

BETTER RETURNS



Growing and finishing lambs for Better Returns



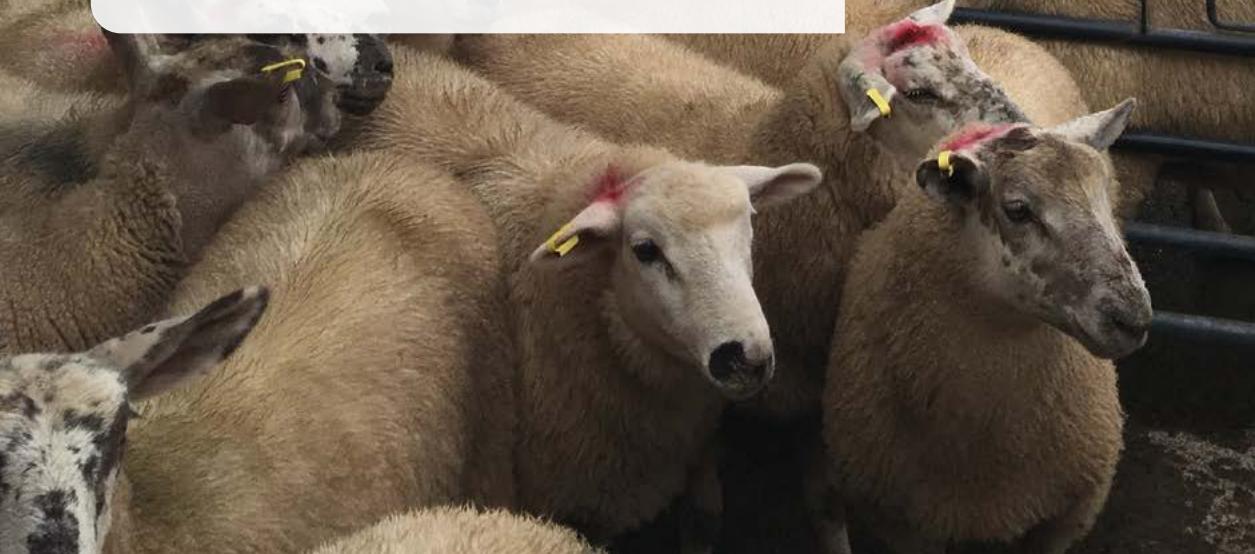
Contents

- 3 Introduction**
- 4 Setting goals for your enterprise**
- 5 When to wean**
- 7 Fitting lambs to systems**
- 10 Feed planning**
- 13 Feed options**
- 16 More feed options**
- 18 What are the costs?**
- 20 Biosecurity and health planning**
- 22 Selection for slaughter**
- 23 Measuring and monitoring performance**

The information in this booklet was compiled by Kate Phillips, Independent sheep consultant.

Photography credits

Front cover, contents page, pages 4, 6, 11, 15, 16, 17, 20, 21, 22 © AHDB; Page 5 © North of England Mule Sheep Association; Page 8 © John and Edward Higgins; Page 23 © Blyth Livestock Advisor Services.



Introduction

Over 12 million lambs are slaughtered in the UK every year, producing more than 230,000 tonnes of meat.

There are three main challenges for the lamb sector: to maintain the production of high-quality meat, to encourage consumers to eat lamb and to make sheep farming financially viable.

The costs of lamb production include maintenance of the ewe throughout the year and ongoing costs as lambs grow from birth to weaning. Post-weaning management needs careful planning to minimise mortality, maintain optimum health and maximise growth in order to leave a good financial return.

Lamb production needs to be focused on the end market – producing what is wanted by consumers. Current target specification for lamb is 16–21 kg carcases at E, U or R conformation at fat class 2 and 3L for the majority of outlets and achieving these targets includes elements of nutrition, genetics and health.

This manual presents a range of options and ideas for growing and finishing lambs to achieve better returns.



Kate Phillips
Independent sheep consultant

Setting goals for your enterprise

Before buying in stores or starting to home-finish lambs, you should ask:

- Who will be buying the lambs?
- What type of lamb is required?
- How will I market them?
- When do they need to be ready?
- Weight/classification – what are the penalties associated with not meeting the customers' specifications?

Once you have an answer to all of these questions, put a management plan in to meet the customers' needs.

It is important to collect information on growth rates to identify strengths and weaknesses in the enterprise so you can create a plan to improve on certain areas. This data can be used to compare performance with previous years and with similar production systems. It can also be used as part of the flock health plan. Record performance at lambing time using the **Sheep Records** sheet and throughout the year using the **Flock Notebook** from ahdb.org.uk



To compare your performance against industry targets, use the sheep KPI calculator, available at ahdb.org.uk/tools

Monitor price trends at the Markets and prices section of the AHDB website at ahdb.org.uk

Table 1. Industry performance targets (excludes pure hill breeds)

Key performance indicator (KPI)	Industry target	Your performance
Average eight-week lamb weight (kg)	>20 kg	
Average age at weaning (days)	<100 days	
Average weight at weaning (kg)	>30 kg	
Average daily liveweight gain to weaning (kg per day)	>250 g	
Average 90-day lamb weight (kg)	>30 kg	
90-day lamb weight per ewe to ram (kg)	>45 kg	
Weight of lamb reared per ewe to ram (kg)	>60 kg	

When to wean

Lambs should be weaned between 12 and 14 weeks of age. Leaving lambs on their dams for too long can be counterproductive in terms of lamb growth and ewe body condition score (BCS).

The decision on when to wean should be determined by ewe body condition, feed availability and lamb growth rate. These factors change every year, so the ideal weaning date cannot be set in stone.

Table 2 shows the factors to consider when deciding on a weaning date. If any of the factors in the 'wean' column match with your flock performance, then consider weaning earlier than normal.

Table 2. Factors to consider when deciding on a weaning date

Factors to consider	Wean	Don't wean
Ewe BCS	2	3+
Grass availability	Poor	Good
Lamb growth	<200 g/day	>200 g/day
Lamb age	>12 weeks	<10 weeks

Assess at eight weeks

Assessing ewe body condition and weighing lambs at around eight weeks of age (from the midpoint of lambing) can give an indication of ewe milk supply, the health status of the group and forage supply. It also allows a weaning date to be planned.

Table 3. Target body condition score (BCS) for ewes

	Hill ewes	Upland ewes	Lowland ewes
At weaning	2	2	2.5
At tupping	2.5	3	3.5

Aim to have 90% of the ewes at the target BCS

If ewes at eight weeks post-lambing are falling below the weaning BCS targets, the lambs may need to be weaned earlier to allow sufficient time for the ewes to gain condition to reach the target BCS by tupping. Ewes in the right condition at tupping tend to have more lambs the following year. It takes six to eight weeks for a ewe to gain one BCS on unrestricted grazing.

For more information on body condition scoring, see ***Managing ewes for Better Returns***.



Target growth rates

Target growth rates for lambs up to eight weeks of age should be greater than 250 g per day.

If a lamb of 4 kg birth weight gained an average of 250 g per day from birth to eight weeks (56 days), it would weigh 18 kg, or 21 kg if it gained at 300 g per day.

If lamb growth rate is lower than 250 g/day, it may be due to poor milk supply, poor grass cover or a heavy parasite burden.

Up to weaning

From eight weeks of age, a lamb's energy intake is greater from grass than from milk, so competition for high-quality grass between ewes and lambs reaches a critical point. The time this happens will change each year, depending on grazing management and grass growth.

If the grass is growing well and ewes are in good condition, weaning can be delayed without reducing lamb liveweight gain. However, if forage availability is low, lamb growth rates will suffer, as ewes and lambs compete for the same grass.

If lamb growth rates are lower than 200 g per day, this should trigger weaning and lambs should be moved onto better-quality forage.

If creep feed is offered, liveweight gain may not decline after eight weeks, so weaning decisions will be based on how long the lambs have until they are finished, as well as ewe condition. The target for systems with high creep use is to sell over 60% of lambs before weaning.

Transition period

Research shows that animals that experience novel feeds, such as red clover, chicory or cereals, when with their mothers perform better once they are exposed to the feed when weaned. It is therefore important to think about a transition period if the lambs are being weaned onto different feeds.

It can take up to three weeks for the rumen to adapt to a new feed and care is needed to prevent a weaning check.

Any treatments, such as vaccines or wormers, should be given before weaning as stress can affect the immune response, especially to vaccines, making lambs more susceptible to disease.

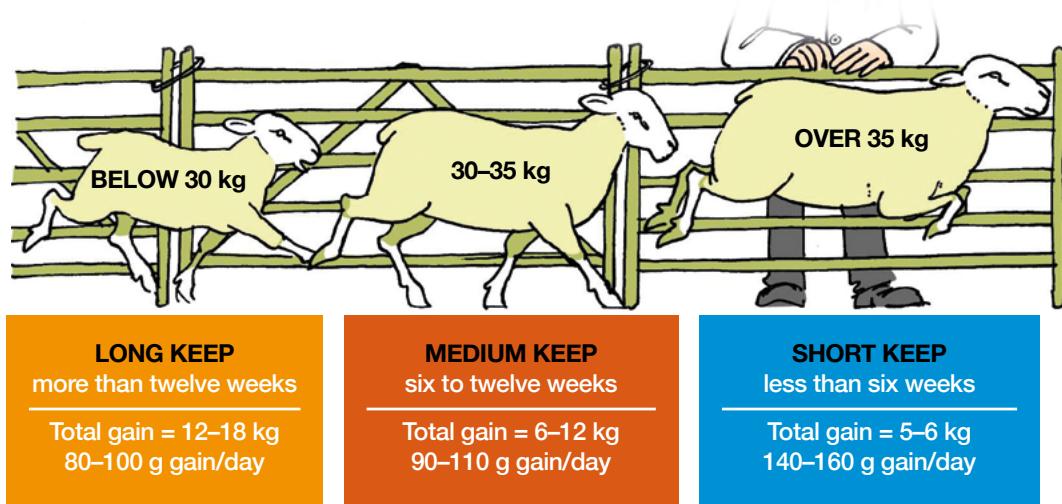


Ideally, lambs should be weaned onto a pasture they know, but out of sight and sound of the ewes. Once they have settled, they can be moved to pasture with a known low worm burden or onto a forage crop.

Use faecal egg counts to confirm the level of parasite challenge in recently weaned lambs.

Fitting lambs to systems

When dealing with home-produced lambs or bought-in lambs, batch according to weight so that their feed can be targeted more efficiently.



Tips for selling store lambs

- Batch lambs by weight, breed, sex or level of finish
- Healthy lambs grow quicker and generally sell better
- Follow a flock health plan
- Keep a close eye on store lamb prices and feed supply when deciding to sell

Tips for buying store lambs

- Handle the animals and assess condition. If possible, weigh before purchase
- Buy lambs according to feed availability
- Inspect all lambs for signs of ill health
- Source from as few farms as possible to minimise the risk of buying in disease
- Quarantine on arrival and treat for worms/scab according to risk

Priority to lambs or ewes?

On farms with breeding ewes, it is important that ewes have enough time on unrestricted grazing to regain body condition and to be at target condition for tupping. If extra winter feed needs to be bought in to replace the feed eaten by the weaned lambs, it may be more cost-effective to sell the lambs earlier. A store lamb will eat nearly the same amount as a dry ewe.

Target for grass-based systems = >70% of lambs to be sold (finished or as stores) by tupping.

See page 19 for how to use a partial budget to compare decisions.

Estimating finishing weights

When thinking about target growth rates, it is worth checking finishing weights.

A lamb finishing at fat class 3L will typically have a weight that is half of its potential mature weight. Add 5% for medium/long-keep lambs and entire males.

To make sure lambs are on target to finish when expected, monitor progress by weighing all lambs or 10–20% of the group every one or two weeks.

Example

Potential mature weight:

$$\frac{70 + 90}{2} = 80 \text{ kg}$$



Finished weight at fat class 3L:

$$\frac{80 \text{ kg}}{2} = 40 \text{ kg}$$



Finishing entire males

Keeping and finishing entire male lambs can be beneficial due to higher growth rates and better feed conversion. However, this needs careful management after weaning.

- Separate from ewe lambs by five months of age at the latest
- Plan finishing carefully, avoiding long store periods
- Feed a high-quality ration in the later stages of finishing and bear in mind that meat quality will be affected if they are not finished by eight months of age

Shearing store lambs

Shearing can increase growth rate if lambs are being finished indoors on an ad-lib feeding system or if lambs are shorn before September. It may be worth doing an on-farm trial to make sure the benefits of faster growth rate outweigh the total cost of shearing.

Table 4. The pros and cons of shearing store lambs

Pros	Cons
Lambs eat more and can finish quicker, reducing days to slaughter	Will need to be housed for over a month to see cost benefit of shearing
Reduces indoor lying area required per lamb	Does not reduce feeding space requirements per lamb
Reduces risk of heat stress, which can be a problem when lambs are housed and fed a high-cereal diet	Check with the abattoir, as some will penalise for shorn lambs

Case study

John and Edward Higgins achieve lamb growth rates of 350 g/day through high-quality grazing and creep feed.

John and Edward Higgins farm at Frodesley Park Farm, Longnor, near Shrewsbury.

- **Flock:** 1400 Suffolk cross Mule ewes, all mated to Texel tups
- **Land:** 84 ha of grassland, but off-farm grazing (grass and stubble turnips) is taken for the ewes through the winter months
- **Stocking rate:** In spring/summer, about 17 ewes and their lambs per hectare
- **Lamb rearing percentage:** 170%

Lambing is split into three batches – 300 ewes in February, 800 in March and 300 in April. All ewes are lambed inside, with the ewes housed for as short a time as possible – usually two to three weeks in total – but the floods of 2019/20 forced the February lambers to be housed for over two months.

While housed, ewes are given big-bale hay or silage and high-quality compound is fed on the bedding. Ewes and lambs are turned out within 48 hours, according to the weather. All lambs are offered creep feed from about two weeks old.

Grassland is split into paddocks and ewes and lambs are rotationally grazed to optimise grass quality. Swards are a mixture of perennial rye-grass and white clover. Maintaining high-quality grazing is key to minimising lamb creep costs – with lambs typically taking about 40 kg at a cost of £9/head. Lambs are weaned at between 10 and 14 weeks of age, according to the season. They are selected for slaughter from 10 weeks of age in May at 40 kg liveweight, with sales continuing through to October when the final April-born lambs leave the farm. Peak sales are in June and July. Average lamb age at slaughter is about 14 weeks, with lambs achieving a growth rate of 350 g/day throughout.

Lambs are sold deadweight on a contract with a major retailer. By the time the tups go in with the February flock in September, 95% of lambs have been sold. This is achieved by great attention to detail, high-quality grazing, ad-lib creep feed and high standards of sheep health.



Feed planning

Knowing how much feed is available and how much is needed to feed the lambs simplifies management decisions and improves production efficiency. Whatever crop the lambs are eating, the principles of planning feed allocation remain the same.

Calculating demand

Growing lambs generally eat around 4% of their body weight as dry matter (DM) per day. For example, a 30 kg lamb that is growing well on high-quality forage will eat around 1.2 kg DM per day. See Table 5 for guidance.

A feed budget can be used to take into consideration changes in lamb numbers and weight to estimate how much feed is required. This can be used to allocate crops to certain groups or to help make decisions about whether to keep lambs to finish or sell as stores.

Calculating supply

Alternatively, if a fixed area or tonnage of forage crop or feed is available, the number of lambs that this could feed needs to be calculated, as shown in Table 6. For example: a 3 ha crop of stubble turnips with a yield of 5 t DM/ha = 15 t DM. According to the feed budget, around 110 lambs would be supported on that crop for three months.

The same principle can be applied to grass. For more information, see *Planning grazing strategies for Better Returns* and *Using brassicas for Better Returns* for guidance on how to estimate yields of forage crops.

Table 5. Calculations of monthly feed demand

	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Number of lambs [A]	300	300	300	250	150	100	50
Average weight (kg) [B]	30	33	36	39	42	42	42
% of body weight* [C]	4	4	4	4	4	4	4
Daily requirement (kg DM) [D = B x (C/100)]	1.2	1.3	1.4	1.6	1.7	1.7	1.7
Group requirement (kg DM per day) [E = D x A]	360	390	420	400	255	170	85
Monthly requirement (t DM) [F = (E x 30)/1,000]	11.2	11.7	12.6	12.0	7.7	5.1	2.6

*4% will cover some utilisation losses, but if grazing crops in wet conditions, a greater allocation may be needed.

Table 6. Calculation of monthly feed supply

	Jul	Aug	Sep	Oct	Nov
Crop available (ha) [G]		1	1	1	
Yield (t DM/ha) [H]		4*	5*	6*	
Feed available (t DM/ha) [I = G x H]		4	5	6	
Daily requirement (kg DM/ lamb /day) [D]		1.3	1.4	1.6	
Total grazing days [J = (I x 1,000)/D]		3,076	3,571	3,750	
Number of lambs per month [J/30]		103	119	125	

*Some plant growth will occur, so the available feed will change.

Making the best use of grass

Grass can be used for all batches of lambs but needs careful management to ensure quality and quantity is maintained. Be aware that weaned lambs can readily eat into the reserves kept for flushing and overwintering ewes, which may affect ewe performance and bought-in feed requirements.

Some monitoring of grass covers is required to optimise performance of the stock and the grass. Sward heights are the simplest way – see Table 7 for targets.

Grazing pasture at the right height ensures the lambs are eating high-quality grass. The leaf is the most nutritious part of a plant (>11.5 MJ ME/kg DM), so maximising the leaf and minimising the amount of stem (only 10.5 MJ ME/kg DM) in each bite increases the nutritional quality of the diet and lamb performance.



Table 7. Sward height targets for weaned finishing lambs

Class of stock	Rotational grazing		Set stocking (cm)
	Pre-graze (cm)	Post-graze (cm)	
Weaned finishing lambs	10–12	5–7	6–8

White clover in pastures can increase the rate of lamb liveweight gain from weaning to slaughter by 25% and counter the summer dip in grass growth and quality. Good grazing management in spring is key to achieving good clover levels from midsummer onwards.

Using a group of weaned lambs is a good way to start a rotational grazing system, as it is simpler to manage a group of animals of similar weight and feed requirements. Give them priority in terms of feed quality, moving them through each paddock first, so they are able to select the best forage, with ‘followers’, such as replacement ewes or cows and calves, being used to tidy up behind them.

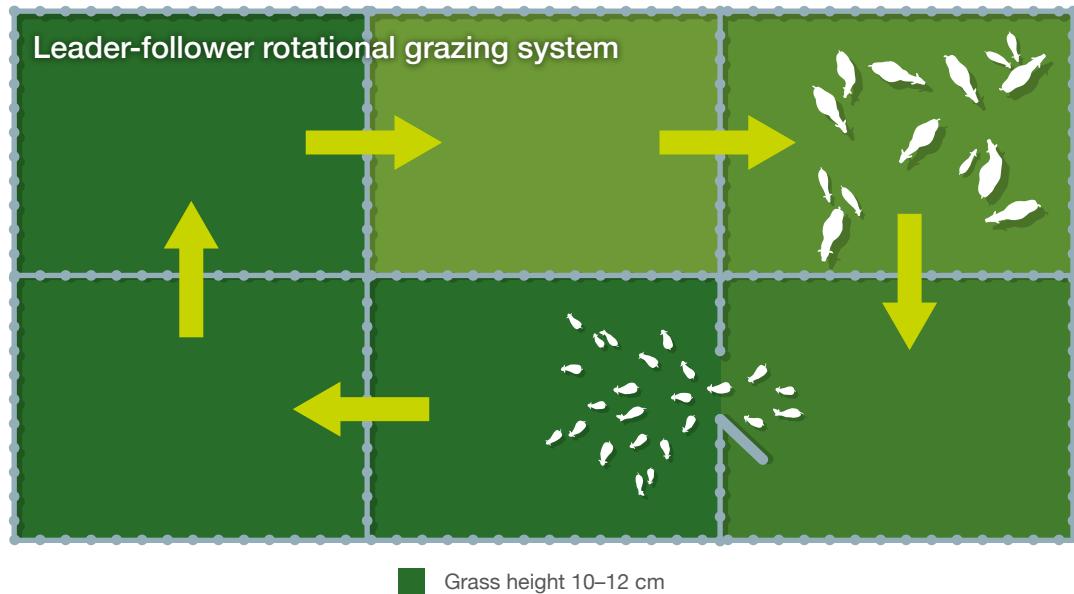
Grazing systems can be easier to plan if they are based on the kg DM requirements for the group and the available grass (kg DM per ha).

The manual *Planning grazing strategies for Better Returns* demonstrates how to do this.

Reducing parasite risk in grazing systems

Grazing management can be used to reduce dependence on wormers but requires significant planning. Parasite burdens can be reduced by grazing with other classes of stock, e.g. grazing a field with sheep one year and cattle the next, using the fields for conservation for some or all of the year, or grazing new reseeds after a forage or arable crop.

In an ideal situation, finishing lambs should not be grazed on land which has had ewes and lambs on in the same season, as these are high-risk fields. When only high-risk fields are available, parasites are likely to have an impact on lamb growth and regular treatments may be needed. Use faecal egg counts to monitor the worm challenge. See *Sustainable Worm Control Strategies for Sheep* at www.scops.org.uk for more details.



Feed options

Lambs can be finished successfully on a variety of crops, as shown in Table 8.

Table 8. Feed options for growing and finishing lambs

Crop	Sowing time	Period of use	Growing costs (£/ha/yr)	Potential lamb growth (g/day)	Yield (tonnes DM/ha)	DM (%)	ME (MJ/kg DM)	CP (g/kg DM)
Rye-grasses e.g. perennial and Italian	Apr–Sep	All year	300–450 (for 5 years)	250	10–11	15–25 grazing	10–12	15–16
		Or as silage			13–14	30–45 silage	10–12	12–16
Red clover	Apr–Jul	Grazing: Aug–Nov	350–600 (for 5 years)	300	10–15	12–18 grazing	11–12	20–25
		Or as silage				25–30 silage	10–11	14–19
Lucerne	Apr–Jul	Grazing: Aug–Nov	600–800 (for 5 years)	Grazing: 250	10–12	12–18 grazing	10	18–20
		Or as silage		Silage: 210		30 silage		
Chicory/ plantain and clover	Apr–Jul	May–Sep	400–600 (for 3–5 years)	300	10–12	12–15	11–12	20
Stubble turnips/ forage rape	Mar–Aug	Jun–Dec	160–230	270	5–6	10–12	10–11	17–18
Rape/kale hybrid	Mar–Aug	May–Mar	200–300	250	6–8	10–13	10–11	18–19
Swedes	Feb–Jun	Oct–Apr	370–400	240	7–8	9–13	12–13	10–11
Kale	Apr–Aug	Jun–Apr	300–350	180	8–9	15–17	10–11	14–17

The pros and cons of the crops shown in Table 8 are described below.

Table 9. Pros and cons of different crops for lamb finishing

Crop	Pros	Cons
Rye-grass (perennial and Italian)	Can be available all year round Range of species and varieties to meet system needs	Good management needed for high utilisation Does not fix nitrogen
Red clover	Fixes nitrogen High-yielding High protein	Susceptible to crown damage Risk of bloat Must be rotationally grazed
Lucerne	High-yielding High protein Has good drought tolerance	Slow to establish Struggles in waterlogged soils Must be rotationally grazed
Chicory, plantain and clover	High protein content Deep tap root to draw up trace elements and minerals Could reduce the use of anthelmintics	Susceptible to crown damage Must be rotationally grazed Difficult to ensile
Stubble turnips/ forage rape	Fast-growing Suits arable rotations	Yields are unpredictable Utilisation rates are weather-dependent Not very frost-hardy Run-back area needed Dirty lambs in poor grazing conditions
Rape/kale hybrid	High yield potential Winter-hardy Provides feed through spring Cheap to grow, some varieties regrow	Whole-season crop Digestibility falls as crop ages Run-back area needed Dirty lambs in poor grazing conditions
Swedes	Frost-hardy Can be lifted and stored	Run-back area is essential Dirty lambs Performance drops when lambs lose milk teeth in late winter Whole-season crop
Kale	Very good yields Winter-hardy	Run-back area is essential Dirty lambs Stems can get too woody

For more information, see ***Managing clover for Better Returns*** and ***Using brassicas for Better Returns***. These online resources may also be of interest: ***Using chicory and plantain in beef and sheep systems*** and ***Growing and feeding Lucerne***, available at ahdb.org.uk



More feed options

Silage

Top-quality grass silage costs more than grazed grass to produce and feed. However, it can match concentrate feeds in terms of energy and crude protein content and costs half as much per tonne of DM. This makes it one of the most viable feeds for finishing lambs indoors.

- Have silage analysed so that its nutritional content is known
- Lambs will not perform on poor-quality silage (digestibility of below 64% or 10 MJ ME/kg DM)
- Use supplements to balance the ration if the analysis reveals a shortfall in energy or protein – most silages will need supplementation to finish lambs
- Short chop-length encourages greater intakes, which increases growth rates and reduces the days taken to reach slaughter

For more information, see **Making grass silage for Better Returns**.

Concentrates

Feeding concentrates to finish lambs can be financially rewarding in some cases, e.g. for specialist early-lambing flocks which aim to market lambs in spring when prices are traditionally high.

Using concentrates strategically to hit performance targets or to release grazing



for other classes of stock that need it more can improve the cost benefit of supplementation, but purchased feeds should not be offered routinely, especially if good-quality grass is plentiful.

A good feed conversion efficiency (FCE) is essential to cover the cost of concentrates and can vary from 5:1 to 10:1. A sensitivity analysis can show how FCE and concentrate costs can affect the margin and whether concentrate feeding is viable.

Example

Table 10 assumes a lamb needs to gain 12 kg, which has a value of £24 (£2.00/kg LW), with additional variable costs of £3.50. For example, a concentrate price of £260/t and an FCE of 6:1 gives a margin of £1.78 per lamb. The impact of changing prices or FCE can be seen below.

Table 10. Example sensitivity analysis comparing concentrate price and FCE on margin per lamb

Concentrate price (£/t)	FCE (kg gain:kg concentrate)					
	5:1	6:1	7:1	8:1	9:1	10:1
220	£7.30	£4.66	£2.02	-£0.62	-£3.26	-£5.90
260	£4.70	£1.78	-£1.34	-£4.46	-£7.58	-£10.70
300	£2.50	-£1.10	-£4.70	-£8.30	-£11.90	-£15.50

Total mixed rations (TMRs)

TMR is a combination of forage and concentrates mixed together and fed along a feed passage using a feeder wagon and is formulated to meet the nutritional needs of the stock each day.

- TMRs provide a constant diet throughout the day, reducing the risk of rumen upset and acidosis
- They can reduce labour and time taken to feed
- Forage must be analysed so that the correct supplements can be selected to deliver target growth rates cost-effectively



Co-products

Co-products such as vegetable waste, citrus pulp or bread meal can reduce feed costs.

- Check feed value carefully, including moisture content and trace element and mineral levels – these can vary widely between batches and sources
- Calculate costs (including delivery) per kg DM. Moist products mean more money is spent transporting water
- Appropriate on-farm storage and handling is needed. Moist products can deteriorate rapidly

Feed requirements

The nutritional requirements of lambs vary depending on weight and target growth rate. Energy and protein requirements can differ between sex and breeds.

Use the energy and protein requirements in Table 11 to:

- Set realistic targets based on feed quality
- Help formulate rations

Table 11. Energy and protein requirements for growing castrated lambs on forage

Lamb weight (kg)	Growth rate (g/day)	Potential dry matter intake (kg DM/day)*	Metabolisable energy (ME) requirements (MJ/day)	Metabolisable protein (MP) (g/day)
20	150	0.8	6.8	80
	250		10.0	110
30	150	1.2	9.0	85
	250		13.0	114
40	150	1.6	11.1	91
	250		16.0	119

*Based on 4% of body weight.

What are the costs?

Knowing the purchase price of the animals and the cost of feeds is essential when deciding to buy or sell stores or to finish home-produced lambs.

Use the tables on pages 10 and 11 to calculate the amount of feed needed to gain an understanding of the likely feed and forage costs before committing to any particular system.

Table 12. Calculation of feed cost per lamb

Number of animals	Weight (kg)*	Intake (kg DM)**	Cost per kg DM (p)	Feed cost per day (p)	Finishing period (days)	Feed cost per lamb for finishing period	Feed cost for group over finishing period
200	39	1.6	6	9.4	30	£2.82	£564
150	35	1.4	12	16.8	80	£13.44	£2,016

*Use weight in midpoint of finishing period, e.g. start weight of 36 kg and finish weight of 42 kg means midpoint weight is 39 kg.

**Assume 4% of body weight.

Table 13 provides a guide to average costs for store finishing systems, which can be used to compare with actual costs.

Table 13. Average costs for store finishing

	Stocktake 2016 average (£ per lamb)	Your system	
		Total	Per lamb
Variable costs			
Total feed and forage	3.44		
Vet and medicine	0.85		
Bedding	0.04		
Other livestock expenses	2.66		
Total variable costs	6.87		
Fixed costs			
Labour	2.93		
Power and machinery	0.90		
Depreciation	1.51		
Property and finance	1.96		
Other	2.62		
Total fixed costs	9.92		

Comparing decisions

A partial budget is one way to compare margins when making decisions, e.g. whether to sell lambs as stores, rear on to heavier weights or to finish. Table 14 shows an example comparing selling stores in November compared with feeding them to finish.

Example

Table 14. Example partial budget comparing selling options

		Sell as stores in November	Sell as finished lambs
Lamb weight		32 kg LW	19 kg DW
Price (after haulage/commission)		171p/kg LW	440p/kg DW
Value		£55.00	£83.60
Difference in value			£28.60
Additional costs	Swedes – approx. 90 kg DM at 7p/kg DM (@ £70/t DM) Concentrates – approx. 15 kg at 24p/kg (@ £240/t)		£6.30 £3.60
Other variable costs (vet, medicines and bedding)			£4.00
Lamb mortality – 2% (of finished lamb value)			£1.67
Margin after additional costs (not including fixed costs)			£13.03

Use current and historical weight and price information to calculate the potential value of the finished lambs.

Sensitivity analysis

Sensitivity analysis can be used as a ‘what if’ tool to look at how changes in prices, costs or performance can affect margins.

Example

The example below investigates the effect of lamb mortality and lamb price on margin after variable costs, based on the numbers in Table 14. For example, a lamb price of 440p/kg DW and lamb mortality of 4% gives a margin of £11.36 per lamb (see the green cell below).

Table 15. Example sensitivity analysis comparing lamb price and lamb mortality on margin per lamb

		Lamb price (p/kg DW)					
		380	400	420	440	460	480
Lamb mortality (%)	2	£1.86	£5.58	£9.30	£13.03	£16.75	£20.41
	4	£0.42	£4.06	£7.71	£11.36	£15.00	£18.65
	6	-£1.03	£2.54	£6.11	£9.68	£13.26	£16.83

Biosecurity and health planning

Quarantine

Purchased store lambs pose a health risk to other stock on the farm. Always assume that bought-in animals have disease until proven otherwise, irrespective of the source. Discuss treatments and checks to carry out with your vet.



Keep incoming stock separate for a minimum of three weeks in a shed or a field, which has no contact with other stock. If possible, separate sheep bought from different sources for the quarantine period. This will limit the damage if disease outbreaks do occur in one of the groups.

Disease risk

Having a health plan in place is essential for any lamb finishing system. It should include:

- Internal and external parasite control plans
- A vaccination programme
- Lameness protocols
- Current level of disease and targets

Update the health plan regularly and alter to reflect current problems or potential risks. It is worth seeking veterinary advice when setting up and adapting the plan.

Internal parasites

Parasites and liver fluke levels vary from farm to farm and year to year, depending on a range of factors, some of which cannot be controlled. Treating with the

same product at the same time every year may not be effective and could be costly in the short and longer term.

Plan a series of faecal egg counts (FEC) for grazing lambs to identify worm numbers and wormer-resistant populations.

Discuss an effective liver fluke and worming programme with your vet to reduce the number of drenches given, improve lamb performance and help prevent wormer resistance developing. This will reduce current and future input costs.

It is worth thinking about a grazing strategy that reduces the worm challenge to lambs, e.g. not grazing older lambs where ewes and lambs have grazed in the spring.

For more information, see ***Worm control in sheep for Better Returns*** and the Sustainable Control of Parasites in Sheep (SCOPS) website at scops.org.uk

External parasites

Blowfly can still be a problem in the autumn, particularly in southern England. Store lambs are particularly susceptible, as a change in diet can lead to scouring, which attracts the female flies.

For more information, see ***Controlling external parasites for Better Returns*** and the ***Parasite Control Guide*** for information on products available.



Clostridial diseases

It is a good idea to vaccinate bought-in lambs for clostridial diseases, as the colostrum they received from their mothers only provides protection until 10–12 weeks of age.

Sheep that have never received a vaccination need two injections, four to six weeks apart. Vaccinated animals require a booster every 12 months. Use a combined vaccine where pasteurella pneumonia is a threat.

For more information on health issues, see the ***Sheep diseases directory***.

Lameness

Lameness reduces lamb growth rate and increases the time taken to finish. Lambs on forage crops and roots are particularly prone to getting clods of soil stuck in their feet.

Aim to deal with lame lambs quickly and identify the cause before treatment to save

costs. Remember, foot bathing only helps to treat and prevent scald and is only worthwhile if the footbath chemical can get to the infection – so feet should be clean before treatment.

For more information, see ***Reducing lameness for Better Returns***.

Deficiencies

Trace element and mineral deficiencies can occur in sheep. If growth is slower than predicted or lambs have other symptoms, ask your vet to take blood samples to identify the cause and correct any problems identified. Monitor performance to make sure there is a production response to any supplements given.

For more information, see BRP+ ***Trace element supplementation of beef cattle and sheep*** – available at ahdb.org.uk

Top tips

- Inspect lambs for any signs of disease, such as external parasites, orf, footrot or contagious ovine digital dermatitis (CODD)
- Isolate any affected animals immediately
- As soon as possible, drench with 4-AD or 5-SI wormer and inject with Moxidectin (1%) or, preferably, plunge-dip in an organophosphate, which will also remove any threat from sheep scab. Dose to the heaviest lamb in the group. Keep the lambs off pasture for one to two days after treatment
- Consider whether worming can be done at the source or immediately before transport, e.g. at the auction market, on the trailer or at the seller's farm
- Consider treating for liver fluke if lambs are from an unknown source or a farm known to be susceptible to this parasite
- Start a clostridial vaccination programme for medium- and long-keep lambs

Selection for slaughter

Handle and weigh lambs regularly

It is essential to handle lambs every one to two weeks to identify any health or nutritional problems early, so action can be taken to rectify the problem quickly.

Margins in lamb-finishing enterprises are often tight and it is easy to start losing money on stock without even realising it.

Weighing lambs before they go to slaughter will help you to predict when lambs are ready for slaughter more accurately in the future.

Handle with care

Abattoirs will penalise carcases that show signs of bruising. Avoid:

- Grabbing wool
- Lambs trampling over each other
- Sharp objects on gates, hurdles or trailers

Present clean lambs

Abattoirs will penalise or condemn dirty lambs. Do:

- Crutch and remove belly wool before grazing crops such as swedes, forage rape or kale
- Provide dry run-back areas
- Consider housing lambs for a few days, or at least to dry overnight, before transporting to the abattoir

Feedback

Keeping good records will help make informed management decisions. Review results and monitor performance.

Remember

85% of the market is looking for lambs that weigh 21 kg or less and that are grade R3L.

For more information, see ***Marketing prime lamb for Better Returns***.



Measuring and monitoring performance

It can be very useful to analyse data that can be easily collected from batches of growing and finishing lambs going through the system, such as weight gain, days on feed, grazing days and proportion of carcases hitting specification.

Growth rate targets

Once a growth rate target has been established for the system or crop (see pages 4, 7 and 13), regular monitoring will make sure the enterprise stays on track.

Weighing lambs every two to three weeks will help estimate growth rate, which can be used to:

- Check against targets
- Estimate days to finish
- Evaluate lamb and feed performance
- Identify whether changes in management practice are having an effect
- Identify if lambs from different sources (e.g. by certain rams or from different farms) perform differently

If it is not possible to weigh all lambs, 10–20% of the group can be weighed to get an idea of performance.



Carcase targets

Scrutinise abattoir records to understand if any improvement can be made, e.g. were there too many overfat or heavy lambs? Were there any liver or carcase rejections for dog tapeworms?

Table 16. Calculation of the proportion of carcases hitting specification

	Conformation (E U R)	Fatness (2–3L)	Deadweight (19–21 kg)
Total number of lambs slaughtered		500 (A)	
Number of lambs hitting target	450 (B)	430 (C)	390 (D)
% of lambs hitting target	Calculation	$(B/A) \times 100$	$(D/A) \times 100$
	Example	90%	86%
	Your system		78%

Sheep BRP Manuals

- Manual 1** Marketing prime lamb for Better Returns
- Manual 2** Buying a recorded ram for terminal sire traits
- Manual 3** Buying a recorded ram for maternal sire traits
- Manual 4** Managing ewes for Better Returns
- Manual 5** Growing and finishing lambs for Better Returns
- Manual 6** Optimising sheep systems for Better Returns
- Manual 7** Reducing lameness for Better Returns
- Manual 8** Worm control in sheep for Better Returns
- Manual 9** Improving ewe breeding for Better Returns
- Manual 10** Controlling external parasites for Better Returns
- Manual 11** Ewe fertility for Better Returns
- Manual 12** Improving ewe nutrition for Better Returns
- Manual 13** Improving sheep handling for Better Returns
- Manual 14** Reducing lamb losses for Better Returns

See the AHDB website ahdb.org.uk for the full list of Better Returns Programme publications for beef and sheep producers.

Produced for you by:

Better Returns Programme

AHDB Beef & Lamb
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

T 024 7647 8834
E brp@ahdb.org.uk
W ahdb.org.uk
 [@AHDB_BeefLamb](https://twitter.com/AHDB_BeefLamb)

If you no longer wish to receive this information, please email us on comms@ahdb.org.uk

60020 0422

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law, the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

© Agriculture and Horticulture Development Board 2020.
All rights reserved.

