



### CULLING: A FREE TOOL FOR FLOCK IMPROVEMENT by Kathy Taft Boyden

What if I told you all that you have in your back pocket a free tool for improving your flock of Icelandics? Or, even better, a tool that would pay you to improve your flock? Well, it is true. You do have that tool and it is called the "Culling Tool". It took me several attempts to get started writing this article, as I was not sure how to introduce a concept that is very difficult for many small flock owners. In the end, I decided to get right to the point. If you are looking to improve your flock, culling is not only useful, but necessary to improve profit and production. There is one big problem, though: culling poor producing sheep can be a problem in small flocks because there is often sentimental attachment to the sheep. I am going to come right out with it..... culling means sending ewes to the butcher, not just the extra ram lambs. In this article, I hope accomplish three things: to explain the different methods of culling, to examine criteria for culling, and last but not least, to hopefully bring breeders into a new comfort zone with the concept of culling.

Let us first look at the definition of culling: "The process of removing breeding animals from a group based on specific criteria. This is done either to reinforce certain desirable characteristics or to remove certain undesirable characteristics from the group." When we cull poor quality

sheep, we actually practice a second flock management technique at the same time: the selection of sheep that are in good condition, free of defects, and are healthy and productive members of the flock. In order to be effective with your culling, you will need to watch your flock carefully for problems. Lambing, weaning, and breeding are obvious times for assessment, but year round evaluation is manageable for small flock owners. The challenge for many of you will be to begin to look at your flock with as much a critical eye as you do with an eye of admiration.

Now, how do you go about being methodical in your approach to culling? There are three recognized methods used for culling: the tandem method, the independent levels method, and the total score method.

- **The Tandem Method:** The tandem method is a form of selective breeding where a breeder addresses one characteristic of the animal at a time, thus selecting only animals that measure above a certain threshold for that particular trait while keeping other traits constant. Once that level of quality in the single trait is achieved, the breeder will focus on a second trait and cull based on that quality. With the tandem method, a minimum level of quality is set for important characteristics that the breeder wishes to remain constant. The breeder is focussing improvement in one particular trait without losing quality of the others. The breeder will raise the threshold for selection on this trait with each successive generation of progeny, thus ensuring improvement in this single characteristic of his breeding program.

- **Independent Levels Method:** Independent levels is a method where any animal who falls below a given standard in any single characteristic is not used in a breeding program. With each successive mating, the threshold culling criteria is raised thus improving the breed with each successive generation. This method measures several characteristics at once. Should progeny fall below the desired quality in any one characteristic being measured, it will be not be used in the breeding program regardless of the level of excellence of other traits. With each successive generation of progeny, the minimum quality of each characteristic is raised thus insuring improvement of these traits.

- **Total Score Method:** The Total Score Method is a method where the breeder evaluates and selects breeding stock based on a weighted table of characteristics. The breeder selects qualities that are most important to them and assigns them a weight. The weights of all the traits should add up to 100. When evaluating an individual for selection, the breeder measures the

traits on a scale of 1 to 10, with 10 being the most desirable expression and 1 being the lowest. The scores are then multiplied by their weights and then added together to give a total score. Individuals that fail to meet a threshold are culled (or removed) from the breeding program. The total score gives a breeder a way to evaluate multiple traits on an animal at the same time. The total score method is the most flexible of the three. It allows for weighted improvement of multiple characteristics. It allows the breeder to make major gains in one aspect while moderate or lesser gains in others.

Next, we can look at criteria for culling. Not every farm will have the same objectives for flock improvement. Therefore, the exact culling criteria may vary widely from farm to farm, and measures of productivity will depend on your end product (e.g. replacement stock or commercial lambs). Although there are many considerations to take into account, some basic factors to keep in mind are listed below.

- Physical problems: Lambing difficulty, prolapses, poor conformation (udder, feet, legs). Too close horns on rams would be included here.
  - Disease: Which ewes in the flock are the least robust, have issues with foot rot, etc. Any chronically ill animals should be culled. I would also add heat tolerance to this category.
  - Production/Reproduction level (use your record keeping): Lambing rate (singles/twins/triples), poor lamb weaning weights, poor milk production, growth rates, etc.
  - Open or barren ewes: possibly depending on why not pregnant.
  - Parasite Tolerance/ Resistance: The poorest performers in this category should be considered culls.
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- Genetic defects: Entropion, jaw problems (undershot or overshot jaw), cryptorchidism, etc.

- Temperament: Wild ewes can make working the sheep difficult and should be look at as possible culls. Also, fence jumpers should not be tolerated in the flock.

- Wool Quality: Look at the uniformity of the coat, coarseness of the fiber, and quantity of wool.

Finally, let's move on to economic reasons for culling sheep. I started out this article suggesting that there was a tool that could pay you to improve your flock. Well, really it is about saving money and making more money. Obviously, keeping unproductive or under-productive ewes is economically inefficient. So, what are the factors that lead to these maladies of production? Sometimes it is our fault that the sheep need to be culled. Initially, we should make sure that the sheep we select for production fit the ranching environment and our desired production goals. Throughout the production cycle, we need to follow good, sound management practices. That way, we don't have to cull unnecessarily. Other times, the reasons for having to cull ewes are out of our control. Either way, we can adjust and improve our production efficiency. Long story short: a great reduction in problems, less time spent fussing with the sheep, fewer vet calls, and overall a happier shepherd that enjoys his/her flock more. I challenge you now to take a good hard look at your ewe flock!

