

Sheep Selection

► In sheep production, breeding stock selection is the basis for any flock improvement. Deciding which animals to retain can be challenging, but the diligence of the decision is critical to the progress of the future flock. When the chosen animals are mated, that mating will influence future generations and the rate and quality of genetic improvements.

A sound selection program should emphasize confirmation, productive tendencies, and important economic traits. The returns in a sheep enterprise come from the sale of breeding stock, meat animals, and wool. The receipts from animals (slaughter, breeding stock, feeder lambs, and cull animals) make up about 80 to 100 percent of the total receipts, with the sale of market lambs accounting for a large part of that percentage. Any remaining percentage may come from the sale of wool.

Good animals must be chosen as breeding stock to start or to expand an operation, whether purebred or commercial. Otherwise, the profits produced by the more productive ewes and rams are lost in maintaining marginal animals that do not sustain themselves. The success of a sheep operation is based on the productivity of your entire flock.

Basic Terms

Term	Definition
Ewe lamb	Young female sheep less than one year old
Ewe	Mature female sheep, one year or older
Ram lamb	Young male sheep less than one year old
Ram	Mature male sheep, one year or older, intact (has not been castrated)
Yearling	Female or male sheep between one to two years old
Wether	Castrated male sheep, any age



The Ram

It is often said that the ram is half of the flock. This statement is largely true because the ram can sire many lambs, while the ewe can produce only two or three lambs during the year. To make the most rapid progress in a flock, you must use above-average-quality rams.

Many producers do not put enough time and effort into selecting and purchasing outstanding rams. You cannot expect to buy a good ram for market price. Neither can you obtain outstanding progress from an inferior one.

The ram is, of course, important in determining the quality and development of his progeny. But he also determines, to a larger extent, the value of the next generation by producing the future ewes of the flock. This is the way the ram exerts his greatest influence on the flock.

Selection Methods

The most common general methods of selection are visual appraisal and performance traits. In practice, some combination of these two methods is generally used, as opposed to selection based on only one type of information.

Visual Appraisal. The principal advantage of selection based on visual appraisal, or type, is that it is an easy task. This method has been responsible for much of the

past improvement in sheep. Its major weakness is that type and general appearance are not highly correlated with factors that affect productivity and efficiency.

Visual selection will probably continue to be of great importance in sheep production. Live market grades largely determine the relative price of an animal, and are estimated by visual inspection.

Performance. Performance indicates measurable or readily observable responses, such as the rate of growth (measured as weight at 60, 90, or 120 days) and weight at 1 year of age. Selection based on performance has an advantage over selection based on visual selection because it eliminates some of the guesswork and emphasizes characteristics of great economic importance.

Failing to consider performance characteristics in selection decisions can mean that your flock may not reach the highest level of production. Keeping individual production records on each ewe in the flock will allow you to select and cull accurately.

Other Selection Criteria

When selecting breeding stock, also consider other criteria:

- Prolificacy
- Growth efficiencies
- Conformation
- Soundness
- Vigor
- Wool
- Age
- Sex characteristics
- Breed type

Prolificacy: This term means the number of lambs born per ewe exposed. You should always select replacement animals from multiple births (a twin or triplet lamb) and from ewes with good mothering qualities. You can greatly increase the profitability of your flock by selecting for multiple births. In the Southeast, a good set of twins is possible and obtainable.

If you select single ewes and rams, make sure that they come from highly productive ewes. Even if the individual animal you're considering is a single birth, the high

productivity of a dam with a high percentage of multiple births will be passed to all her offspring. For example, a single-born ewe whose dam has lambed and weaned nine lambs from five lambings will be more highly productive than a twinborn ewe whose dam has lambed and weaned only seven lambs from five lambings.

Growth efficiencies: This term refers to the ability to make rapid and efficient gain (weight gain per day). Select rapid-gaining animals that meet your standards. Your goal should be to have your lambs weighing 40 to 50 pounds at 6 to 8 weeks of age. Select breeding animals that have the ability to produce such efficiencies.

Keep in mind that your management program and the breed or breeds you are working with have the ability to affect average daily gain. Many lambs from larger breeds may already weigh more than 40 to 50 pounds at 6 to 8 weeks, especially if they are creep fed. Ewe lambs also need to weigh about 95 pounds at the beginning of the breeding season to successfully reproduce.

Conformation: Good conformation is essential for sheep to achieve maximum efficiency as meat animals. The essentials of good sheep conformation are adequate amounts of muscling through the loin and rump. This area of the carcass yields the highest-priced cuts of lamb.

A sheep with good conformation should also have the following:

- A wider straight top.
- Smooth shoulders.
- Fullness through the heart area.
- A good spring of ribs.
- A long, well-balanced body with adequate skeletal size and scale. Good skeletal size and scale indicate a fast-growing animal.

Soundness: Sheep must be structurally and reproductively sound to remain productive for many years in the flock. They must also move freely and be able to cover the pasture for both nutritional and breeding purposes.

- **Feet and legs.** The legs of a desirable animal are straight and set squarely under the corners of the body. They are not close at the hocks and do not have too much set at the hocks (side-hocked). Sound feet and strong pasterns are necessary for

a long productive life. Feet should be trimmed as needed and not be vulnerable to foot diseases.

- **Mouth.** Mature sheep should have eight incisors located on the lower jaw. When grazing, the sheep tears the grass off quickly by jerking its head as it holds the grass between the lower incisors and the upper dental pad. In a correct mouth, both the top and the bottom jaws are aligned so the incisor teeth are flush with the pad on the upper jaw. Avoid animals with “undershot jaws” or “parrot mouths” (the lower jaw is too short and the incisors are posterior to the pad) and those with “overshot jaws” or “monkey mouths” (the lower jaw is too long and the incisors are anterior to the pad). The best way to observe for mouth soundness is to look at the sheep’s mouth from the side.
- **Udder.** The size of the udder depends on the age and the stage of lactation of the ewe. The udder of a sheep consists of two separate halves with a single gland in each half. Ewes with hard, lumpy, or pendulous udders should not be considered for breeding purposes.
- **Testicle size.** A breeding soundness exam (BSE) is highly recommended for determining the initial fertility (or infertility) of a young ram. A veterinarian performs the BSE, which includes a physical examination of the animal and its external genitalia. The scrotal circumference is measured around both testes at the widest point. Normal scrotal circumference for lambs is 33+ cm. and for yearlings and adults, 36+ cm. Rams weighing more than 250 pounds should have scrotal circumferences of 36 to 40 cm. A male with a measurement significantly smaller than the standard may be a late-maturing individual or may have low fertility.

Vigor: Breeding stock should be hardy, healthy, and parasite tolerant or resistant. They need to be robust and healthy in all situations. Breeding stock that does not maintain vigor and is vulnerable to disease, gastro-intestinal infestation, or external parasites will require extra medical and medicinal attention, which can be costly and provide traits that are passed on to future generations.

Wool: Wool may make a contribution to the gross income of a fiber sheep enterprise. Select and breed animals that will produce a group of similar, high-quality fleeces with no dark fiber.

Age: Before deciding what age animals to buy, consider several things:

- Price differences among age groups.
- Quality of the younger animals.
- Soundness and thriftiness of older animals.
- Amount of production data available. Numbers are always good indicators.

Ewes generally reach peak productivity at 4 to 6 years of age, and, depending on the age when they are sold, younger animals bring more money than old ones bring. Yearlings and ewes that have produced at least one lamb crop have sounder udders and many productive years ahead of them. To reduce the initial investment, some sheep producers may prefer to buy a mixed age group with a good representation of yearlings and older ewes.

The age of the ram will determine how many ewes he can serve. Under natural breeding conditions, a ram lamb can be used on about fifteen ewes, a yearling ram on twenty-five to thirty-five, and an older ram on thirty-five to forty-five ewes.

The approximate age of sheep can be determined by the teeth, as illustrated in figure 1. At birth, lambs have eight milk teeth, or temporary incisors, arranged in four pairs in the lower jaw. The central pair of temporary incisor teeth is shed and replaced by the permanent teeth at approximately 1 year of age. At 2 years, the second pair

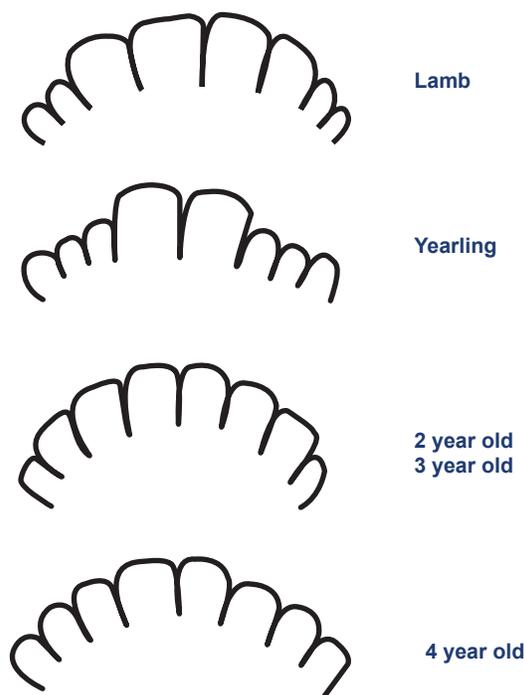


Figure 1. The age of sheep can be determined by their teeth

of milk teeth is replaced by a pair of permanent incisors. At 3 and 4 years, the third and fourth pairs of permanent teeth appear. At 4 years of age, the sheep has a “full mouth.” When a ewe loses some of her incisor teeth, she is called a “broken mouth.”

Sex characteristics: Ewes should look feminine, and rams should look masculine. Masculine rams are generally more rugged, active, and aggressive than rams that lack this quality.

Breed type: This is an important consideration in purebred production; without it, breed identity is lost. Even so, breed type should not be more important than any of the previously mentioned criteria. Breed type should be appraised along with all of the other considerations. When it comes to breed options, there are the options of wool versus hair (meat) sheep; situations and goals will vary. See Extension publication UNP-2082, “[Hair Sheep: Alternative Meat Production in the Southeast](#),” for more information on hair sheep.

Review

The selection of good animals for breeding stock is essential for the success of any sheep operation, whether purebred or commercial. Selection is the basis for flock improvement and for laying the groundwork for future generations to ensure continued success.

A sound selection program should emphasize the traits that are of economic importance to goals for your operation. For example, producers starting in the purebred sheep business should never lose sight of the characteristics needed in a commercial flock. A purebred producer should plan his or her breeding program so commercial producers can buy animals that will improve their flocks. When selecting and choosing animals, the producer should demand performance records of traits that can be measured readily and evaluated accurately and that are economically important.



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