Welcome to News to Ewes

Today we are living in a different world – social distancing is the new norm, workplaces have gone remote, and meetings are virtual. Meanwhile on the farm, sheep production continues – breeding stock are selected, ewes are bred, lambs are born, and flocks are managed to maximize health, nutrition, and lamb growth. Hence, the creation of News to Ewes – A Newsletter for Kentucky Sheep Producers, written by Dr. Don Ely of the University of Kentucky with contributions by Dr. Debra Aaron. This online newsletter will focus on topics that will provide you with timely information for better managing your flock for lambing in winter, spring, or fall. We hope you find it useful.

Selecting Replacement Breeding Stock

The key to a successful and profitable sheep operation that is sustainable over a long period of time (even as long as a lifetime) is the selection of replacement ewes and rams whose production will be equal to or greater than that of the ewes and rams being simultaneously removed (culled) from the existing flock. In practical terms, this means producers must strive to improve their flock’s productivity every year if they expect to survive in the industry.

Economic Traits

Animal breeders say that most performance progress can be made by selecting for a single trait, such as weaning weight. However, they realize other economic traits, either directly or indirectly, can contribute to or take away from the eliteness of a single trait. So, how do we put it all together when selecting replacement ewes and rams?

Initially, decide on the specific trait that will potentially increase the profitability of the existing flock. Second, identify the supplementary economic traits that will contribute, either directly or indirectly, to the eliteness of the primary trait. The third step in the selection process is to tie as many of the supplementary traits to the primary trait as possible in order to make the sheep being selected as complete an animal as possible.
Let’s assume weaning weights, when lambs in the existing flock are 60 days of age, need to be increased. Replacement ewes and/or rams that weigh more, at weaning, than the average of the existing flock should be selected to replace mature ewes and/or rams that are culled. Actual weaning weights provide some useful information, but most useful comparisons can be made if the weaning weight of each lamb is adjusted for its sex, age, type of birth/way raised, and age of the ewe that produced it. This adjustment takes into account a very important supplementary economic trait that contributes to weaning weight and that is prolificacy. Typically, production of two, fast-growing lambs from every ewe in the flock (on average) is the basis of profitability. This is an example of how prolificacy is always supplementary to the expression of a primary trait, like weaning weight.

Other economic traits that can be supplementary to the primary trait, weaning weight, include:

1. **Fertility**—Ability to have twins at least once per year for 5 to 7 years in succession.
2. **Lambing date**—Ewe lambs born early in the lambing season will tend to lamb early each year.
3. **Lambing ease**—Ewe lambs born without assistance from the shepherd will likely be easy lambers.
4. **Milking ability**—If twin lambs weigh more than the flock average at weaning, chances are their dams were heavy milkers. Ewe lambs will carry this ability in their productivity.
5. **Mothering ability**—Like milking ability, if heavy-weight at weaning, lambs must be carrying the genes for good mothering ability.
6. **Disposition**—Ewes need to remain calm during handling and/or lambing. Upheaded ewes may be wild and hard to handle while downheaded ewes may be in poor health.
7. **Hardiness**—Productivity in both good and hard times is equal to hardiness. Will ewes produce as much product when feed is scarce as when the feed supply is good? Ewes and rams that are hardy will have longer productive lives than those that are less hardy.
8. **Adaptability**—Sheep that adapt to changes in the environment, feed supply, housing and facilities, and managerial expertise will produce more marketable product per lifetime than those that can’t adapt to change.
9. **Wool**—Wool breeds produce both lamb and wool. Just as selecting for weaning weight, there should be simultaneous selection for wool production and grade.
10. **Frame size**—Medium-frame mature ewes, within a breed, are more economically efficient than larger or smaller frame ewes.
11. **Structural correctness**—If sheep are structurally sound (correct mouth, smooth-shouldered, level-topped, and correctly angled feet and legs), they will be able to walk to feed and water that are essential for production. Structurally sound sheep are more likely to have a longer productive lives in the flock.
12. Health—Body condition of dams of lambs is an indicator of flock productivity. Internal parasite infestation will decrease body condition and will have a negative effect on all of the above characteristics.

13. Breed character—Select purebreds according to the guidelines of the appropriate breed. If selecting crossbreds, makeup of the crossbred character must be in accordance with the appropriate breed that make up the crossbred.

The characteristics described above may seem to apply only to ewes. Not so. Replacement rams must carry these traits so they can transmit genes to their offspring that might eventually become replacements.

**Selection**

Spring (May/June) is the season when replacement ewe lambs and/or yearlings are usually selected. Generally, it is best to select replacement ram lambs and/or yearling rams in the spring, too, especially for commercial operations that follow the traditional production steps of breeding in August/September, lambing in January/February, and selling slaughter lambs (100+ lb) in May/June. Selection of September/October-born lambs can be made by January 1 while selection of lambs born in April can be made by November 1. Regardless of the production system and age of ewes and rams being evaluated, selection should first be based on production and then verified by physical evaluation. Selection of replacements that have no records is risky for maintaining performance sustainability of the existing flock.

If selecting replacements from an existing flock, a complete set of records is ideal. Included for each lamb can be sire and dam identification and age, birth date and weight of lambs, type birth, way raised, actual weaning weight, and adjusted weaning weight rank of twins, twins raised as singles, triplets, and triplets raised as twins. Notes attached to these records might be the dam’s lifetime fertility, lambing ease, milking ability, and mothering ability. Any notes about the sire and dam disposition, annual wool production and grade, structural correctness, and maintenance of overall health throughout the year can aid in the overall selection process. Select the top 2/3rds of twins raised as twins for gain to weaning. This selection will incorporate as many of the supplementary traits as possible into the eliteness of the single weaning weight trait.

In reality, if buying replacements, the chances of having a complete set of records to work with are probably slim to none. So, what can be done? First, make sure to select replacements from a well-managed, reputable flock that has at least some records. Indiscretely or discretely, observe the overall disposition of the entire flock, wool characteristics, frame size, structural correctness, health, and breed character. The flock hardness and adaptability will be manifested through these traits. At minimum, select twins raised as twins (TW/TW) that are in the top 2/3rds of the entire crop of TW/TWs. Selection of these individuals should be indications of the dam’s fertility, ease of lambing, milking ability, and mothering ability.
Summary

Select replacement ewes and rams from as many records as possible. An extensive set of records will usually mean the producer is highly respected and reputable. Producers vary in the extensiveness of their record keeping. If selecting primarily for lamb production, a record of weaning weight adjusted for sex, days of age, type birth/way raised, and age of dam is probably the minimum. Select big TW/TWs because production of two big lambs will generate more profit than production of a BIG single.