



# Sheep Workshop 2019 Handbook



**Chestnutt Animal Feeds**  
Always at the Top

# The Value of Forage – Richard Beattie

## Does Your Silage Meet the Mark?

Silage should not be viewed just as a means of bulking out a ration but seen as a key component in helping meet the nutritional requirements of the ewe.

Digestibility (D-Value) and metabolisable energy (ME) are the most important indicators of your silages feed value, helping to determine how much and for how long concentrates should be fed.

Where excessively dry silages may pose a threat in the form of mycotoxins due to poor consolidation, considerably wet silages of <22% dry matter (DM) have been shown to reduce intakes by up to 50%.

	Range	Target
Dry Matter (%)	15-50	25-30 (35-40 Bale)
D-Value (%)	55-75	>68
Metabolisable Energy (MJ/KG DM)	8.8-12	>11
Crude Protein (%)	10-20	15-17.5
Neutral Detergent Fibre (%)	42-65	50
Acid Detergent Fibre (%)	23-35	30
Ammonia	2-30	<8

## Effect of Cut Date on Quality

As the days pass, stem material rapidly increases at the expense of leaf growth, diminishing silage quality.

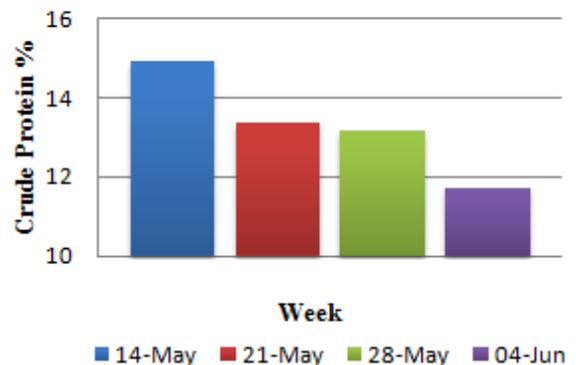
From data collected on this year's 1<sup>st</sup> cut silages; each weeks delay in cutting resulted in an average loss of 1.07% crude protein (CP), 0.91MJ/kg of metabolisable energy (ME) and an increase of 2.85% in neutral detergent fibre (NDF).

## Why Make Quality Silage?

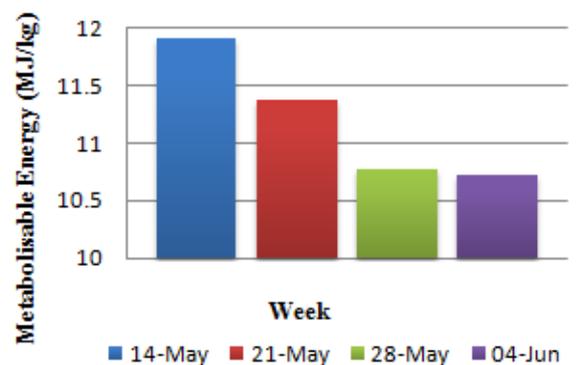
- Reduces need for higher concentrate feed levels which can cause rumen pH spike
- Intake levels are limited – wet, poorly fermented silage can reduce intakes by up to 50%
- Increased disease risk with poor quality silage – silage eye, listeriosis, etc.
- Appropriate pre-lambing ration and feed levels depending on silage quality – **test grass silage!**

Silage DMD	Concentrate Requirement in Pregnancy (Total kg's needed pre -lambing)
70-75	14
65-70	24
60-65	31
55-60	40

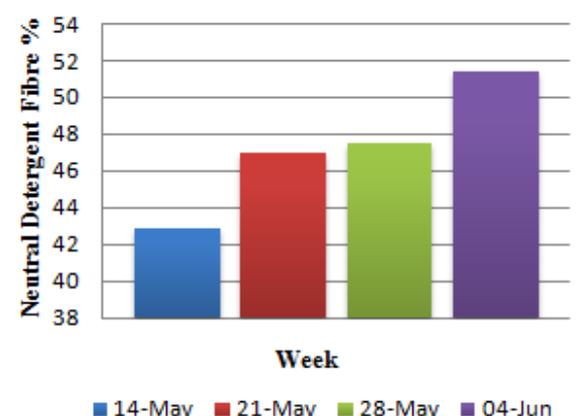
## Weekly change in CP



## Weekly change in ME



## Weekly change in NDF



## Chop Length

Chop length has a considerable impact on a sheep's silage intake. Precision chopped silage is not only easier consolidated in the pit but is also broken down much more effectively within the rumen, ultimately leading to greater intakes and performance; as seen in table one.

### Once a Day Feeding vs. 2-3 Times a Day or TMR

- Once a day feeding can create a spike in rumen pH, increasing the risk of Acidosis
- Up to 28% improvement in DMI shown when silage and concentrate offered as a total mixed ration (TMR)
- TMR provides a consistent diet, without the large shifts in rumen pH associated with once a day feeding
- Feeding concentrates more than once a day enhances the metabolic status of the ewe
- If feeding a TMR, ensure that it is well mixed to suppress ration sorting - sorting will result in a variation of the diet and individual ewe performance

**Table 1.**

	Precision Chop		Big Bale Chop	
Concentrate (kg in the last 6 weeks of pregnancy)	18	27	18	27
Lamb- birth weight (kg)	4.7	4.9	4.5	4.9
Weaning Weight (kg)	33.7	34.8	32.1	32.8

Producing silage of the optimum chop length, regardless of the D-Value, not only improves dry matter intakes (DMI) but subsequently influences the volume of concentrates necessary to meet the ewe's nutritional requirements; presented in table two.

**Table 2.**

	D-Value		
	79	72	64
Precision Chop (kg/ewe)	8	17	25
Big bale (kg/ewe)	12	24	35

Though ideal chop length may vary depending on the DM of the silage; a good rule of thumb is to chop at muzzle width (6-7cm).

## Silage Management

**Step 1.** Ensuring the clamp is adequately rolled and sealed to eliminate air pockets within the crop is the first and one of the most important steps in good silage management.

If bales are preferred, double wrapping is advised to encourage good fermentation and reduce moulds.



**Step 3.** At feeding, good management is just as important as when ensiling. Ensure feed is fresh, palatable and available to the ewes to optimise DMI. Any mouldy silage should be disregarded, as these are potentially fatal to both lamb and ewe.



**Step 2.** Minimising surface area exposed is a key factor in managing aerobic deterioration come feed out. Aim to keep the clamp face clean, using a sharp shear grab; taking half grabs if necessary, allowing you to move across the silo face much quicker.



# Ewe Feeding in Late Lactation – Stephen Kelly

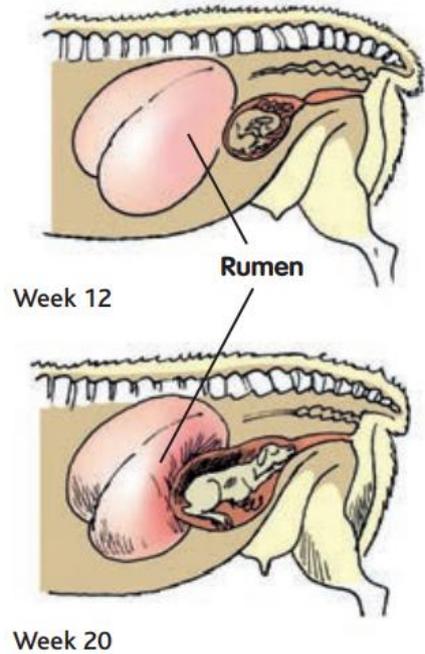
## Late Pregnancy (Months 4 & 5)

The energy and protein requirements of pregnant ewes increase significantly during the last six weeks of pregnancy. During this time feed is required for:

- Lamb growth (70% of foetal growth occurs within the final 6 weeks of pregnancy – **key time!**)
- Udder development
- Colostrum production (50g/kg lamb birth weight)

As lambing approaches, a ewe's feed requirements almost double, but her appetite can fall by up to 30%. This is due to the pressure on the rumen from the growing lamb.

Therefore, the nutrient density of the diet must increase to meet their growing nutritional demands.



## Energy Feeding

Energy is the most important but often the most limiting factor in sheep rations. Dietary energy can be derived from fibre, sugar and starch, with the rumens requirement for each depending on the stage of the ewe's production cycle.

Bodyweight (kg)	Maintenance Requirement (MJ ME)
60	9.1
70	10.2
80	11.2

Energy requirements can range from 8MJ/day for maintenance, to 30MJ/day in early lactation for a lowland ewe with twins; with supplementation therefore necessary to bridge the gap during times of negative energy balance.

## Protein Supplementation

Quality protein supply during the final 4 weeks of pregnancy is critical. Insufficient protein can impact upon mammary development and depress colostrum quantity by up to 50% and quality by 65%; vital for lamb vigour and survivability.

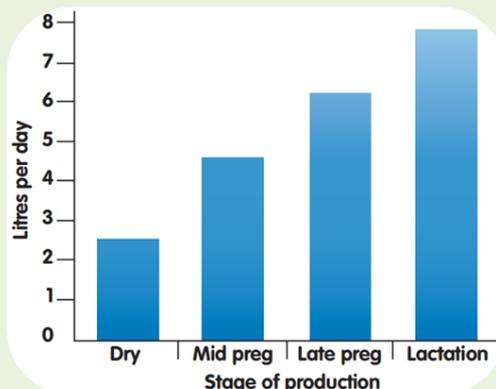
### Metabolisable Protein Requirement (g/h/day)

Mid Pregnancy	100
Late Pregnancy	200

As microbial protein is only capable of meeting 60-70% of protein requirements, there is subsequently a need for supplemented UDP in the last 2-3 weeks, especially for multiple bearing ewes.

## Importance of Water

- Ensure a constant supply of fresh clean water
- Water demand will vary, depending on the dry matter of the diet
- Ewes in early lactation can require up to 9 litres of water
- Water can help stabilise rumen pH during times of higher concentrate feeding – **reduce Acidosis**



## Pre-Lambing Feed Plan

Feed plans vary depending on breed, BCS and number of lambs carried. Therefore ewes should be grouped accordingly, allowing a precise feed plan to be implemented, helping to meet individual ewe requirements. The feed plans below are designed for a 70kg ewe.

**Table 1.** Typical concentrate feed rates (kg) for **70 D-value** silage ad lib

Weeks from lambing	8	6	4	2	1
Singles	-	-	-	0.20	0.20
Twins	-	-	0.30	0.40	0.60
Triplets	-	0.20	0.40	0.60	0.80

**Table 2.** Typical concentrate feed rates (kg) for **62 D-value** silage ad lib

Weeks from lambing	8	6	4	2	1
Singles	-	-	0.10	0.25	0.40
Twins	0.10	0.20	0.45	0.60	0.75
Triplets	0.20	0.40	0.60	0.75	1.00

**Table 3.** Typical concentrate feed rates (kg) for **hay** ad lib (9MJ/kgDM)

Weeks from lambing	8	6	4	2	1
Singles	-	-	0.20	0.30	0.50
Twins	0.20	0.40	0.60	0.80	0.90
Triplets	0.30	0.50	0.70	0.90	1.20

### Grouping Ewes

Body condition scoring coupled with scanning results should be used to batch ewes accordingly; ensuring individual nutritional requirements can be met with greater accuracy.

Adolescent ewes require extra nutrition as they are still growing. Therefore it is beneficial to manage pregnant and lactating shearlings separately from mature ewes, reducing competition at the feed trough which can suppress DMI and subsequent performance.

### Early Lactation Feeding

To maintain high levels of milk production in early lactation, which is essential for good growth rates in lambs, continue feeding concentrates for three to four weeks post lambing.

If forage or grass quality is good, slowly reduce the level of supplementation, discontinuing after six weeks.

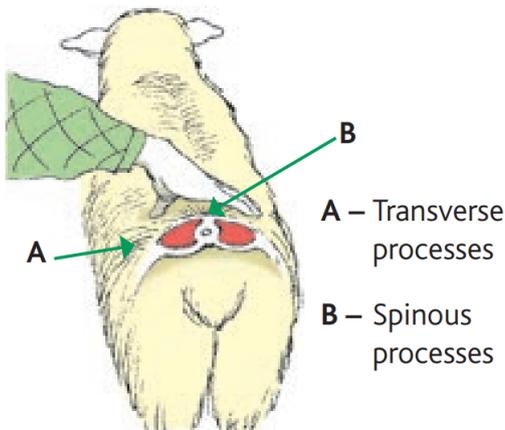
**Ewe + 2 lambs @ 300g/d weight gain = to a cow producing M+30 litres**

## What's the Score?

Body condition scoring is an effective practice in helping to appraise the nutritional well-being of the ewe, assessing the amount of muscle and fat covering the backbone and short ribs.

The table below highlights the target body condition scores for three ewe types at key points of the production cycle.

	Hill	Upland	Lowland
At Weaning	2	2	2.5
At Topping	2.5	3	3.5
Mid-preg	2	2.5	3
At Lambing	2	2.5	3



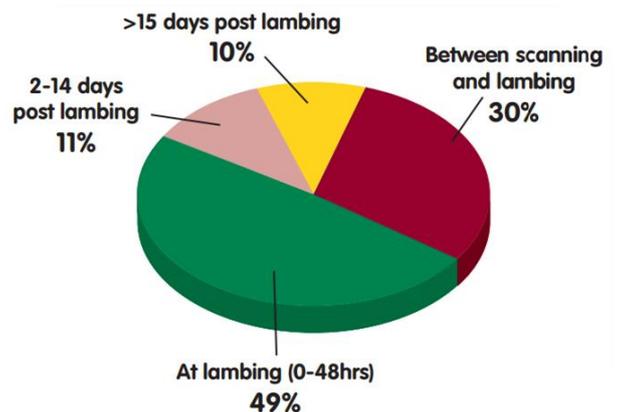
<b>Score 1</b>		Fingers can be pushed in easily below the transverse bone and each process felt.
<b>Score 2</b>		The transverse process is smooth and rounded, but it is still possible to press fingers underneath.
<b>Score 3</b>		The transverse process is smooth and well-covered. Hard pressure with the fingers is required to feel the ends.
<b>Score 4</b>		The ends of the transverse process cannot be felt. The loin muscles are full and rounded and have a thick cover of fat.
<b>Score 5</b>		The spinous and transverse processes cannot be detected even with pressure. The loin muscles are very full and covered in very thick fat.

Through body condition scoring 70 days prior to lambing, ewes can be grouped accordingly, allowing for targeted supplementation. This not only helps to ensure the ewe lambs down in optimum condition but can also influence lamb birth weight when coupled with scanning.

The accompanying diagrams provide a guide as to how you can quickly and easily assess your flocks body condition.

## Where are you losing lambs?

- The majority of lambs are lost within the first 48 hours, where inadequate colostrum intake or quality is often responsible
- Almost a third of lamb losses are 'invisible', occurring between scanning and pregnancy. Abortions may be due to;
  - Health (Enzootic, Toxoplasma & Campylobacter are responsible for **70%** of abortions in the UK)
  - Poor nutritional status
  - Physical burdens (worrying, injuries, etc.)
    - Best practice to isolate aborted ewes
- It is important to record the reasons for lamb losses, not just numbers, to help identify potential health issues within the flock



## Protecting the Ewe

### Twin Lamb Disease

A metabolic disorder resulting from the ewes energy demands not being met during the final few weeks of pregnancy. The condition can be fatal for both ewe and lamb and may result in light lambs and poor colostrum quality.

Multiple bearing ewes with a low or high BCS are most at risk. Scanning sheep and providing sufficient energy in the diet is key to prevention.

### Hypocalcaemia (Milk Fever)

Occurring due to the ewe's inability to mobilise calcium when requirement increases during lambing. Milk Fever is often associated with slow lambings, weakness and recumbency. If experiencing significant issues, blood sampling and consultation with your local vet is advised.



### Hypomagnesaemia (Grass Tetany)

Grass Tetany is brought about by the ewes inability to store magnesium within the body. Grazing lush spring pastures or feeding high potassium silages can both contribute to lower Mg availability, leaving the ewe unsteady, recumbent and potentially dead if untreated. It is essential to provide a source of magnesium at grass during early lactation.

## Protecting the Lamb

### Joint Ill

An infection contracted via the birth canal, teat/milk, stomach tubes, dirty bedding, etc. Good hygiene and administering 10% iodine is best practice for prevention.

### White Muscle Disease (Stiff Lamb Disease)

Rapidly growing two to six week old lambs are at greatest risk of contracting White Muscle Disease, with affected lambs showing a sudden onset of stiffness and inability to rise. Ensuring the ewes diet contains high levels of Selenium and Vitamin E, especially pre-lambing, is most effective, with lambs also benefiting from a booster at birth.

### Watery Mouth Disease

Watery Mouth Disease is commonly encountered in twins and triplet lambs aged 12 to 36 hours kept in unhygienic conditions. Affected lambs are dull, lethargic, depressed and reluctant to suck. Quality colostrum as quick as possible is the best prevention.



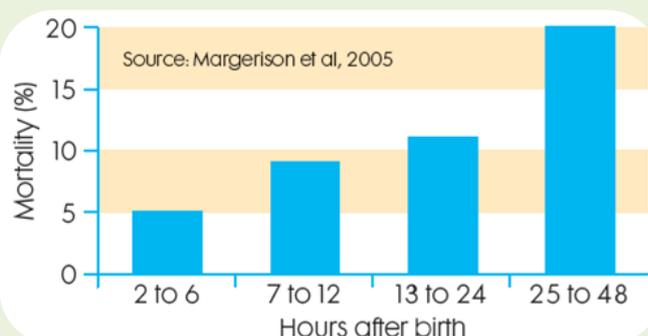
## Factors Affecting Ewe Milk Yield

Number of lambs suckling;

- Twins have a 40% increased milk demand compared to a single
- Peak yield is higher and reached sooner (3 weeks rather than 5 weeks) with twins suckling
- Triplets have a further 10% increase in demand compared to twins

## Colostrum is Gold

- Colostrum quality and the lambs ability to absorb antibodies rapidly decreases from the point of lambing
- Lambs should receive 50ml/kg of birth weight within the first 2 hours and 200ml/kg of birth weight within the first 24 hours
- Thick, yellow colostrum is a sign of quality colostrum and good ewe nutrition



# Chestnutt Feeds Planner

	WHAT IS IT FOR?	TYPICAL FEED RATES	WHY IS IT SUITABLE?
<b>Supreme Sheep 20 Pellet &amp; Sheep 20 Blend</b>	Complementary feeds for ewes	Up to 1.5kg/head/day with a suitable forage	<p>High levels of quality protein help support lamb growth and boost colostrum quantity &amp; quality, vital during the final trimester.</p> <p>A quality mineral/vitamin package featuring high levels of vitamin E, including antioxidants, and selenium, of which 1/3 is organically sourced, help to improve lamb vigour and survivability.</p>
<b>Pedigree Lamb Crunch</b>	A grower ration designed for high genetic merit lambs	Can be fed ad lib to a maximum of 65% of total DMI	A palatable coarse feed, Pedigree Lamb Crunch features high levels of flaked maize and quality protein, alongside live yeast, protected fat, ammonia chloride and optimum vitamin and mineral levels, helping maximise growth and promote high FCE in young lambs.
<b>Lamb Pellets</b>	Growing/finishing ration for lambs	Fed to a maximum of 0.75kg/head/day with a suitable forage	High energy levels in the form of maize meal to help maximise DLWG and carcase quality, our Lamb Pellets can also be used as an effective grower ration, with a crude protein level of 16% adequate for muscle and frame development.
<b>Lamb Finish Blend</b>	Suitable for finishing larger framed lambs	Fed to a maximum of 0.75kg/head/day with a suitable forage	A 15% crude protein ration, our Lamb Finish Blend is comprised of optimum levels of quality high energy raw materials, designed to optimise the DLWG.

\*Other sheep feeds are available