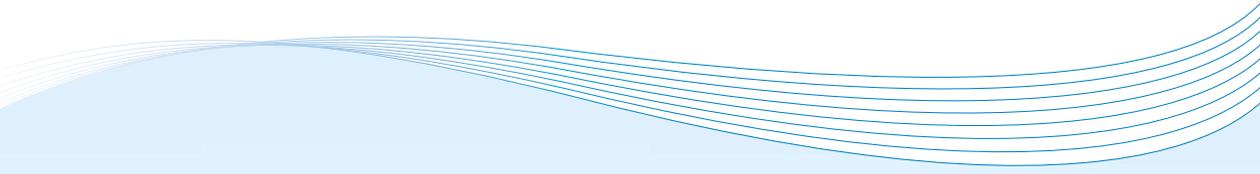


BETTERRETURNS



# Managing ewes for Better Returns



# Contents

- 3 Introduction**
- 4 Body condition scoring**
- 6 Target body condition scores**
- 10 Replacement policy**
- 12 Home-bred replacements or bought-in?**
- 13 Quarantine**
- 14 Preparing for breeding**
- 16 Gathering information**
- 18 Challenge Sheep**
- 19 Breeding calendar**

The information in this booklet was compiled by Nerys Wright, AHDB Beef & Lamb; Dr Liz Genever, Independent sheep & beef consultant.

AHDB Beef & Lamb Better Returns Programme is grateful to all those who have commented and contributed to this publication.

Additional photographs supplied by: LSSC Ltd, McCartneys, NEMSA, Tim Tyne, University of Warwick, Wilkinson's pregnancy scanning and Zoetis.



# Introduction

---

Managing ewes correctly throughout the year is vital for generating the highest possible output from any sheep enterprise. Farmbench figures show that the most profitable flocks rear the highest value of lamb per ewe. It is likely that much of this is due to good ewe management.

Ewe body condition score (BCS) is a useful management tool for assessing the adequacy of the diet at key stages in the production cycle, such as weaning and tupping. It should be carried out regularly and changes made to flock management based on the results. This allows animals that are not at target condition to be managed according to their specific needs.

Whether replacements are home-bred or bought-in, the performance, health and welfare of the female breeding stock must be optimised. The role of the breeding males is also vital. Making sure rams are in the best condition to work effectively is key.

Good records are essential for monitoring ewe performance. Comparing data year-on-year provides farmers with trends on which future action may be taken to improve output.



**Nerys Wright**  
Knowledge Exchange Manager  
AHDB Beef & Lamb

# Body condition scoring

Regular condition scoring of ewes and acting on the results will increase the performance of a flock. Ensuring ewes are on target for the system and the time of year leads to improved fertility, increased lamb performance and reduced incidence of metabolic disease. Target body condition will vary depending on the farm type, breed, time of year and ewe prolificacy.

## How to body condition score ewes

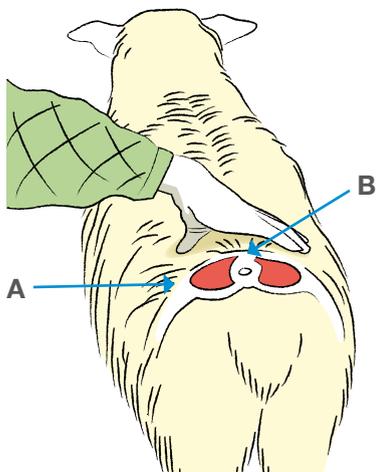
It is quick and easy to make body condition score (BCS) assessments.

Place a hand over and around the backbone and loin area behind the last rib to feel the amount of fat cover and muscle mass.

Feel for the sharpness of the spinous and transverse processes coming out from the spine.

Use the same hand to BCS all the ewes to reduce variability which can occur when using both hands.

The scoring scale is 1 to 5, with 1 being thin and 5 being very fat. Half or quarter scores such as 2.25 or 3.5 can be used.



- A – Transverse processes
- B – Spinous processes

## How to record BCS

A simple chart or EID can be used to record the BCS of a group and any shift that occurs between recording sessions, e.g. between weaning and tupping.

Record the body condition of each sheep with an X. Once this has been done, look at the range of Xs on the chart. In the example below (Figure 1), more ewes are in BCS 3 than any other BCS. However, the distribution of the Xs highlights that more ewes are below BCS 3 than above, resulting in the average being below 3.

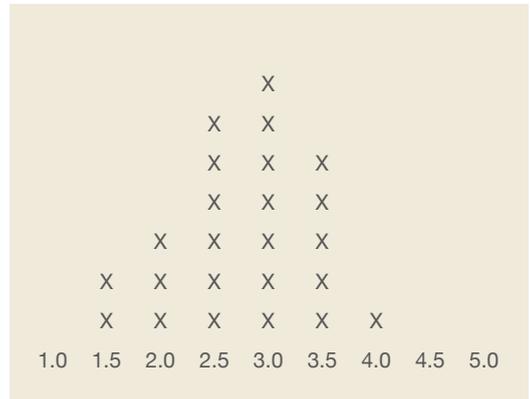


Figure 1. An example of how to record BCS



### Score 1

The spinous and transverse processes are prominent and sharp. The fingers can be pushed easily below the transverse bone and each process can be felt. The loin is thin with no fat cover.



### Score 2

The spinous processes are prominent but smooth, individual processes being felt only as corrugations. The transverse processes are smooth and rounded, but it is still possible to press fingers underneath. The loin muscle is a moderate depth but with little fat cover.



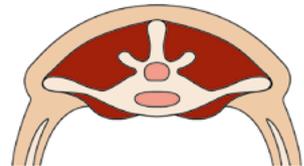
### Score 3

The spinous processes are smooth and rounded; the bone is only felt with pressure. The transverse processes are also smooth and well-covered; hard pressure is required with the fingers to find the ends. The loin muscle is full and with moderate fat cover.



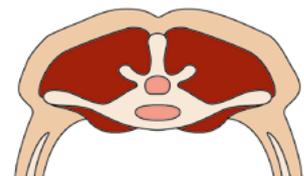
### Score 4

The spinous processes are only detectable as a line. The ends of the transverse processes cannot be felt. The loin muscles are full and rounded and have a thick covering of fat.



### Score 5

The spinous and transverse processes cannot be detected even with pressure; there is a dimple in the fat layers where the processes should be. The loin muscles are very full and covered with very thick fat.



# Target body condition scores

Managing body condition is fundamental to achieving ewe and lamb performance, yet there is large variation within flocks across the country. The challenge is to reduce the variation so that 90% of the ewes are at target BCS at key times during the year.

## Eight weeks post-lambing

At eight-week weights, it is a good time to check what is happening with the ewe BCS, as weaning dates can be altered based on the results (Table 1).

## Weaning

The decision to wean should be determined by ewe BCS, feed availability and lamb performance.

These factors change every year, so a weaning date should not be set in stone.

After eight weeks, lambs derive most of their energy from grazing, therefore the ewes are competing with their lambs for grass. Prioritise the best grazing for weaned lambs. One BCS equates to around 10–12% of a mature ewe's body weight. Gaining one BCS can take six to eight weeks on grass alone, or longer if grass quality is poor or supply is limited. A 70 kg ewe needing to gain one BCS has to put on 7–8 kg of body weight. To gain this amount over eight weeks (56 days) requires a liveweight gain of 125 to 143 g/day.

Table 1. Key points of intervention – eight weeks post-lambing

	Target		
	Hill 2.0	Upland 2.0–2.5	Lowland 2.5–3.0
Above target	Early weaning is not needed. Weaning date should be determined by grass or feed quality and availability for lambs.		
Below target	Ewes in poor body condition may need weaning earlier to allow more time to regain condition before tupping, or supplementary feeding. Prioritise the best grazing for lambs.		

Table 2. Key points of intervention – weaning

	Target		
	Hill 2.0	Upland 2.0	Lowland 2.5
Above target	Separate. Allow fat ewes to lose condition (or not gain any further condition) by grazing ewes tightly or put onto poorer land. They can be a very useful tool for managing pasture.		
Below target	Separate. Thin ewes need sufficient time and a good diet (high quality grass at around 6–8 cm in height) to reach optimum BCS at tupping. Ask a vet to investigate very lean ewes to rule out Johne's disease, Maedi Visna, ovine pulmonary adenomatosis (OPA) and liver fluke.		

## Tupping

Research suggests that ewes eating a diet high in protein and energy in the weeks leading up to tupping (known as flushing) will achieve higher scanning percentages. However, there appears to be a limit to the positive effect of doing this, depending on the ewe's current body condition. Trial work has found that flushing ewes at BCS 4 or above did not improve conception rate and flushing ewes at below BCS 2 had no effect on scanning results. Flushing has the biggest impact on ewes between BCS 2 and 4. Take care not to flush ewes that are too thin as this could result in below-target ewes having multiple births. This increases the risk of metabolic disease and death.

Ensure at least 90% of the flock is at target BCS at tupping to optimise flock performance. Thin ewes ovulate fewer eggs and are likely to have fewer lambs. Fat ewes will ovulate more than thin ewes. However, higher embryonic death may result in lower scanning for ewes that are in too good condition.



Table 3. Key points of intervention – tupping

	Target		
	Hill 2.5	Upland 3.0	Lowland 3.5
Above target	Maintain BCS for three to four weeks prior to tupping. Flushing is unlikely to have an impact.		
Below target	Consider culling ewes below target before tupping as they may cause problems later. Flushing unlikely to have an impact if under BCS 2 (for lowland breeds). Aim for a rising plane of nutrition at least 10 days either side of when the rams go in.		

# Target body condition scores

## Pregnancy

Nutritional requirements of ewes do not increase in the first month of pregnancy, but it is important to maintain a level plane of nutrition for three weeks after removing the rams.

Embryos are particularly vulnerable to stress at this stage. It is vital to avoid abrupt changes to diet and body condition until the embryo attaches to the uterine wall (after three weeks). Minimal stress will reduce the risk of embryo loss. Keep handling and working ewes with dogs to a minimum during this time.

By months two and three, the embryo is implanted and placental development begins. There is no requirement to adjust the diet – except in cases of extreme weather. Large losses in BCS will impact ewe performance, lamb growth and birth weight. Results from the sheep key performance indicator (KPI) project suggest there is some benefit of ewes maintaining or even gaining condition between tugging and scanning in terms of future lamb performance. However, this can be a challenging time of year for significant pasture to be available for condition score gain. Maintain BCS for the last 35 days and feed to litter size.

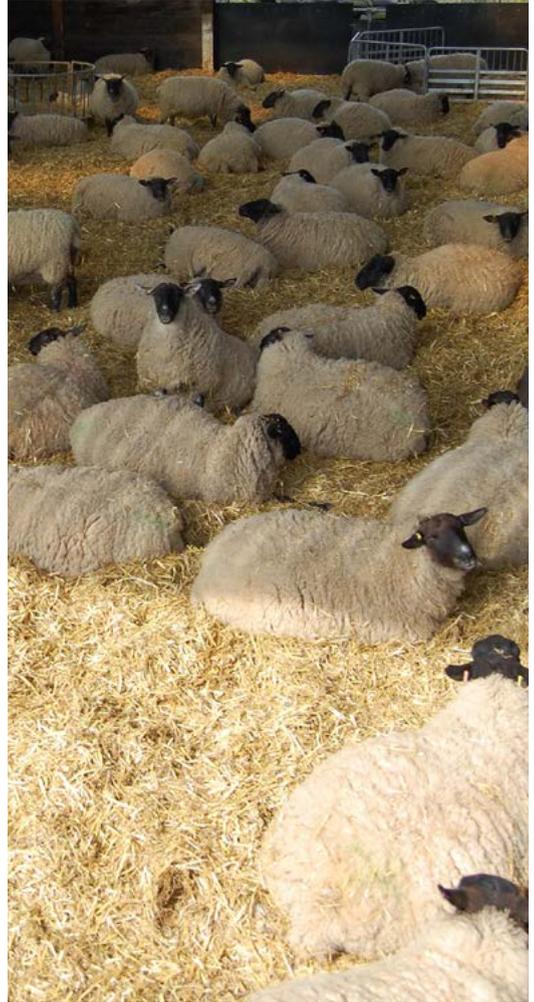


Table 4. Key points of intervention – pregnancy

	Target		
	Hill 2.0	Upland 2.5	Lowland 3.0
Above target	Maintain or allow them to lose no more than 0.5 unit of BCS gradually during mid-pregnancy to reduce impact on placental development. Feeding in late pregnancy determines the birth weight of the lamb(s). Do not be tempted to be hard on fit ewes that are carrying multiple lambs. May be more prone to metabolic disorders.		
Below target	Maintain or allow them to gain condition very slowly during mid-pregnancy. Ideally should not gain more than 0.5 unit BCS during this time. If feed supply is increased, the end result could be bigger lambs from sheep that are still thin.		

## Lambing

Managing and maintaining ewe BCS through appropriate feeding in the last six weeks of pregnancy is critical. A project on sheep key performance indicators (KPIs) has found a positive relationship between ewe BCS at lambing and lamb weaning weights. It predicts every one unit increase in BCS at lambing is associated with a 5.4 kg increase in weight of weaned lamb.

During early lactation, the BCS of ewes at lambing can affect milk production and, subsequently, lamb growth rates. Avoiding extreme BCS losses during lactation will reduce the amount of condition a ewe will need to put on prior to tugging. Lower BCS ewes are not able to mobilise body fat to meet energy demands for lactation. Research has shown that feeding ewes that are at a lower than target BCS can reduce the impact significantly. Interestingly, the sheep KPI project found that ewes that lost most condition from lambing to eight weeks produced the heaviest lambs. However, there is a cost to do this, as ewes need to be fed well to get them back into the correct condition for tugging.



Table 5. Key points of intervention – lambing

	Target		
	Hill 2.0	Upland 2.5	Lowland 3.0
Above target	Ewes in good condition will have better reserves and should not need additional supplementary feed unless grass growth is below 4 cm height or if ewes are housed for a significant period post-lambing. They are able to mobilise body fat to meet energy demands for lactation.		
Below target	Separate into a 'thin' group and provide additional supplementary feed if grass is below 6 cm in height. Monitor BCS to ensure no further loss. Ensure all ewes have sufficient access to feed if housed.		

# Replacement policy

While replacement costs amount to around 30% of the annual variable costs of a lowland flock, retaining poor-performing ewes is a false economy. On average, flocks replace 20–25% of their ewes every year, depending on the culling policy and ewe mortality.

Throughout the year, ewes should be permanently marked, tagged or recorded via electronic identification (EID) tag and data logger if they have a problem that makes them unsuitable for further breeding. Records and accurate identification are the key to successful culling. Colour-coded ear tags for each year are useful for culling efficiently by age.

## Reasons to cull

No ewe should be kept if she is unlikely to rear lambs next season. Rigorous culling is vital for raising flock performance and improving profitability. Reasons to cull are:

- Poor performance – barren/unproductive, poor body condition, poor mothering ability
- Structural integrity – too old or broken-mouthed, poor teat conformation
- Disease – abortion, mastitis, lameness, prolapse



## Ewe deaths

Average ewe mortality in the UK is 4–6% annually. Stricter culling of poorer and older ewes before tupping could improve flock performance and reduce replacement costs. A survey of ewes at a fallen stock centre in the North West of England showed OPA, Johne's disease and listeriosis were the top three causes of death.



The main causes of ewe death should be included in your health plan, with monitoring points and appropriate treatments or activity listed with suggested timings, e.g. a vaccination programme or BCS assessment. It is also worth interrogating culling records to see if trends are developing or if there are common causes that could be avoided.

Consider carrying out post-mortems where the cause of death is unknown. These are offered by most vet practices (through the Animal and Plant Health Agency (APHA)) and some fallen stock collection centres. Use the results to draw up a control plan with your vet to avoid further deaths in the future.

For more information, see the [Sheep diseases directory](#) and the [Iceberg diseases of ewes manual](#).

## Maximise income from cull ewes

The ethnic market buys 94% of the cull ewes in this country. The highest prices tend to be between March and June as supply is tight. Check the religious festival dates as they can influence market prices.

Select well-fleshed ewes (BCS 3) for slaughter, at fat levels of 2–3 L, to ensure as many as possible meet the required specifications for mutton.

Identify the best outlet for cull ewes – this could be liveweight or deadweight. About 90% are bought through auction markets. Higher prices are paid when cull ewes are presented in groups of similar weight and size.

If they are being sold direct to an abattoir, it is important to know what the dressing specification will be and the fat class their customer requires. Consider asking for abattoir feedback to help identify endemic disease, e.g. liver fluke.



## Replacement costs vs rearing percentage

Farmbench data can be used to compare replacement costs (per ewe) and rearing percentage. Figure 2 shows no clear relationship between these figures. However, it does show the variation in performance across the flocks taking part. It is clear that some farms are able to achieve high numbers of weaned lambs while still retaining control over their replacement costs.

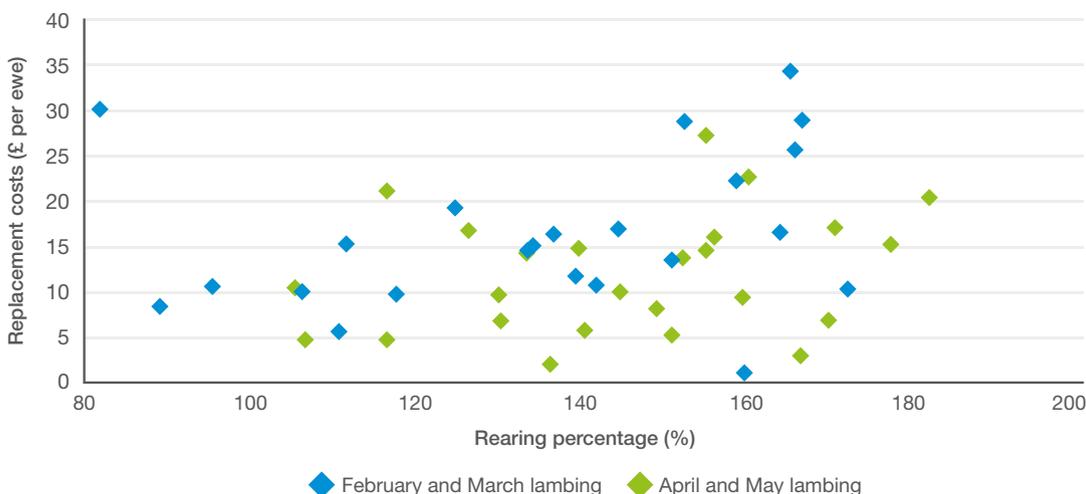


Figure 2. How replacement costs change with rearing percentage

# Home-bred replacements or bought-in?

The decision to retain or buy in replacements will be influenced by the farming system, the health status of the flock and the goals set for genetic improvement.

There is a significant risk of buying in disease when purchasing stock, so it is essential to have an effective quarantine period. Retaining home-bred ewe lambs means the disease history is known.

Genetic improvements in the flock can be influenced by replacement policy. Selecting and retaining home-bred replacements means that particular traits can be focused on, e.g. mothering ability, resilience to lameness. However, buying replacements can offer more choice and is essential in some flocks to maintain hybrid vigour.

In the example in Table 6, it is £443 more expensive to buy in shearlings than retain ewe lambs.

For more information, see BRP+ document ***Breeding from ewe lambs***.

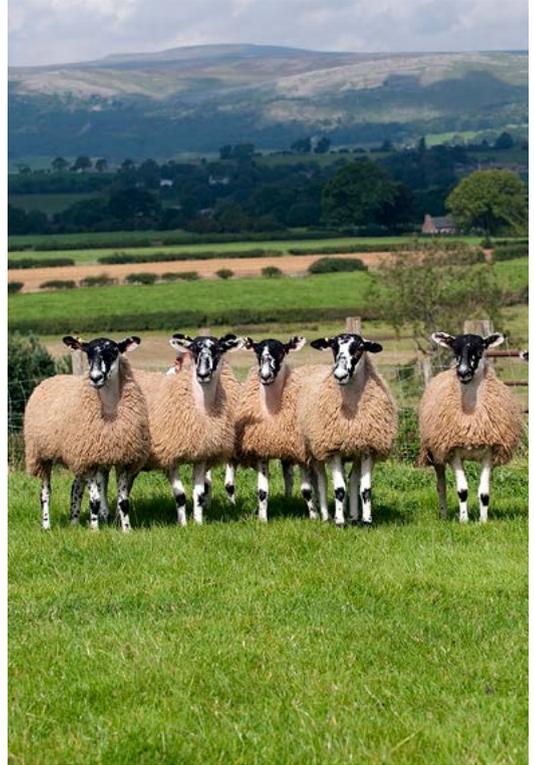


Table 6. Costs to consider when deciding to purchase or retain replacements

Purchase shearlings			Retain ewe lambs		
Purchase shearlings	120 ewes @ £135/head	£16,200	Income foregone from sale of ewe lambs	120 ewe lambs @ £80/head	£9,600
Vet and medical costs	£2 per ewe	£240	Feed costs	2 kg DM/day for 365 days for 120 ewe lambs @ 7p/kg DM	£6,132
			Vet and medical costs	£2 per ewe lamb	£240
			Fallen stock	1 animal @ £25	£25
Total £16,440			Total £15,997		

Assumptions: 20% replacement rate on a 600-ewe lowland flock. Retain 120 ewe lambs and 1% mortality, resulting in 119 shearlings going to the tup. Vaccination programme is no different between purchased and retained animals. All are tuppied as shearlings. The vet and medicine costs for the purchased shearlings is for quarantine treatments.

# Quarantine

Buy replacements at least six to eight weeks before tupping. This will allow time to complete a quarantine period and implement a vaccination programme.

It is essential for all new animals (ewes and rams) to be quarantined. On arrival, check for signs of disease and treat any problems immediately. The most common issues are footrot, contagious ovine digital dermatitis (CODD), scab, caseous lymphadenitis (CLA) and orf.

To avoid buying in resistant worms, implement the following worm control regime as recommended by SCOPS:

- Treat sequentially with two wormer products. Current recommendations are Group 4 AD (orange) or Group 5 SI (purple), and where there is a known sheep scab risk, consider treatment with ML injection (as per product datasheet) or OP dip
- Yard or house for 24–48 hours
- Turn out onto ‘dirty’ pasture

Sheep that have or will be given footrot vaccine should not receive 1% moxidectin. Discuss in more detail with your vet.

Discuss with your vet or SQP regarding liver fluke treatment if animals are from a farm with known fluke problems.

Implement a vaccination programme, e.g. abortion and clostridial diseases. Check with the vendor if unsure of the vaccination history.

Keep incoming sheep separate from the main flock for a minimum of 21 days but ideally until after lambing, where possible, as this will avoid the spread of diseases such as enzootic abortion and border disease.



# Preparing for breeding

A fertile mature ram should be able to successfully inseminate 85% of ewes in their first cycle at 1:60 and a ram lamb at a lower ratio of 1:40. If these targets are reached, the lambing period will be compact and the ram cost per lamb optimised. To achieve this, both ewes and rams need to be well prepared for breeding.

## Rams

Do a ram MOT 10 weeks before mating starts – check the five T's in Table 7. If issues are found, there should be enough time for treatments or replacement rams to be sourced and quarantined.

AHDB Beef & Lamb worked with the Sheep Veterinary Society (SVS) to collect information from ram MOTs conducted by seven vets. Data was collected from 287 apparently healthy rams and it was found that one in six were unsuitable for breeding.

Rams may benefit from feeding a high-quality protein (18–20%) ration for six to eight weeks pre-tupping to help improve

BCS and testicle tone. Mature rams should have a scrotal circumference of more than 36 cm and ram lambs more than 34 cm. Use a testicle tape to make accurate measurements available from AHDB.

If rams are mating synchronised ewes, are in single-sire groups or with more than 60 ewes, it may be worthwhile asking the vet to perform a semen evaluation to provide further reassurance. However, one poor semen test does not necessarily indicate infertility and a retest should be carried out.

To achieve a compact lambing period, remove rams after two cycles (34 days). Rams will often require supplementary feeding or good grazing during the winter to regain condition after tupping.

## Ewes

Ewes should receive clostridial vaccines (two doses 4–6 weeks apart) and abortion vaccines four weeks before tupping, as a minimum.

Table 7. Elements of a ram MOT and findings of the AHDB Beef & Lamb/SVS survey

Toes	<b>Check locomotion and for signs of arthritis. Inspect all feet.</b> 18% of the rams tested had feet issues.
Teeth	<b>Check for under- or over-shot teeth, gaps and molar abscesses.</b> 13% of the rams tested had teeth issues.
Testicles	<b>Measure and check firmness. They should feel like a human's flexed bicep, with no lumps or bumps. It takes seven weeks for sperm to mature.</b> 8% of the rams tested had soft testicles, with around 5% having size problems. Average scrotal circumference was 37 cm.
Tone	<b>Aim for body condition score 3.5–4.0 (spine well covered) eight weeks before mating.</b> Only 50% of rams were at target BCS.
Treat	<b>Vaccinate against clostridial diseases with Pasteurella. Treat for parasites and check for lameness.</b> Discuss other localised issues with your vet.

---

Fit, mature ewes should not require worming before tupping. Young or thin ewes may require a wormer. If ewes are in, or from, a known fluke area, discuss fluke control with your vet.

### Teaser rams

Run a teaser (vasectomised) ram at a ratio of 1:100, 17 days before the tupping date, to help synchronise ewes so that the lambing period is more compact. After 15–16 days, remove the teasers and replace them with entire rams. Ensure sufficient time has lapsed from the ram being vasectomised (minimum of 8–10 weeks).

An alternative is placing ewes close to rams so the pheromones stimulate them to cycle early. This ‘ram effect’ can be

achieved by housing or grazing rams near to ewes, but fences must be secure. More rams may be needed to serve all the ewes if lots are ovulating at the same time.

### Raddles and paint

These are useful tools to assess which rams are working and how many ewes have been covered within a specific time. Change raddle colour every 10 days. Start with light colours and end with the darkest.

Ensure harnesses fit well – they may require adjustment as the ram loses condition during tupping. Too loose or too tight may rub and result in brisket sores. Around 5% of rams in the AHDB Beef & Lamb/SVS survey had brisket sores.



# Gathering information

Collecting, examining and acting on ewe performance records can help improve flock output by highlighting the strongest and weakest areas of an enterprise.

Target specific areas of concern to record first. Focus on collecting data that will be used; there is no point collecting data which you don't utilise.

Table 8. Information to collect

Sheep records for Better Returns			
		Example flock	Your flock
Tupping	Number of ewes put to the tup [A]	1,250	
	Average ewe weight at tupping (kg) (weigh 10–20% of ewes to get an average figure)	70	
	Number of rams used [B]	20	
Scanning	Number of singles	760	
	Number of twins	446	
	Number of triplets	21	
	Number of quads	0	
	Number of barren ewes [C]	23	
	Number of lambs scanned [D]	1,715	
	Scanning percentage (%) [E]	137	
Lambing	Number of lambs born alive [F] (up to 12 hours of age)	1,623	
	Number of lambs turned-out or tailed [G]	1,576	
	Number of ewe deaths [K]	45	
Weaning	Number of lambs weaned [H] (include lambs sold before weaning)	1,556	
	Average age at weaning (days) [I]	98	
	Average lamb weaning weight (kg) [J]	30	
Sales	Number of lambs reared (include finished and store lambs and retained replacements)	1,550	
	Average sale weight (kg LW) (include finished and store lambs and retained replacements)	40	
	Number of cull ewes sold	125	

Now use the information to calculate some key performance indicators (KPIs). Compare them with other farmers or Farmbench figures.

Table 9. Key calculations to assess flock performance

Calculations	Target	Example flock	Your flock
Ewe to ram ratio (A/B)	>60	63	
Scanning percentage (%) per ewe to ram (D / A) x 100	Depends on the system	137%	
Lambs born alive per 100 ewes to ram (F / A) x 100	Depends on the system	130%	
Lambs turned out per 100 ewes to ram (G / A) x 100	Depends on the system	126%	
Lambs reared per 100 ewes to ram (H / A) x 100	Depends on the system	124%	
Barren rate at scanning (%) (C / A) x 100	<2%	1.8%	
Ewe mortality (K / A) x 100	<4%	3.6%	
Lamb losses from scanning to weaning (D – H) / D x 100	<15%	9.3%	
Daily growth rate to weaning (J – 4*) / I x 1,000	>250g/day	265g	

\*= birth weight of 4 kg

A sheep KPI calculator is available in the tools section of the AHDB Beef & Lamb website.



# Challenge Sheep

Challenge Sheep is an AHDB Beef & Lamb-funded project which aims to understand the consequences of the rearing phase on the lifetime performance of ewes. Covering both sheep bred as ewe lambs and shearlings, the project will track 9,000 replacements from a range of English sheep farms over seven years to understand how flock performance can be improved. The project aims to generate new knowledge and highlight existing information on managing ewe replacements.

Producers taking part in Challenge Sheep are collecting data via EID – weights, body condition score (BCS), lambing data and lamb performance. Participating farms were selected in 2017 and began by recording BCS and weights of the ewe lambs and shearlings at tupping. The first year's data (2018) has shown the importance of BCS and weight at mating in relation to how their lambs perform.



## Challenge Sheep farm locations

1. Phil Pearce, Devon
2. Gareth Beynon, Dorset
3. Robert and Anna Hawke, Wiltshire
4. Matthew Blyth, West Sussex
5. Gareth Owen, Leicestershire
6. Jake Frestone, Gloucestershire
7. Sam Jones, Worcestershire
8. Tony Offland (Harper Adams)
9. Richard Baugh, Nottinghamshire
10. Ian Wilson, North Yorkshire
11. Peter Webster, Cumbria
12. Graham Wilkinson, County Durham
13. James Drummond, Northumberland

# Breeding calendar

Table 10: Breeding calendar – use this at-a-glance guide to calculate lambing dates

Tupping	Lambing	Tupping	Lambing	Tupping	Lambing
1 JUL	25 NOV	24 AUG	18 JAN	17 OCT	13 MAR
2 JUL	26 NOV	25 AUG	19 JAN	18 OCT	14 MAR
3 JUL	27 NOV	26 AUG	20 JAN	19 OCT	15 MAR
4 JUL	28 NOV	27 AUG	21 JAN	20 OCT	16 MAR
5 JUL	29 NOV	28 AUG	22 JAN	21 OCT	17 MAR
6 JUL	30 NOV	29 AUG	23 JAN	22 OCT	18 MAR
7 JUL	1 DEC	30 AUG	24 JAN	23 OCT	19 MAR
8 JUL	2 DEC	31 AUG	25 JAN	24 OCT	20 MAR
9 JUL	3 DEC	1 SEP	26 JAN	25 OCT	21 MAR
10 JUL	4 DEC	2 SEP	27 JAN	26 OCT	22 MAR
11 JUL	5 DEC	3 SEP	28 JAN	27 OCT	23 MAR
12 JUL	6 DEC	4 SEP	29 JAN	28 OCT	24 MAR
13 JUL	7 DEC	5 SEP	30 JAN	29 OCT	25 MAR
14 JUL	8 DEC	6 SEP	31 JAN	30 OCT	26 MAR
15 JUL	9 DEC	7 SEP	1 FEB	31 OCT	27 MAR
16 JUL	10 DEC	8 SEP	2 FEB	1 NOV	28 MAR
17 JUL	11 DEC	9 SEP	3 FEB	2 NOV	29 MAR
18 JUL	12 DEC	10 SEP	4 FEB	3 NOV	30 MAR
19 JUL	13 DEC	11 SEP	5 FEB	4 NOV	31 MAR
20 JUL	14 DEC	12 SEP	6 FEB	5 NOV	1 APR
21 JUL	15 DEC	13 SEP	7 FEB	6 NOV	2 APR
22 JUL	16 DEC	14 SEP	8 FEB	7 NOV	3 APR
23 JUL	17 DEC	15 SEP	9 FEB	8 NOV	4 APR
24 JUL	18 DEC	16 SEP	10 FEB	9 NOV	5 APR
25 JUL	19 DEC	17 SEP	11 FEB	10 NOV	6 APR
26 JUL	20 DEC	18 SEP	12 FEB	11 NOV	7 APR
27 JUL	21 DEC	19 SEP	13 FEB	12 NOV	8 APR
28 JUL	22 DEC	20 SEP	14 FEB	13 NOV	9 APR
29 JUL	23 DEC	21 SEP	15 FEB	14 NOV	10 APR
30 JUL	24 DEC	22 SEP	16 FEB	15 NOV	11 APR
31 JUL	25 DEC	23 SEP	17 FEB	16 NOV	12 APR
1 AUG	26 DEC	24 SEP	18 FEB	17 NOV	13 APR
2 AUG	27 DEC	25 SEP	19 FEB	18 NOV	14 APR
3 AUG	28 DEC	26 SEP	20 FEB	19 NOV	15 APR
4 AUG	29 DEC	27 SEP	21 FEB	20 NOV	16 APR
5 AUG	30 DEC	28 SEP	22 FEB	21 NOV	17 APR
6 AUG	31 DEC	29 SEP	23 FEB	22 NOV	18 APR
7 AUG	1 JAN	30 SEP	24 FEB	23 NOV	19 APR
8 AUG	2 JAN	1 OCT	25 FEB	24 NOV	20 APR
9 AUG	3 JAN	2 OCT	26 FEB	25 NOV	21 APR
10 AUG	4 JAN	3 OCT	27 FEB	26 NOV	22 APR
11 AUG	5 JAN	4 OCT	28 FEB	27 NOV	23 APR
12 AUG	6 JAN	5 OCT	1 MAR	28 NOV	24 APR
13 AUG	7 JAN	6 OCT	2 MAR	29 NOV	25 APR
14 AUG	8 JAN	7 OCT	3 MAR	30 NOV	26 APR
15 AUG	9 JAN	8 OCT	4 MAR	1 DEC	27 APR
16 AUG	10 JAN	9 OCT	5 MAR	2 DEC	28 APR
17 AUG	11 JAN	10 OCT	6 MAR	3 DEC	29 APR
18 AUG	12 JAN	11 OCT	7 MAR	4 DEC	30 APR
19 AUG	13 JAN	12 OCT	8 MAR	5 DEC	1 MAY
20 AUG	14 JAN	13 OCT	9 MAR	6 DEC	2 MAY
21 AUG	15 JAN	14 OCT	10 MAR	7 DEC	3 MAY
22 AUG	16 JAN	15 OCT	11 MAR	8 DEC	4 MAY
23 AUG	17 JAN	16 OCT	12 MAR	9 DEC	5 MAY

# Sheep BRP Manuals

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

See the AHDB website [ahdb.org.uk](http://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](mailto:brp@ahdb.org.uk)

**W** [ahdb.org.uk](http://ahdb.org.uk)

**Twitter** [@AHDB\\_BeefLamb](https://twitter.com/AHDB_BeefLamb)

If you no longer wish to receive this information, please email us on [comms@ahdb.org.uk](mailto:comms@ahdb.org.uk)

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 2019.  
All rights reserved.

