# Farming for a Better Climate

# Improving weight data capture and utilisation to drive suckler herd efficiency

#### **Glenkilrie Farm**

Andrew Houstoun runs Glenkilrie farm at the foot of Glenshee in Perthshire. The farm extends to 2500 acres, with a spring calving herd of 170 Limousin x Angus cows, 1100 breeding ewes and 70 red deer. Most of the calves are sold store, but some are kept for finishing and are sold through the farm shop (Glenkilrie Larder), along with their home-produced lamb and venison. Andrew is



passionate about the use of data to help improve suckler cow efficiency, and a key area to focus on is reducing mature cow size. This would help ease the pressure on existing buildings and feed resources with lower maintenance cows. Alternatively it could allow the farm to carry more cows and produced more beef off the same amount of inputs.

# Technology and data recording software

Prior to this trial, Andrew was using a Tru-Test XR5000 weigh head to capture weight data at the crush but admits this piece of kit had not been used to its full potential. Both FarmWorks and AgriWebb software packages are used for various record keeping on the farm. As part of this FFBC project, a Shearwell Handheld Stock Recorder was purchased, which links via bluetooth to the Tru-Test xr5000 weigh head so that weight data can be automatically transferred to the Farmworks software. An android tablet was also purchased so that recorded weights could be transferred to AgriWebb from the weigh head. Automatic transfer of weight data to the software means that it has been much easier and less time-consuming to analyse the data.

Currently, the only part of the weight data collection process which is not automated is the inputting of tag numbers. As each animal enters the crush, the last four digits from its tag number are manually entered into the stock recorder, weigh head and tablet. However, once EID tagging is made compulsory, this will help further streamline the process of data collection and eliminate time spent entering tag numbers, speeding up the whole weighing process.

Another benefit of the stock recorder is the ability to record calving data, doing away with Andrew's current system of keeping paper records at calving time, and being able to register calves automatically with ScotEID.

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## **Cow efficiency**

Weights of cows and calves were collected at weaning time in early November 2023 in order to calculate cow efficiency i.e. the percentage of body weight a cow weans, where the calf weight is adjusted to 200 days. This is a key measure of efficiency in the suckler herd, with the industry target being for a cow to wean 45% of her body weight. It is calculated as follows:

Cow efficiency % = calf weight at weaning (adjusted to 200 days) / cow weight at weaning) x 100

There was a huge spread of weights within the herd, with the lightest cow being 550kg and the heaviest cow 958kg (see table 1). In terms of feed efficiency and cost, the heaviest cow requires an extra 40.8MJ/ day for maintenance over the lightest cow. This is equivalent to the energy in 3.6kg of dried barley or 11kg of silage (at 30% dry matter and 11ME), highlighting the increased cost to keep heavier cows.

Table 1. Weight range in the breeding herd.

Animal group	Average weight (kg)	Weight range (kg)
All cows/heifers	706	500 - 958
Cows only	717	550 - 958
Heifers only	598	500 - 674

For the 2023 calving year, the herd had an overall efficiency measure of 41.85% and heifers weaned a slightly higher percentage of their body weight than cows, as shown in table 2. Almost 24% of the breeding herd reached the industry target of 45% and these cows (and some heifers) were on average 75kg lighter than the average dam weight.

Table 2. Cow efficiency.

Animal group	Average 200-day calf weight (kg)	Average cow efficiency %
All cows/heifers	292	41.85
Cows only	295	41.6
Heifers only	260	43.8

Interestingly, the ten most efficient cows in the herd were on average 223kg lighter and weaned a calf that was on average 60kg heavier compared to the ten least efficient cows. In addition, the ten heaviest cows averaged 878kg and had an average cow efficiency of 34.7%. However the ten lightest cows averaged 575kg and had a cow efficiency of 49.7%. This data backs up the theory that smaller cows tend to be more efficient.

## **Calf growth performance**

All cattle are weighed on a monthly basis to assess growth performance. This allows daily liveweight gain (DLWG) to be calculated pre-weaning and post-weaning and also during the finishing period. Regular monitoring can help track progress, identify periods where cattle may not be performing optimally and why, and be able to monitor the impact of a change in nutrition or management on performance. It can also be used to help identify whether there is an influence of sire on growth rate and age at slaughter, aiding future breeding decisions to help further improve efficiency.

The average DLWG pre-weaning (birth to weaning) was 1.24kg, with only one out of the 104 calves with a DLWG below 1kg/day (0.98kg/day). The fastest growing calf grew at 1.61kg/day. DLWG was lower in the post-weaning period (0.79kg/day), on average 0.45kg/day less from weaning to being weighed two months later (see figure 1).



Shearwell handheld stock recorder

## Calf growth performance continued





As can be seen from the graph, the growth rates at the January weighing were slightly below the December weighing and this is thought to be due to a change in silage in December.

#### **Heifer selection**

The weight data has also been used as the basis for selecting heifers for breeding replacements in the herd. Andrew normally basis heifer selection on the bigger heifers at weaning and selects replacements from there, based on dam information (e.g. temperament, calving issues) and any health/feet issues. Having weight data and cow efficiency measures means that heifer selection can also take into account dam efficiency factors, such as not breeding heifers from cows with a mature weight of over 800kg or those that have an efficiency figure below say 35%.



#### **Environmental impact**

The aim for the suckler herd at Glenkilrie is to improve cow efficiency by reducing mature cow size. This will also help reduce associated emissions as smaller cows eat less and therefore produce less methane. There are also less emissions associated with the reduction in feed required, whether that is home-grown forage or cereals or purchased concentrates. Another area where carbon savings can potentially be made is by reducing the time to slaughter through improvements in nutrition throughout the animal's life.

#### According to Andrew:

"There is no doubt that our suckler herd will have to become much more efficient in the future if it is to survive. This project has given us a fantastic opportunity to really study our cattle more closely, allowing us to make much better decisions going forward to breed a cow that can fit our environment and really perform within it."

#### **Key points**

- There is scope to improve the efficiency of suckler beef production with easier collection and use of weight data to help make better informed breeding and management decisions.
- This case study shows how investment in technology can help improve the ease of data capture on farm and how that data can best be used to help drive efficiencies in a suckler herd.