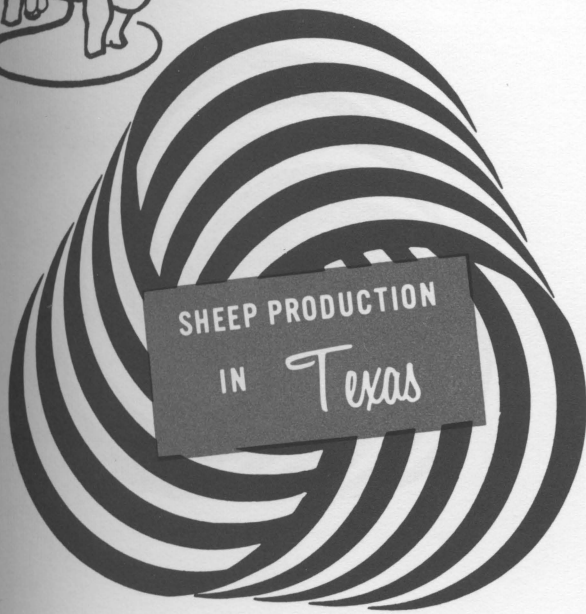


SHEEP PRODUCTION
IN *Texas*

TEXAS A&M UNIVERSITY
TEXAS AGRICULTURAL EXTENSION SERVICE
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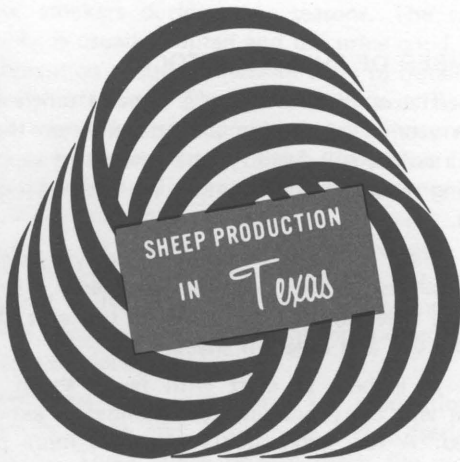
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CONTENTS

Introduction	3
Points to Consider	4
Number of Sheep to Stock	4
Types of Operation	4
Types of Sheep Available	5
Selection of Breeding Ewes	6
Equipment Needed	6
Breeding Season	7
Breeding Ewe Lambs	8
Internal Parasite Control	8
External Parasite Control	9
Lambing Time	10
Care of Newborn Lamb	10
Care of Ewe After Lambing	10
Feed Requirements	10
Docking, Castrating and Marketing	11
Creep Feeding Lambs	12
Weaning Lambs	12
Tagging	13
Trimming Feet	13
Culling Ewes	13
Shearing and Identifying	13
Water	14
Shade	14
Marketing	14
Suggested Reading	15



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James A. Gray and Jack L. Groff*

INTRODUCTION

Texas has been the leading sheep producing state in the United States for many years with the heaviest concentrations in the southwestern part of the state—the Edwards Plateau and Trans-Pecos areas. A fairly heavy concentration of smaller range and farm flocks is found in Central Texas.

Much of Texas is well suited to sheep production. Grazing studies conducted at the Texas A&M University Research Ranch Experiment Station near Sonora show that in much of Southwest Texas a combination of sheep, cattle and goats better utilizes range land and the producer receives greater returns than any other combination or any of the species run separately.

Sheep can convert tender grasses, a large variety of weeds, some browse and the usual crop residues into lamb and wool. Many farmers who make no attempt to harvest crop residues can convert some of their acreage to sheep production with little cost.

A genuine interest in the animals and a suitable environment are the major requirements for successful sheep production.

Texas sheep numbers have been declining steadily since 1951 and listed below are reasons.

- General deterioration of Texas range land
- Labor costs and availability (including shearers)

- Low wool prices
- Increase in predators

These things need correction before an increase in sheep production results.

POINTS TO CONSIDER

Before a person undertakes sheep production, he should consider the advantages and disadvantages.

Advantages

- A genuine interest in sheep production is the main requirement.
- Sheep produce two crops each year—lamb and wool.
- Sheep utilize roughages as their primary feed supply and usually do not require large amounts of purchased feed.
- Lambs will fatten on good pasture without supplemental feed.
- Sheep production requires adequate, but not elaborate facilities and equipment.
- Sheep can aid in weed control.
- Sheep are easily handled.
- Sheep can make use of most crop residues.

Disadvantages

- Sheep are defenseless animals and must be protected from stray dogs and predatory animals.
- Sheep are subject to both internal and external parasites. Heavy grazing on small acreages leads to greater infestations.
- Tighter fencing is required for sheep than

for cattle.

- Foot troubles are likely to develop if sheep are kept on wet or marshy pastures.
- In general, sheep require more attention than cattle.

NUMBER OF SHEEP TO STOCK

The number of sheep a farm or ranch will carry on a year-round grazing plan depends on the pasture size, rainfall, soil fertility, the amount of supplemental grazing available and whether pasture rotation is possible.

Many producers know the carrying capacity of their ranges in terms of cattle. Ordinarily, five to seven mature sheep are the equivalent of one cow, depending on the size and breed of sheep.

It is best to start with fewer sheep than the range will carry and increase number as experience is gained. A few good-quality ewes are more profitable than a larger number of poor-quality ones. High lamb and wool production is essential to a successful operation.

Overstocking results in poor production. Sheep are not as thrifty, reproduction rate is reduced, internal parasitism is increased, resistance to disease is lessened, fleece weights and weaning weights are reduced on overstocked ranges. It is better to run fewer numbers and get higher production per animal.

TYPES OF OPERATION

Several types of sheep production have proved successful in Texas.



A flock of good fine-wool ewes is a source of secondary income on this farm in south-central Texas.

Some areas are particularly well suited to the production of fall and winter-born lambs (November to February). These lambs are marketed in fat condition from early spring to June during good seasons and as feeders or stockers during poor seasons. The spring lamb supply is usually limited and the price good. This type of operation requires finewool ewes to obtain the out-of-season breeding. When producers purchase replacement ewes they may prefer to use mutton-type rams and produce crossbred lambs. Crossbred lambs have a slightly higher livability at lambing time, grow faster, utilize feed more efficiently and are more popular with the packers. When replacement ewes are raised, finewool rams are used on the top end of the flock and mutton-type rams on the low end. This practice has become more popular as replacement ewes have become harder to obtain.

Other areas are better suited for production of lambs born in March and April to be sold as feeder or stocker lambs. These lambs usually reach the market from August to October. Finewool rams are usually used in this type of operation as the finewool lambs can stand hot summer conditions better than the crossbred lambs. Where there is considerable spear and needlegrass, it is often necessary to shear lambs so they summer more comfortably.

Some stock farms are suited to an accelerated lambing program. In this type of operation three lamb crops in 2 years are secured. This operation requires finewool ewes for the out-of-season breeding and is best suited to older ewes. Producers using this system may buy ewes from ranchmen who cull ewes at 5 years of age. The ewes are placed on the speeded up program and at the end of the third lamb crop ewes and lambs are sold. Other producers use this system with older ewes and dispose of ewes and lambs at the end of the third lamb crop.

This requires more labor as the ewes and lambs need more attention. A supplemental feed supply for both ewes and lambs is necessary. Ewes perform better when twice a year shearing is practiced. Early weaning of lambs and feedlot finishing are necessary requirements.

Do not attempt this without considerable experience in sheep production.

A more speculative type of sheep production is purchasing weaned lambs and fattening them in drylot or grazing them on winter-growing, cereal grains or pastures. This type operation, like accelerated lambing, is not for the amateur sheep producer.

The production of registered sheep also requires previous experience for best results. A producer should have several years experience with commercial sheep before he enters the registered business. This is a

highly specialized operation and requires close observation, complete records and a good knowledge of animal breeding and salesmanship.

The registered business is designed to produce rams for use in commercial flocks and ewes to start additional registered flocks. Complete records of sire and dam, dates of breeding and birth are necessary.

Under Texas conditions, mutton-type sheep require more care and attention and more supplemental feeding than the finewool breeds. Unless a person is willing to meet these requirements, he should stay with finewool sheep production.

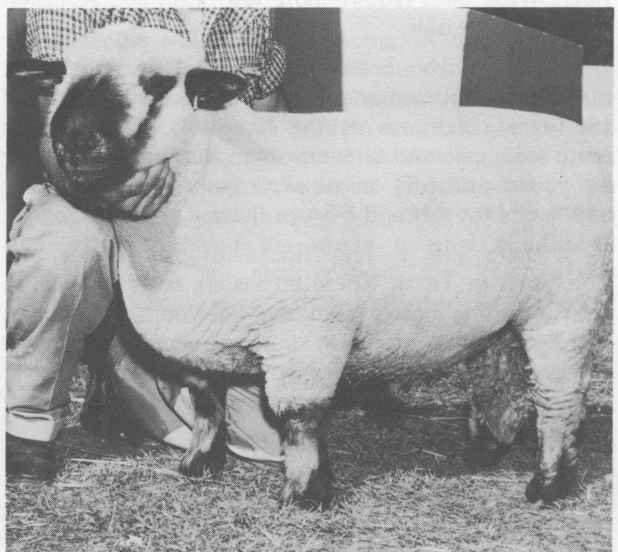
The available amount of year-round grazing helps determine the type of operation a producer should enter. General use practices are usually indicators of practical production practices for an area. Useful information on production practices may be obtained from local county agricultural agents.

TYPES OF SHEEP AVAILABLE

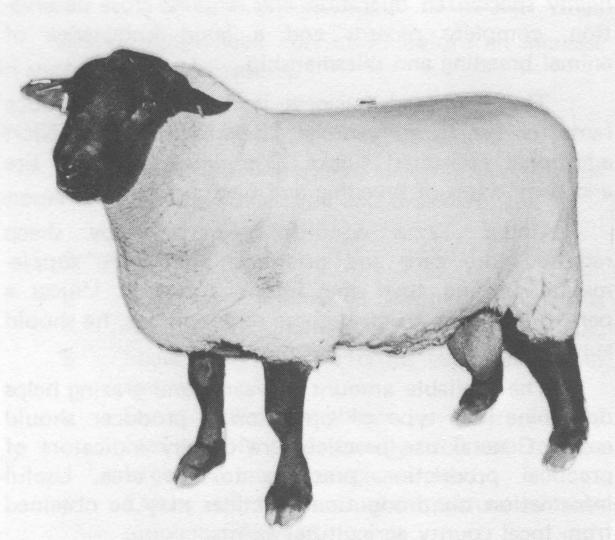
An abundance of good breeding ewes is available in West Texas most of the time. The central markets, auction rings and order buyers are able to supply all types of sheep.

Yearling ewes, dry ewes and pairs (ewes and lambs) are available at shearing time. Sheep are available at all times, but lambs and older ewes are available in the summer and fall which are the two most popular trading seasons.

The most popular breeds in Texas are the finewools—Rambouillet, Delaine Merino and Debouillet. These breeds withstand extreme changes in temperature and drouth conditions better than other breeds



Hampshire rams are used extensively with fine-wool ewes to sire fast-growing market lambs.



Suffolk rams are also used with fine-wool ewes to obtain fast-growing lambs for market.

and adjust readily to changes in pasture feed supply. Finewools are the most practical sheep for producing out-of-season lambs under Texas conditions.

Whiteface crossbred ewes (finewool ewes crossed with Corriedale, Columbia or Panama rams) are the next most popular. These ewes may have slightly greater size than straight finewools but are somewhat more seasonal in their breeding habit and their fleeces are not as uniform in grade.

A few producers use blackface crossbred ewes (finewool ewes crossed with Hampshire or Suffolk rams). These ewes are still more seasonal in their breeding habits and their fleeces contain some black fiber. These ewes require more feed, care and attention than the finewools.

The mutton breeds, principally the Hampshire, Suffolk, Southdown and Dorset, are not as well suited to Texas conditions as the finewools. They require more feed, care and attention than the finewools. They are raised primarily to supply rams for crossbreeding and lambs for 4-H and FFA projects.

There are a few flocks of Corriedales and Columbias in Texas. These breeds are more seasonal in their breeding habits than the finewools and require more care and attention but are somewhat better adapted than mutton breeds. They are primarily produced to raise rams for crossbreeding in commercial flocks.

SELECTION OF BREEDING EWES

Select large, well-developed, "roomy" ewes with good conformation. They should be wrinkle free and produce uniform fleeces of staple wool (3 inch staple in 12 months or $\frac{1}{4}$ inch per month of growth). Their

teeth should be in good condition. Short incisor teeth are preferable to long ones as the long teeth become loose and interfere with grazing. Overshot and undershot jaws may be considered unmerchantable when buying breeding ewes. Ruptured ewes and ewes with only one good eye may also be considered unmerchantable.

A good many broken-mouth ewes are available (ewes with one or more of the incisor teeth missing). These ewes usually sell at reasonable prices but require extra care and an abundant feed supply. A producer needs previous experience in sheep production before buying broken-mouth ewes.

EQUIPMENT NEEDED

Lack of adequate fencing is one of the main problems facing potential producers in some areas. Texas sheep are accustomed to grazing loose in fenced pastures and are easily confined. A good barbed-wire cattle fence can be made sheep proof by adding 3 or 4 strands of barbed wire, placed 4 to 5 inches apart, on the lower section of the fence and adding some stays between the posts. If more elaborate fencing is desired, it can be constructed of 35-inch mesh wire with 2 or 3 strands of barbed wire above the mesh. This type of fence will confine all types of domestic meat animals.

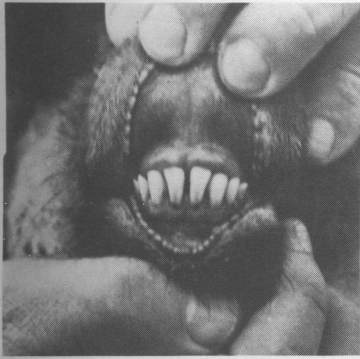
During the lambing season, farm flocks may require some shelter in the form of a shed, barn or a heavily-wooded area. When lambing out-of-season, as many farm flocks do, some protection during severe weather is needed.

A shed open to the south and providing about 12 square feet per ewe usually gives adequate protection. The shed should be well-drained and draft free.

Many different types of feed troughs and racks may be used for supplemental feeding, but a trough suitable for both grain and hay is the most practical.



Salt box, self feeder and combination grain and hay trough are important pieces of equipment.



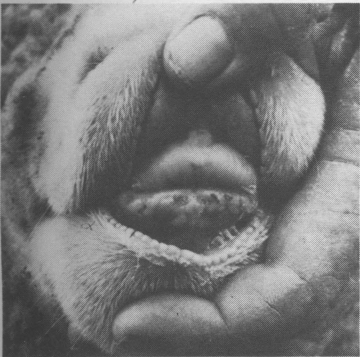
Lamb



1-year-old



3-year-old



Smooth mouth



Overshot jaw



Undershot jaw

The age of a sheep is determined by the number and condition of its incisor teeth:

TOP ROW, extreme left: a lamb has eight milk teeth; middle photo, a 1-year-old has two permanent teeth replacing its central pair of milk teeth. At 2 years of age it has 2 pairs of permanent teeth and 2 pairs of milk teeth. Extreme right, a 3-year-old has 3 pairs of permanent teeth and 1 pair of milk teeth. At 4 years of age, it has all 4 pairs of permanent teeth. At 5 years of age, its teeth begin to spread and show wear, depending on the condition of the range it has grazed. Aged sheep begin to lose their teeth and are then called broken mouth.

BOTTOM ROW, extreme left: Aged sheep continue to lose their teeth until they become smooth mouthed; middle photo, overshot jaw or parrot mouth. Upper jaw is longer than the lower jaw. Breeding animals with this defect should be sold. Extreme right, undershot jaw. Lower jaw is longer than upper jaw. This is just as serious as the overshot jaw. Breeding animals with this defect should be sold.

Allow a large ewe in advanced pregnancy 24 inches of trough space. Self-feeders are used by many sheepmen for feeding lambs and ewes. Approximately three times as many sheep can be fed with the same trough space required for daily feeding.

Panels 10 to 20 feet long are some of the most practical equipment a sheepman can possess. They are used to construct various sized temporary pens and for crowding sheep into small areas.

Additional information on sheep equipment may be secured from the "List of Available Publications of the United States Department of Agriculture," List No. 11.

CALENDAR OF OPERATIONS

BREEDING SEASON

The normal sheep breeding season is in the fall and winter, with lambs born in the spring. In Texas,

the breeding season varies greatly. In the farm flock area, ewes are bred to lamb in the fall so the lambs can be marketed early in the spring. In much of the range country, ewes are bred to lamb in January and February so the lambs can be marketed before spear and needlegrass shed their seeds. Farther west in the range-producing areas, ewes are bred to lamb in March and April to avoid the severe weather conditions. Finewool ewes are recommended for Texas sheep production because of their out-of-season breeding ability.

The ewe's gestation period is about 5 months, varying from 142 to 152 days.

Usually at least 3 rams are needed to breed each 100 ewes. Under farm-flock conditions, one vigorous ram will breed 40 to 50 or more ewes. Well-developed ram lambs may breed about 20 ewes.

Condition rams for the breeding season by supplemental feeding 3 or 4 weeks before turning them

in with the ewes. This supplemental feeding may be cottonseed cake, range cubes or good-quality alfalfa hay. Oats is also a good conditioning feed.

Due to the high rate of summer sterility, especially with mutton-type rams, it may be desirable to check rams for fertility before placing them with the breeding flock. Several veterinarians in the state are equipped to do fertility testing.

Due to the high incidence of epididymitis among rams ranchmen should palpate all rams. Enlarged and hardened areas in the testicles are evidence of epididymitis. Ram flocks that have less than 7.5 percent palpable lesions are considered negative. Flocks having 7.5 to 13.5 percent palpable lesions are considered suspicious. Flocks with more than 13.5 percent are considered positive and should be submitted to a serological test to remove rams that are infected but show no palpable lesions.

It is good management to flush ewes for out-of-season breeding. This may be accomplished by placing them on a fresh, rested pasture or by feeding them $\frac{1}{4}$ to $\frac{1}{2}$ pound of supplemental feed per head daily for 3 to 4 weeks before breeding. Flushed ewes come in heat more quickly and are more apt to be settled at first service than unflushed ewes.

Ewes should not be allowed to become too fat before the breeding season. Excessive fatness impairs breeding ability. Excessively fat ewes may produce weak lambs or may fail to have an adequate milk supply. Difficulty in lambing is sometimes a result of excessive fatness.

During the breeding season ewes come in heat about every 17 days varying from 14 to 19 days in some cases. The heat period lasts 17 to 43 hours, but averages about 30 hours. Ovulation usually occurs late in the heat period.

Rams are usually left with the ewes 40 to 60 days. Some producers put the rams with the ewes in June and July to obtain as many early lambs as possible and then put the rams back in the fall to breed the ewes that did not breed out-of-season.

Vasectomized rams may be put with the ewes 2 to 3 weeks prior to turning out the breeding rams. The vasectomized rams stimulate the onset of estrus and increase the ovulation rate.

Much has been written about using hormones for out-of-season breeding and to improve the lamb crop. Results have been erratic and hormones are not dependable. Hormone use is summarized as follows:

- Estrogens administered to anestrual ewes will readily produce heat or estrus but this is not usually accompanied by ovulation.
- Administration of pregnant mare serum, PMS, to anestrual ewes will produce ovula-

tion which is not generally accompanied by heat or estrus. Other gonadatropic materials produce similar results.

- Combinations of estrogens and gonadotropins have produced erratic results in producing heat and ovulation simultaneously. It might be concluded that they are generally not dependable.
- Synchronization of estrus in cycling ewes is possible. The reproductive rate is higher at the second heat period following synchronization. Synchronization of estrus is not possible unless the ewes are cycling normally.
- The hormonal balance of the ewe is very sensitive and very difficult to control with any degree of success.
- At the present time most hormonal treatments involve too great a cost in time, labor and materials to be practical for commercial sheep producers.
- Labor costs and trained technician costs together with a problem of storing ram semen make artificial insemination impractical.

BREEDING EWE LAMBS

Well-developed, growthy ewe lambs may be bred with some degree of success. Ewe lambs should weigh 80 to 90 pounds. In some cases, it has been possible to secure 50 to 60 percent lamb crop from ewe lambs. It may take ewes that have been bred as lambs longer to reach mature size. If the animals have had any reasonable care they will not be stunted.

INTERNAL PARASITE CONTROL

Internal parasites are a major problem in Texas sheep production. Usually the higher the rainfall the greater the problem. Overgrazing is probably the greatest contributor to internal parasitism. Animals grazing on overgrazed pastures pick up more infective larva than animals grazing on properly stocked pastures.

Several symptoms indicate internal parasitism such as pale watery color of the membranes around the eyes and lips, appetite loss, roughness of fleeces, diarrhea or looseness of the bowels or eating dirt. In advanced cases bottle-jaw, a swelling or edema under the animal's jaw may occur.



Drench gun is inserted at the side of the sheep's mouth with the right hand; left hand shuts off the sheep's breathing and forces it to swallow.

Pasture rotation is important in internal parasite control. Sheep respond to fresh pasture by improved condition. If a pasture can be rested as long as 90 days many infective larvae will die.

Keeping animals in good condition at all times is a key to internal parasite control. Supplemental or temporary pastures are very useful. Supplemental feeding to keep animals in good condition is very important.

Drench animals as needed with one of the drenches recommended by the Food and Drug Administration. Change drenches occasionally so the parasites do not build up a resistance to any one material.

Avoid injury to mouth and throat linings when drenching. A piece of rubber tubing on the end of the drench gun prevents this type of injury.

Isolate and feed animals with exceptionally high parasite infestation.

In some of the drier production areas feed phenothiazine salt to keep down internal parasites. Phenothiazine salt does not kill the parasites, but causes low hatchability of the parasite eggs.

An internal parasite control program is summarized below:

- Keep animals in good physical condition at all times.
- Rotate pastures.
- Observe sheep frequently for signs of internal parasitism.
- Drench as necessary with recommended anthelmintics.

- Change anthelmintics occasionally so parasites do not build up a resistance to one material.
- Isolate and treat heavily infested or stubborn cases.
- Do not drench with phenothiazine within 30 days of lambing.

Additional information on internal parasites of sheep and goats may be found in Extension publication MP-396, *Common Internal Parasites of Sheep and Goats*.

EXTERNAL PARASITE CONTROL

Lice, sheep ticks or keds, ear ticks and common ticks infect sheep in Texas. Most sheepmen spray sheep out of the shearing pen. If there is a particularly heavy infestation it may be necessary to spray again in 12 to 18 days. Use only sprays recommended by the Food and Drug Administration and at strengths recommended. Follow the recommendations in MP-791, *Texas Guide for Controlling External Parasites of Livestock and Poultry*. This publication can be secured from your local county agricultural agent.

It is good management to change sprays from time to time so parasites do not build up a resistance to one spray.

Livestock sprays are extremely poisonous and many have lasting residual characteristics. Follow these precautions for safe use of chemicals.

- Use only recommended sprays or dips at strengths recommended by the Food and Drug Administration.
- Follow guidelines for spraying or dipping slaughter animals.
- Do not spray in a shed or barn.
- Spray with the wind—not against it.
- Do not mix sprays with your hands.
- Bathe and change clothes soon after spraying or dipping animals.
- Do not mix chemicals.
- Know the location of the nearest hospital equipped to treat chemical poisoning.

Fleece worms or wool maggots may be especially bad in wet seasons. Cases of these parasites require individual treatment. Shear the infested area and kill the parasites with benzol or some other killing agent.

These parasites must find a wet area in the fleece before they are able to blow the area. This can be prevented largely by tagging sheep during the winter or early spring.

LAMBING TIME

Most ewes in Texas lamb on range or pasture, meaning they are placed in a pasture with access to plenty of feed and clean water and nature takes its course. Over a period of years, through natural selection, Texas sheep have been selected for ease of lambing. Difficult lambing ewes were eliminated by natural selection. Few deaths occur from difficult lambing.

To prevent losses from pregnancy disease, force well-fed ewes in good condition to take considerable exercise for at least 1 month before lambing. Ewes get more exercise when they are forced to walk considerable distance to water. Ewes affected with pregnancy disease can be drenched with blackstrap molasses for a source of quick energy.

Under farm flock conditions, give ewes special care and attention at lambing time. Give them every opportunity to lamb without help. When it becomes apparent the ewe is unable to deliver the lamb herself, give the necessary assistance. The beginner should seek the help of a veterinarian or experienced sheepman.

Lambs may be transferred from ewes that have died to ewes that have lost their lambs. This usually can be done by confining a ewe with a lamb in an individual pen for several days. During this time, it may be necessary to hold or tie the ewe while the lamb nurses. Tranquilizer drugs may be useful when transferring lambs to foster mothers. One-tenth milligram of tranquilizer per pound of body weight is the recommended dosage. Best results are obtained by dividing the dosage equally and injecting half in each hind leg. Care should be taken in the use of these drugs since an overdose may cause severe depression and even death.

The percentage lamb crop greatly affects sheep production profits.

CARE OF NEWBORN LAMB

A strong vigorous lamb will stand up and nurse 15 to 20 minutes after birth. It is necessary to keep ewes strong and healthy during pregnancy so the lamb will be strong at birth. When the ewe is in good condition at the time of birth, she will be more apt to claim her lamb.

Under farm flock conditions, ewes with weak lambs may be confined with their mothers until they have gained sufficient strength to follow their mother.

Weak or chilled lambs may be warmed near a heat lamp or put in warm water and then dried.

When ewes are lambing in corrals or barns, there is danger of navel ill or navel infection. Dip the navel cord in tincture of iodine by tipping the bottle against the lamb's body. This helps dry the navel cord and prevents navel infection.

CARE OF EWE AFTER LAMBING

There are many different methods of supplemental feeding after lambing. The method used depends largely on the pasture size, roughness and brushiness together with the number of ewes in the pasture. There are arguments for and against nearly any system. What will work for one ranchman may not work for another. The different systems employed by different ranchmen may produce similar results.

A good many ranchmen prefer to self feed ewes using a feed with salt as an inhibitor. When this system is used, keep the salt percentage as low as possible. It is also good to keep the feeders a good distance from water as this encourages the ewes to do more grazing.

A good salt controlled mixture that has given excellent results consists of three parts of maize, one part of cottonseed meal and one part of salt.

Some ranchmen call the ewes and feed them cubes or corn on the ground. This system works fairly well in small pastures.

In large and rough pastures ranchmen ride through the pasture and feed the groups of ewes where they find them.

Still other ranchmen use liquid feed supplements in self feeders. Usually this will consist of molasses with urea added. The molasses is placed in a trough with a board float on top of it. The float has 1 inch holes bored in it so the sheep can lick it.

When ewes are not producing sufficient milk, increase the feed. Grain or stock cubes containing 20 percent protein, yellow corn, high-quality alfalfa hay and succulent feed such as silage, are good supplements for lactating ewes. Oats is an excellent feed to stimulate milk production.

FEED REQUIREMENTS

At times it may be necessary to maintain ewes in the drylot or in small traps. The amount to feed is difficult to determine without experience. Feeds vary in quality, ewes vary in condition and the weather varies. The feeder's judgment will determine whether the ewes need more or less feed.

Legume hay usually contains enough nutrients to be the sole maintenance feed needed. As long as a ewe

gets 1¼ pounds of good legume hay or 1/3 pound of cottonseed meal or cake, along with a reasonable fill of roughage, she should maintain her weight. One pound per ewe of grain cubes containing 18 to 20 percent protein in addition to roughage also may be used.

Use temporary pastures to supplement native pastures. Small grain and legume fields provide valuable grazing for sheep in the fall and winter and require no supplement. Sudan pasture is an excellent source of grazing in the spring and summer. Irrigated pastures supply between-season grazing in some areas.

In emergencies, it may be necessary to feed ewes whatever is available. Pricklypear can be singed or chopped in a forage cutter and fed at the rate of 7 pounds per ewe, with 1/4 to 1/3 pound of cottonseed meal per head daily.

Liveoak brush can be cut and supplemented with ½ to ¾ pound of cottonseed meal. Sheep readily eat liveoak leaves.

Cottonseed hulls fed with ½ to ¾ pound of cottonseed meal per head daily makes a good ration for ewes.

A mixture of one-half cottonseed hulls and one-half ground cotton gin trash can be fed with a protein supplement. Cottonseed hulls improve the palatability of the gin trash.

In some areas sheep may be fed mistletoe. Mistletoe contains about 9 percent crude protein and is very palatable to sheep.

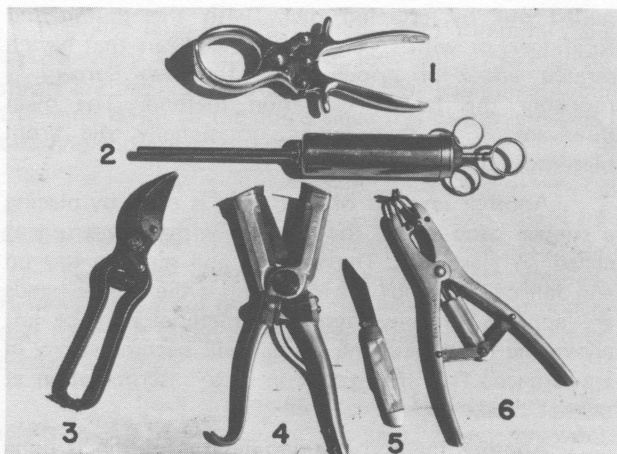
DOCKING, CASTRATING AND MARKETING

Many methods for docking and castrating lambs exist. The one used depends on the producer's preference.

Lambs should be castrated and docked as soon as they are strong enough, usually 7 to 10 days of age. The older the lamb is at marking time, the more severe the shock. Most producers wait until the majority of the lambs are on the ground before marking, which makes some lambs 4 to 6 weeks of age.

Many ranchmen build a pen with panels in the pasture and mark the lambs there. There is always the danger of tetanus or infection around permanent lots and pens. The ewes are kept bunched until the lambs have gotten over the initial shock and then are allowed to wander off.

Sanitation is essential in any surgery. Thoroughly clean all instruments before use and dip in a strong disinfectant after each use. A good disinfectant is 1 tablespoon of lysol to 1 pint of water. Another excellent disinfectant can be made by mixing 1 ounce of B. K. solution in 2 gallons of water.



Some of the instruments that may be used to perform the necessary operations on the lambs are (1) burdizzo; (2) drench gun; (3) pruning shears; (4) the all-in-one; (5) pocket knife; and (6) elastrator.

In docking, remove the tail between the third and fourth joints from the root of the tail. A good marker is where the two folds of skin on either side of the anus leave the tail. Push the skin on the tail toward the body so the skin will come back and cover the stump. If the skin is pulled away from the body, the skin will not cover the stump and it will take longer to heal.

It is better to cut through the bone rather than through the joint as the wound heals faster.

Probably the quickest and most popular method of docking is to cut off the tail with a sharp knife or a pair of special docking and castrating shears. Wounds made with these instruments heal quickly.

Other docking methods can be used to prevent bleeding. The tail can be seared off with a hot, dull iron or with a pair of docking tongs without blood loss. Seared wounds heal slowly and it may be an invitation to blow flies. The tail can be crushed through with a burdizzo and the skin cut with a knife. The crushing effect of the burdizzo prevents most of the bleeding. This method is slow and involves the use of two instruments.

An elastrator which places a special rubber band on the tail may be used. The rubber band cuts off the circulation and the tail drops off in about 2 weeks. Some producers prefer to cut the tails off after 3 or 4 days. This method is painful to the lamb for about 30 to 40 minutes. The only advantage being that it is bloodless.

There are several methods for castrating ram lambs with surgery being the most common. In using this method, cut off the lower 1/3 to 1/2 of the scrotum and pull out the testicles while pressing the fingers of one hand firmly against the lamb's body at the base of the testicle cords. The testicles can be

pulled out by gripping them with the thumb and forefinger, or with special castrating shears that have a serrated edge for gripping the testicles. Surgery is probably the fastest castration method. The main disadvantage is that lambs occasionally die from bleeding, rupture or infection.

Another method of castrating is done by placing a rubber band above the testicles with an instrument called an elastrator. The testicles and scrotum dry up and fall off in about 2 weeks. Unless the rubber bands are applied carefully, testicular material may be left above the bands and the animal will become staggy in appearance. This may result in price discrimination at market time.

Another method of bloodless castration is done by crushing the cords above the testicle with a burdizzo. The burdizzo crushes the cords but does not break the skin. When the burdizzo is properly used, the testicles will reabsorb while the scrotum remains intact. The burdizzo should be used on one testicle at a time so the dividing membrane in the scrotum is not injured. On small lambs, it is often difficult to get the instrument above the testicles and staggy animals result. There is also the danger of the burdizzo becoming sprung so that it no longer crushes the cords.

Ear marking is usually done at the same time the lambs are castrated and docked. Ear marking serves several purposes. It may be used to identify the owners' sheep and to distinguish ewes from wethers. Some ranchmen use a different ear mark each year to identify the sheep for age.

Vaccinate lambs for soremouth when they are docked and castrated. Roughen the skin on the inside of the hind leg so that it becomes inflamed but does not bleed. Apply a drop or two of vaccine to this roughened area.

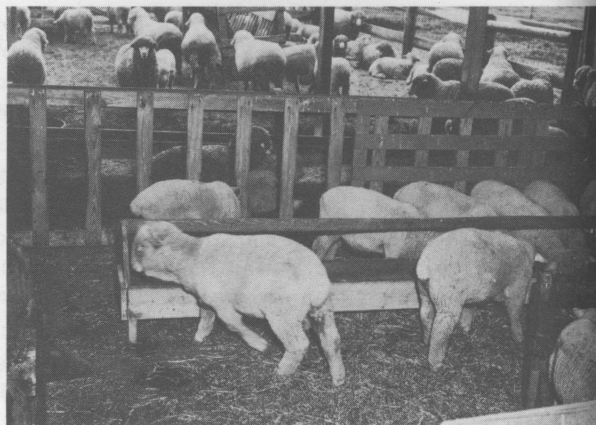
CREEP FEEDING LAMBS

Creep feeding is used to fatten lambs for market or to develop them for replacement breeding animals.

The creep is a fenced area that lambs can enter but the ewes are excluded. Openings in a creep are usually about 8 inches wide and 15 to 18 inches high. These openings should be adjustable so they can be made larger as the lambs grow.

A good developing feed to use in a creep for lambs is whole oats and good fattening feeds such as corn and sorghum grain. It is not necessary to grind grain as young lambs chew their food well. One advantage to a mixed ration is when the lambs are to be finished in the drylot, they are already on the finishing ration.

Antibiotics may be included in the creep ration to reduce scours and overeating disease. Twenty-five to



A creep permits the lambs to enter and obtain supplemental feed but excludes the ewes.

50 milligrams per pound of feed are recommended for suckling lambs. Aureomycin, terramycin and erythromycin are the most common antibiotics used in sheep rations.

Lambs usually start eating in a creep when only a few days old. Older lambs are more difficult to start on a creep. It may be necessary to pen an old ewe or two in the creep to get the lambs started.

Creep feeding of fall and winter lambs usually proves profitable since they gain faster and put on a firmer fat than when hand fed. Creep feeding may mean the difference between producing a feeder and a fat lamb.

Additional information on creep feeding lambs appears in Extension leaflet L-322, *Creep Feeding Lambs*.

WEANING LAMBS

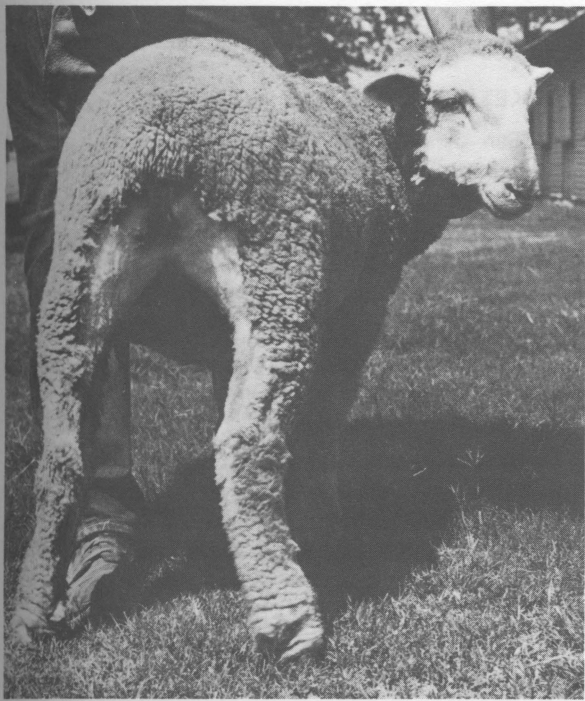
Lambs may be weaned at 9 weeks of age or when they have reached 45 pounds. Milk production of finewool ewes is quite low at this point and for all practical purposes the lamb's digestive system is mature.

Fall and winter lambs probably will be sold off their mothers and will not require weaning. Spring lambs may not be weaned until they are 5 to 6 months old.

It is better to move the ewes and leave the lambs when weaning as they are familiar with the pasture and the watering.

Many ranchmen save a trap or pasture for weaning lambs. This gives the lambs a good feed supply and they continue to do well without the ewes.

If the ewes can be moved to an area of rather scant feed for about 2 weeks it will help stop milk production, and less udder trouble will occur.



Tagging is essential for proper preparation of the wool clip. In areas of lush grazing it may be desirable to remove more wool from the dock than is shown here.

TAGGING

Tagging is shearing the wool from inside the hind legs, around the udder, the end of the dock and the face 2 to 3 months before regular fleece shearing.

This operation makes possible a much cleaner wool clip at shearing, and it helps prevent fleece worms before spring shearing. When ewes are tagged, lambing is more sanitary and it helps lambs to find the teats.

In Texas, sheep usually are tagged in December and January. In some areas it may be done somewhat later. Ewes shorn twice a year do not need tagging.



Foot trimming is necessary in many farm-flock areas. Here, the operator uses pruning shears.

TRIMMING FEET

Under farm-flock conditions, foot trimming may be necessary to help prevent foot ailments. Pruning shears are the best instrument for foot trimming. Avoid trimming down to the quick since this causes lameness, bleeding and leaves an opening for infection.

CULLING EWES

Cull ewes soon after the lambs are weaned. Remove ewes from the flock that have a spoiled udder, that have not raised a lamb and those with unsound or broken mouths.

Every flock producing its own replacement ewes needs a selective breeding program. Select finewool ewes for both wool and lamb production. A common selective breeding program is to divide the flock into three groups according to their ability to produce wool and lamb. Divide the rams the same way and have the top ewes bred to the top rams and the second best rams to the second best ewes. The third group of ewes may be bred to mutton type rams to produce a market lamb.

Additional information on selective breeding programs may be found in Extension bulletin B-858, *Selecting Sheep for Wool and Mutton Production*.

SHEARING AND IDENTIFYING

The time to shear depends primarily on flock location. Shearing starts in Texas as early as February and continues until mid-June. Sheep that are shorn in February usually are shorn again in late August or early September. Twice-a-year shearing involves about 20 percent of the Texas sheep and is confined to South and Southwest Texas. Most of the once-a-year shearing is done in April and May.

Many ranchmen provide shearing floors or a clean place for shearing. Shearing floors should be 6 feet wide with the length in multiples of 4 feet. These dimensions provide a space 4 by 6 feet for each shearer.

The producer is expected to provide sacking frames to hold the wool bags and a clean floor to stack the wool.

The shearers are expected to remove the fleece in one piece, keep it clean and avoid injuring the sheep.

The fleece should be rolled with the flesh side out, tied with a paper fleece twine and packed in a regular Texas wool bag. The practice of not tying 12 months fleeces should be discussed with the wool warehouseman before being practiced.

For detailed information on preparing wool for market, see Extension publication B-237, *Preparing Wool for Market*.

The use of branding fluid or paint should be avoided whenever possible. Buyers will pay a premium for paint-free wool. Identify sheep with ear marks, fire brands or colored, plastic ear tags. Use the colored ear tags to identify sheep as to quality or age group.

WATER

A clean water supply is necessary. Sheep require from 1 quart to over a gallon of water daily, depending on the moisture content of pasture vegetation, weather conditions and the amount of dew.

Water is necessary to maintain constancy of tissue water, to keep the animal in water balance and for the proper functioning of the digestive system. Good water encourages the animals to eat more. Sheep prefer running water when available.

SHADE

Sheep thrive better if they have access to shade

during the heat of the day. If no natural shade is available, provide a brush arbor or other type shade.

MARKETING

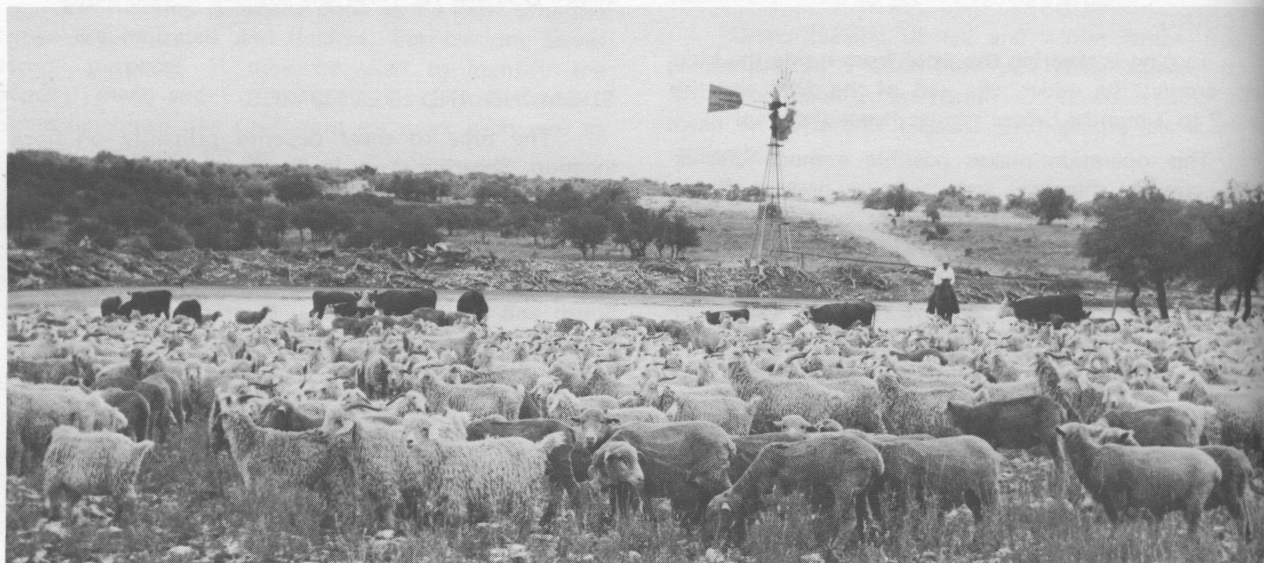
San Angelo, the largest sheep market in the United States, is an excellent market for both fat and feeder lambs as well as all other types of sheep.

Other good sheep markets include San Antonio, Lampassas, Goldthwaite and Uvalde. Smaller auction markets are scattered throughout the sheep producing area.

A great many order buyers purchase all classes of sheep at the ranch. A ranchman should follow the system that suits him best.

Wool can be marketed through one of the many Texas wool and mohair warehouses. A number of these warehouses buy outright while others handle it on a commission basis and still others handle it both ways. A few warehouses practice grading and market wool on a graded basis.

Select a warehouse that is capable of marketing wool to the best advantage.



Cattle, sheep and goats make the most efficient use of range land in many parts of Texas.

SUGGESTED READING

Texas Agricultural Extension Service Publications:

- MP-396 *Common Internal Parasites of Sheep and Goats*
- MP-691 *Texas Guide for Controlling External Parasites of Livestock and Poultry*
- MP-707 *Evaluation of Lambs for Carcass Retail Cutout Value*
- MP-721 *How Much Did You Get for Your Wool?*
- MP-820 *Texas Annual Ewe Costs and Returns by Areas*
- MP-834 *External Parasites of Sheep and Goats in Texas*
- MP-838 *Marketing Wool for More Profit*
- L-322 *Creep Feeding Lambs*
- L-616 *Seasonal Price Variations in Texas Lambs and Wool*

B-237 *Preparing Wool for Market*

B-858 *Selecting Sheep for Wool and Mutton Production*

Texas Agricultural Experiment Station Publications:

B-875 *Marketing Sheep and Lambs in Texas*

B-974 *Characteristics and Feasibility of Marketing Texas Grease Wool on a Known Quality Basis*

B-1050 *Reproductive Efficiency of Finewool Sheep*

MP-435 *Major Economic Factors Affecting Returns from Lamb Feeding in Texas*

MP-586 *Influence of Age and Fertility of Rambouillet Ewes on Lamb and Wool Production*

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