



Better Returns  
Programme

SHEEP BRP MANUAL 4

# Managing ewes for Better Returns



**The information in this booklet was compiled by Nerys Wright and Dr Liz Genever, AHDB Beef & Lamb.**

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

Ewe body condition score (BCS) is useful for assessing the adequacy of the diet at key stages in the production cycle, such as weaning and tugging. It should be carried out regularly and changes made to management based on the results. This allows any animals in the wrong 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 producers with trends on which future action may be taken to improve output.

This new manual updates one of the earliest Sheep BRP publications, bringing producers right up-to-date with the latest thinking on how to manage ewes for better returns.



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# Body condition scoring

Regular condition scoring of ewes and acting on the results will increase the performance of any 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 using both hands.

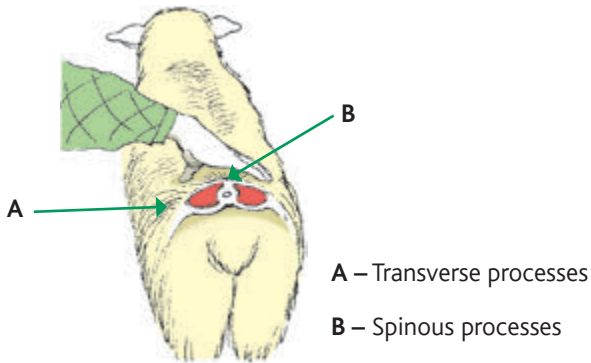
## How to record BCS

The scoring scale used is 1 to 5, with 1 being thin and 5 being very fat. Half scores such as 2.5 or 3.5 can be used.

A simple chart (see below) can be used to record the BCS of a group and any shift that occurs between recording sessions, eg 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, 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.

				X				
				X				
			X	X				
			X	X	X			
			X	X	X			
		X	X	X	X			
	X	X	X	X	X			
	X	X	X	X	X	X		
1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0



### 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.



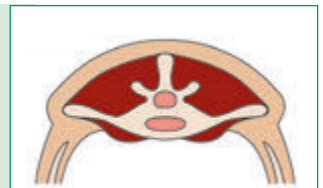
### Score 3

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.



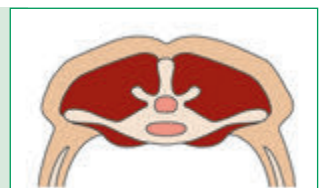
### Score 4

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

## Weaning



When to wean should be determined by ewe BCS, feed availability and lamb growth rates. These factors change every year, so an ideal weaning date cannot be set in stone.

**Lambs** – 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.

**Thin ewes** – Thin ewes need sufficient time and a good diet to reach the optimum BCS at tugging. One BCS equates to 12% of a mature ewe's bodyweight. Gaining one BCS can take six to eight weeks on grass alone, or longer if grass quality is poor or supply is limited.

A 70kg ewe needing to gain one BCS has to put on 8kg of bodyweight. To gain this amount over eight weeks (56 days) requires a liveweight gain of 143g/day.



## Lambing



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

**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. Higher BCS ewes are able to mobilise body fat to meet energy demands for lactation but lower BCS ewes are not. Research has shown that feeding ewes that are at a lower than required BCS can reduce the impact significantly. Interestingly, the sheep KPI pilot 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.

**Eight week weights** – This is a good time to check what is happening with ewe BCS, as weaning dates can be altered based on the results.



## 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.



**Tupping** – 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 less 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.



## Mid-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.



**Mid-pregnancy** – 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. Ewes tupped in adequate condition are able to lose 0.5 BCS during these two months as long as it is gradual. Larger losses will impact on ewe BCS and affect lamb growth and birthweight. Ewes should not be allowed to gain more than 0.5 BCS at this time either.

# Managing body condition score

Managing body condition is fundamental to achieving target ewe 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.

## Key points of intervention

### Weaning

TARGET	HILL 2.0	UPLAND 2.0	LOWLAND 2.5
<b>ABOVE TARGET</b>	Separate. Allow fat ewes to lose condition by grazing ewes tightly or put onto poorer land. They can be a very useful tool for managing pasture.		
<b>BELOW TARGET</b>	Separate. Thin ewes need sufficient time and a good diet (high quality grass at around 6-8cm in height) to reach optimum BCS at tupping. Ask vet to investigate very lean ewes to rule out Johne's disease, Maedi Visna and fluke.		



### Eight weeks post-lambing

TARGET	HILL 2.0	UPLAND 2.0-2.5	LOWLAND 2.5-3.0
<b>ABOVE TARGET</b>	Early weaning is not needed. Weaning date should be decided on depending on grass or feed quality and availability for lambs.		
<b>BELOW TARGET</b>	Ewes in poor body condition may need earlier weaning to allow more time to regain condition before tupping, or supplementary feeding. Prioritise the best grazing for lambs.		



### Lambing

TARGET	HILL 2.0	UPLAND 2.5	LOWLAND 3.0
<b>ABOVE TARGET</b>	Ewes in good condition will have better reserves and should not need additional supplementary feed unless grass is below 4cm height or they are housed for a significant period post-lambing.		
<b>BELOW TARGET</b>	Separate into a 'thin' group and provide additional supplementary feed if grass is below 6cm in height. Monitor BCS to ensure no further loss.		







Thin ewe



Fat ewe

## Tupping

TARGET	HILL 2.5	UPLAND 3.0	LOWLAND 3.5
<b>ABOVE TARGET</b>	Maintain BCS for three to four weeks prior to tupping. Flushing is unlikely to have an impact.		
<b>BELOW TARGET</b>	Consider culling at tupping as 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 ten days either side of when the rams go in.		



## Mid-pregnancy

TARGET	HILL 2.0	UPLAND 2.5	LOWLAND 3.0
<b>ABOVE TARGET</b>	Around half of a BCS can be lost gradually during mid-pregnancy without any impact on placental development.		
<b>BELOW TARGET</b>	Maintain or allow them to gain condition very slowly during mid-pregnancy. Ideally should not gain more than 0.5 BCS during this time.		



## Late-pregnancy

TARGET	HILL 2.0	UPLAND 2.5	LOWLAND 3.0
<b>ABOVE TARGET</b>	Feeding in late-pregnancy determines the birthweight of the lamb(s). Do not be tempted to be hard on fit ewes that are carrying multiple lambs. Maintain BCS for the last 35 days and feed to litter size. May be more prone to metabolic disorders.		
<b>BELOW TARGET</b>	Maintain BCS for last 35 days and feed to litter size. If feed supply is increased, the end result could be bigger lambs from sheep still thin.		

# Replacement policy

Whilst replacement costs amount to around 30% of the annual variable costs of a lowland flock, retaining poor performing ewes is often 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 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

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



### Cull for:

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

For more information see **Sheep BRP Manual 11 – Target ewe fertility for Better Returns.**



## 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 recent survey of ewes at a fallen stock centre, funded by AHDB Beef & Lamb and the Moredun Foundation, showed mastitis, liver fluke and *Pasteurella* pneumonia were the top three causes of death.

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



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

For more information see The BRP Sheep diseases directory.

## 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 during this time. Check the AHDB Beef & Lamb website for religious festival dates, as they can influence market prices.

Select lean, well-fleshed ewes (BCS 3) for slaughter, at fat levels of 2-3L, 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, as it gives the buyers more control over what they purchase.

When selling through a market, find out what type of ewe the buyers are looking for. 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.

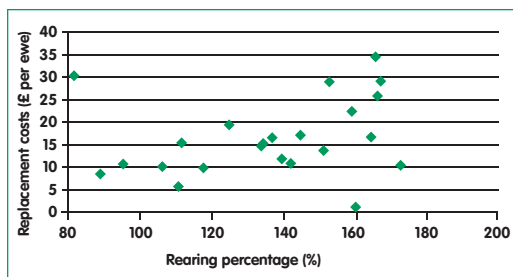
Liver samples from ewes (either via an abattoir or the fallen stock centre) can be used to understand the copper and fluke status of the farm. Discuss results with the vet before implementing a treatment programme for the rest of the flock, as excess copper can be toxic to sheep.



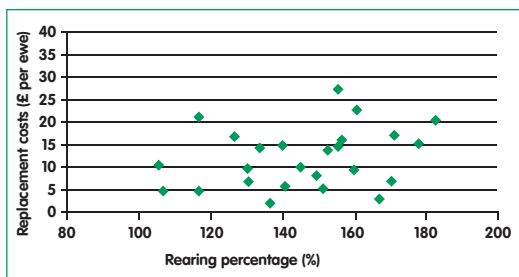
## Replacement costs vs rearing percentage

Stocktake data can be used to compare replacement costs (per ewe) and rearing percentage. It could be assumed that as rearing percentage goes up, the replacement costs increase as more pressure is being put on the ewes. The graphs below show no clear relationship between these figures. However, they do 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 1: How replacement costs change with rearing percentage for February and March lambing flocks**



**Figure 2: How replacement costs change with rearing percentage for April and May lambing flocks**



# 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 female replacements. It is essential to have an effective quarantine period for all incoming stock. Retaining home-bred ewe lambs means the disease history is known so this is less of a worry.

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, eg mothering ability, resilience to lameness. However buying replacements can offer more choice and is essential in some flocks to maintain hybrid vigour.



**Table 1: 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 med costs	£2 per ewe	£240	Feed costs	2kg DM/day for 365 days for 120 ewe lambs @ 7p/kg DM	£6,132
			Vet and med 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 no different between purchased and retained animals, ie have to vaccinate all purchased replacements and retained ewe lambs. All are tupped as shearlings. The vet and medicine costs for the purchased shearlings is for quarantine treatments.

In this example, it is £443 more expensive to buy-in shearlings than retain ewe lambs.

For more information visit [beefandlamb.ahdb.org.uk](http://beefandlamb.ahdb.org.uk) and view or download BRP+ document **Breeding from ewe lambs**.

## 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 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 inject with 1% macrocyclic\* (clear)
- Yard or house for 24-48 hours
- Turn out onto 'dirty' pasture

\*This will also treat for scab.

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

Treat for fluke if animals are from a farm with known fluke problems.

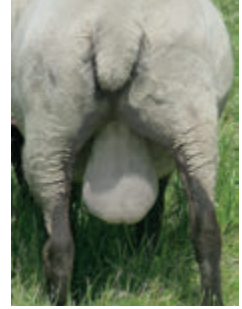
Implement a vaccination programme, eg against abortion and clostridial diseases. Check with the vendor if unsure of the vaccination history.

Keep incoming sheep separate from the main flock for a minimum of 28 days, but ideally until after lambing where possible, as this will avoid the spread of diseases such as abortion and border disease.





# Preparing for breeding



A fertile mature ram should be able to successfully inseminate 85% of a batch of 60 ewes in their first reproductive cycle. Ram lambs should be able to get 85% of 40 ewes pregnant after one mating. 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

Making sure rams are ready for tupping is crucial. Carrying out a ram MOT ten weeks before mating starts, leaves enough time for any treatments or replacement rams to be sourced and quarantined, if needed. Check out the five Ts (see Table 2).

AHDB Beef & Lamb worked with the Sheep Veterinary Society (SVS) to collect information from ram MOTs conducted by seven vets in the autumn of 2013. Data was collected from 287 apparently healthy rams and found that one in six were unsuitable for breeding. Other findings are shown in Table 2.

**Table 2: Elements of a ram MOT and findings of the AHDB Beef & Lamb/SVS survey [in italics]**

<b>Toes</b>	Check locomotion and for signs of arthritis. Inspect all feet. <i>18% of the rams tested had feet issues.</i>
<b>Teeth</b>	Check for under or over-shot teeth, gaps and molar abscesses. <i>13% of the rams tested had teeth issues.</i>
<b>Testicles</b>	Measure and check firmness. They should feel like a human's flexed bicep, with no lumps or bumps. <i>8% of the rams tested had soft testicles, with around 5% having size problems. The average scrotal circumference was 37cm.</i>
<b>Tone</b>	Aim for body condition score between 3.5-4.0 (spine well covered). <i>Only 50% of rams were at target BCS.</i>
<b>Treat</b>	Vaccinate against clostridial diseases, <i>Pasteurella</i> , Louping Ill. Treat for parasites and check out any lameness issues.

Rams must be in good body condition score at least eight weeks before breeding starts. Treat or vaccinate rams ten weeks before they start work. It takes seven weeks for sperm to mature.

A physical examination of the testicles will identify more than 90% of the problems that can reduce ram performance.

Rams may benefit from feeding a high-quality, high protein (18-20%) ration for six to eight weeks pre-tupping if they are not on target for reaching BCS 3.5-4. Feeding may also be useful when the BCS is on target, but testicle tone or size is not yet sufficient.

Mature rams should have a scrotal circumference of more than 36cm and ram lambs more than 34cm. Use a testicle tape to make accurate measurements – email [brp@ahdb.org.uk](mailto:brp@ahdb.org.uk) or call **024 7647 8834** to request a testicle tape.

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

## Ewes

Ewes should receive vaccines four to six weeks before tupping. Consider abortion vaccines such as those for toxoplasma and enzootic abortion.

Replacement or retained ewes will require clostridial vaccines, two doses, four to six weeks apart and a booster pre-lambing.

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 the vet.

The **BRP Sheep diseases directory** has more details, while the BRP Flock Calendar [www.flockcalendar.com](http://www.flockcalendar.com) signals the issues to look out for at particular times of the year.

## Ewe to ram ratios

Allow one ram for every 40-60 ewes. It is not uncommon to have one ram running with 80-100 ewes. However, to optimise pregnancy rates, the rams have to be in good condition (BCS 3.5-4) and have passed a ram MOT.

## Teaser rams

Placing ewes close to rams will stimulate them to cycle early – by as much as three to four weeks. Pheromones from the ram stimulate ovulation in the ewe. This 'ram effect' can be achieved by housing or grazing rams near to ewes.

Alternatively, a teaser (vasectomised) ram can run with the ewes from 17 days before tupping. One teaser per 100 ewes is sufficient. After 15-16 days remove the teasers and replace them with entire rams. This will coincide with the ewes' first true heat and most will successfully mate in their first cycle.

Using a teaser ram helps synchronise ewes so that the lambing period is more compact. Bear in mind that more rams may be needed to serve all the ewes that 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 ten days. Start with light colours and end with the darkest.

Ensure raddles fit well. They may require adjustment as the ram loses condition during tupping. Raddle harnesses that are 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.



## Post-tupping

To achieve a compact lambing period, remove rams after two cycles (34 days). Check them for any problems and treat immediately if needed. Rams will often require supplementary feeding or good grazing during the winter to regain condition after tupping.

# 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.

**Table 3: Information to collect**

Sheep Records for Better Returns		
	Example flock	Your flock
<b>Tupping</b>	Number of ewes put to the tup [A]	1250
	Average ewe weight at tupping (kg) (weigh 10-20% of ewes to get an average figure)	70
	Number of rams used [B]	20
<b>Scanning</b>	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]	1715
Scanning percentage (%) [E]	137	
<b>Lambing</b>	Number of lambs born alive [F] (up to 12 hours of age)	1623
	Number of lambs turned-out or tailed [G]	1576
	Number of ewe deaths [K]	45
<b>Weaning</b>	Number of lambs weaned [H] (include lambs sold before weaning)	1556
	Average age at weaning (days) [I]	98
	Average lamb weaning weight (kg) [J]	30
<b>Sales</b>	Number of lambs reared (include finished and store lambs and retained replacements)	1550
	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 producers or Stocktake figures.

**Table 4: 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 system	137%	
Lambs born alive per 100 ewes to ram (F/A) x 100	Depends on system	130%	
Lambs turned out per 100 ewes to ram (G/A) x 100	Depends on system	126%	
Lambs reared per 100 ewes to ram (H/A) x 100	Depends on system	124%	
Barren rate at scanning (%) (C/A) x 100	<2%	1.84%	
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 1000	>250g/day	265g	

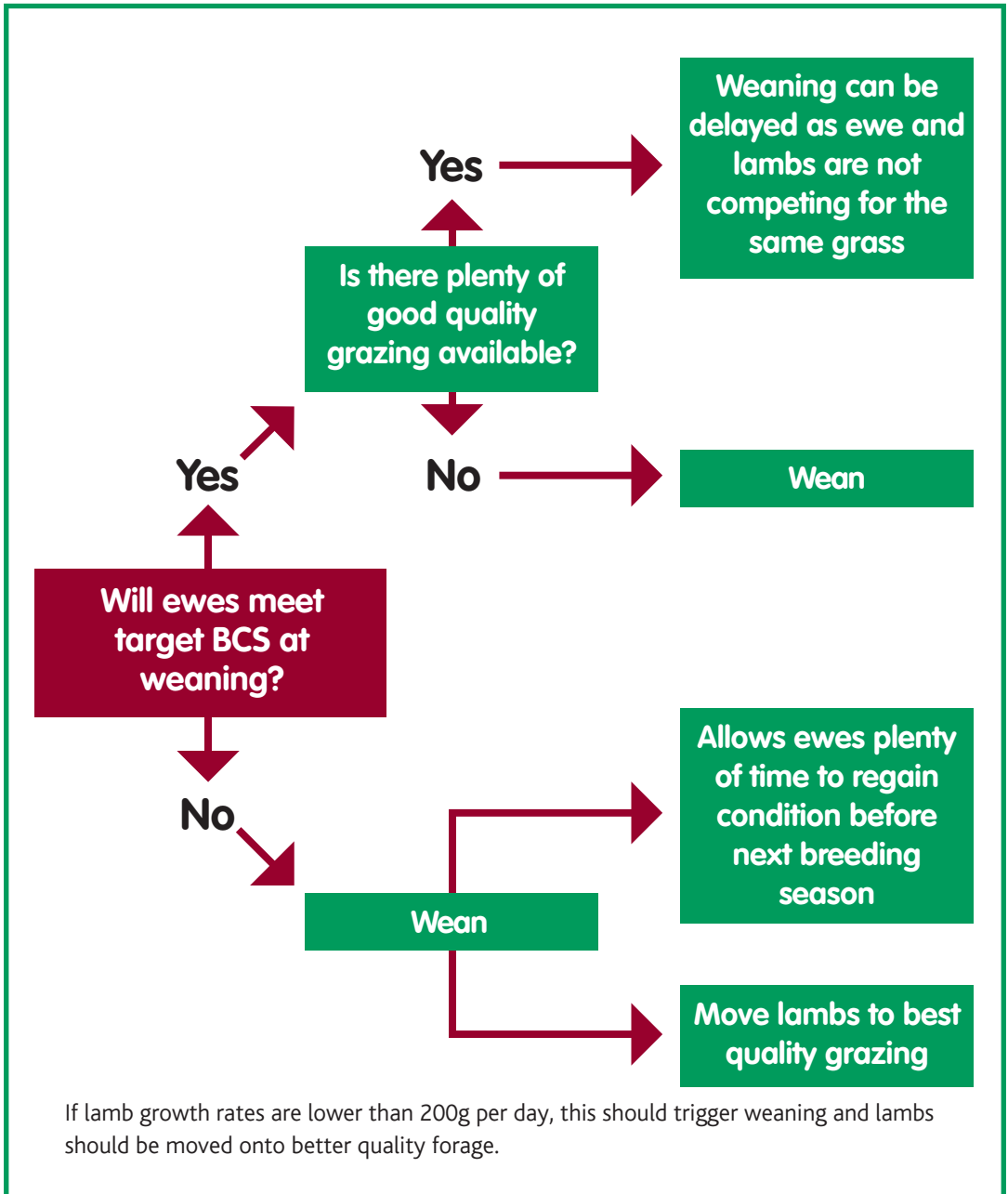
\* = birthweight of 4kg



For more information see **Sheep BRP Manual 14 – Reducing lamb losses for Better Returns**, and the **Sheep Records for Better Returns** poster.

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

# Weaning decision tree for ewes ten weeks post-lambing





# Breeding calendar

Table 5: Breeding calendar – use this at-a-glance guide to calculate lambing dates

Tupping	Lambing	Tupping	Lambing	Tupping	Lambing
<b>JULY 1</b>	<b>NOV 25</b>	<b>AUG 24</b>	<b>JAN18</b>	<b>OCT 17</b>	<b>MAR 13</b>
2	26	25	19	18	14
3	27	26	20	19	15
4	28	27	21	20	16
5	29	28	22	21	17
6	30	29	23	22	18
7	<b>DEC 1</b>	30	24	23	19
8	2	31	25	24	20
9	3	<b>SEP 1</b>	26	25	21
10	4	2	27	26	22
11	5	3	28	27	23
12	6	4	29	28	24
13	7	5	30	29	25
14	8	6	31	30	26
15	9	7	<b>FEB 1</b>	31	27
16	10	8	2	<b>NOV 1</b>	28
17	11	9	3	2	29
18	12	10	4	3	30
19	13	11	5	4	31
20	14	12	6	5	<b>APR 1</b>
21	15	13	7	6	2
22	16	14	8	7	3
23	17	15	9	8	4
24	18	16	10	9	5
25	19	17	11	10	6
26	20	18	12	11	7
27	21	19	13	12	8
28	22	20	14	13	9
29	23	21	15	14	10
30	24	22	16	15	11
31	25	23	17	16	12
<b>AUG 1</b>	26	24	18	17	13
2	27	25	19	18	14
3	28	26	20	19	15
4	29	27	21	20	16
5	30	28	22	21	17
6	31	29	23	22	18
7	<b>JAN 1</b>	30	24	23	19
8	2	<b>OCT 1</b>	25	24	20
9	3	2	26	25	21
10	4	3	27	26	22
11	5	4	28	27	23
12	6	5	<b>MAR1</b>	28	24
13	7	6	2	29	25
14	8	7	3	30	26
15	9	8	4	<b>DEC 1</b>	27
16	10	9	5	2	28
17	11	10	6	3	29
18	12	11	7	4	30
19	13	12	8	5	<b>MAY 1</b>
20	14	13	9	6	2
21	15	14	10	7	3
22	16	15	11	8	4
23	17	16	12	9	5

# Other BRP publications available

## Sheep BRP

- Manual 1 – Marketing prime lamb for Better Returns
- Manual 2 – Buying a recorded ram to generate Better Returns
- Manual 3 – Target lamb management for Better Returns
- Manual 4 – Managing ewes for Better Returns
- Manual 5 – Growing and finishing lambs for Better Returns
- Manual 6 – Target easier management 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 – Target 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

## Joint Beef and Sheep BRP

- Manual 1 – Improving pasture for Better Returns
- Manual 2 – Improved costings for Better Returns
- Manual 3 – Improving soils for Better Returns
- Manual 4 – Managing clover for Better Returns
- Manual 5 – Making grass silage for Better Returns
- Manual 6 – Using brassicas for Better Returns
- Manual 7 – Managing nutrients for Better Returns
- Manual 8 – Planning grazing strategies for Better Returns
- Manual 9 – Minimising carcass losses for Better Returns
- Manual 10 – Growing and feeding maize silage for Better Returns

See the AHDB Beef & Lamb website [beefandlamb.ahdb.org.uk](http://beefandlamb.ahdb.org.uk) for the full list of Better Returns Programme publications for beef and sheep producers.

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