



Breeding The Farm Flock of Sheep

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About 85 percent of the income from the average Kentucky farm flock of sheep is from lambs. While Kentucky normally raises more lambs per 100 ewes than any other state, there is much room for improvement, as shown by recent production records from several hundred flocks in central and western Kentucky. The income per ewe in the upper fourth of these flocks was greater than the income per ewe in the lower fourth by more than 60 percent. The number of lambs raised per 100 ewes was the principal factor in this difference in income. This circular deals with problems in breeding the farm flock and points out certain practices which lead to larger, more uniform, and more profitable lamb crops.

BREEDING CYCLE

Most ewes produce lambs only once a year. While it is often possible with some breeds, notably Dorset, to get two crops of lambs a year, it is seldom practicable. The ewes wear out earlier, the lambs are unseasonable, and the costs of feed and labor in growing them out for market are comparatively high.

September and October are the principal breeding months in Kentucky, but the season is often extended from early August through November. For a small but increasing number of flocks the ewes are bred in late spring for fall lambing. Western ewes, strong in finewool blood, can usually be successfully bred for fall lambing, but with blackface westerns only a small percentage can be bred in late spring or early summer.

The time of the first oestrus, or heat period, is determined principally by the breed of the ewes and the weather. Ewes high in finewool or Dorset blood usually come in heat early. Cool nights lead to early oestrus. The condition of the ewes may also be a factor, as will be shown later.

The average interval between one heat period and the next is about 16 days, though this time may vary a day or two either way.



Aged Western ewes in June after their lambs had been weaned and sold. Such ewes should be turned on sparse pasture at weaning time to keep them from getting too fat for breeding.

The heat periods generally last about 27 hours, but with individual ewes the time may vary many hours.

The gestation period in ewes is about 21 weeks, though it may be a few days shorter or longer. The period is shortest in ewes of the early-maturing breeds and longest in the late or slow-maturing breeds.

Ovulation in sheep occurs toward the end of the heat period. The life of both the sperm and the egg is about 24 hours, and the ram sperm requires from 5 to 6 hours to pass the genital tract of the ewe to fertilize the ovum. Thus it appears that the best time to breed sheep is in the last 5 or 6 hours of the heat period. If the mating takes place too early in the period the sperm cells may become exhausted and die before they reach the ovum.

FECUNDITY

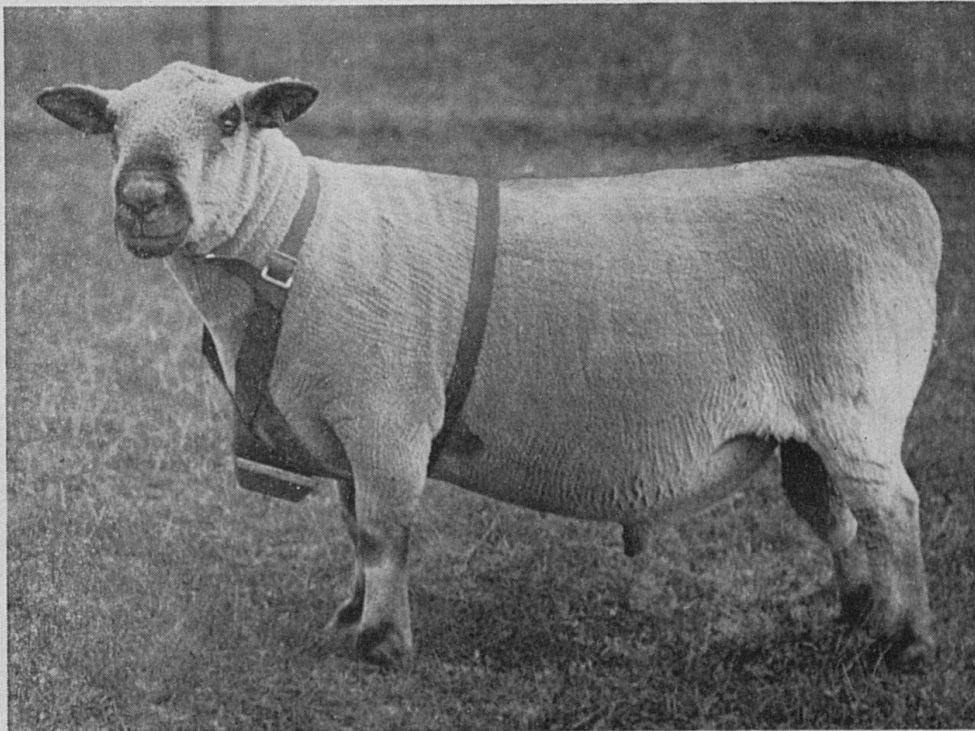
There is much difference in fecundity in ewes of different breeds and in different strains of the same breed. Flocks of Dorsets and Suffolks, for example, normally produce a higher average percentage of lambs in a single season than do Merinos or Rambouillets. Age is also a factor, as yearling ewes produce fewer twins than older ewes.

BARRENNESS

Possibly the most common cause of barrenness in Kentucky ewes is their being in too high a condition of flesh at breeding time. Certain types of ewes often get too fat to breed, especially if they failed to raise a lamb the previous season. It does not pay to keep ewes that go through a breeding season without getting with lamb, unless they are valuable purebreds or it is apparent that the ram used was sterile or a slow breeder. Barrenness naturally results where infertile rams are used. Each year some farmers learn too late that the rams they used did not "settle" the ewes. An untried ram should never be used as the only ram with a flock of ewes, unless some check is kept on ewes to determine whether or not they are being settled. See Methods of Breeding, page 13.

ABORTION

Abortion in ewes may result from their being chased by dogs, crowding in close quarters, and squeezing through narrow doors or gates; rough handling, climbing over high sills, and butting by bossy rams are other causes. Abortion may also result from im-



Ram shown with marking harness that enables him to mark ewes he serves.

proper feeding. Outbreaks of abortion, apparently of an infectious nature, have been known to occur in sheep in Kentucky, but so far the causative factor has not been determined.

When ewes that slip their lambs prematurely are retained in the flock they should be separated from the ewes with lambs and given less feed; otherwise they may get too fat for breeding the following season. Where the abortion appears to be of an infectious nature, the ewes should be culled and sold for slaughter.

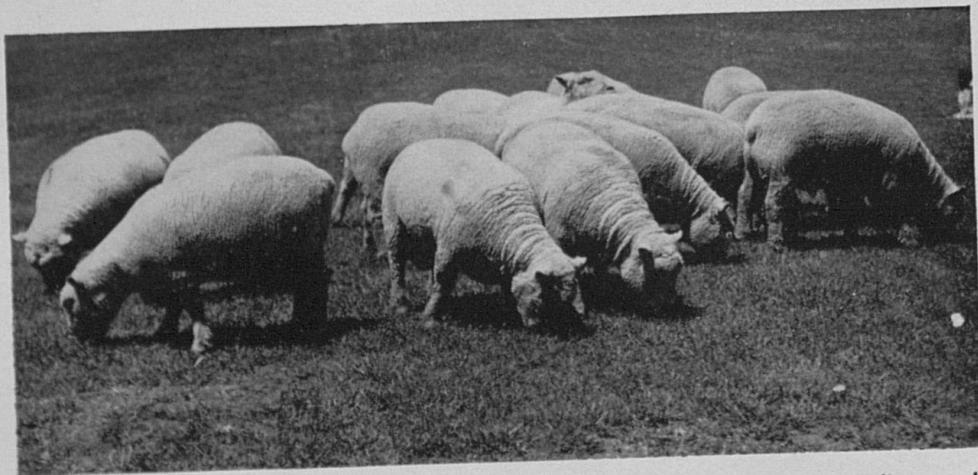
PLANNING FOR THE BREEDING SEASON

It is important to plan ahead so as to be ready for the breeding season when the time arrives. New sheep, either ewes or rams, should be on the farm well ahead of breeding time. Sheep shipped a long distance, ewes from the West for example, should have several weeks' rest, with good grazing or other feed to overcome any ill-effects of the trip. New sheep should be quarantined for at least a week in a shed or lot and treated with phenothiazine before being turned out to pasture.

Abnormally fat sheep may prove disappointing unless their condition is corrected before the breeding season begins. Failure to keep sheep on the farm long enough to properly condition them for breeding often results in a late or uneven lamb crop.

Culling and marking

Examine each ewe carefully and cull any unsound ewes from the flock before turning in the rams. Give particular attention to



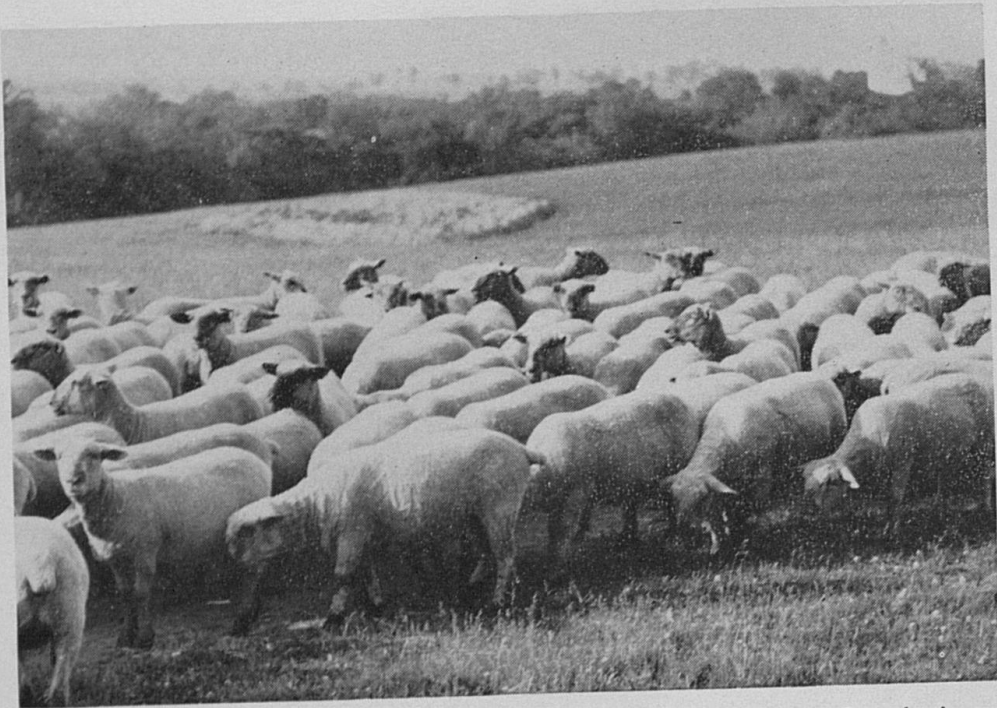
These yearling rams appear active, vigorous and in good condition for breeding, and they have good bone and size for the breed.



Early Western ewe lambs like these, weighing 90 pounds and better, are often bred as lambs. Expect 70 to 80 percent lamb crop first year. Such lambs should be sheared before breeding.

the mouth and udder, where most unsoundnesses are found. Broken mouth or "gummer" ewes should generally be culled. If kept, they may need to be fed separately from other ewes. This extra cost, of course, may be justified if they are extra good producers or valuable purebreds. Finding any unsoundnesses of udder before breeding rather than at lambing time will save much trouble and loss.

Unless the flock is small, use some marking system that makes possible the ready identification of any ewe in the flock. This will enable you to keep a definite record of each ewe and make it easier to weed out unprofitable or poor-producing ewes. Possibly the best method is to ear-label the ewes and paint corresponding numbers on their sides. Paints durable enough to last a year, but that can still be removed in the scouring process, are now available from dealers in livestock supplies. Metal ear labels numbered consecutively can be had in quantities at about 2 cents each, or in small lots at somewhat higher prices. Paint numbers are usually placed on the ewe's side. Sets of numerals for use in painting the numbers are available commercially, but you can make your own for a fraction of the cost. Cut No. 9 wire into pieces 18 inches long, and shape one end of each piece into the numeral desired, and then build up with tape. You need only numbers 0 to 8, in-



Yearling Blackface-Cross Western ewes on a Kentucky farm in June. Brought in as lambs the Fall before, they are already in good breeding condition.

clusive, since 6 upside-down will double for 9. Four-inch numbers are desirable.

Remove wool from dock

Ewes sometimes go unbred because wool or tags around the dock prevent the rams from making satisfactory connection. It is a small task to remove any wool or tags that might interfere with breeding.

Care of the feet

The feet of all sheep should be kept well trimmed so that the sheep can walk naturally, and as a precaution against sore feet and foot rot. Sore feet of rams may seriously affect them as breeders. Sheep handled on dry ranges usually keep their feet worn down smooth. On farms in Kentucky, however, the horn of the hoof generally grows faster than it wears. If not trimmed it may cause the sheep to walk on the side or heel of the foot and, in immature sheep, result in crooked legs and bad pasterns. The accumulation of filth under the overgrown horn may cause sore feet.

The feet may be trimmed with a sharp pocket knife, but ordinary pruning shears or secateurs, made for the purpose, will make the job easier and faster. In Kentucky it is important to examine the feet at least three times a year and trim when needed. This can be done most conveniently when the sheep are corralled for shearing, drenching, or culling.

Flushing

It is generally believed that if ewes gain during the breeding season, a larger percentage of twins and a shorter lambing season results. Using extra feed to get ewes into a gaining condition for breeding is known as "flushing." The most convenient method of flushing is to change the ewes to a good field of grass.

Bluegrass is especially good for this purpose, as are also mixed grasses, timothy, or rape. It is important, therefore, to arrange the pasture rotation so as to have some fields of extra good grazing for sheep just before and during the breeding season. There is some doubt as to the value of some types of clover at this time. If a good grazing crop is not available, the same results can be obtained by feeding the ewes at least one-half pound of grain daily.

The shearing of ewes just before breeding time may also be



Yearling Blackface-Cross Western ewes in good breeding condition at the beginning of the breeding season. Have enough flesh, but not too much, and have just been sheared.

helpful, and some Kentucky farmers have followed this practice for many years. However, the cost of shearing and the lower price of the wool, because of the shorter fibers, should be considered.

In a normal year, about 70 percent of Kentucky lambs are sold off the teat as "fats," and others are weaned mainly in July. Ewes that have suckled well are often thin at weaning time but will put on flesh rapidly afterwards if left on good pasture. Often, in fact, they put on too much fat for a successful breeding season.

Special treatment for over-fat ewes

Ewes too fat to breed are common among ewes strong in mutton blood, blackface westerns especially. This condition usually can be prevented by running the ewes on sparse pasture after weaning, where such pasture is available, until about a week before the breeding season begins. Pasture of low nutritive value and poor palatability will serve the same purpose.



Condition of feet before and after trimming. Under Kentucky conditions, feet may need to be trimmed two or three times a year.



This ram is in rather high flesh for a successful breeding season, and he has too much wool. All rams should be sheared before turning with ewes.

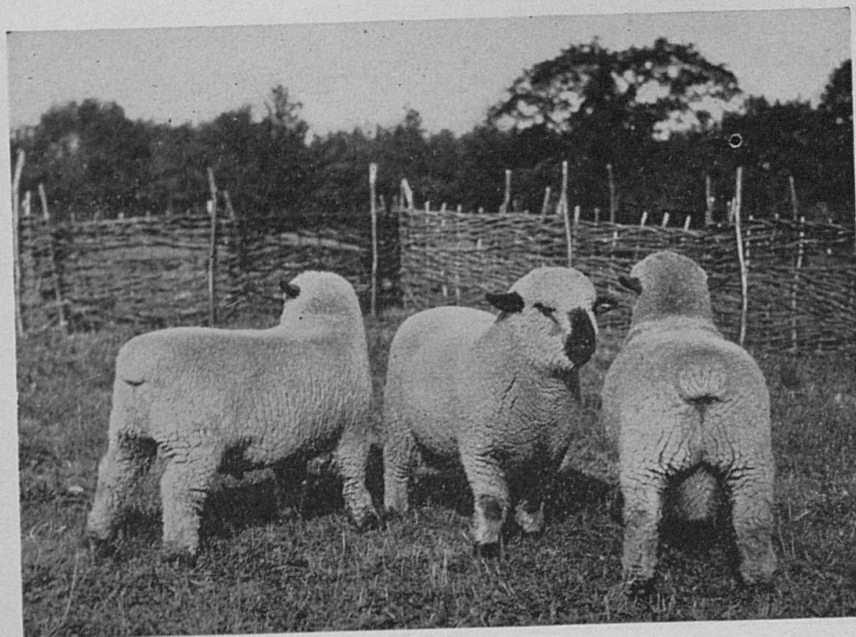
The problem of over-fat ewes is of considerable importance to most Kentucky sheepmen, and while this condition often can be corrected, it is important to prevent it, if possible.

If it becomes apparent that certain ewes are likely to be too fat for breeding, even though on poor pasture, they should either be culled and sold for slaughter or put in a drylot and fed only a little hay once a day, with water and the phenothiazine-salt mixture available. It is sometimes necessary to handle over-fat ewes in this way for a month or longer and reduce them 30 to 40 pounds per ewe before they are in condition for breeding.

CONDITIONING THE RAM

Should be vigorous but not fat

The importance of having the ram in proper condition at breeding time is seldom given the consideration it deserves. Best results can be expected only when the ram is active and vigorous during the breeding season. Too many farmers wait until near breeding time to purchase their rams. The result often is a long strung-out lambing season and an abnormally high percentage of unsettled ewes. Rams should be purchased long enough in ad-



Well-developed ram lambs like these may be used on a small number of ewes. Such lambs will be more active and serviceable if they are sheared before breeding.

vance of breeding time to become accustomed to their new surroundings and conditioned for breeding. In buying early there is a better chance for selection and the rams can usually be bought for less money.

Under Kentucky conditions healthy, vigorous and active rams on good pasture, seldom need grain to condition them for the breeding season. It's far more likely, in the case of newly purchased rams, that they will need to be reduced.

The show ring of this country, unfortunately, calls for such high-fitting of breeding sheep that many valuable rams and ewes are rendered worthless as breeders. Some ram breeders also overfit their sale sheep. Rams that carry too much fat often prove sluggish and disappointing as breeders.

While high-fitting for show or sale may sometimes render a ram permanently sterile, usually he returns to normal when reduced in condition, provided he has not been too long in an overfitted condition. Rams older than yearlings should never be fitted for show, and high-fitting, even of yearlings, is never advisable, if they are to be used for breeding. Rams in high condition should be reduced by gradually decreasing their feed and providing proper exercise.

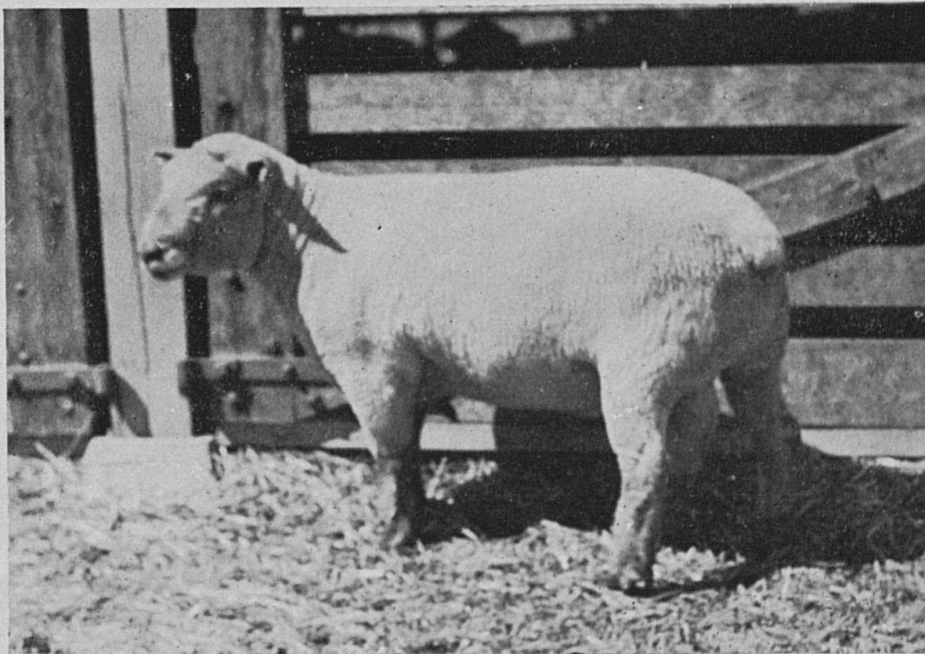
While overfitting is the most common cause of sterility in rams, lack of exercise, sexual overwork, and improper feeding may have the same effect. Rams with a heavy coat of wool in hot weather are sometimes infertile until after the wool has been removed.

Rams should be sheared

Farmers should shear their rams before breeding. Shorn rams are more active and can stand hot weather better. The practice of some ram producers of leaving most of the wool on their rams so that they will present a larger, thicker appearance at sale time must be condemned severely. Rams of our improved mutton breeds do not stand hot weather any too well, at best, and to leave a heavy coat of wool on them during the hot summer months is inhumane. This practice may deceive a novice, but not an experienced and cautious sheepman.

METHOD OF BREEDING

The plan of breeding generally followed by Kentucky sheepmen is to let the ram run with the ewes day and night during the breeding season. This system certainly is convenient, but close check should be kept on the ram to see that he maintains good

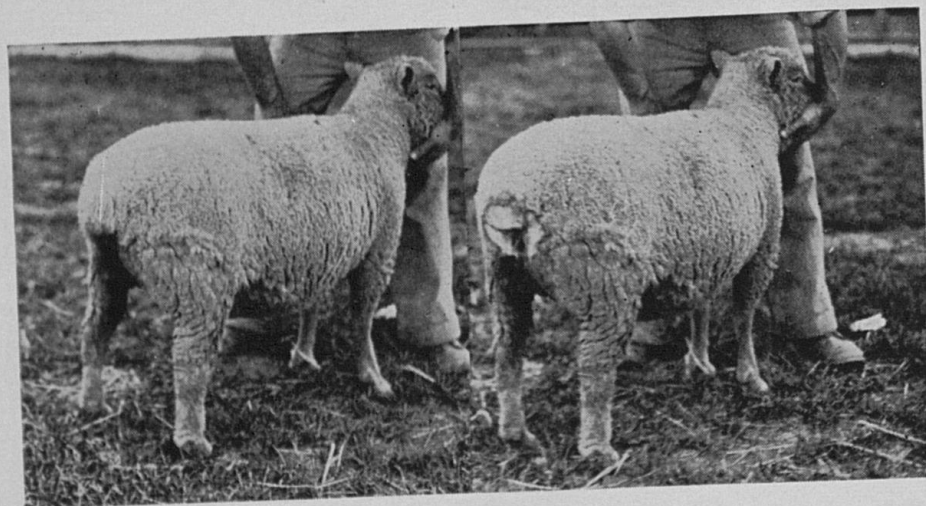


This ram is in prime condition for breeding. He does not carry excess flesh and has just been sheared.

breeding condition. If the ram is heavily worked or appears to lose flesh unduly, pull him once a day for a feed of grain. Corn, oats, and bran, equal parts, or 2 parts of oats and 1 of bran are suitable mixtures. Start with a half-pound and increase to a pound or more, if needed. Some farmers allow the rams with the ewes only at night or for an hour each morning and evening. There is some doubt about the practicability of this system, however, since ewes appear to conceive most readily during the latter part of the heat period.

Some breeders of purebred sheep as well as some commercial sheepmen use a kind of "hand coupling" method of breeding in which an inferior ram, known as a "teaser" is used to find and mark the ewes that are in heat. These are then turned into a lot with the breeding ram. An apron is fastened on the "teaser" in such a way as to prevent him from breeding the ewes, and he is fitted with a ewe-marking harness so that he marks the ewes he attempts to breed. The apron may be tied or sewed to the belly wool that has been left, at shearing time, for this purpose.

By fitting up each ram so that he chalk-marks the ewes as he serves them, all guessing about the time and extent of the lambing season can be eliminated and barren ewes can be detected, taken from the flock and sold. The marking-chalk should be changed to one of a different color about every 16 days. In one-ram flocks, this marking system provides a means of detecting infertile rams early in the season. If most of the ewes which the ram marked



Before and after trimming. Use blade or power shears to remove any excess wool or tags around tailhead that might interfere with breeding.



A numbering system makes identification easy, and in one-ram flocks when used in connection with a marking harness makes it possible to find out at an early date if the ram is infertile.

with the first color are marked again, after the color has been changed in 16 days, the ram should be replaced.

Where more than one flock is made of the ewes during the breeding season, the rams should be alternated, since ewes that will not become pregnant to one ram sometimes will settle to another.

While it is considered good management to divide large flocks into several groups for the breeding season, some farmers find this impractical. A good practice under such conditions is to save back one or more rams to be used fresh, late in the season, after the other rams have been removed.

NUMBER OF EWES PER RAM

Suppose a farmer has just purchased 100 ewes. How many rams will he need? Perhaps 3, maybe 4, or possibly only 2. There are many factors to consider, since rams are of different ages and breeds and vary in condition, activity, vigor and size. A Hampshire ram, for instance, can serve more ewes than a Southdown, and a mature ram more than a yearling.

The size of the ewes may be a factor—often is, if the rams are small. The wide demand for small purebreds for the production of show wethers has caused many breeders to overlook utility values. The result is that many rams are too small for efficient

breeding of large crossbred western ewes which are used by most Kentucky farmers.

Weather conditions and methods of handling the flock during the breeding season are also factors. In England and New Zealand, where the weather is much cooler at breeding time than in Kentucky, a much larger number of ewes, per ram, can be served.

In general, under Kentucky conditions where the rams are allowed to run with the flock during the breeding season, 35 to 40 ewes is a fair average number for a mature ram in good breeding condition. A yearling ram is usually allowed a few less, around 30 to 35. The number of ewes per ram can be greatly increased by the "hand coupling" method, as previously described, but few of our commercial sheepmen use this system because of the additional labor involved.

Early, well-developed ram lambs may be used on a small number of ewes, seldom more than 15, when allowed to run with the flock. Ram lambs should never be put in flocks where there are older rams. The older rams will fight and annoy the lambs to such an extent that they may be killed or of little service.

BREED FOR EARLY LAMBS

Kentucky is well suited for the production of lambs for late spring and early summer marketing. These early dropped lambs get advantage of pasture when the nights are cool and the herbage is young, succulent, and most nutritious. They make much faster gains than late-season lambs and can be marketed before hot weather slows their development, and at a time when prices usually are higher.

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