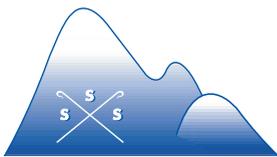


A Guide To Breed Replacement Selection For: The Commercial Flock



Scottish Sheep Strategy



ELSA: Ewe Lamb Selection Aid

- a simple system to assist in replacement selection

INTRODUCTION

Traditionally, on most hill and upland farms, ewe lambs have been selected by eye, generally running up the shedder. This encourages selection based on size and phenotype and may not take into account the previous history of the lambs' mothers.

The increase in production from the National flock over the last twenty years has not kept pace with other sectors of Scottish Farming. Improvements have been made in nutrition, disease control and husbandry techniques which should have led to a bigger increase in output. However, output per ewe has remained disappointingly static during this period. Each breed of sheep has members within its community with the genetic potential to out perform others. The problem has been the identification of these sheep with the superior genetics.

Because of the different limiting factors on individual farms, it is impossible to devise a “one size fits all” system. A three pronged approach means that individuals can choose whichever system suits their particular circumstances.

The Scottish Sheep Strategy appreciates and accepts that there are many breeders who have their own tried and tested methods of selection, and if they are fully satisfied with the performance of their flock, then obviously their system of selection works well enough for them. Likewise there are many flocks where the owners or shepherds feel that there is

room for improvement in the physical and therefore financial performance and the ELSA system has been designed to help those people identify the superior or inferior bloodlines in their flocks and act accordingly. It is purely based on genetics and takes no account of topography, weather conditions and management practices. Improvement of genetic potential is cumulative and sustainable and is one of the best investments of time anybody can make.

There are three options to the ELSA system depending on where you farm and the amount of time you have available to record:

Option 1 - Extensive Hill Farms



Extensive hill farms run on minimal labour input at lambing.

This is the most simple and basic of the three options, but it should be possible for most breeders to use with little or no additional work.

During lambing and throughout the summer, any ewe lamb which has to be treated as an individual, not part of normal management treatment, should be marked and not kept for future breeding. If possible her mother should also be marked and if numbers permit this ewe should not be retained in the pure bred flock. For this to work breeders need to be ruthless in their marking.

Ideally the lamb should be tagged with a different tag to the type or colour which is to be used for the rest of the flock and a note taken of the reason. (Old tags can be used for this and cut out at weaning, or when drawing ewe lambs for wintering.) If tagging is not seen as a viable option then a simple spray paint mark system would suffice. Examples would be Blue Paint, difficult lambing. Green Paint slow to suck or needed assistance to suck, Black paint lameness, Red Paint dirty tail. Very small and unthrifty lambs should not be retained as breeding replacements.

Tups running on the open hill normally have a fairly restricted territory and group of ewes. If you notice that there are more problems on one part of the hill than other parts, e.g. lambs which are slow to get on their feet, the father of these lambs should be placed “on probation” or replaced. If two or more tups are running together and you cannot identify which lambs are from the individual tups they should be split up and not be put to the same area the following year. This will help to identify the offender. Ongoing studies are showing conclusively that lamb vigour at birth is very much related to their sire, so you want to find these “problem” tups as quickly as possible.

Option 2 - Field Lambing

Lambing in fields gives breeders the opportunity to be more selective as the ewes and lambs are easier to gain access too than in the extensive hill situation.



In addition to doing all that is suggested in Option 1, lambs should be marked as twins or singles. If singles and twins are managed differently throughout the summer, marking may not be necessary. It is important that the lambs are weighed at weaning in their groups and the average weight of the group worked out. **Ewe lambs which weigh 15% less than the average of their group should not be kept as breeding replacements.** Depending on number of available ewe lambs, the percentage could vary slightly, but it is not recommended that any ewe lamb is retained unless she is within 15% of the group average.

Option 3 – Indoor Lambing / Easy Access

Lambing inside or in a situation where lambs can be tagged and recorded to identify their mothers.



This is the most labour intensive option but it will give the best results. To operate this system successfully you must be prepared to record the lambs at birth, weigh them individually at weaning and weigh the ewes at tugging. The ewes need to be individually tagged in order to keep a proper check on their performance. This option could be called **“A Ewe Efficiency Index.”**

Over the course of their lives the productivity of some ewes can be double that of their flock mates and the objective of the ELSA system is to help you identify the top performing ewes and retain their daughters.

The first year using this system can really only be used as a benchmark for your particular farm, your management practice, your aspirations for your flock and the particular breed you have.

We are looking to find a ratio of weight of lambs produced to weaning compared to the ewes' own weight at tuppung. There is no right answer to this as each farm and breed is different and therefore it is not useful to compare your results with other farms unless you are satisfied that everything else is similar.



Method

- All ewes should be weighed pre tuppung and their weights recorded, and kept.
- Lambs should be ear tagged at lambing and these individual ear tag numbers recorded along with their dam's number.
- Record wether lambs as well as ewe lambs as it is the total output of ewe that needs to be recorded.
- Individually weigh lambs at weaning time. If some lambs are sold prime through the early summer their live weight

must be taken and the ewe must be credited with the weight of the lamb when it was sold plus an additional projected weight gain. If, for example, a lamb was sold prime on the 15th of July and the main lot was weaned on the 15th of August the ewe must be credited with the weight of the lamb plus an additional 140gms for every day between sale and weaning. If the lamb was 42kgs on the 15th July, by the 15th of August the ewe should be credited with a weight of 46.5 kgs. This correction factor is essential as it credits the ewes which do their business quickly and efficiently.

- **Work out the weight of lamb each ewe has produced and calculate it as a ratio with her own weight the previous tugging.** If it is not convenient to weigh the ewes pre tugging, they could be weighed at weaning along with the lambs. The weighing date of the ewes is not critical, but it must be consistent. There is likely be a very big variation in the ratios and it is important that you use your discretion, particularly in the first year of using this system, but it is advisable not to retain ewe lambs from ewes which have a ratio of below your flock average. This is a simple way of identifying the ewes which have the best maternal traits, both in the number of lambs reared and the weight of these lambs.

The ratio also gives you an excellent benchmark to use from year to year and allows you to factually assess the progress your flock is making maternally.

Conclusion

Using the ELSA system can help with the selection of breeding replacements, provided that you have clear objectives in mind and know which direction you want to take your flock in. The speed of genetic improvement can be almost doubled by using these systems and by purchasing recorded rams with Estimated Breeding Values (EBVs) in the top 25% in the traits which you wish to improve.

Breeders of recorded rams will be able to tell you which rams have the traits that you require. Always aim to purchase rams

with EBVs in the top 25% of their breed for your chosen traits. This may not necessarily mean that the selected tup has a very high index, but his strengths lie in what you want. Always ask the breeder to show you the figures and compare them with the current breed benchmarks.

EAR NO: <i>ABC: 123</i> LOT: <i>1</i>	
Estimated Breeding Values	
Mature Size <i>5.6</i> kg <small>High Mature Size EBV Lambs will grow into larger breeding animals</small>	8 Week Weight <i>2.8</i> kg <small>High Eight Week Weight EBV Lambs will have high early growth rates</small>
Litter Size <i>0.05</i> kg <small>High Mature Size EBV Lambs will grow into larger breeding animals</small>	Scan weight <i>4.2</i> kg <small>High Scan Weight EBV Lambs will have high growth rates</small>
Maternal ability <i>1.10</i> kg <small>High Maternal Ability EBV Female offspring will produce more milk to rear their lambs</small>	Muscle depth <i>1.32</i> mm <small>High Muscle Depth EBV Lambs will have high lean meat yield</small>
	Fat depth <i>-0.5</i> mm <small>Negative Fat Depth EBV Lambs will have leaner carcasses</small>
BREED INDEX	<i>188</i> <small>High Index Overall breeding merit rates highly within the population</small>

The Breed Index is an assessment of overall genetic merit according to specific breed objectives. These are different for different breeds.

For example:

Terminal Sire Index: indicates animals' overall merit for the lamb growth and carcass traits. **Maternal Index:** indicates animals' overall merit for prolificacy, maternal ability and early lamb growth. **Longwool Index:** indicates animals' overall merit for lamb growth rate, conformation and carcass quality whilst restricting increases in mature size and maintaining current levels of prolificacy in the ewe.

All Scottish Sheep Strategy Information is available on the Sheep Strategy website, www.scottishsheepstrategy.org.uk including:



- Assistance in buying a tup using EBVs, including
- A directory of recorded flocks
- Leaflets “How to Buy the Right Tup for Your Flock” and “Planned Carcase Production”
- E L S A & R.A.M.S Recording – a method of low level recording for commercial flocks
- Details of forthcoming events
- Reports from previous events
- Bulletin Board
- Brewster’s Blog – a regular blog from Alex Brewster (Rotmell Focus Farm) using performance recording to produce commercial Blackface sheep, with the help of EID.

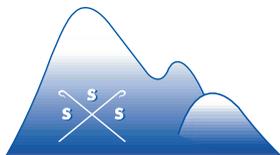
If you breed your own ewe lamb replacements and want to maximise the profitability from your flock, then try the ELSA system and see what it can do for you.



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