New Entrants to Farming Fact Sheet

An Introduction to Benchmarking for Sheep

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What is benchmarking and why should I do it?

Benchmarking is a useful management tool, allowing you to take an in-depth look at your farm business. This can be useful to review on a regular basis to track progress of your flock. You can also benchmark your flock against others of similar size or management system through various discussion groups, monitor farms or costing programmes.

Benchmarking provides a basis for comparison and a starting point for setting targets. By comparing your flock's performance against industry targets or other flocks, it allows you to identify where the strengths and weaknesses are in the business and where there is room for improvement. There are a number of benchmarks or KPI's (key performance indicators) to look at, both physical and financial this fact sheet will detail some physical KPI's to improve flock performance.

Key benchmarks for sheep

The sheep year can be divided into five main stages, with relevant KPIs, these are shown below.

1. Tupping

KPI	Calculation	Target
Ewe to ram ratio	No of ewes / no of rams	>50
Ewe mortality	Ewe deaths over a year/ ewes tupped in the previous year x 100	<4%
Flock replacement rate	Purchased ewes / ewes put to the ram x 100	<23%

The European Agricultural Fund for Rural Development
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433486LH / 16.06.2020

2. Scanning

KPI	Calculation	Target
Scanning %	Lambs scanned / ewes tupped x 100	Lowland – 200% Upland – 175% Hill – 115%
Barren ewes	Ewes barren / ewes tupped x 100	<2%

3. Lambing

KPI	Calculation	Target
Lambing %	Lambs born / ewes tupped x 100	Lowland – 195% Upland – 170% Hill – 110%
Abortion %	Ewes aborted/ewes tupped x 100	<2%
Lambs rearing %	Total lambs reared / no of ewes tupped x 100	Lowland – 190% Upland – 165% Hill – 105%
Lamb losses from scanning to rearing	(Lambs scanned-lambs reared) / lambs scanned x 100	<15-20%
Lambing intervention	Ewe requiring lambing intervention / total ewes lambed	<5%

4. Weaning

KPI	Calculation	Target
Eight-week weight	Average weight at eight weeks	>20kg
Average age at weaning	Average age at weaning	60-100 days depending on availability of quality forage and conditions of the season
Average weight at weaning	Average weight at weaning	
Average lamb growth rate to weaning	(Average lamb weaning weight - birth weight) / Average age at weaning	>280kg/day
Average 90-day adjusted weight	Average lamb growth rate to weaning x 90 + birth weight	Lowland/Upland >30kg Hill >25kg

5. Post-weaning

KPI	Calculation	Target
Ewe efficiency	Lamb rearing % x average lamb sale weight / average ewe mature weight	1
Average days to slaughter	Average date at slaughter - planned start of lambing plus 10 days	<150 days
Post weaning lamb growth rate	Average lamb weight - average weight at last weight / days since last weighing	>120g/day
Average lamb growth rate	Average lamb sale weight (may need to convert carcase weight to estimated liveweight by dividing by 0.47) / average days to slaughter	>250g/day
Kilograms of concentrate use per ewe and lamb	Total tonnes of feed utilised / number of ewes tupped	Early season <15kg/ewe Mid season <10kg/ewe Late season <5kg/ewe

6. Others

KPI	Calculation	Target
Ewe Lameness	Ewes lame / total ewes in flock x 100	<5%
Veterinary input	Total veterinary cost / ewes	<£7/ewe
Number of ewes per full time equivalent labour units	Total ewes / (staff x proportion of full time hours dedicated to sheep)	650
Stocking rates (livestock units/ha)	Total livestock units* / area (ha)	High rate – 2-2.5 LU/ha Low rate – 1-1.5 LU/ha
Inorganic Nitrogen use (kg/ha)	Nitrogen use / area (ha)	
Total kg of liveweight /ha	Stocking rate x rearing % x average weight of lamb sold	Hill >200kg/ha, Upland >300kg/ha, Lowland >400kg/ha

Stocking rates

Livestock grazing decisions are often made on the grass supply and demand on a farm in a given year, which fluctuates greatly depending on the weather and season. However, the stocking rate can also be a very useful tool, to make whole farm decisions, such as how many animals a farm can sustain of each species for farm comparisons. This will depend on the farms capabilities (grade, slope, climate, etc.) and management practices (grass quality, fertiliser and organic manure applications, environmental schemes, etc.).

The Scottish Government has defined livestock units for different classes of stock as follows:

	Livestock Units (per head)
Ewes (including suckling lambs)	0.15
Other sheep	0.15
Goats	0.15
Cows (including suckling calves)	1.0
Other cattle (6 - 24 months)	0.6
Other cattle (24 months and over)	1.0
Farmed Deer: Adult stags (27 months and over)	0.4
Farmed Deer: Hinds, including suckling calves (27 months and over)	0.3
Farmed Deer: Juveniles (6 to 27 months)	0.2
Alpacas	0.3

(https://www2.gov.scot/Topics/farmingrural/Agriculture/grants/Schemes/LMCMS/Options/Info/LivestockInfo)

Setting targets and monitoring performance

No doubt you will have an idea of where the current bottlenecks or issues are to production in the flock, whether it is poor mortality or lamb growth rates. Whatever the area you wish to target for improvement that is where you should drill down into some of the KPI's to benchmark yourself against, identify the possible cause and make changes. You may need to take advice on how best to improve and monitor results on a regular basis. Every KPI must be specific or have a definition, a target goal and be based on the SMART goal's principles:

- Specific
- Measurable
- Achievable
- Realistic
- Timebound

It is a good idea to keep everyone (staff and family members) involved in setting KPI's so they are clear on what needs to be recorded for easy calculation and review. You may wish to set a time period for when to achieve the target goal to motivate yourself and staff. Carry out a yearly review of flock performance once lambing is over while it is fresh in your mind, with records close to hand. Bear in mind that some improvements may take years to show, especially if you are making changes to breeding policy and genetics.

Example KPI assessment and factors to consider for improvement

KPI – lamb losses from scanning to weaning

The target is to lose no more than 15-20% lambs in this period

This KPI gives a measure of the amount of lambs weaned compared to the potential number of lambs that could have been weaned. It allows for an exercise to record lamb losses from scanning through to weaning, where any trends can be identified, to change any management improvements necessary. It also allows for a record of the potential income lost from lamb losses. This KPI allows for a baseline of performance to set future targets against.

Why is the target not being met?

Identifying when the losses are happening through the ewe's pregnancy helps determine the area to focus on.

Drilling down into the nutrition, health and genetics can help address these areas. For instance, if more than 5% of lambs are lost pre-lambing, review vaccination policy, consider checking mineral nutrition and check for environmental abortion risks such as soil ingestion or mouldy forage.

For more information on reducing lamb losses, visit the Live Lambs web pages, were there are fact sheets specific to this KPI including, nutrition, body condition score, behaviour and abortion control.
https://www.sruc.ac.uk/info/120732/live_lambs

Tips for getting started with benchmarking

- Keep good, accurate records – if you do not measure it, you cannot manage it! Don't just record numbers, make notes e.g. drought year, cocci infection, dog in with ewes at tupping, reason for deaths, etc.
- Compare your data – against your own flock year-on-year but also against industry targets or top performing herds.
- Select a few KPI's to focus on – do not try to do everything at once. Focus on the weaker areas of the business identified through benchmarking to tackle first.
- Join a discussion group – you can compare your herd against others and share ideas and practices that you can implement on your own farm.

Further Information

There are excellent industry tools freely available for benchmarking, these can be found in the following links including:

Farm Management Handbook

QMS Cattle and Sheep Enterprise Profitability in Scotland