades, it is desirable to breed ewes early in the fall. They will lamb in January or February so lambs can be sold off their mothers. East of the Cascades, because of a colder and later spring, most ewes are bred to lamb in February or early March.

## Importance of pasture and grain

While ewes are carrying lambs, they must have plenty of feed. Good pasture is the best and cheapest feed for sheep. Pregnant ewes can use pasture as the major portion of their required feed. They will be carrying lambs from August through December. During this time there may not be enough pasture, so three to five pounds of good quality grass-legume hay or other forage must be provided. A pound of grain daily will help prevent paralysis in pregnant ewes and will help assure plenty of milk and stronger, healthier lambs.

Ewes draw very heavily on their own supply of body minerals, chiefly calcium and phosphorus, for the growing lambs. Be sure there is always an ample supply of salt, calcium, and phosphorus available. If legume hay (alfalfa, clover) is fed, calcium needs will be supplied. Dicalcium phosphate (Dical) can be mixed with salt if there is need for additional calcium and phosphorus. Use 1/2 iodized trace-mineralized salt and 1/2 Dical for an adequate mineral mixture.

## Lambing preparations

Ewes should be tagged again at least a month before lambing, this time removing the wool from around the rear quarters, udder, and face (if they are wool blind). This also is a good time to trim the feet. Ewes should be watched very closely as lambing time approaches.

The lambing pen should be made ready. You can make a simple lambing pen by setting up four 4-foot panels. The pen provides heat and protection for the newborn lambs. Have bedding placed in the pen and make sure a small bottle of iodine is handy to disinfect the navel of the newborn lamb. If the weather is fair, it is better for the ewe to lamb outside where she has plenty of room. After lambing, the ewe and lamb should be put in the lambing pen.

## Lambing

As the ewe lambs, the water sac will come first. This may break early and may not be visible. The lamb normally will be born with its front feet appearing first and the nose down against the knee joints. If the lamb is coming otherwise the ewe may need help. If so, call a veterinarian or someone who is experienced in helping a ewe to lamb. A ewe will lamb in from 1/2 to 1 1/2 hours. If she labors over three hours, she should be given help.

When the lamb is dropped, the sac that covers the lamb sometimes fails to break. When this happens, be sure to free the lamb immediately or it will smother. The navel of the newborn lamb should be disinfected with iodine as soon after birth as possible. A small amount of iodine poured around the navel is satisfactory. If the navel cord is long, cut it to 1 or 2 inches with disinfected scissors. Then check the ewe to see if she has cleaned herself of the afterbirth tissues.

Open both of the ewe's teats by milking a little from each. There is wax in the end of each teat that may plug the end and prevent the lamb from getting its first milk. Check again after about three-quarters of an hour to see if the lamb has nursed. If not, it may be necessary to hold it up to the ewe and help it nurse for the first time.

A newborn lamb must have the colostrum or first milk from the ewe to get its digestive tract working properly. Colostrum milk contains the necessary food and vitamins to get the lamb off to a good start. Put the ewe and her lamb in the small lambing pen for a day or two, or until you are sure the ewe will let the lamb nurse at any time.

Be sure the ewe has fresh water at all times while in the lambing pen. After the first day she should have plenty of hay and 1/2 to 1 pound of grain daily. The ewe must produce enough milk for the lamb, so be sure that she is fed properly.

When the ewe and lamb are turned out in a lot or on pasture, continue feeding the ewe about 1 pound of grain a day and plenty of hay, along with what pasture might be available to keep up her milk supply. Feed grain four to six weeks after lambing.

#### Docking and castrating

Dock the lamb when it is four to seven days old. Docking is the removal of the lamb's tail. A male lamb should be castrated (testicles removed) at the same time it is docked. Several methods of castration and docking can be used. One satisfactory method is use of the rubber "elastator" band. Put one of the bands on the tail about one inch from where it attaches to the body. After three or four days, use a sharp knife or small pruning shears and cut the tail off just below the rubber band. Remove the band if it does not pop off the stub of the tail. Disinfect stub of tail with iodine to prevent infection. For castrating, place the band over the scrotum, being sure both testicles are below the band before the tension is released. A disinfected knife can be used to dock and castrate.

Docking sometimes is done with a hot iron and the tail burned off. Another method is the use of pruning shears or a sharp knife.

Docking and castrating should be done by the time the lamb is a week old. Most methods are satisfactory, but lambs must be checked regularly for any infection or fly blow if the weather is hot. Use a disinfectant such as Lysol at time of docking and castrating to help prevent infection. If lambs are purebred and are to be registered, they should be eartagged before they are put with other ewes and lambs.

#### Spring and summer feed

During the spring and summer, pasture will provide the major portion of the ewe's feed. Good pasture includes a legume such as alfalfa or clover. If a pasture is to be seeded, check with your county Extension agent for the recommended pasture mixtures for your area.

You should have enough pasture so sheep can be rotated, or moved from one pasture to another, to allow time for the pasture to grow before it is used again. By moving sheep from one pasture to another, you will have less worm control problems; also, you will provide fresh pasture more often.

#### Lamb creep

When the lambs are 10 to 14 days old, they will begin nibbling on grass. A lamb creep can be built where lambs can go in and eat grain without being bothered by ewes. Whole grains are recommended. The lamb creep is a small pen made from panels with a small opening through which lambs can go to get grain. By getting used to eating grain early, lambs will finish sooner and can be sold at early market when prices are usually higher. Oats and barley are fed whole. Grain and hay pellets can be used as a creep feed.

The same grain mixture should be used during the entire period the lambs are creep fed. Alfalfa or clover hay can be placed in a separate feeder in the creep. Hay will provide additional food nutrients

and will get lambs used to dry feed if they are to be drylot fed later on. Lambs will gain faster when creep fed and can be sold sooner, thus bringing in more money for the 4-H member. Use inexpensive materials of a temporary nature for making lamb creeps.

### Increasing the flock

Use extreme care in deciding which ewes to keep for increasing your breeding flock. Two major considerations should be made. First, keep ewe lambs from ewes that produce twins. This characteristic seems to be passed on from mothers to their ewe lambs. Secondly, consult your records of shearing weights on all fleeces shorn from ewes. Keep replacement ewe lambs from those ewes that produce the heaviest fleece and heaviest lambs at weaning. This information can be kept on the permanent 4-H Ewe Production record sheets. The points mentioned in body conformation should be given consideration in selecting ewe lambs for replacement stock.

### Culling

All dry and nonproducing ewes should be taken from the flock, as should any narrow, shallow-bodied, unthrifty ewes, ewes or ewe lambs with overshot or undershot jaws, and any animal that is diseased. Do your culling prior to the breeding season so that only those ewes that are kept for the breeding flock are maintained over the winter.

### FEEDING LAMBS FOR MARKET

Most lambs are sold off their mothers in late April, May, and early June. Lambs sold at this time usually will bring a higher price per pound than those sold later in the year.

If lambs do not finish well enough to be sold directly off the ewes, it is then necessary to feed them. You may want to feed one of your lambs for a fair or maybe dry lot feed them all until they are fat enough to sell. Excessively fat lambs are undesirable. Market demands are for choice-grade lambs. Lambs grading "good" generally do not have sufficient finish. "Prime" lambs are quite often over finished, requiring trimming of excess fat, which is waste.

Two methods can be followed in finishing lambs. In the drylot or feedlot method, lambs are confined and allowed no pasture. In this method of feeding, lambs receive hay and grain as the main feeds. The other method is a grain and grass feeding program where lambs are allowed to run on pasture and are fed grain.

### Pasture and grain method

When finishing lambs on pasture and grain, it will be necessary for you to provide good pasture containing a legume and grasses. Lambs generally are allowed to run on pasture during the day and are brought in at night. Lambs fed on pasture usually are not as firm in finish as lambs fed on drylot. Show lambs, therefore, should be finished on hay and grain.

In selecting a feeder lamb for a fair, be sure that it is healthy and free from internal parasites. Once the lamb is put on feed, continue a regular feeding schedule until the lamb is sold at the fair. When feeding a group of lambs, be sure you have enough of the same kind of feed on hand for the finishing period. Once the lambs are used to a certain type of feed, it is hard to change them over to another. When feed is changed, lambs often lose weight until they get used to the different feed.

## Dry feed method

Lambs should be fed whole grain. Barley, oats, and wheat are all good grains for finishing lambs. Lambs need some roughage and may get sick and go off feed if given wheat without barley or oats. Alfalfa hay is best for lambs in drylots. If alfalfa is not available, a leafy, green clover hay is satisfactory. Lambs started on feed should not be fed more than 1/4 pound of grain daily. This can be increased gradually until the lamb is eating 1 to 1 1/2 pounds per day, depending on size and weight.

Lambs can be taught to use a self feeder if they are conditioned by gradually increasing grain to the point where it is before them at all times. Generally it is best for lambs on dry feed to be fed grain twice daily. Feed accurate amounts both night and morning. Lambs that are being finished must be fed regularly, and you must be sure that they have fresh water and salt before them at all times. Hay fed to lambs can be long, chopped, or hammered. Feed enough long hay so that lambs can leave the coarser portions without going hungry.

## Expected gains

Lambs will usually gain 1/3 to 2/3 pounds per day depending on feeding program and management. If you buy a 65-pound feeder lamb, it will take about two or three months to feed the lamb to desirable market weight. Most lambs sell best at 95 to 105 pounds, depending on breed. Finishing feeder lambs is encouraged only when lambs are not fat enough to sell for slaughter from the ewes.

## Bloat control

Whenever you feed legume hay and grain or grain to lambs on pasture, there is danger of bloat. If a lamb does

bloat, the best treatment is a drench of approximately 2 ounces of mineral oil.

## DISEASE AND INSECT CONTROL

A healthy sheep is a profitable one. To maintain a healthy flock, you will need to know how to control some of the more common diseases and parasites of sheep. Most livestock pests can be controlled by proper treatment.

### Pulpy kidney disease

Pulpy kidney disease, also known as overeating disease, affects young lambs. This disease can be controlled by vaccination. Past history shows that if lambs develop pulpy kidney under 6 weeks of age the recommended procedure is to vaccinate the ewes before lambing. If none of the ewes have previously been vaccinated, two doses should be given, with an interval of at least one month between doses. The second dose should be given a short time before lambing is due to start. Ewes which have been vaccinated previously need only one booster shot before each lambing. In flocks where death does not normally occur under 6 weeks of age, bacterin should be administered to lambs when they are about one month old. Under these conditions it is not necessary to vaccinate ewes. Get recommendations from your local veterinarian as to vaccination procedures best suited for your locality.

### Pregnancy disease

Pregnancy disease may occur in ewes during the last month of gestation. It is characterized by blindness, incoordination, paralysis, and death. This disease is not infectious but is caused by improper nutrition and inadequate exercise. It is observed in ewes carrying more than one lamb and they may be excessively fat or the other extreme, too thin. Feeding good quality alfalfa hay supplemented with

one pound of grain daily during the last six weeks before lambing will tend to minimize this problem. Keep iodized salt and a mineral supplement before ewes at all times.

### Foot rot

Foot rot is a common infectious disease of sheep feet in the West. The bacteria infects the skin between the toes and then undermines the sole or wall of the hoof, causing lameness. The disease spreads rapidly during moist, cool weather. Control measures are proper foot trimming at least three to four times per year, followed by passing the sheep through a suitable disinfectant such as a foot bath. Numerous chemicals appear effective in the control of foot rot. Get advice from a county agent or veterinarian if foot rot breaks out in your flock.

### Maggots

Ewes and lambs must be inspected daily during the summer for fly blow that may result in maggots. Maggots develop from eggs laid by blow flies in dirty or wet wool. First evidence of maggots will be the sheep's restlessness and desire to scratch. If maggots are unnoticed for a time, the wool on the area affected will turn a dark color and appear moist. When sheep with maggots are found, they should be caught and the wool sheared off close to the skin. Remove the maggots and treat the ewe with a pine tar compound that will not only kill any maggots left, but will also act as a fly repellent to prevent further fly blow. Many kinds of fly repellent materials can be purchased from drug stores or livestock supply houses.

### Sheep ticks

Sheep ticks cause irritation and loss of blood. This will slow up growth and

gain. Ticks can be seen easily with the naked eye by parting the wool. A sheep that has ticks also will scratch itself a lot on posts or other objects. Ticks can be controlled by the use of coumaphos (CO-RAL), diasinon, methoxychlor, or rotenone. Apply with a small hand duster over the entire body of the sheep. Dipping requires a large vat so the sheep can be completely covered, and is not practical for small flocks. Use about 1 ounce of dust per head for treatment.

### Internal parasites

Stomach and bowel worms are generally a problem when animals are closely confined or are on irrigated pastures. Liver fluke and lung worms are other types of internal pests that create problems in sheep raising.

In general the greatest amount of damage occurs when young animals suddenly acquire heavy infestations. Usually adequate control can be maintained by linking preventive medicine procedures to the overall management program.

Control measures should be directed toward furnishing adequate forage, pasture rotation, and routine worming. Sheep should be wormed in the fall and again after lambing. Should symptoms of scouring and poor growth occur, the lambs may require worming one or more times during the summer months. Worm medicines commonly used are thibendazole, phenothiazine, Tramisol, and Loxon. Use according to directions; it is often advisable to alternate the worming compounds being used.

Adult liver flukes are susceptible to treatment with either carbon tetrachloride or hexachlorethane. Immature flukes, which may cause the most damage to a sheep, are not killed by these compounds. Consequently, drug treatment is not always effective. Animals raised in "fluky" areas should be treated in the fall, and an effort must be made to

prevent lambs from grazing in pastures which are swampy. Unfenced stock ponds and heavily vegetated irrigation ditches are also excellent areas for potential fluke infestations. Occasionally, some control can be achieved by applying copper sulfate to these sites, since it will poison the snail (intermediate host of the liver fluke). However, clean premises are preferable. Copper sulfate is poisonous and should be applied only under proper supervision.

## SHEARING

Sheep are sheared to remove wool for marketing. Shearing time depends on climate. West of the Cascades, shearing is done from early February through March and April. East of the mountains where winters are colder, it is done from early March to April or May.

Generally, shearing is done with power shears, either small electric shears or larger machines driven by gas engines or electric motors.

## Care of the fleece

Fleece should be removed from sheep in one piece. Commercial shearers will always manage this, but it will require care and practice if you do your own shearing.

Proper handling of wool is very important after fleece is removed. Spread out the fleece with the skin side down on a clean surface and remove tags, discolored wool, or dirty particles. Fold the sides toward the middle from each side. Then roll from both ends to form a neat bundle, with the shoulder and side wool on the outer edges.

Tie the fleece with paper twine made especially for tying wool. Never use baling wire, binder twine, or other ma-

terials since rust and twine fibers will not come out of the wool when it is scoured and processed. When cloth is made, remaining portions of binder twine have to be picked out by hand. Fleeces tied with improper material sell for less; some buyers may refuse to buy these fleeces.

## Value of fleece

Wool from your sheep will provide 15 to 25% of the income from your sheep project. Take proper care of the wool, and market it in the best manner. Never put tags or dirty wool in the fleece, since this will lower the price. Buyers will not want to buy wool from you if they know from previous experience that you have included tags with fleece. If fleece is of good quality, you may wish to exhibit it at your county wool show (if one is held). There are wool shows at State Fairs and the Pacific International Livestock Show where 4-H members can exhibit fleeces. Some spring lamb shows will have wool classes where you may exhibit.

## JUDGING AND CLASSIFICATION OF WOOL

### Grade

Grade of wools refers only to the diameter of the individual wool fibers. It takes training and practice for you to be able to distinguish between the various classifications of fiber diameters. To make a uniform clip and build a sound breeding program, you must become acquainted with the more common grades of wool.

Wool must be separated by the manufacturers because fleeces, or parts of fleeces, of different diameters are used in many different types of fabrics and processed on different kinds of machinery.

When the wool bags are opened by a handler or processor, the usual procedure

is to grade the whole fleece into grade lines or piles of fleeces of similar types. It is usually the processor's responsibility to remove the strings, then sort off the breech or portions of the fleece that are too coarse for his use. In recent years mills have been buying wool and shipping it directly to their processing plants for grading and sorting.

There are seven grades of wool in the United States. They are designated by either the American Blood System or the English Spinning Count System. Terms of the latter are most commonly used by wool buyers and manufacturers.

The following is the American Blood System of wool grades and the corresponding English Spinning Count:

<u>Grade</u>	<u>Spinning Count</u>
Fine.....	64s - 70s - 80s
One-half blood.....	60s - 62s
Three-eighths blood.....	56s - 58s
One-quarter blood.....	50s - 54s
Low one-quarter blood...	46s - 48s
Common.....	44s
Braid.....	36s - 40s

The following are the common breeds of sheep with the grade of wool they produce: Rambouillet, fine wool although some drop down into the high one-half blood; Columbia, three-eighths blood most desirable but grade ranges from one-half blood to one-quarter blood; Hampshire and Suffolk, three-eighths, most desirable but range from one-half blood to one-quarter blood.

When you judge, look for uniformity of fiber diameter throughout the fleece. You'll find that the breech, or portion of the fleece on the upper part of the hind leg, is usually the most coarse and is most often the portion that has to be sorted off in the mill. Even the desirable fleece often has a slight variation in fiber diameter between the shoulder and side. This variation generally is so small that the processing or quality

of the finished fabric is not affected significantly.

Fleeces with the most uniformity throughout their fiber length are the most valuable.

#### Clean wool yield

The pounds of clean wool produced is one of the most important factors in judging a fleece. Clean wool is the amount of wool remaining after the dirt and non-wool material (shrinkage) has been removed.

Fleeces that contain burrs or other forms of vegetable matter should be heavily discounted because this increases the cost of processing.

Other factors being equal, the fleece with the most pounds of clean wool is the most valuable. To compare fleeces, pick up the fleece. Place your hands on opposite sides. A good squeeze will give an indication of how much bulk or volume there is. Compare this to the weight or "drag" to make an estimate of the clean wool yield or to compare one fleece with another.

#### Staple length

Another important factor you use in judging the value of wool is staple length. A general rule is "the longer the staple length the more it is worth." Exceptionally long staple length, however, is of no advantage to the manufacturer. The only advantage to a producer is that it will contain more pounds of clean wool.

Wool has to be classified into the various lengths. This is because varied lengths of wool fibers are used in different types of fabrics or products and usually are processed on different types of machinery.

Determine staple length by measuring unstretched locks of wool. Select

three or four locks of wool from different areas of a fleece. Hold the base of the lock between your thumb and forefinger. Straighten, but do not stretch or remove the crimp from the lock as you hold it along your thumb. Know the distance between the two joints of your thumb to make a more accurate estimate of length.

### Wastiness

Low tensile strength is the greatest contributing factor in increasing wastiness. Some fleeces have locks of wool fibers that pull apart very easily and in a definite area or section of the lock. These are called "breaks." In judging or evaluating fleeces, pay particular attention to the area near the base of the fibers for breaks that have occurred during late winter or the lambing period.

Grasp the opposite ends of a lock of wool about the size of a pencil and give a sharp tug or snap to determine its strength. Remember that "breaks" are easily determined; however, some fleeces are "tender" or have tender portions. Tenderness in wool is indicated when the fiber strength shows some weakness and separates over a wider indefinite area than those of a "break."

Remember that cotted and matted fleeces should be discounted because they are wasty. When they are carded and combed, there is excess waste because of fibers when they are separated during processing.

### Purity

Purity is the degree of freedom of a fleece from fibers other than true white wool fibers. Penalize black fibers very heavily. They are almost as long as the white fibers but somewhat smaller in diameter. Look for

black fibers in blackfaced or blackfaced crossbred sheep. Black and brown leg clippings are not desirable in a fleece, but they are more easily removed in processing than black fibers.

Also penalize very coarse and hairy fibers because they are medullated or hollow in part or all of the fiber. Medullated fibers do not have the same dyeing characteristics that true wool fibers have.

Penalize fleeces tied with twine other than paper fleece ties. Fibers of other twines, such as sisal, work their way into the wool and are hard to remove during processing.

### Character and color

Character is the general appearance and "handle" or "feel" of a fleece. Crimp or the waviness found in wool fibers is one of the more important factors indicating character. Distinct and uniform crimp is more valuable to the wool processor because it handles and spins more readily with less yarn or fiber breakage.

In breed classes, remember that the crimp should be characteristic of the breed represented. Fine wool has more crimp per inch than does medium wool and medium wool has more crimp per inch than coarse wool. Fleeces should be soft to handle and free from harsh and frowsy ends.

The most desirable color of scoured wool is white. However, many fleeces have a light yellow or cream color that will scour or wash out and leave the wool white. Discount heavily shades of gray, darker yellow, or dark stains.



## FITTING AND SHOWING

When you take your sheep to the fair you will want it to look its very best, and you will want to look your best, too. Fitting and training should begin at least six weeks before the fair. You must do all training and fitting including blocking. This is your 4-H sheep project.

### Training

Work with the sheep until it is gentle and will lead or stand as you desire. A few minutes a day for several weeks is much better than several hours a day just before the fair.

Teach your sheep to lead. With your left hand under its chin, press on its dock with your right hand to get it to move forward. After your sheep learns to move forward, you may be able to lead it with your right hand on the back of its head or by a gentle tug with your left hand.

Teach your sheep to stand quietly when someone comes up and handles it. Always hold it so it cannot get away. Do not make sudden moves. Never, never pull its wool.

### Condition or fleshing

Market lambs should be well finished, ready for market, but not over finished.

Breeding animals should be in good condition for breeding, not too fat.

### Shearing

Many market lamb shows are requiring lambs to be shorn within 30 days of show day. Shorn lambs are cooler and will grow faster and more economically. Fitting a shorn lamb is a snap. Smooth up the shearing marks, wash or blanket the lamb and you are about done.

## Cleanliness

Remove burrs, straw, dung locks, and dirt by brushing, carding, and trimming during the fitting period. Do not pasture your sheep where there are briars or cockleburs, and do not use an overhead feeder during the fitting period.

### Washing

Washing of sheep for exhibit purposes is a much discussed subject. However, dirty sheep or those with excessive amounts of soiled area should be washed. Blanketing will help to remove some of the dirt and keep sheep clean without washing. If washing is done, it should be at least two to four weeks prior to a fair in order to allow natural grease or oil to come back into the wool.

Sheep washed just prior to a fair will perhaps be scored down by the judge.

When washing, do so on a warm day and in the morning to allow ample time for the animal to dry. A mild soap and warm water should be used. Blanket the sheep when it is dry to keep it clean and then place the animal in clean quarters.

### Blanketing

Blanketing for four to six weeks before the fair will improve the appearance of your sheep. Blanketing helps distribute the natural oils evenly throughout the fleece and helps keep your sheep clean. Use a round curry comb or brush to remove surface dirt and foreign materials.

A sheep blanket can be made from a burlap sack. Open a sack down one side almost to the corner, leaving 6 to 10 inches fastened together at the corner to fit over the sheep's brisket; then open just enough of the end for the sheep's head and neck. Put the sheep's head through the hole in the bottom of

the sack. Twine loops for the rear legs will hold the blanket in place.

### Trimming the feet

Trim feet when necessary. Remove dirt from between the toes so the sheep will stand squarely on all four feet. Feet should be trimmed at least twice per year--once in the spring before lambing, and again late in the summer before breeding time. Show animals should have their feet trimmed prior to fair time and before final fitting is done on the fleece.

### Trimming

Trimming the fleece makes the sheep appear smoother, longer, and broader. Only medium wool (mutton type) breeds of sheep are blocked. Trim just enough to present a neat appearance and bring out good conformation (shape). Ewes for breeding should not be trimmed as closely or as square as market lambs. Do not trim too deeply.

The first trimming should be at least three weeks before the show.

"Long wool" sheep require a minimum of trimming. Trim only the tips of the fleece to smooth the sheep. Cut the back down very little or not at all.

### Suggestions for trimming

Place sheep on a trimming table or blocking stand if one is available. If not, a sheep halter can be used to tie the animal securely. (If you use a sheep halter, do not go away and leave the animal tied, as it may become tangled in the halter and choke.)

Dampen the fleece by brushing lightly, using a small amount of water. One-fourth teaspoon of sheep dip per gallon of water will help to clean fleece and aid in straightening wool

fibers. Trim lightly, carding and trimming several times until a smooth, even surface is obtained.

In trimming the wool, cut just enough to leave the fleece smooth and attractive after carding. Fitting should be done in such a manner as to display the natural contour of the body when viewed from the rear. Flatness and squareness are associated with overly fat lambs and so create an impression which is not desirable.

Card out each area before you touch it with shears. If the wool gets matted down before you finish trimming the particular area, card it again before you complete the trimming. Frequent carding will be required to cause the longer wool to stand out.

You should use a # 2 or #3 card which is designed for heavy, dense fleeces. Some members also like a leg and head card. When using the card roll the card from the handle to the front of the card. Be sure to keep the card square on sheep. As you roll the card bring the card up to straighten the fibers.

When using the shears, the lower blade should not move. Do all the clipping with the upper blade. As you clip with the upper blade, move the shears slowly away from you so you will get the effect of using a lawnmower. Hold the shears at the right angle to the line of trimming.

The following general procedure is suggested for trimming:

\*Trim the back area to the width of the sheep's back.

\*Trim the brisket and shoulder. Compact the fleece by patting lightly with a small flat plywood paddle or the back of the wool card. Moisten lightly when compacting by dipping the paddle or wool card in water. Shake off surplus water before compacting the wool.

\*Square the dock (stub of the tail); trim the twist and rear legs. Be sure you card the wool out before trimming the rear quarters. When you trim the legs be sure you show the natural muscle of the leg. To show a well filled twist and full rear quarter trim only enough wool to make a smooth appearance.

\*Trim sides, blending the side trimming into the back area, brisket, and rear quarter by working mostly with the points of the shears.

\*Trim the head and neck bringing out the characteristics of your breed. It is a good practice to trim the wool around the eyes of sheep inclined to be wool blind.

\*It may be desirable to shorten the wool under the belly to more clearly show the length of the body and height of body from the ground.

#### Your appearance

*Cleanliness.* Be sure your hands face, fingernails, clothes, and shoes are clean.

*Neatness.* Have your clothes pressed, shirt tail in, and your hair combed.

*Clothing.* Jeans or slacks with a shirt, blouse, or T-shirt, and a jacket if it is cool, are all okay. Colored clothes are satisfactory and often more practical than white.

#### Showing your sheep

Points that will be considered by the judge in a showmanship contest are: Condition and fleshing of the sheep; whether the feet have been trimmed before arrival at the show; clean hoofs and ears; whether your sheep has been washed, and if this has been done two

to four weeks before the show (according to judge's opinion).

Lead your sheep into the show ring with your left hand under its jaw and your right hand on the dock.

When you are asked to move your sheep to another place in the line you may: (a) lead forward, turn and come back through the spot vacated, turn again and lead into the position designated by the judge; or (b) lead around the closest end of the line and into the place designated.

Sheep show best on level ground or with the front feet a little higher than the hind feet. Hold the lamb in position with a firm left-hand grip under the chin. It is permissible to brace the sheep. Steady and brace the sheep when the judge approaches to handle it. Pressure on the nose or brisket will cause the sheep to push forward, tensing and firming its back muscles. Do not overdo it. A smaller contestant may find it helpful to brace his knee against the chest. Never hold or grab a sheep by the fleece - always use a left-hand grip under the chin for holding. Keep your sheep between you and the judge. Never step over your sheep. Show from the left side or front of your animal.

Sheep showmen may stand, squat, or kneel, but they should always be in position to control their sheep if it should jump toward or away from them. Squatting and kneeling on one knee is generally preferred.

Turn left or right but smoothly with full control.

If the sheep gets a few steps ahead of its place in line, you may place your hand or knee against its chest to back the sheep into position.

Keep your right hand off the sheep except when you need to move or control the animal.

Do not step over or walk around your sheep.

Do not grasp the fleece except under the chin.

Showmen may be asked to demonstrate the use of card and shears (blades).

When asked to exchange animals, you should reset the feet of the animal you are asked to show. To set the feet, place your hand under the brisket, lifting the front legs slightly, and drop sheep back to the ground. The hind legs may be straightened by reaching under the sheep. Small contestants with large sheep may find it necessary to place each foot individually.

Remember that judges will always make note of neatness, appearance, and courtesy of contestants while showing.