

EWES AND LAMBS CLUB

BOYS AND GIRLS 4-H CLUB CIRCULAR 20

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Ewe and Lamb Club*

The natural habit of the sheep is one of cleanliness. The true shepherd feeds from clean troughs, uses clean water-pails and beds his sheep in clean pens. This habit of cleanliness requires that whoever properly cares for it shall follow a methodical and precise program. Any ambitious, energetic boy or girl can learn to care for sheep, which will be a long step forward in learning how to care for other classes of livestock.

Sheep yield two crops annually—mutton and wool. People in all walks of life have need of articles made from wool. About 25% of the income from a flock of sheep is derived from the sale of wool. Mutton and lamb when properly grown and prepared are among the most wholesome and nutritious of meats. About 75% of the income from a flock of sheep is derived from the sale of lamb and mutton.

We are told that a permanent and profitable agriculture largely depends on livestock farming. If livestock farming continues to carry on, it will do so by methods of feeding and management that tend to make livestock production profitable.

Last but not least is the development of the boy and girl by association with other boys and girls interested in and working on the same project—all working together for a common cause, the development of self, community and country. What pride there is in personal ownership in caring for and feeding growing animals, in keeping accurate records of feed costs, gains and profit! Could anything be more important in laying the foundation of a successful life on the farm where contentment and happiness are as essential to the well being of country folk as to those of the city? It is intended that the material in this circular may assist the ewe and lamb club members in raising sheep more efficiently and economically.

BUYING THE EWES

In counties where thirty or more ewes are to be used in club work the best time to purchase them is in July or August. Normally, breeding ewes can be most advantageously purchased at this time of year, and an opportunity for a more uniform selection can be had.

*Originally prepared by S. F. Russell, former Extension Specialist in Animal Husbandry, in collaboration with T. T. Martin, State Club Agent. Present edition revised by T. A. Ewing, Extension Animal Husbandman.

The ewes can be bunched at one place during the breeding season. One ram can be used on from 30 to 50 ewes. The price of the ram can be prorated among the members.

Where fewer than thirty ewes will be wanted it is usually advisable to purchase them some time after breeding, not later than December 1.

The advisory committee should select and purchase the ewes for the members, secure a purebred ram, and see to the breeding of the ewes when this is necessary. This committee can be of assistance to the boys and girls throughout the club year and should advise the members whenever necessary.

The advisory committee should consist of about three men. These men should be interested in boys and girls and should be experienced and successful sheep raisers.

REQUIREMENTS OF THE 4-H EWE AND LAMB CLUB

(Ewe and Lamb Club Project; Flock Project)

Object.—The object of the ewe and lamb club work is to organize boys and girls into groups to demonstrate approved practices of sheep husbandry in the production of early lambs for market; and to train the members in rural leadership.

Work Required.—*Ewe and Lamb Club.*—Each club member is required to feed and care for 3 to 5 ewes and their lambs from at least two weeks prior to lambing until the lambs have reached market weight, (February lambs should reach a market weight of about 80 pounds by June), to dock and castrate the lambs when they are from ten days to two weeks old, to creep feed grain to the lambs while suckling, and to shear the ewes or have them shorn, (usually during the latter part of April or first part of May), according to the instructions of the Missouri College of Agriculture.

Flock Project.—Each club member is required to feed and care for 6 or more ewes and their lambs. Requirements otherwise are the same as for the Ewe and Lamb club. Boys or girls with the ewe and lamb project usually work into the flock project in from two to three years.

Records Required.—Each club member is required to keep a record of the cost and amount of feed used both for the ewes and lambs, beginning when ewes are bought. A statement of the cost and sale of ewes, lambs and wool, the amount of wool shorn from the ewes, and a story of the club experiences for the year shall be written in a report blank provided by the Extension Service of the Missouri College of Agriculture.

Ownership Required.—Each club member is required to own 3 to 5 ewes, in the ewe and lamb project and 6 or more in the flock project and to provide the necessary feed for the ewes and their lambs.

which will approximate 350 pounds of hay and 2 bushels of grain per ewe, the amount depending upon condition of ewe when winter comes, pasture and quality of hay.

Time Required.—Time necessary to feed and care for the ewes and lambs.

Time for attendance at six or more club meetings.

Time for one all-day club tour.

Time for one day at a club round-up or achievement exercise at the close of the year's work.



Fig. 2.—Winners of first prizes in their respective clubs.

Organization.—The ewe and lamb club should be organized in August. The ewes should be secured not later than August or if purchased after breeding not later than December in any case, and the work should be completed in June. (Extra good lambs may be retained for showing).

ORGANIZATION OF A STANDARD 4-H CLUB

A standard 4-H club is composed of a group of five or more boys, or girls from the same community between the ages of 10 and 21 years, who are working upon the same club project under the direction of a local club leader.

Each standard club usually is sponsored by a community organization of some kind, or by a small committee of interested persons, who are selected to speak and act for the community in cooperation with the county club leader in the conduct of 4-H club work.

If available, an interested farmer might be secured as an assistant for school clubs. Farmers or teachers who are interested will make good leaders for out-of-school clubs.

Standard 4-H clubs are required to hold at least six regular meetings during the club year. These meetings may be conducted as often as the local club leader and members desire; however, the meetings usually are conducted once each month.

Below are suggested problems for a number of club meetings. It may be necessary to devote two or more meetings to the same subject and to change the order of some of the meetings as an adjustment to the project and season of the year. *Local club leaders and members are expected to adapt these subjects to local community conditions.*

SUGGESTED MEETINGS FOR A 4-H EWE AND LAMB CLUB

I. Organization of the Club; Selecting Sheep.—The local club leader in charge. (Reference: The Club Secretary's Record Book or the Leader's Manual.)

1. Explanation of the duties and responsibilities of club officers and members.

2. Election of club officers from the membership of the club. (President, Vice-President, Secretary-Treasurer, Song Leader, and Reporter.)

3. Selection of name for the club. (So as to identify the club's community and this project.)

4. Selection of a time and place for regular club meetings.

5. **Instructions.**—The local club leader in charge.

(1). Distribution of the club literature and explanation of its use.

(2). Explanation of the ewe and lamb club project requirements and the standard 4-H club requirements.

(3). Adoption of the constitution and by-laws, as amended to suit local conditions. (The members may indicate their desire to carry out this project by signing their names as a pledge on blanks below the constitution and by-laws in the Club Secretary's Record Book.)

(4). Setting club goals.

(It is suggested that the club set up its own goals and write them out on blanks provided in the Club Secretary's Record Book.)

- (5). Discussion of the main club activities for the year and setting up of a local club calendar of events for the club, including community and county-wide events in which the members desire to take part. (See blanks in the Club Secretary's Record Book.)
- (6). Discussion:
 - a. Buying the Ewes, page 10.
 - b. Selecting the Breeding Ewes, page 10.
 - c. Breeds of Sheep, page 11.
 - d. Selecting the Ram, page 13.
- (7). Assignment of work for the next club meeting, as:
 - a. Assignment of the national 4-H club pledge to be learned by all members before the next meeting. (See suggested outline of Meeting II.)
 - b. Bringing of report blanks for use in the club meeting.
 - c. Reference: Feed and Management of the Ewes. (See Meeting II for detailed assignment.)
 - d. Assignment of one or more topics to be used in response to roll call at the next meeting, as:
 - (a). Name a standard club requirement.
 - (b). Name the important mutton breeds of sheep.
 - (c). Name the five wool breeds of sheep.
 - (d). Name the most important roughages used for sheep.
 - (e). Name the grains that are grown on the farm which are suitable for sheep feeding.
 - (f). Name some temporary and permanent pastures for sheep.
 - (g). Give a good ration for bred ewes.
 - e. **In order to make the regular club meetings more interesting, it is suggested that the local leader encourage the members to appoint a program committee at the next club meeting to feature some special number at each club meeting, such as: a reading, dialogue, musical selections, story, debate, or talk by an invited guest; and possibly a one-act home talent play for some program during the year.**
- (8). **The Social Hour.**—(Recreation, games, etc.)

II. Feed and Management of the Ewes.

1. **The Business Meeting.**—The club officers in charge. (Reference: The Club Secretary's Record Book.)

- (1). Meeting called to order by the president, who leads the members in repeating the national 4-H club pledge, as follows:
 "I pledge my **head** to clearer thinking, my **heart** to greater loyalty, my **hands** to larger service, and my **health** to better living, for my club, my community and my country."
- (2). Roll call by the secretary, the members responding by reporting upon the previously assigned topics.
- (3). Reading of the minutes of the last club meeting by the secretary, which should be adopted as a permanent record by the club when approved.
- (4). Unfinished business:
 - a. Business from the last meeting.
 - b. Committee reports.
- (5). New Business:
 - a. Appointment of a program committee to plan for special activities at future club meetings.
 - b. Appointment of a social committee.
 - c. Anything for the benefit of the club, such as a picnic, club tour, special meeting, club dramatics, etc.
- (6). Songs, led by the song leader.
- (7). Adjournment of the business meeting for work.

2. **Instructions.**—The local club leader in charge.
 - (1). Discussion: Feed and Management of Ewes, Chapter II, page 14.
 - a. Fall Care.
 - b. The Breeding Season.
 - c. Winter Feed and Care.
 - d. Care During the Lambing Season.
 - (2). Demonstration: Drenching the ewe for control of parasites.
 - (3). Assignment of work for the next club meeting, as:
 - a. References: Lamb Management. (See Meeting III for detailed assignment.)
 - b. Bringing of report blanks for use in the club meeting.
 - c. Assignment of one or more topics to be used in response to roll call at the next meeting, as:
 - (a). Name a standard 4-H club requirement.
 - (b). Give a good ration for the ewes during the lambing period.
 - (c). Name the most important things to be observed in care of the ewe at lambing season.
3. **The Social Hour.**—(Recreation, games, etc.)

III. Lamb Management.

1. **The Business Meeting.**—The club officers in charge. (Follow order of business as suggested for Meeting II.)
2. **Instructions.**—The local club leader in charge.
 - (1). Discussion: Lamb Management, Chapter III, page 17.
 - a. Docking and Castrating.
 - b. Creep Feeding Grain to Suckling Lambs.
 - c. Marketing the Lamb Crop.
 - (2). Demonstration: Determining when lambs are ready to go to market.
 - (3). Assignment of work for the next meeting, as:
 - a. Reference: Judging and Showing Sheep. (See Meeting IV for detailed assignment.)
 - b. Bringing of report blanks for use in the club meeting.
 - c. Assignment of one or more topics for roll call, as:
 - (a). Name a standard club requirement.
 - (b). Give the age at which lambs should be docked and castrated.
 - (c). State why docking and castrating are important.
 - (d). Tell what is meant by "creep feeding" lambs.
 - (e). Suggest a ration for suckling lambs.
3. **The Social Hour.**—(Recreation, games, etc.)

IV. Judging and Showing Sheep.

1. **The Business Meeting.**—The club officers in charge. (Follow order of business suggested for Meeting II.)
2. **Instructions.**—The local club leader in charge.
 - (1). Discussion: Judging and Showing Sheep, Chapter IV, page 21.
 - a. Judging Sheep.
 - b. Showing Sheep.
 - c. Preparing for Show.
 - (2). Demonstration: Preparing a lamb for the show.
 - (3). Assignment of work for the next club meeting, as:
 - a. Reference: The Club Tour; the Wool Crop. (See Meeting V for detailed assignment.)
 - b. Bringing of report blanks for use in the club meeting.
 - c. Assignment of one or more topics for roll call, as:
 - (a). Name a standard club requirement.
 - (b). Name the five wool breeds of sheep.

(c). Name the medium wool breeds of sheep.

(d). Name the long wool breeds of sheep.

3. **The Social Hour.**—(Recreation, games, etc.)

V. **The Club Tour; The Wool Crop.**

1. **The Business Meeting.**—The club officers in charge. (Follow order of business suggested for Meeting II.)

2. **Instructions.**—The local club leader in charge.

(1). Discussion: The Club Tour; The Wool Crop, Chapter V, page 26.

a. Suggestions for Shearing and Preparing Wool for Market.

b. Classes and Grades of Wool.

c. Terms Used in the Wool Trade.

d. Practice Judging.

(2). Demonstration: Shearing demonstration.

(3). Assignment of work for the next club meeting, as:

a. Reference: Sheep Parasites and Their Control. (See Meeting II for detailed assignment.)

b. Bringing of report blanks for use in the club meeting.

c. Assignment of one or more topics for roll call, as:

(a). Name a standard club requirement.

(b). Name the parasites which most commonly infest sheep in Missouri.

3. **The Social Hour.**—(Recreation, games, etc.)

VI. **Sheep Parasites and Their Control.**

1. **The Business Meeting.**—The club officers in charge. (Follow order of business as suggested for Meeting II.)

2. **Instructions.**—The local club leader in charge.

(1). Discussion: Sheep Parasites and Their Control, Chapter VI, page 31.

a. External Parasites.

b. Internal Parasites.

(2). Demonstrations: Individual demonstrations by all members as try-outs to be one of the club demonstration team.

(3). Assignment of work for the next club meeting, as:

a. Reference: The 4-H Club Achievement Program. (See Meeting VII for detailed assignment.)

b. Bringing of completed report blanks to give to the leader before the achievement club program is held.

c. Appointment of committees to help prepare for the achievement club program and conduct it, as:

(a). Committee on arrangements, place, equipment, etc.

(b). Committee on decorations if desired.

(c). Courtesy committee to welcome visitors and to act as ushers, if needed.

3. **The Social Hour.**—(Recreation, games, etc.)

VII. **Suggested 4-H Achievement Club Program.**—(To be held when the club work is completed).

1. A regular club meeting, with the club officers in charge.

2. Exhibits of sheep.

3. A team demonstration of an approved club practice.

4. A judging contest.

5. Talk by the local club leader, a representative of the sponsoring organization or parent, on the value of 4-H sheep club work.

6. Plans for next year.

7. Presentation of club achievement pins, if awarded, by the extension agent or a representative of the local sponsoring organization.

8. A 4-H club play or dramatic presentation of some kind.
9. Adjournment.

Suggestions.—Only club members who make a complete report or have their records up-to-date should be eligible to take part in county or state contests, club camps, etc.

SELECTING THE BREEDING EWES

The inexperienced sheep raiser should begin with grade ewes of the best class available. Good, strong western or native ewes can be secured. For the most part the range ewes are of Merino breeding. First-cross stock, bred on the range and sired by rams of the "down" or long-wool breeds, are sometimes obtainable. The sheep from the range are less often infested with internal parasites than are farm sheep, and in the large shipments there is opportunity for closer selection. This class of sheep can be purchased on the livestock markets.

That ewes should be young, uniform in size and conformation, showing constitution and vigor, applies to "westerns" as well as to natives. They should be examined for age, being sure to buy for breeding purposes only ewes with good mouths, that is, young enough so that their teeth are in good enough shape to eat feed. Also select ewes with good sound udders; since ewes with bad udders seldom raise good lambs. The fleece should be dense and bright, fibres of wool, fine and strong. Fleeces from the most practical farm flocks usually grade "one-fourth blood," "three-eighths blood" or "half blood" combing. These wools range from two and one-half inches to four inches in length, and correspond to the wool produced by the "down" breeds.

On the average, under corn belt conditions 75% of the returns from a flock of sheep are from lambs or mutton and 25% from wool. These relative percentages should always be kept in mind in selecting breeding stock.

Those who buy purebred ewes will do well to select a breed that is adapted to local conditions and whose usefulness is evident by its wide distribution in order that a ready market is available for the surplus stock. Two of the popular breeds in the corn belt are the Shropshire and Hampshire. Such ewes should be typical of the breed they represent, uniform in size and conformation, well grown and thrifty. A strong constitution is evidenced by a wide spring of ribs and deep full chest. The back should be strong with a thick covering of natural flesh. A little more length of coupling is required in the ewe than in the ram. The body should stand squarely on the

four legs with strong feet and pasterns. When possible the purchaser should examine the ewes personally. For further information see score card for breeding animals on page 24. Reference, Farmers' Bulletin 840, U. S. D. A.



Fig. 3.—The ewe should be typical of the breed she represents, well grown and thrifty with a wide spring of rib, deep chest, thick covering of natural flesh, strong back and stand squarely on her four legs. The ewe should be more refined than the ram.

Breeds of Sheep.—According to U. S. D. A. Bulletin 576 there are thirty breeds of improved sheep that have been brought to fixed types. The better known breeds can be grouped into three classes, each class having its own general qualities.

Medium wool breeds.—Southdown, Shropshire, Hampshire, Oxford, Suffolk, Dorset, Tunis, and Cheviot. The first five breeds are referred to collectively as “down” breeds, because of the nature of the country in which they were developed. The “down” breeds have all been developed primarily for mutton. The face and leg color

of all the "down" breeds is some shade of brown or black. The fleece occupies a middle position between length and coarseness of the long wools and the extreme fineness and density of the fine wools.

Long wool breeds.—Cotswold, Leicester, Lincoln and Romney Marsh. The long wool sheep are bred chiefly for mutton and are the largest of all breeds of sheep. Their fleece is coarse, long and open. They are large bodied sheep with very broad backs. As their size indicates, they have been developed for level lands where feed can be obtained without much travel.

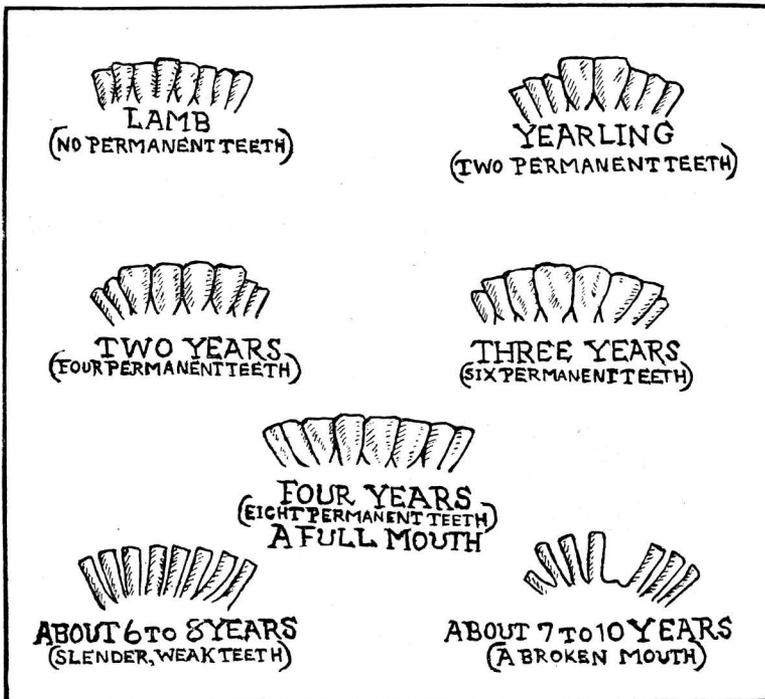


Fig. 4.—Diagram showing condition of sheep's teeth at various ages.

Fine wool breeds.—American Merino and Rambouillet. The Merinos have been developed primarily for wool production. The wool is finer than that produced by any other breed of sheep. They are divided into three types, A, B, C, according to fineness of wool and freedom from folds or wrinkles. The instinct to herd together made this breed popular on the range.

The Rambouillet is larger than the Merino and of better mutton type. The fleece is usually longer but not quite as fine as the Merino fleece.

SELECTING THE RAM

Only purebred rams of the correct type should be used on either grade or purebred ewes. For the grade flock one should pay attention to useful points rather than fancy ones. The ram should be thick, blocky, set rather close to the ground, wide of back and chest, well fleshed, strong masculine head, thick, short neck, and good bone. The hind quarters should be full and deep. Such a ram will produce far better market lambs than one that is rangy, narrow and high off the ground.

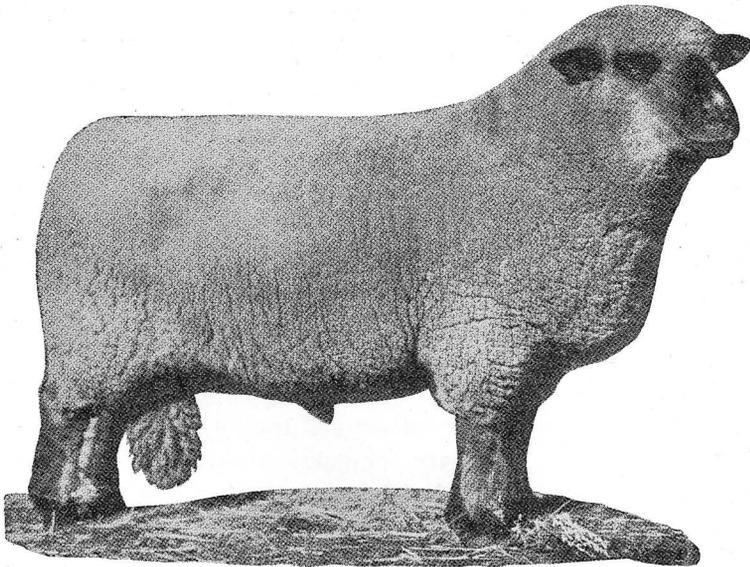


Fig. 5.—The ram should be strong, masculine, thick through the chest, deep in heart girth, thick fleshed and purebred. (Courtesy of the Colorado Agricultural College.)

The fleece is an important item in selecting the ram. It should be dense, fine, and strong, showing plenty of crimp and lustre.

In selecting a ram the breed type should not be overlooked. Before purchasing a purebred ram learn all you can about the characteristics of the breed you have chosen, and then select a ram that shows breed characteristics, type and masculinity.

If the ewes are small and fine a ram of the opposite type should be selected. If the ewes are large and coarse, select a smaller, more compact ram. Remember that the ram is half the flock and too much care cannot be given to his selection.

Results at the Missouri Experiment Station show that good rams pay. A purebred mutton ram and a scrub ram of unknown breeding were used in the experiment. The ewes in the experiment were grade "Westerners." The experiment was conducted in 1913.

Owner		Value of lambs sired by grade or scrub ram	Value of lambs sired by registered ram	Value added per head by use of registered ram
U. of Mo., Columbia	(1913)	\$2.52	\$4.38	\$1.86
U. of Okla., Stillwater	(1923)	14.01	15.99	1.98
Frank Wingate, Monroe County	(1926)	10.56	12.32	1.76
W. H. Gardner, Boone County	(1927)	9.41	(1928) 11.97	2.56
John Sam Williamson, Boone County	(1930)	11.14	13.53	2.39

This table shows that over a period of fifteen years the value of good rams has in reality remained constant, due to the spread between good and inferior lambs regardless of the market top price.

II. Feed and Management of the Ewes

FALL CARE

The important things to be attended to in the fall are the selection of the ram and the culling of the ewes. Culling of the ewes is very important. Poor producers, those with spoiled udders, old ewes and ones that fail to breed in a fair season should be disposed of in order to make room for more productive animals. Mark the ewes that are unproductive as they are noticed and then when time for culling arrives it will not be necessary for guess work.

Until freezing weather the sheep can run on stubble fields, and meadows, and can clean fence rows. This will add greatly to the appearance of any farm and make use of feeds that would otherwise be wasted.

THE BREEDING SEASON

Ewes should not be bred until they are past one year old. The time at which to breed ewes will depend on the equipment, kind of feed and experience of the owner. Where reasonably good buildings are provided, with plenty of feed of the right kind, the ewes should be bred by September 1. The date of breeding should be kept as a record for future reference. If the ewes are in good condition they will need no further feed than the grass. However, if the ewes are thin and run down it is a good plan to feed some grain. This practice

is called "flushing." Flushing the ewes by either feeding grain or turning them on a fresh pasture, such as lespedeza or mature rape two or three weeks before mating begins will have a tendency to put them in the best possible physical condition. By adopting this practice the ewes will come in heat sooner and usually a larger per cent of lambs will be born. Over a period of six years the U. S. Department of Agriculture's comparisons made with flushed and unflushed lots showed that an average increase of 18.7 lambs per 100 ewes were obtained as a result of flushing and that the lambs were born within a shorter lambing period.

The main thing to keep in mind in regard to the ram at breeding time is, to not let him get in a run-down condition. On the other hand, care should be taken not to get the ram too fat. Before the breeding season he should be in fair condition, given plenty of exercise, comfortable quarters when not with the ewes, and enough nutritious feed to keep him thriving. Best results will occur where the ram is allowed with the ewes only at night during the breeding season and then removed from them altogether during the day and fed some grain.

WINTER FEED AND CARE

After the first few hard freezes in the fall the ewes should be given some feed in addition to the pasture. This is a good time to start feeding a small amount of clover or alfalfa hay. Winter management has a very important relation to the returns from the flock. The feeding should be such as will produce the most vigorous lambs and keep the wool in the best condition. Ewes should gain slightly all through the period of pregnancy, from 5 to 10 pounds per head. A cheap, efficient ration is essential to success.

Rations that have given good results at the Missouri Experiment Station follow. (These rations are figured for a ewe weighing 100 pounds in fair condition.)

RATIONS BEFORE LAMBING

No. 1.

2 pounds clover hay

2½ pounds corn silage

No. 2.

2½ pounds clover hay

2 pounds corn stover

After lambing add ½ to 1½ pounds of the following grain mixture to the ration for each ewe, depending on her condition.

Corn 6 parts

Oats or bran 3 parts

Linseed oil meal, 1 part

} By weight

A winter ration should have as its foundation a leguminous hay, either alfalfa, clover or soybean.

Comparison of an excellent and a poor ration for wintering breeding ewes. Based on 100 pounds live weight.

EXCELLENT RATION

Corn 3 parts	}	Feed at the rate of $\frac{1}{2}$ pound up to lambing time, and 1 to 2 pounds after lambing.
Oats 5 parts		
Bran 3 parts		
Linseed oil meal, 1 part by weight		

Corn silage	}	Feed to satisfy appetite, feeding $2\frac{1}{2}$ -3 pounds of silage; and 2 to $2\frac{1}{2}$ pounds of hay.
Clover or Alfalfa hay		

POOR RATION

Corn $\frac{1}{2}$ pound	}	This ration is very inferior. It lacks protein and mineral matter and is unpalatable and constipating.
Timothy hay		
Corn stover		

When ewes go into winter quarters in good condition and are receiving plenty of legume hay they will need little if any grain until five or six weeks before lambing time. Plenty of clean, fresh water and a mineral mixture of equal parts by weight of salt, fine lime, and bone meal fertilizer should be kept before the sheep at all times. (Reference Extension Service Circular 333, "Missouri Plan of Sheep Improvement").

Exercise is very important to the health of the breeding ewes during the winter period. It does the ewes most good when they take exercise naturally on some sort of pasture, but if they are inclined not to exercise they will be greatly benefited by daily walks. A good way to induce ewes to take exercise is to scatter their dry roughage, such as corn stover, over the ground for a considerable distance. Plenty of regular exercise will decrease toxic poisoning, which causes heavy losses each year in Missouri.

The sheep should be provided with dry, well ventilated quarters, and care should be taken not to confine them too closely or have their quarters too warm. A shed open to the south on well drained ground will suffice for shelter. Such a shed should have a lambing apartment boxed off in one end for cold weather.

CARE DURING THE LAMBING SEASON

If the ewes have been properly fed and cared for during the winter, fewer difficulties will be experienced at lambing time. However, the amount of money to be made from the flock will still depend

on the way the ewes are handled during this period. The breeding date will be of great assistance at this time as it will enable one to determine the approximate lambing date. Ewes usually carry their young about 147 days.

Heavy grain feeding just before lambing is likely to cause udder trouble. The grain ration should be limited to small amounts of rather bulky grains, such as bran and oats. Just before lambing all wool and tags should be clipped short from around the udder to allow the lambs to find the teats readily. A short time before lambing the ewe becomes restless and appears sunken in front of the hips. For best results she should be removed from the other sheep and put in a separate pen. A pen five feet square is plenty large enough and can be made out of portable hurdles placed along the inside or end of the barn or shed. This will prevent the lamb from being trampled or lost from its mother and will give the ewe a chance to become acquainted with her offspring.

The first few minutes of a lamb's life are very important and the owner should be close at hand at lambing time. Experience will go a long way in teaching the sheep raiser just what is necessary to be done during this season. This is a wonderful opportunity for the development of the power of observation, which is essential to successful sheep husbandry. It is essential that the young lamb does not become chilled and usually that it nurses within the first half hour after birth. When the lamb has developed strength enough to walk and has nursed once, there will be little need of further attention. The ewe should remain in her pen until the lamb is strong enough to follow her about. Feed the ewe sparingly for a day or two after lambing. Keep plenty of clean fresh water before her. (Reference, U. S. D. A. Farmers' Bulletin 840.)

III. Lamb Management

DOCKING AND CASTRATING

When 10 days to two weeks old, lambs should be docked. For the sake of convenience, both docking and castrating may be done at the same time. A bright clear day with the prospects of several more to follow is the best kind of weather for docking and castrating as the wounds heal faster than when the weather is damp and cold. The operation should be conducted under sanitary conditions, using plenty of reliable disinfectant (such as Lysol or carbolic acid). One man holds the lambs by gathering its four legs together, setting the

lamb on its rump and on a board or barrel which is about waist high, and holding the lamb tightly against his body.

In docking lambs either of two methods may be used successfully: one by cutting off with a sharp knife, the other by burning with a docking iron. The former is most generally used; however, the latter is advisable if the lambs are over one month old. The lambs will bleed more when a knife is used, but the wound will heal more quickly than when the docking iron is used. The tail should be cut off about an inch from the body. With the fore finger and thumb of the left hand push the skin around the tail toward the body. When the tail is removed the skin will drop down and cover the end of the tail bone; this hastens healing. It is best not to pull the tail when cutting is done in order that the end of the bone will not be exposed when the skin regains its normal tension. For further information: Missouri Agricultural Extension Service Circular 331, "Docking and Castrating Lambs."

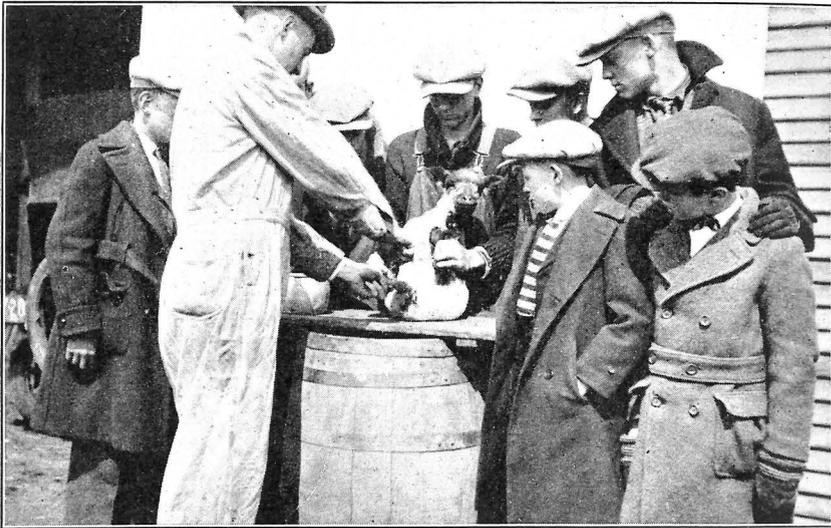


Fig. 6.—Future Missouri shepherds learning how to dock and castrate lambs.

CREEP FEEDING GRAIN TO SUCKLING LAMBS

The reason for feeding grain to suckling lambs are:

1. That the finish or fatness of lambs can be materially increased by feeding grain in a creep.
2. That, on the average, lambs will be ready for market at a younger age, when prices are the highest.
3. That the most economical gains are made with grain while the lamb is getting its mother's milk.

4. That the shrinkage will be less in shipping.
5. That the number of culls can be greatly reduced.
6. That a greater return on investment will be received.

As a general rule it is better to have lambs in farm flocks come early (February), for then one can devote more time to them. They

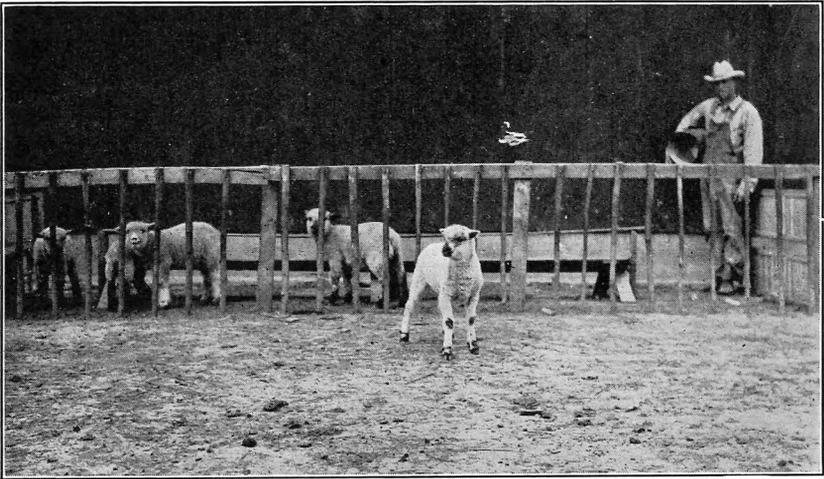


Fig. 7.—A lamb feeding creep in use on a Missouri farm.

learn to eat grain before the grass season opens and are ready for the market that is normally best, which is when they are from three to four months of age. At this time they should still have their "baby fat" and should weigh 75 to 80 pounds.

The "creep," Fig 7, or pen, affords a place where the young lambs may eat without disturbance from the ewes. A warm, sunny place in the barn or shed is an ideal location for the creep. Inside the creep there should be troughs for grain and a small rack for hay. The troughs should be from 9 to 12 inches wide and four inches deep. A six-inch board should run the full length of the trough ten inches above the bottom and supported at each end.

All lambs produced for an early market (sold by July) should be fed liberally as soon as they will eat. Most lambs will start eating when around two weeks old and the creep should be ready by the time the ewes start lambing. Clean troughs daily and feed small amounts of grain at first. After the lambs get to eating perhaps the best plan is to feed them twice daily about what they will clean up in fifteen minutes. When the lamb reaches two months of age it will be eating from $\frac{1}{2}$ to $\frac{3}{4}$ pounds of grain daily. Crushed or ground grain may be

best for the first six weeks, then gradually change to whole grain. Lambs at the Missouri Experiment Station required from 55 to 88 pounds of grain per 100 pounds gain while suckling their mothers.

Recommended grain rations for suckling lambs are:

No. 1

Corn 2 parts	}	Feed crushed corn and oats until lambs are six weeks old. Feed whole grain after six weeks. The ration is ideal for producing purebred sheep where growth is essential.
Oats 2 parts		
Wheat bran 1 part		
Linseed oil meal 1 part		

No. 2.

Corn 9 parts	}	A good ration when the supply of leguminous hay is limited. An excellent ration for fattening lambs.
Linseed oil meal 1 part		

No. 3.

Corn 6 parts	}	To be fed in connection with leguminous hay. A fat producing ration and a very practical one.
Oats 2 parts		

Taking the grain away from the lambs when they are turned on grass is a very common mistake. Arrangements should be made for the continued feeding of grain to the lambs until they are marketed.

MARKETING THE LAMB CROP

Early lambs should be marketed without loss of their "milk" or "baby" fat, and before the hot, dry summer months of July and August. Late lambs dropped in April and May in most cases will be carried through the summer and fattened in the fall. The chief reasons for marketing the lambs early (before July 1) are:

1. Higher market.
2. Eliminates parasite (particularly stomach worm) infestation.
3. 47% of the lamb crop in the U. S. is marketed in August, September, October, November (4 fall months); 26.1% of the lamb crop in the U. S. is marketed in March, April, May and June (4 spring months).
4. Prevents loss in weight of lambs during hot dry weather in July and August.

IV. Judging and Showing Sheep

JUDGING SHEEP

The average person probably knows less about the method to follow, and the points to look for, in judging sheep than in other types of livestock. With other stock the judge can depend almost entirely upon his eye in arriving at his decision; with sheep, however, he must not only use his eyes, but to verify his opinion he must handle the individual. The fleece on the sheep is very apt to cover defects which can be determined only by handling. The best judges have a natural aptitude for the work and are constantly at it, whether in the show ring, feed yard or field. It is natural for them to be always comparing points and qualities of individuals and weighing their value.

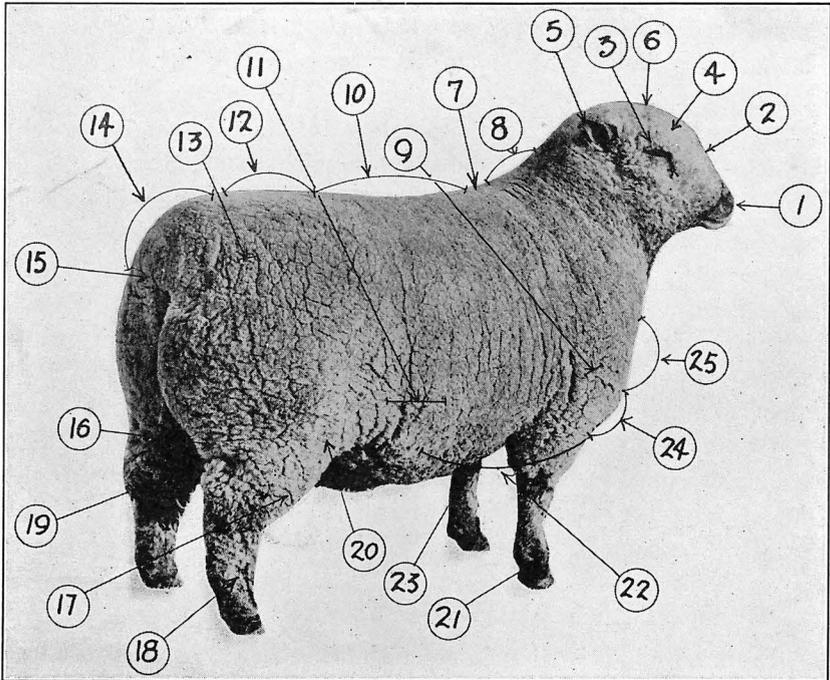


Fig. 8.—The external parts of a sheep. 1. Muzzle broad, lips thin, nostrils large. 2. Face short, features clean-cut. 3. Eyes large and clear. 4. Forehead broad. 5. Ears alert and not coarse. 6. Poll wide. 7. Top of shoulder compact. 8. Neck short, thick, blending smoothly with shoulder. 9. Shoulder thickly covered with flesh. 10. Back broad, straight, thickly and evenly covered. 11. Ribs long, well sprung, and thickly covered. 12. Loins broad, thick, and well covered. 13. Hips wide and smooth. 14. Rump long, level, and wide to dock. 15. Dock thick. 16. Twist deep and firm. 17. Thighs full, deep, and wide. 18. Legs straight, short, and bone smooth. 19. Cod or purse in wether, scrotum in ram, udder in ewe. 20. Flank full and deep. 21. Forelegs straight, short, and strong. 22. Chest deep, wide, and full. 23. Forelegs wide apart and forearm strong. 24. Brisket full and rounding in outline. 25. Breast well extended.

The score card is the most helpful guide that the beginner can use. A detailed description of an ideal animal is given in a systematic way and its use will help in developing a definite system of judging. In addition to the above the score card enables one to become familiar with the various parts of the animal and to learn the meaning of words and terms used in judging. It takes a good animal to score 75 points out of the 100, and a choice one to score 90 points.

After you have become thoroughly familiar with the score card you are ready for comparative judging. Instead of balancing the various points of an individual against the ideal, as with the score card, you compare the parts of two or more animals of the same kind. Always keep in mind the standard which they should approach. It is advisable to follow a definite plan or scheme and work systematically, comparing part by part, with the animals before you. The animals to be compared or judged should be numbered or lettered as 1, 2, 3, 4, etc. The beginner should write down his reasons for placing the animals. Reasons, whether written or oral, should be brief, systematic, and convincing, and given in the form of a comparison or contrast, telling why the animal placed first excels the animal placed second, etc.

Inspect the animal from a distance and note the general makeup from the front, side, and rear. Then verify your observations by going over the sheep with the hands. In doing the latter keep the fingers close together. Practice is necessary to gain the correct touch. Pounding and clawing the animal is entirely out of order; handle it gently. Follow the points as outlined on your score card. After you have handled the animal examine the fleece by parting the wool with your hands well down on the shoulder, ribs and thigh. Examine the fleece for quantity, quality, and condition. At the same time examine the skin. (Reference U. S. D. A. Farmers' Bulletin 1199, "Judging Sheep.")

SHOWING SHEEP

From an educational standpoint showing sheep, as well as other types of livestock, develops the art and skill of the boy or girl, in proper selection, feeding and fitting of animals. The show ring is not intended to educate the stockman to have his animals in show-yard condition at all times, but rather to educate and inspire him to select animals of superior breeding and of such individuality that he can make them attain the size, conformation, quality and condition most desirable when the time comes to market them.

SCORE CARD FOR MUTTON SHEEP; FAT WETHERS

SCALE OF POINTS	Possible Score	Points Deficient	
		Member's Score	Corrected
Age, estimated.....yrs., actual.....yrs.			
GENERAL APPEARANCE—26 Points			
Weight, estimated.....lbs., actual.....lbs. score according to age.....	6		
Form, straight top line and underline, deep, broad, low, medium length, symmetrical, compact, standing squarely on legs.....	8		
Quality, bone of firm texture, fine skin, silky hair, clearly defined features and joints, mellow touch, fleece soft, fine, pure.....	6		
Condition, healthy, thick, even covering of firm flesh, especially in re- gions of valuable cuts, indicating finish, light in offal.....	6		
HEAD AND NECK—8 Points			
Muzzle, good size, lips thin; nostrils large and well apart, jaws wide.....	1		
Face, short, broad, profile straight.....	1		
Eyes, large, full, clear, bright.....	1		
Forehead, broad.....	1		
Ears, well carried, fine, medium size.....	1		
Neck, thick, short, well set, throat clean.....	3		
FOREQUARTERS—10 Points			
Shoulder Vein, full, smooth.....	2		
Shoulders, smoothly covered with firm flesh, compact.....	4		
Brisket, broad, full, breast wide.....	2		
Legs, straight, short, strong, wide apart; forearm full; shank fine; feet sound.....	2		
BODY—25 Points			
Chest, deep, broad; girth large; foreflank full.....	4		
Back, broad, straight, medium length, thickly, evenly and firmly fleshed.....	7		
Ribs, deep, well sprung, closely set, thickly, evenly and firmly fleshed.....	6		
Loin, broad, straight, thickly, evenly and firmly fleshed.....	6		
Flank, full, low.....	2		
HINDQUARTERS—20 Points			
Hips, smoothly covered, proportionate width.....	3		
Rump, long, level, width well carried back; thickly, evenly and firmly fleshed.....	5		
Thighs, deep, wide, well fleshed.....	4		
Twist, deep, broad, well filled.....	6		
Legs, straight, short, strong; shank smooth, sound.....	2		
FLEECE AND SKIN—11 Points			
Quantity of Wool, long, dense, even, well distributed over body.....	3		
Quality of Wool, fine, soft, pure, even, crimp close and uniform.....	3		
Condition of Wool, bright, strong, clean, yolk abundant.....	2		
Skin, pink, color clear.....	3		
Total.....	100		

SCORE CARD FOR MUTTON SHEEP, BREEDING ANIMALS

SCALE OF POINTS	Pos- sible Score	Points Deficient	
		Mem- ber's Score	Cor- rected
Age, estimated.....yrs., actual.....yrs.			
GENERAL APPEARANCE—28 Points			
Weight, estimated.....lbs., actual.....lbs. score according to age.....	5		
Form, straight top line and underline; deep, broad, low, medium length, symmetrical, compact, standing squarely on legs.....	7		
Quality, bone of firm texture; fine skin, silky hair; clearly defined fea- tures and joints; mellow touch; fleece soft, fine, pure.....	6		
Condition, healthy, naturally thickly, firmly and smoothly fleshed, espe- cially in regions of valuable cuts.....	3		
Style, active, graceful carriage.....	1		
Temperament, male, aggressive but not vicious; female, quiet, docile.....	1		
Sexuality.....	5		
HEAD AND NECK—9 Points			
Muzzle, good size, lips thin, nostrils large and well apart, jaws wide.....	2		
Face, short, broad, profile straight.....	1		
Eyes, large, full, clear, bright.....	1		
Forehead, broad.....	1		
Ears, well carried, fine, medium size.....	1		
Neck, thick, short, throat clean.....	3		
FOREQUARTERS—10 Points			
Shoulder Vein, full, smooth.....	1		
Shoulders, smoothly covered with firm flesh; compact.....	4		
Brisket, broad, full, breast wide.....	2		
Legs, straight, short, strong, wide apart; forearm full, shank fine, feet sound.....	3		
BODY—22 Points			
Chest, deep, broad, girth large, foreflank full.....	5		
Back, broad, straight, medium length, thickly, evenly and firmly fleshed..	5		
Ribs, deep, well sprung; closely set, thickly, evenly and firmly fleshed..	5		
Loin, broad, straight, thickly, evenly and firmly fleshed.....	5		
Flanks, medium full, low.....	2		
HINDQUARTERS—16 Points			
Hips, smoothly covered, proportionate width.....	2		
Rump, long, level, width well carried back; thickly, evenly and firmly fleshed.....	4		
Thighs, deep, wide, well fleshed.....	3		
Twist, deep, broad, well filled.....	4		
Legs, straight, short, strong, shank smooth; feet sound.....	3		
FLEECE AND SKIN—15 Points			
Quantity of Wool, long, dense, even, well distributed over body.....	4		
Quality of Wool, fine, soft, pure, even, crimp close and uniform.....	4		
Condition of Wool, bright, strong, clean, yolk abundant.....	3		
Skin, pink color, clear.....	4		
Total.....	100		

PREPARING FOR SHOW

Preparing the sheep or lamb for show should begin at least one month before the time the animal is to be shown at community or county fairs and continued until the State Fair if the lamb is to be carried that far. The first step is trimming the fleece, or cutting off with a pair of hand sheep shears, the rough ends of the wool fibers and is known as "blocking out." Before the animal is "blocked out" the fleece should be slightly dampened. The tangled ends of the wool should be combed out with a curry comb then be separated with a wool card (see illustration page 26). Now hold the shears flat and trim off the loose ends. Next square off the dock. This brings out the blockiness of the lamb when viewed from the rear. Lambs or sheep should receive these trimmings regularly about every two weeks and just prior to taking them into the show ring. Keep the fleece as clean as possible. The feet also should be trimmed with a sharp knife or pruning shears

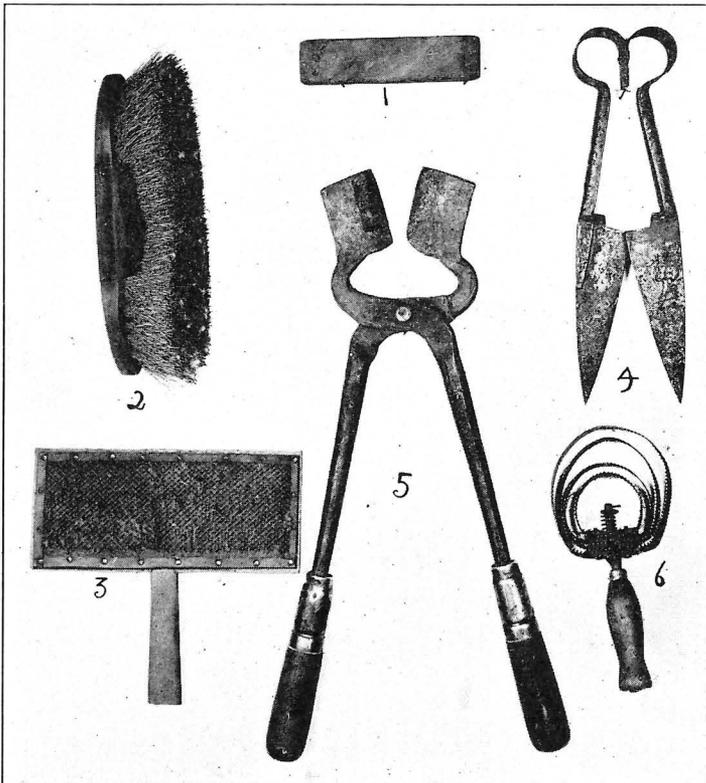


Fig. 9.—Equipment used in preparing sheep for show. (1) Whetstone, (2) Brush, (3) Wool card, (4) Sheep shears, (5) Docking Iron, (used for docking lambs), (6) Round curry comb. In addition a pail and a sheep halter will be found to be of great assistance.

so the sheep will stand squarely on its legs. It is usually necessary to trim the feet every six weeks. In every community there is likely to be an experienced shepherd; secure his advice and assistance. Experience is very necessary to be successful in fitting a sheep for show and is the only way to learn how to become a good showman.

A boy or girl who is really interested in his or her work will spend considerable time in training lambs before the show. Handle the lambs quietly and carefully. One of the best ways to catch the lamb is by the flank and then by placing one hand under the jaws and the other hand at the dock the animal can be led without injury. By the same method the lamb can be made to stand squarely on its legs with its head and neck in the proper position. After several handlings the lamb will quiet down and respond readily to kind treatment. Always remember that interest and pride in what you are doing will carry you a long way toward success.

V. The Wool Crop

Careful attention should be given the wool produce or fleece in order to materially increase the income. Sheep should be selected for their wool producing characteristics as well as for their mutton qualities. To realize a maximum return from wool the sheep must be properly fed and handled. This requires plenty of nutritious feed, parasite control and keeping the fleece free from chaff, dirt, and burrs.

SUGGESTIONS FOR SHEARING AND PREPARING WOOL FOR MARKET

To realize full value for the wool, observe the following points when shearing and preparing wool for market:

1. Shearing should be done in Missouri in the spring as soon as the weather is warm, usually the latter part of April or early May.
2. The fleeces should be absolutely dry when shorn.
3. Shear on a clean, smooth well-swept floor. Never shear on a floor strewn with chaff, straw or litter of any kind.
4. The wool should be taken off close to the skin and cut only once. A good fleece may be ruined by cutting the wool fibers up in short pieces.
5. Remove tags, filth and other foreign matter from your fleeces, and sack the tags separately from your wool. Wool manufacturers are human beings—they are apt to remember the burrs, manure, and

trash they got in last year's wool when they make offers on next year's clips. Make your fleece into a neat, clean package. Fleeces can best be tied by using a wool box.

If the wool box is not available the following method can be used.

After the fleece is shorn spread it out on a smooth clean floor or table, flesh side down; care should be used to not tear it apart. Then fold in the ragged edges and roll or fold the fleece over into a neat bundle so that nothing will show except the white side. Pass the string directly around the middle of the fleece one way then across and around the other way. Two strings each way are usually sufficient to hold the fleece firmly together. Tie the fleece with paper twine. Binder or other rough twine should not be used.

All wool of a low merchantable value should be separated from the high quality wool. This means that burry, chaffy, dirty, cotted black, and dead fleeces should be separated from others.

Where twenty or more sheep are kept on one farm the wool should be sacked in seven or seven and one-half foot burlap bags that are about three feet in diameter. Such bags will hold 20 or 25 ordinary fleeces and are called wool sacks.

If wool is to be stored it should be taken to a clean, dry place.

Care should be taken that the sheep on one farm are as near as possible of one breed so that the quality and length of wool will be similar. This might be carried further so that farmers in one vicinity might raise wool of approximately the same grade, which would therefore be of interest to one buyer.

CLASSES AND GRADES OF WOOL

Wool is divided into two main classes and the classes are subdivided into grades. The two classes are known as combing and clothing. Combing wools are used in the manufacture of worsted goods and for this reason are selected for their strength and length of fiber. The required length of fiber is two and one-half inches or more and the strength of fiber must be uniform and even throughout the fleece. Strictly combing wool usually sells for from two to six cents per pound more than clothing wool (after the grease, dirt and foreign matter are removed). Clothing wool usually is under two and one-half inches in length and is used in the manufacture of woolens, felts and fabrics of similar type. Coarse, kempy, wool from poorly bred sheep is classed as carpet wool. It is not produced in regions where improved methods of breeding and feeding are followed except in very small quantities.

The two main classifications of wool, namely, combing and clothing, are sub-divided into various grades according to fineness or diameter of fiber. It is impossible to assign wool to a particular grade

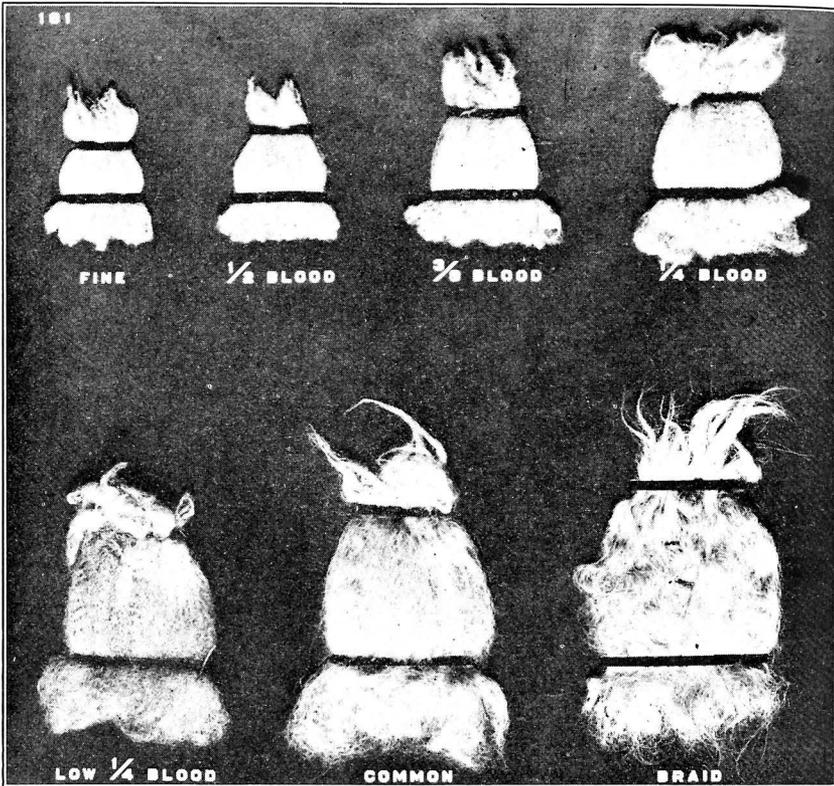


Fig. 10.—Official wool standards of the United States.

solely upon the basis of the breeding of the sheep. In the mutton breeds especially there are wide variations within single breeds and within flocks.

OFFICIAL STANDARDS OF THE UNITED STATES FOR GRADES OF WOOL AND WOOL TOP

For the purposes of these standards:

Section 1—Grade 80's, or fine.

(a) 80's shall be wool and wool top which in diameter of fiber is not greater than the sample marked "80's" of a series of samples in the custody of the United States Department of Agriculture in the District of Columbia in a container marked "Original official standards of the United States for grades of wool."

Section 2—Grade 70's, or fine.

(a) 70's shall be wool and wool top which in diameter of fiber is greater than the sample marked "80's" but not greater than the sample marked "70's."

Section 3—Grade 64's, or fine.

(a) 64's shall be wool and wool top which in diameter of fiber is greater than the sample marked "70's" but not greater than the sample marked "64's."

Section 4—Grade 60's, or one-half blood.

(a) 60's shall be wool and wool top which in diameter of fiber is greater than the sample marked "64's" but not greater than the sample marked "60's."

Section 5—Grade 58's, or one-half blood.

(a) 58's shall be wool and wool top which in diameter of fiber is greater than the sample marked "60's" but not greater than the sample marked "58's."

Section 6—Grade 56's, or three-eighths blood.

(a) 56's shall be wool and wool top which in diameter of fiber is greater than the sample marked "58's" but not greater than the sample marked "56's."

Section 7—Grade 50's, or one-fourth blood.

(a) 50's shall be wool and wool top which in diameter of fiber is greater than the sample marked "56's" but not greater than the sample marked "50's."

Section 8—Grade 48's, or one-fourth blood.

(a) 48's shall be wool and wool top which in diameter of fiber is greater than the sample marked "50's" but not greater than the sample marked "48's."

Section 9—Grade 46's, or low one-fourth blood.

(a) 46's shall be wool and wool top which in diameter of fiber is greater than the sample marked "48's" but not greater than the sample marked "46's."

Section 10—Grade 44's, or common.

(a) 44's shall be wool and wool top which in diameter of fiber is greater than the sample marked "46's" but not greater than the sample marked "44's."

Section 11—Grade 40's, or braid.

(a) 40's shall be wool and wool top which in diameter of fiber is greater than the sample marked "44's" but not greater than the sample marked "40's."

Section 12—Grade 36's, or braid.

(a) 36's shall be wool and wool top which in diameter of fiber is greater than the sample marked "40's" but not greater than the sample marked "36's" of a series of samples in the custody of the United States Department of Agriculture in the District of Columbia in a container marked "Original official standards of the United States for grades of wool."

In a general way wool from the various breeds would be likely to grade as follows: 80's, 70's, 64's, 60's, and 58's will come from Merinos and Rambouillets or high grades. 56's and 50's from Shropshires, Hampshires and Southdowns and Dorsets. 48's and 46's from Oxfords. 46's, 44's, 40's and 36's from Cotswolds, Lincolns, and Leicesters.

TERMS USED IN THE WOOL TRADE

Braid Wool.—Grade name and synonym for luster wools, such as the coarse, bright wool produced by the long-wool breeds of sheep.

Carding.—Consists of separating to a certain extent the wool fibers.

Carpet Wool.—Low, coarse wool used in the manufacture of carpets. There is very little produced in the U. S.

Combing.—An operation in worsted manufacture which straightens the fiber and separates the short, weak, and tangled fibers known as “noils” from the continuous strand of long parallel fibers known as top.

Condition.—Refers to the degree of oil in grease wool. It largely regulates the price. In scoured wool it is used to indicate the degree of moisture.

Cotted Fleeces.—A cotted fleece is one in which the fibers are matted or tangled. The cause may be ill health of the sheep or the absence of the proper amounts of yolk or grease in the wool.

Crimp.—The natural waviness of wool fiber. Uniformity of crimp indicates superior wool.

Delaine Wool.—Delaine wools are fine combing or worsted wool, from Ohio and vicinity, but not necessarily from the Delaine Merino.

Grease Wool.—Wool as it comes from the sheep with the grease still in it.

Kemp.—Not a dead hair, but an abnormal fiber made up entirely of horny material. It will not dye as well as the ordinary fiber and does not possess spinning qualities.

Quality.—The diameter of the wool. It largely determines the spinning quality.

Shoddy.—Wool that has been previously used for manufacturing purposes, torn apart and made ready to use again.

Skirting.—Skirting fleeces consists in removing the small pieces and the low-quality wool of the britch and belly from the edge of the fleece.

Tags.—Large dungy locks.

Territory Wools.—Territory wools are in general those that come from the territory west of the Missouri River.

Virgin Wool.—Wool that has not previously been used in manufacturing.

Warp.—Threads that run lengthwise in cloth.

Yolk.—The fatty grease deposited upon the wool fibers from oil glands.

Mohair.—A fabric made from the hair of the Angora goat.

VI. Sheep Parasites and Their Control

EXTERNAL PARASITES

The more common of the external parasites are: (1) lice, (2) ticks, and (3) sheep scab mite. Lice and ticks are fairly easy to control. The treatment for both consists of dipping the sheep in some standard sheep dip. Recommended dips are coal-tar creosote, nicotine sulphate (Black Leaf "40"), and dipping powders. It is usually advisable to dip at least twice within an interval of 14 to 15 days for lice and 24 to 28 days for ticks. The most logical time to dip sheep is in the spring about three weeks after shearing and again in the fall before cold weather. Dip both the lambs and the old sheep.

Sheep scab is more difficult to handle than lice or ticks, but can be successfully treated. Any condition which causes the sheep to bite and scratch should be investigated at once and the cause definitely learned. If you are in doubt as to the cause, call your veterinarian or write the Veterinary Department, College of Agriculture, Columbia, Mo. Sheep scab is a contagious skin disease of sheep, caused by a mite. It spreads rapidly and causes losses by decreasing wool production, reducing weights, and bringing about a general condition of unthriftiness. It also causes the death of some of the affected animals. A sheep owner should never allow scab to remain in his flock, as it can be easily eradicated by proper dipping. Scab is more prevalent on the range or in the western states than it is in the corn belt. Reference, U. S. D. A. Bulletin 713 "Sheep Scab" and U. S. D. A. Bulletin 1150 "Parasites and Parasitic Diseases of Sheep."

INTERNAL PARASITES

Stomach worms are probably the worst enemy that sheep have. Dr. J. W. Connaway, Chairman of the Veterinary Department, University of Missouri, College of Agriculture, says in Extension Circular 87: "During August and September of each year the loss among lambs is considerable from infestation with stomach worms. Much of this loss could be prevented by prompt treatment of the flock." Begin treating lambs for stomach worms when they are about three months old where infestation is bad.

"Infestation with stomach worms affects the lamb more seriously than the older sheep. None of the mature sheep may show any serious symptoms, while a considerable number of lambs may sicken and die.

"The symptoms shown are loss of vigor, the lambs become dull, lag behind the flock, the head droops, and in some of the lambs a bagginess or swelling forms under the throats. Some may cough and nearly all show evidence of diarrhea.

"The stomach worms are found only in the fourth stomach or last compartment. They are about three-fourths of an inch long, very slender and the females have spiral markings giving them a twisted or contorted appearance. These parasites cause irritation and congestion of the stomach, and doubtless produce toxic substances which increase their harmful action."

TREATMENT FOR STOMACH WORM INFESTATION IN SHEEP*

Parasitic infestation, particularly stomach worm infestation, causes in Missouri most of the troubles which are encountered in raising sheep. These worms are particularly damaging to lambs but are also present in older sheep. All sheep should be treated for stomach worms.

Symptoms of Stomach Worm Infestation:

1. Dullness and lack of thrift.
2. Diarrhea (Particularly in lambs).
3. Pale eyelids, skin and linings of mouth. (Stomach worms suck blood from the body of the host).
4. Edema or swellings, particularly under jaw and lower portions of body.

Treatment: A satisfactory treatment for this disease is the use of one per cent solution of copper sulphate (bluestone in soft water). This solution is made as follows:

Select your bluestone crystals free from white powder. Pulverize the crystals and dissolve two (2) ounces of bluestone powder in 1½ gallons of hot rain water. This makes enough to treat 40 full grown sheep. Mix thoroughly, using glass, crockery or enamel ware as containers. (Bluestone cannot be mixed in metal pans or pails).

Dose sheep as follows:

Lambs weighing 20 pounds	1 ounce
Lambs weighing 40 pounds	2 ounces
Lambs weighing 60 pounds	3 ounces
Lambs weighing 80 pounds	4 ounces

No sheep should receive more than 4 ounces of the solution

*Recommendations by A. M. McCapes, formerly Department of Veterinary Science.

If there are tape worms present in the flock the addition of one ounce of nicotine sulphate (Blackleaf 40) to each gallon of one per cent bluestone will assist in removing these. The dose is not changed by the addition of the nicotine sulphate.

Give slowly with a two ounce metal dosing syringe. Keep sheep quiet while dosing by backing into a corner. Keep the head about level; if the head is held high the dose may strangle the animal. Fast animals over night before treating. Keep up about four hours after treating. Treatment should be repeated every 28 days throughout the grazing season—every 14 days in badly infested flocks.

Give proper amounts and mix solution correctly. It is possible to kill sheep by careless dosing.

On areas of extreme infestation it may be necessary to treat the sheep for stomach worms every 14 days. In some cases where the sheep do not respond to the treatment it may be that there is tapeworm infestation. By watching the droppings for the tapeworm segments this may be determined.

Sheep grazing on old permanent pastures should receive both drugs at each treatment.

Summary of the Advantages of the Treatment

“(1) The one per cent copper sulphate solution is effective in destroying stomach worms when carefully and properly administered to sheep.

“(2) Treated flocks can use permanent pastures to full capacity throughout the year without losses or serious injury from the parasite.

“(3) Treated breeding flocks go into the winter in better condition, respond better to the feed and care received, and give more milk for the lambs.

“(4) Lambs under treatment continue to grow throughout the year, retain their milk-fat longer, and are marketed with fewer ‘throw-outs’ and culls.

“(5) Treated flocks grow more wool and meat, because of better health. Lambs grow to be larger animals than their dams that have been brought up without control of stomach worms.”

DEMONSTRATIONS

In so far as possible, all club members should be instructed in the regular club meetings by the demonstration method. As a usual thing, one or more members of each club can begin demonstrating useful phases of the work program before the club soon after the processes have been demonstrated to the club group by the leader.

After two or three months of practical experience in handling real things, all mature club members should be able to give public team demonstrations. The scope of the team demonstration usually should be limited to the essential processes of some phase of the club work of the current year on one subject. A team of two or three of the best demonstrators, according to the number needed, should be selected from the membership of one club by individual try-outs in competition. All teams should have an opportunity to demonstrate before the local club group and the people of the home community, and the championship team should represent the local club at the county round-up.

Suggested Subjects for Team Demonstrations

Drenching Sheep.

Shearing Demonstration.

Determining When Lambs Are Ready for Market.

Suggested Outline of a Fat Lamb Judging Demonstration

Team.—Two members from one club, designated in this outline as “A” and “B”.

Reference.—“Judging Sheep,” Farmers’ Bulletin 1199, U. S. Department of Agriculture.

Equipment.—Two fat lambs, pen for lambs, blackboard, chalk, eraser and pointer.

Time.—Fifteen to twenty minutes.

Procedure.

A speaks and demonstrates.	B assists.
<p>Leads in giving the national 4-H club pledge or a spirited club song, if necessary to secure the attention of the audience; gives a brief history of the club to create more interest in the problem under consideration; introduces team-mate and self; states the problem which is to be demonstrated and explains why it is important.</p>	<p>Joins in giving the pledge or song; stands at attention; but goes to work as soon as introduced.</p>
<p>1. Demonstrates and explains how to handle a fat lamb in judging. (1). How to hold a lamb. (2). How to show a lamb.</p>	<p>Secures lamb from pen for A and assists as needed. Places lamb back in pen.</p>

2. Explains briefly the points on the score card, using an enlarged copy.

Then, directs the attention of the audience to B by saying about as follows: "_____ will now demonstrate how we judge a fat lamb by use of the score card."

A assists.

Holds lamb for B.

Holds lamb for A, and calls another club member in to hold the other lamb if necessary.

A speaks

5. Summary.

Summarizes points made in the demonstration.

- (1). Importance of the problem on the farm.
- (2). How to hold a fat lamb.
- (3). How to judge a fat lamb by use of the score card.
- (4). How to judge fat lambs by comparison, without the use of the score card, and value of this method.

6. Asks for questions. Answers same, or refers to team-mate if on problem demonstrated.

7. Formally concludes the demonstration by thanking the audience for its attention.

B speaks and demonstrates.

3. Judges a fat lamb by use of the score card. (See Farmers' Bulletin 1199, U. S. D. A., page 5, for suggested procedure.)

4. Judges two or more fat lambs by comparison, without using the score card. (See Farmers' Bulletin 1199, U. S. D. A., pages 5-18.)

Then, directs the attention of the audience back to A by saying something to this effect: "_____ will summarize the demonstration."

B assists.

Places lambs back in pen.

Quietly collects equipment.

Stands at attention. Answer questions referred to him.

A and B remove lambs and all equipment, and then clean up the platform for the next demonstration team.

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