



**Better Returns  
Programme**

Delivered by

**EBLEX** English Beef and  
Lamb Executive



# 4: Target Ewe Management for Better Returns

**Maintain your stock • Manage tugging • Boost lamb output**





**The information in this booklet was compiled by:  
Chris Lloyd, Better Returns Programme; Lesley Stubbings, LSSC Ltd**

**BRP is grateful to all those who have commented  
and contributed to this production.**

**Edited: Geoff Dodgson, Chamberlain  
Illustrations: Tebbit Design  
Photography: LSSC**

For more information contact:

**Better Returns Programme  
EBLEX  
Graphic House  
Ferrars Road  
Huntingdon  
PE29 3EE**

**Tel: 0870 241 8829  
Fax: 0871 433 6205  
Email: [better\\_returns@eblex.org.uk](mailto:better_returns@eblex.org.uk)**

**[www.eblexbetterreturns.org.uk](http://www.eblexbetterreturns.org.uk)**

© Better Returns Programme  
August 2005

Better Returns Programme has funded the writing and publication of this booklet. While the authors have worked on the best information available to them, neither the Better Returns Programme, nor the authors shall in any event be liable for any loss, damage or injury howsoever suffered directly or indirectly in relation to the booklet or the information on which it is based.

Reference herein to trade names and proprietary products and services without stating that they are protected does not imply that they may be regarded as unprotected and thus free for general use. No endorsement of named products or services is intended nor any criticism implied of other alternative but unnamed products.



**Better Returns  
Programme**

Delivered by

**EBLEX** English Beef and  
Lamb Executive

Ensuring the ewes in our flock are performing to their optimum potential is an important aspect in the drive to Better Returns. We must ensure we have the right breeding stock for our farm and system, whilst carrying out the best management to help those ewes perform well.

Our fourth booklet therefore focuses on the ewe, her health and nutrition - from weaning to lambing.

The key is planning. Whether it is ensuring you have culled out those animals that are underperforming, or developing a flock health plan to ensure optimum performance - working to a plan is the key.

This booklet, produced as part of the Better Returns Programme, provides a checklist to what should be considered over the vital period from weaning, through tupping to lambing. To help you draw up your plans we have included a calendar inside the back cover as a reminder as to when you need to be making those vital decisions that will yield Better Returns from your ewes.

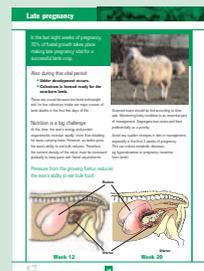
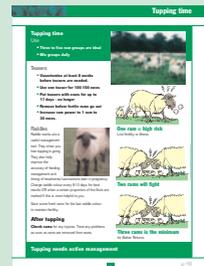
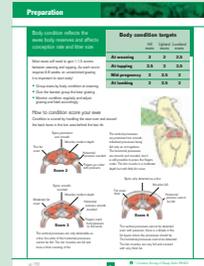
*D R Raine*



David Raine  
Chairman  
Better Returns Programme  
Steering Group

## Contents

- 2 Preparation
- 3 The best start for Better Returns
- 4 Select ewes for Better Returns
- 5 Don't import disease
- 6 Prepare rams early for Better Returns
- 7 Tupping time
- 8 Pre-tupping and early pregnancy
- 9 Early/Mid pregnancy
- 10 Late pregnancy
- 12 Ewe nutrition
- 13 Breeding calendar



Good ewe management is vital for Better Returns



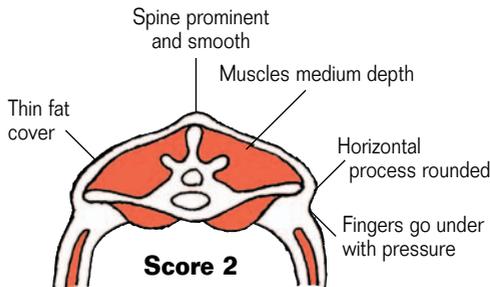
Body condition reflects the ewes body reserves and affects conception rate and litter size

Most ewes will need to gain 1-1.5 scores between weaning and tupping. As each score requires 6-8 weeks on unrestricted grazing it is important to start early!

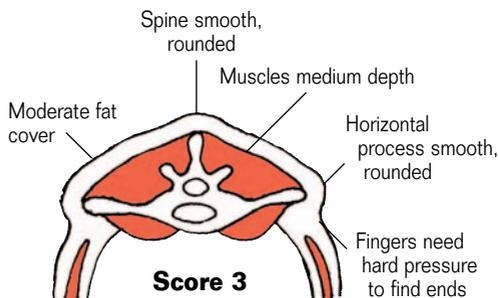
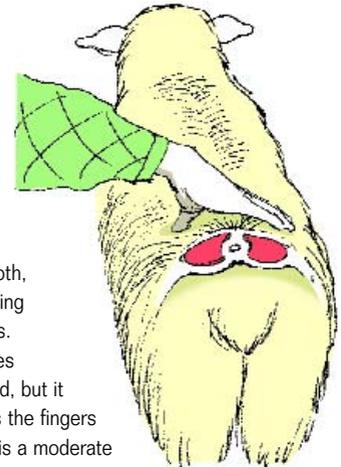
- Group ewes by body condition at weaning.
- Give the leanest group the best grazing.
- Monitor condition regularly and adjust grazing and feed accordingly.

## How to condition score your ewe

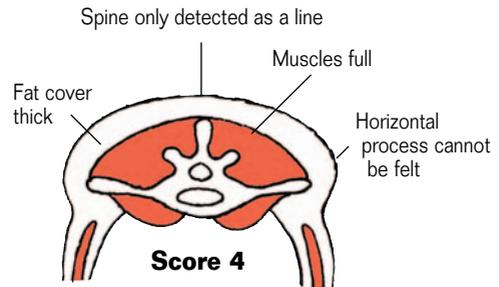
Condition is scored by handling the ewe over and around the back bone in the loin area behind the last rib.



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



The vertical processes are only detectable as a line; the ends of the horizontal processes cannot be felt. The loin muscles are full and have a thick covering of fat.



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

## Body condition targets

	Hill ewes	Upland ewes	Lowland ewes
<b>At weaning</b>	<b>2</b>	<b>2</b>	<b>2.5</b>
<b>At tupping</b>	<b>2.5</b>	<b>3</b>	<b>3.5</b>
<b>Mid-pregnancy</b>	<b>2</b>	<b>2.5</b>	<b>3</b>
<b>At lambing</b>	<b>2</b>	<b>2.5</b>	<b>3</b>

Replacements are a very significant proportion of flock costs, but reducing replacement rate is false economy

Keeping ewes that are not fully fit to either produce or rear lambs the next season is a sure way of reducing returns. Unproductive ewes lead to significant losses. Surveys\* show that the number of ewes that should be replaced is nearly always under-estimated by flockmasters.

### A strict culling policy is essential

Good records help to identify unproductive ewes and the reasons they fail to rear lambs.

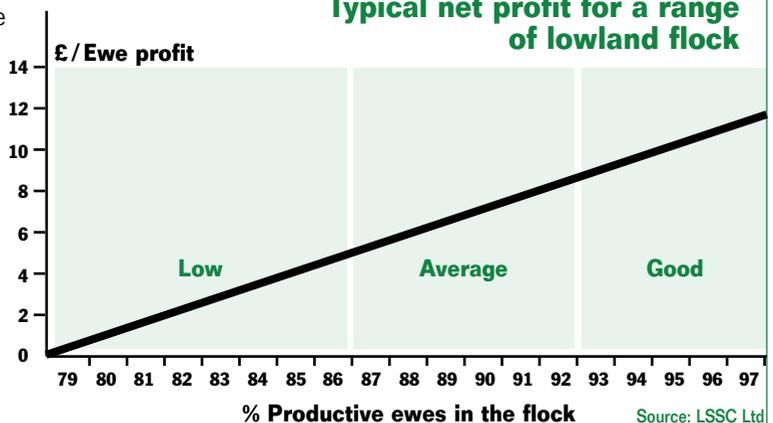
Identify cull ewes year round, using tags, notches, or indelible marks so they are not missed

Consider using a different colour tag each year so that you know the age of a ewe at a glance.

### Don't take chances



### Typical net profit for a range of lowland flock



### Main reasons for culling

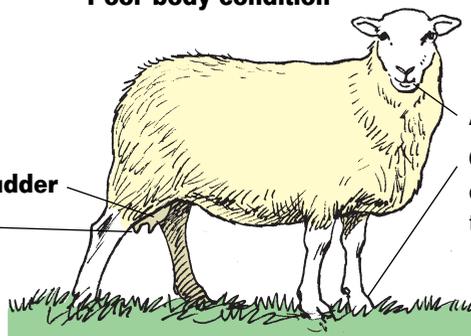
#### Poor body condition

#### Barren

**Aborted** (depending on diagnosis)

**Mastitis or lumpy udder**

**Damaged teats**



**Aged, or broken-mouthed**

**Chronic lameness,**  
eg foot rot not responding to treatment

**A fit, healthy flock is the way to Better Returns**

\* Information from: [www.moredun.org.uk](http://www.moredun.org.uk)

# Select breeding ewes for Better Returns



When it comes to replacements the right type and quality are vital.

On average flocks, will replace 20-25% of ewes each year depending on culling policy, death rate and whether replacements are ewes lambs or shearlings. Costs of home-bred or purchased replacements are similar, but consider other issues:



## The replacement options

### Home bred

- Disease risks lower where infection spreads from sheep to sheep. Risks from other diseases, eg Toxoplasmosis, are the same.
- Higher quality control through rearing management.
- More complex management as replacements must be kept as a group from weaning.
- Breed or cross management needed to maintain prolificacy
- Potential to improve ewe type
- Good records and tagging allow ewe lambs to be kept only from suitable dams.
- Complex and not always cheaper when costed fully

### Purchased

- Need to source clean stock and quarantine to minimise disease risks
- Shearling purchases remove the need to manage ewe lambs.
- Greater choice, but no control over rearing. Knowledge of farm of origin is the only guide.
- Hybrid vigour – the first cross halfbred has greater potential prolificacy.
- Timing can be difficult with autumn sales.
- Less complex record keeping and tagging needed.
- Relatively simple, less time consuming

**Recording** is a vital part of replacement selection, particularly for home-reared stock. Decide what matters to you. For instance, ease of lambing in a hill flock. EBVs for maternal traits can be used in ram selection. *Full details are contained in BRP Manual 2: Target Ram Selection for Better Returns\**

**Hybrid vigour** in cross-bred ewes offers potentially better performance in traits, such as litter size and mothering ability, which are not highly heritable. **Buy ewes and rams early** as replacements should be on-farm at least six weeks before tupping. This allows for quarantine and all necessary treatments well ahead of tupping.

## Plan early and select with care

Replacement stock can pose the biggest threat to your flock health status.

No matter how careful you are in sourcing clean, healthy replacements you still need to take great care to guard against bringing disease on to the holding.

### **Quarantine is essential for all in-coming stock - both ewes and rams**

- Yard, or house, for 24-48 hours.
- Choose a field out of contact with the main flock, or house replacements until all observations and treatments are complete. Isolate imported stock for at least three weeks, preferably longer.
- Where possible, keep ewe replacements separate until after lambing to guard against diseases such as Border Disease.



## **Key steps in flock protection**

### **On arrival**

- **Check for any obvious signs of disease. This can include orf, CLA (caseous lymphadinitis), footrot and CODD (contagious ovine digital dermatitis).**

### **Within three days**

- **Treat any lameness.**
- **Treat sequentially with BOTH a levamisole (yellow) and macrocyclic -lactone (clear) drenches to remove any anthelmintic-resistant worms.\***
- **An endectocide (injectable) used for scab will replace the clear drench.**
- **Treat for fluke if stock come from a flukey area or farm.**
- **Start your vaccination programme. Do not just assume they have been done by the vendor - check and start again if unsure.**

### **Throughout quarantine**

- **Observe carefully.**
- **Footbath regularly.**

**Better Returns need good disease control for ewes AND rams**

# Prepare rams early for Better Returns



Prepare rams to ensure they are fertile and physically up to their job.

Begin ram preparation at least 8 weeks before tupping to ensure full fitness and fertility.

Allow one ram for each 40-60 ewes; or 30 ewes when using ram lambs.



## Feeding

Feed rams up to 1kg/day of a high quality 18-20% protein ration (without added magnesium) for 6-8 weeks pre-tupping to improve condition and semen quality.

If possible, continue feeding during tupping.

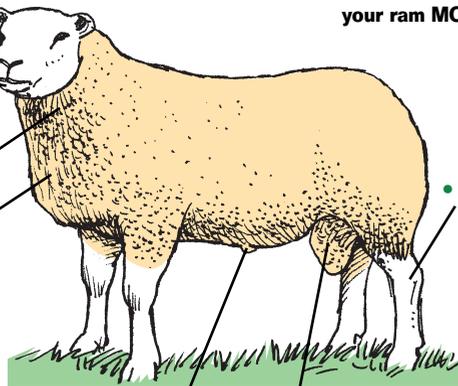
A simple MOT will spot over 90% of problems that reduce ram performance.

- **Body Condition** - rams should be at score 4 (3.5 for hill rams) at tupping so they have body reserves but are not too fat \*



## Details on how to conduct your ram MOT\*\*

- **Teeth and mouth** - check incisor and molar teeth
- **Neck / head / shoulders** - check for any wounds from fighting or signs of CLA.
- **Brisket** - pay attention to sores from raddles.



- **Legs and feet** - rams need sound feet to work well. Footrot and other infections reduce fertility due to raised body temperatures.
- **Penis / sheath** - check that sheath is clear of infection with no sign of shearing damage and that penis can be extracted
- **Testes** should be firm but springy and a good size. Check for lumps, adhesions and evenness in size

**For Better Returns give your rams an annual MOT**

## Tupping time

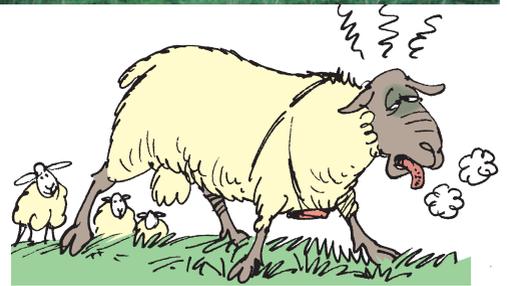
### Use

- A group of three to five rams are ideal for 120-300 ewes
- Mix groups daily



### Teasers

- Vasectomise at least 8 weeks before teasers are needed.
- Use one teaser for 100-150 ewes.
- Put teasers with ewes for up to 17 days - no longer.
- Remove before fertile rams go out.
- Increase ram power to 1 ram to 30 ewes.



### Raddles

Raddle marks are a useful management tool. They show you how tupping is going. They also help improve the accuracy of feeding, management and timing of treatments/vaccinations later in pregnancy. Change raddle colour every 9-10 days for best results OR when a certain proportion of the flock are marked if this is more helpful to you.



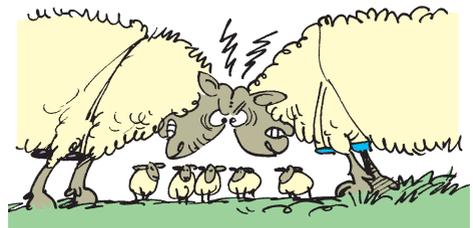
Save some fresh rams for the last raddle colour to maintain fertility.

### After tupping

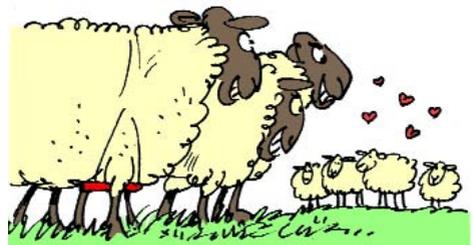
**Check rams** for any injuries. Treat any problems as soon as rams are removed from ewes.

### One ram = high risk

Low fertility or illness



### Two rams will fight



### Three rams is the minimum

for Better Returns

**Tupping needs active management**

# Pre-tupping and early pregnancy

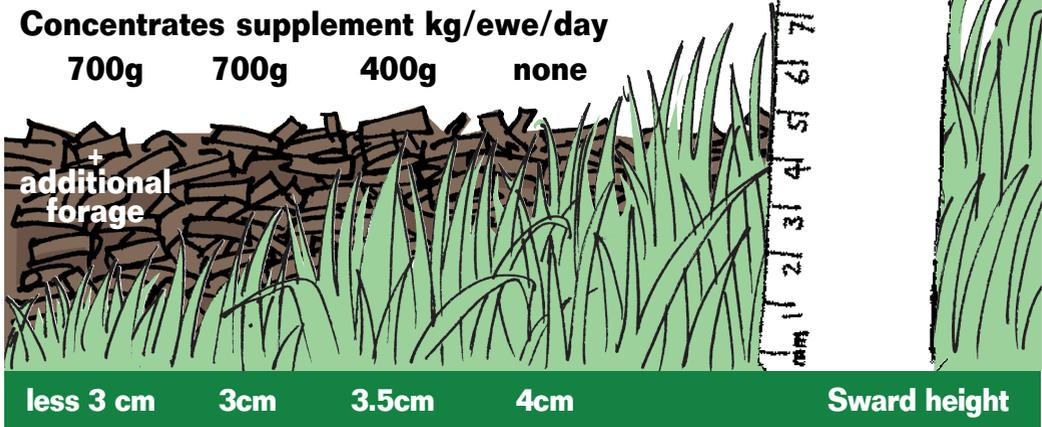


## Flushing

Leaner ewes respond to flushing in the 2-3 weeks before rams are turned in. Flushing can be achieved on good grazing, but supplements may be needed if grazing is limited.

Avoid excessive concentrate feeding - it is expensive and can even reduce fertility.

Use sward height as a guide for supplement feeding for flushing:



## Health

Fit adult ewes need not be drenched routinely against worms pre-tupping. Limit drenching to young or lean ewes only.\*

On flukey farms, the autumn treatment for early to mid lambers can be given once the critical early pregnancy period is over. Flocks lambing late should be treated pre-tupping.

Ensure all vaccinations and treatments are complete well in advance of tupping. ALWAYS follow the manufacturers instructions.

## Early and mid-pregnancy are important

### Early pregnancy

For the first 3 weeks after fertilisation (the pre-implantation stage), the egg is not attached to the uterus and so is vulnerable to any stress. In practice, this equates to a period of at least 6 weeks for any group of ewes. Ewe lambs are particularly vulnerable.

Avoid any sudden dietary change or stress associated with handling or just moving fields. Maintain a level plane of nutrition - including supplementary feeding - for 3 weeks after rams have been removed.



Months two and three are very important.

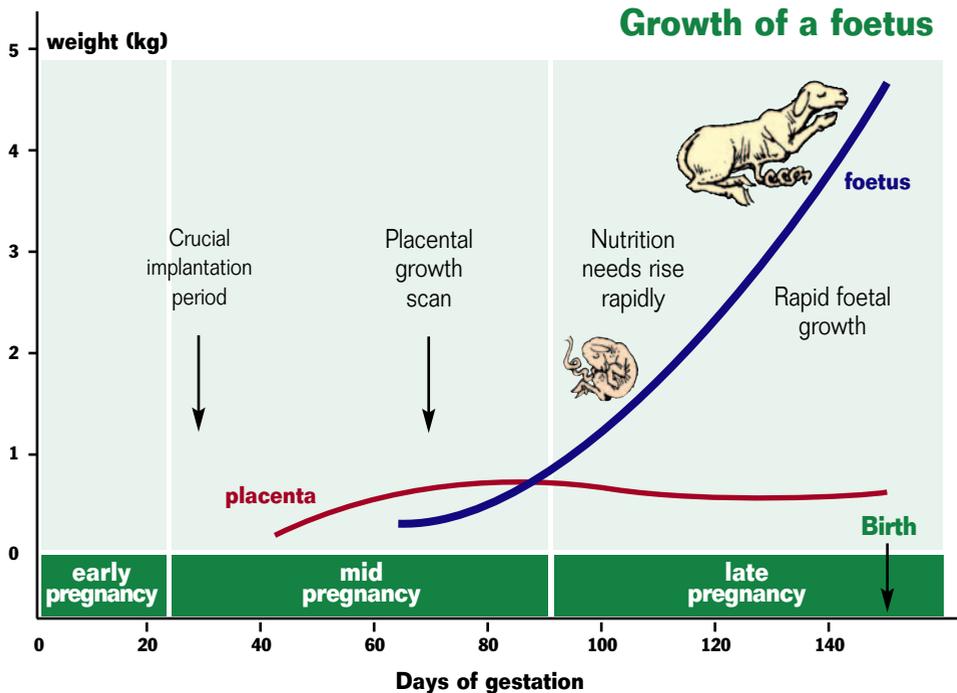
This is the period when the placenta develops. During this period, the objective is to ensure maximum placental size which, in turn, leads to good lamb birth weights.

Ewes must not be allowed to lose or gain more than 5% of body weight (1/2 a condition score) during this period.

If scanning (normally around 70 days) take the opportunity to check the body condition of ewes and adjust grazing or feed allowances.



Use body condition and scanning results to group ewes for feeding. Pay special attention to triplets which require earlier supplementary feeding.



# Late pregnancy



In the last eight weeks of pregnancy, 70% of foetal growth takes place making late pregnancy vital for a successful lamb crop.

Also during this vital period

- **Udder development occurs.**
- **Colostrum is formed ready for the new-born lamb.**

These are crucial because low lamb birthweight and /or low colostrum intake are major causes of lamb deaths in the first few days of life.

## Nutrition is a big challenge

At this time, the ewe's energy and protein requirements increase rapidly; more than doubling for ewes carrying twins. However, as lambs grow, the ewe's ability to eat bulk reduces. Therefore, the nutrient density of the ration must be increased gradually to keep pace with foetal requirements.

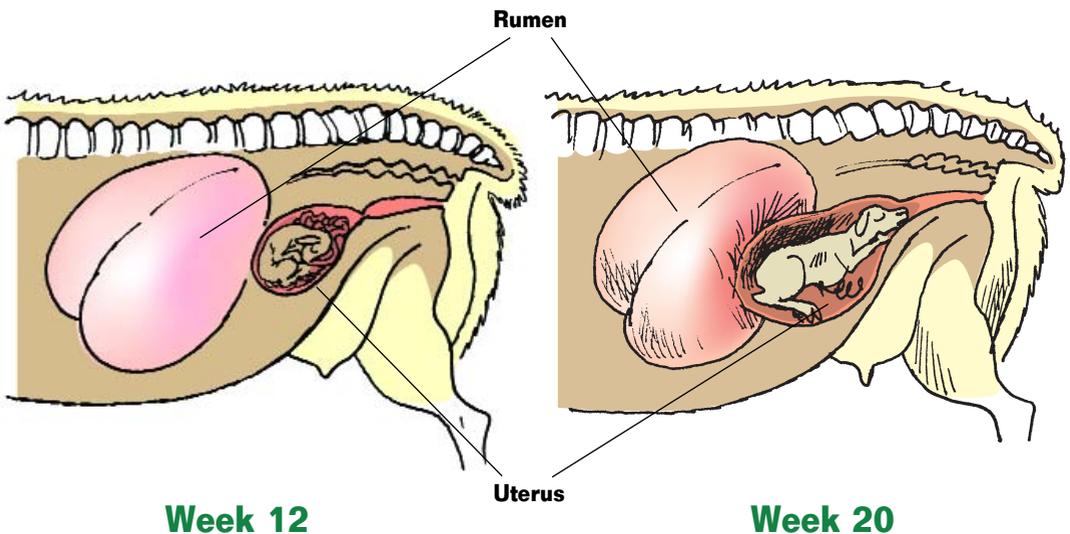
Pressure from the growing foetus reduces the ewe's ability to eat bulk food



Scanned ewes should be fed according to litter size. Monitoring body condition is an essential part of management. Segregate lean ewes and feed preferentially as a priority.

Avoid any sudden changes in diet or management, especially in the final 3 weeks of pregnancy.

This can induce metabolic diseases, eg hypocalcaemia or pregnancy toxaemia (twin lamb).



Ewe nutrition is based on forage with supplements to ensure a balanced ration.\*

As ruminants, ewes need a regular supply of roughage. The quality of hay and silage should be analysed so that the correct level and specification of supplement can be fed to ensure a balanced ration.

### Concentrate supplements

Always choose high quality supplements that provide an energy level of at least 12.5MJ ME for each kilo of dry matter. Be sure to check that ingredients include both degradable and undegradable protein sources. Forage quality, body condition and/or litter size will dictate the quantity to be fed each day. Start feeding early in pregnancy, usually around 6-8 weeks. This will avoid having to feed large amounts in the latter stages with low quality forages.

### Mineral and trace elements

Proprietary compounds contain a balance of minerals and trace elements. Unless there is a known deficiency, no extra supplement should be needed.



Overfeeding some minerals, eg calcium and magnesium, in late pregnancy can be counter-productive.

### Blocks and liquids

Self-help supplements can be important particularly in hill flocks or where access is restricted. Various products are available, each designed for a specific job; eg. high-non-protein nitrogen blocks for hill ewes on low quality roughage; high energy blocks or liquids to boost energy intakes in late pregnancy.

### Vitamin E

Recent research has shown that ewes need a good supply of vitamin E for maximum lamb vigour at birth.

Minimum vitamin E levels in compound feed should be:

<b>Lowland ewes</b>	<b>80iu/kg</b>
<b>Hill ewes</b>	<b>120iu/kg</b>

## Typical daily concentrate ration for a housed lowland ewe

carrying twins, fed untreated straw with a high quality 18% crude protein compound pellet.

	Weeks before lambing			
	8-6	6-4	4-2	2-lambing
	0.5kg	0.75kg	0.9kg	1.0kg

- **Straw must be clean.**  
Allow 1.5kg/ewe/day.
- **Never feed more than 0.5kg concentrates as one feed.**
- **Maintain ewes in good condition (score 3).**



**Maintain a balanced ration throughout pregnancy**

*i* \* Feeding the Ewe, MLC



## Key points for housed ewes

- Allow plenty of lying area.
- Provide enough trough space\* for all to feed together - or consider floor feeding.
- Avoid draughts.
- Keep bedding dry.
- Provide plenty of water (4-5 litres/ewe/day - 9 litres in early lactation).
- House ewes at least 4 weeks before lambing.
- 30-40 ewes/pen is ideal.



## Trough space and lying area for housed ewes

Pre-lambing	Lying area on straw (sq m)	Lying area on slats (sq m)	Trough space for concentrates (mm)	Trough space for restricted forage (mm)
<b>Small ewe (40-60kgs)</b>	<b>0.9-1.0</b>	<b>0.7-0.8</b>	<b>400</b>	<b>200</b>
<b>Medium ewe (60-80kgs)</b>	<b>1.0-1.2</b>	<b>0.8-1.0</b>	<b>450</b>	<b>250</b>
<b>Large ewe (over 80kgs)</b>	<b>1.2-1.4</b>	<b>1.0-1.2</b>	<b>500</b>	<b>275</b>

Winter shearing can cut the lying area needed by 10-15% but ewes must be shorn and kept in draught-free housing for at least 8 weeks. Shelter must be provided at turn-out.

## Health in late pregnancy\*\*

- Booster vaccination 4-6 weeks before lambing.
- Separate lame ewes in late pregnancy, particularly if they are housed, to reduce the spread of disease. Footbath the flock regularly and check feet and treat feet as required at lambing
- Take action to investigate the cause of abortions. Over 1-2% is likely to be due to an infectious cause.
- Keep records of ewe deaths, abortions and lamb losses. These will be helpful later when you try to look for ways to reduce losses in the future.
- Most ewes are drenched against roundworms at or around lambing. Take care to make sure they are always receive the correct dose and consider leaving some of the fittest ewes, or those with singles untreated to reduce the selection pressure for resistance.\*\*\*

Each line in the table below gives you the critical dates for a 147 day (21 week) gestation period. Use it to plan your breeding programme.

10 weeks pre-tupping (preparation)	Tupping	4 weeks after tupping (implantation)	Scanning (70 days)	8 weeks pre-lambing (start feeding)	Lambing	Weaning (16 weeks)
13 May	22 July	19 Aug	30 Sept	21 Oct	16 Dec	7 April
20	29	26	7 Oct	28	23	14
27	5 Aug	2 Sept	14	4 Nov	30	21
3 June	12	9	21	11	6 Jan	28
10	19	16	28	18	13	5 May
17	26	23	4 Nov	25	20	12
24	2 Sept	30	11	2 Dec	27	19
1 July	9	7 Oct	18	9	3 Feb	25
8	16	14	25	16	10	2 June
15	23	21	2 Dec	23	17	9
22	30	28	9	30	24	16
29	7 Oct	4 Nov	16	6 Jan	3 March	23
5 Aug	14	11	23	13	10	30
12	21	18	30	20	17	7 July
19	28	25	6 Jan	27	24	14
26	4 Nov	2 Dec	13	3 Feb	31	21
2 Sept	11	9	20	10	7 April	28
9	18	16	27	17	14	4 Aug
16	25	23	3 Feb	24	21	11
23	2 Dec	30	10	3 March	28	18
30	9	6 Jan	17	10	5 May	25
7 Oct	16	13	24	17	12	1 Sept
14	23	20	3 March	24	19	8
21	30	27	10	31	26	15

## Don't forget the RAM

- **MOT your rams 8-10 weeks before tupping.**
- **Start feeding rams 8-10 weeks before tupping.**
- **Introduce teasers 2 weeks before tupping.**



**Plan breeding programme for Better Returns**



For a range of other technical information visit  
[www.eblexbetterreturns.org.uk](http://www.eblexbetterreturns.org.uk)



**Better Returns  
Programme**

For more information contact:

**Better Returns Programme  
EBLEX  
Graphic House  
Ferrars Road  
Huntingdon  
PE29 3EE**

**Tel: 0870 241 8829  
Fax: 0871 433 6205  
Email: [better\\_returns@eblex.org.uk](mailto:better_returns@eblex.org.uk)**

**[www.eblexbetterreturns.org.uk](http://www.eblexbetterreturns.org.uk)**

© Better Return Programme 2005

The tables and contents of this publication may not be reproduced without the express permission from Better Returns Programme.

Delivered by



Funded by



from the Sheep National Envelope