

Body Condition Scoring of Mature Sheep

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Summary

- **Condition scoring sheep is a simple, effective and cheap management tool for all flock owners to use to evaluate the body reserves of adult sheep.**
- **It allows the adjustment of ewe nutrition to try to maximise productivity and reduce health and welfare problems associated with lean or overfat body condition.**
- **The technique is particularly useful in the hill situation where the physical conditions of weather and poor grazings impose significantly greater welfare stresses than in the lowland situation.**
- **Benefits to the flock include higher lambing and rearing %, increased milk yields, reduced lambing period, metabolic disorders and deaths.**

Introduction

Body Condition scoring (BCS) of sheep is a quick and simple management tool to assess the body reserves of sheep throughout the year. Ensuring the animals are in target condition at key timings through the reproductive cycle offers benefits such as:

- Higher scanning, lambing and weaning %
- Reduced ewe mortality
- Production of viable and heavier lambs with a good immunity
- Higher weaning weights
- Production of more colostrum and milk
- Improved maternal behavior

Condition scoring is a physical rather than visual examination of sheep. Flocks are often made up of different breeds which have varying frame sizes, fleece cover and genetics, and sheep may have gut fill or a full fleece. Therefore it is extremely difficult to assess the body reserves of a mature sheep visually.

Physically handling the sheep at key timings throughout the year allows flock managers to alter management and nutrition depending on the body reserves of the sheep.

Monitoring ewes at every handling gives the flock manager knowledge and time to make changes.

A unit of Body Condition Score equates to about 12% of the mature sheep's liveweight, meaning a 70kg ewe would need to lose or gain 8.4 kg to move a body condition score. This level of weight loss/gain takes management and time.



Adult Sheep Weight	1 Unit of Condition Score (kg)
50 kg	6.00 kg
60 kg	7.20 kg
70 kg	8.40 kg
80 kg	9.60 kg
90 kg	10.80 kg

Figure 1 – One unit of condition score expressed as live weight.

How to Condition Score

Condition score is assessed by handling the animal over and round the back bone in the area of the loin above the last long rib (see Figure 2). It is essential the animal is relaxed and not tense or tight against other sheep.

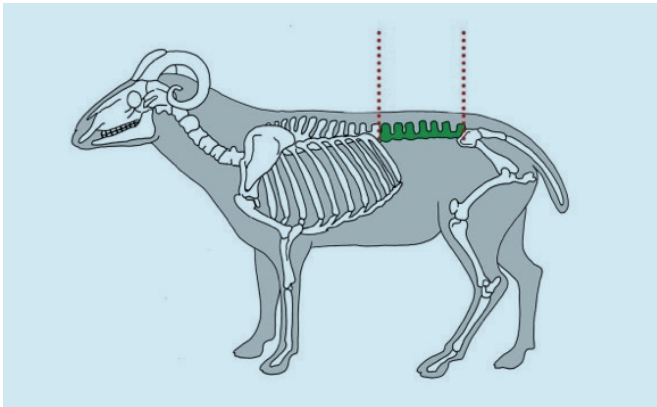


Figure 2 – Correct area to condition score a mature sheep.

1. Locate the short ribs of the sheep, directly after the final, 13th long rib (figure 2).
2. Using the balls of fingers and your thumb, feel the level of fat cover over the vertical processes (spine) with your thumb and the level of roundness of muscle and fat cover over the horizontal processes (short ribs) with your fingers.
3. The final step is to assess the eye muscle and its cover by pressing the fingers into the area between the vertical and horizontal processes.

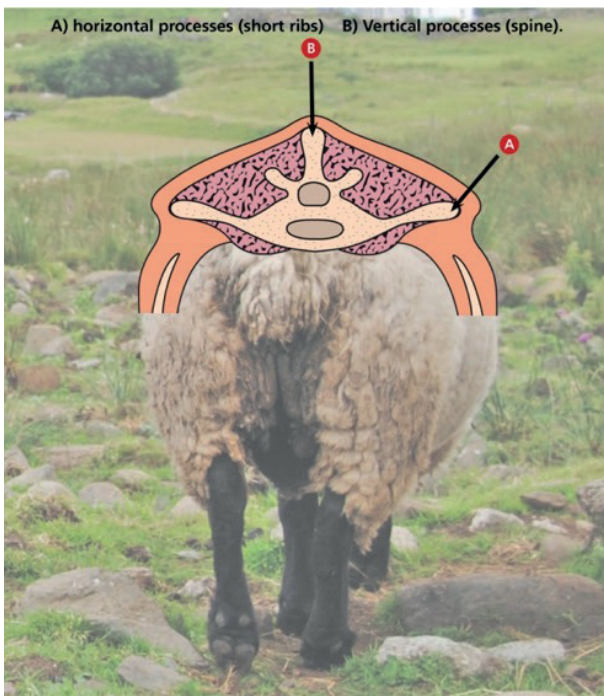


Figure 3 – Location of the horizontal and vertical processes.

Taking the above assessments into account, sheep can be scored on a scale of 0 – 5, using half scores as intermediaries.

Condition Score 0

This score is rarely used if ever as the ewe is so emaciated it is on the point of death. No fat or muscle would be detected.

Condition Score 1

The vertical (spine) and horizontal (short ribs) processes are prominent and sharp. The fingers can be pushed easily below the horizontals and each process can be felt. The loin is thin with no fat cover.

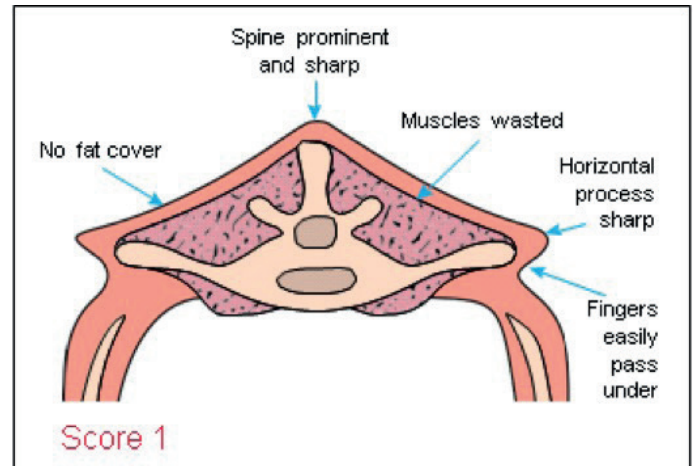


Figure 3 – Cross section showing fat and muscle cover for condition score 1.

Condition Score 2

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

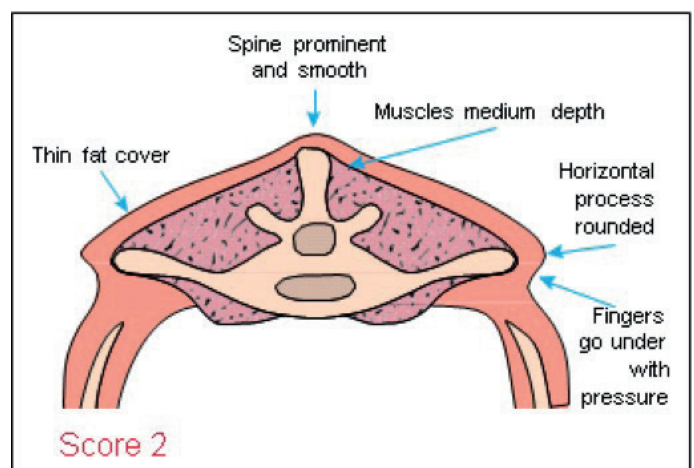


Figure 4 – Cross section showing fat and muscle cover for condition score 2.

Condition Score 3

The vertical processes (spine) are smooth and rounded; the bone is only felt with pressure. The horizontal processes (short ribs) are also smooth and well covered; hard pressure is required with the fingers to find the ends. The loin muscle is full with a moderate fat cover. Most ewes are in between scores and 2 and 3 so it is necessary to refine the scoring to half scores.

A prime lamb has a score of 3.

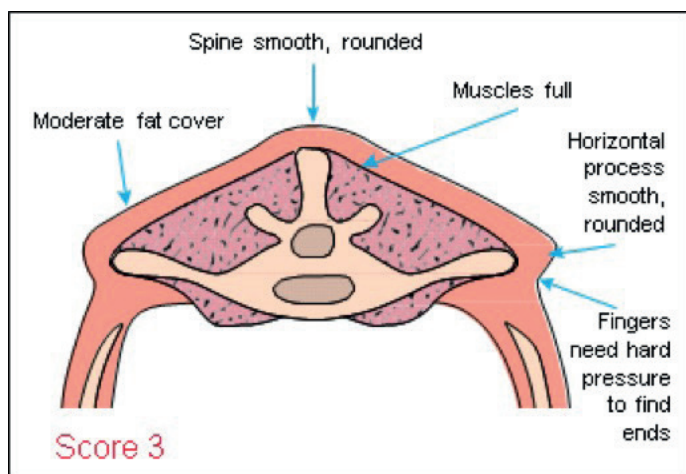


Figure 5 – Cross section showing fat and muscle cover for condition score 3.

Condition Score 4

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

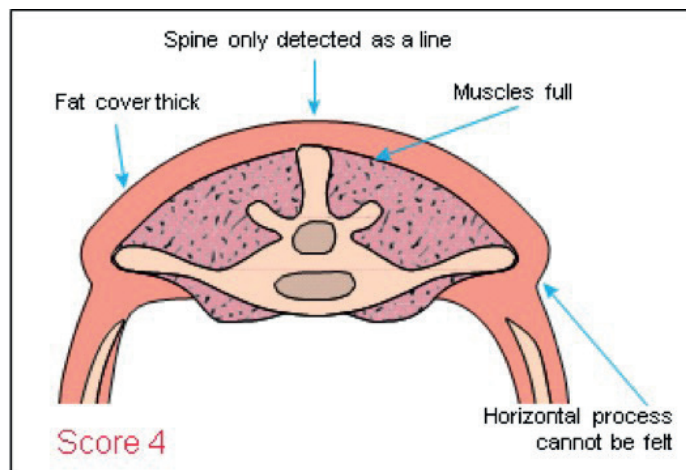


Figure 6 – Cross section showing fat and muscle cover for condition score 4.

Condition Score 5

Neither the vertical (spine) nor the horizontal (short ribs) processes can be felt even with pressure. It would be most unusual to have a ewe with a score of 5 in a commercial flock.

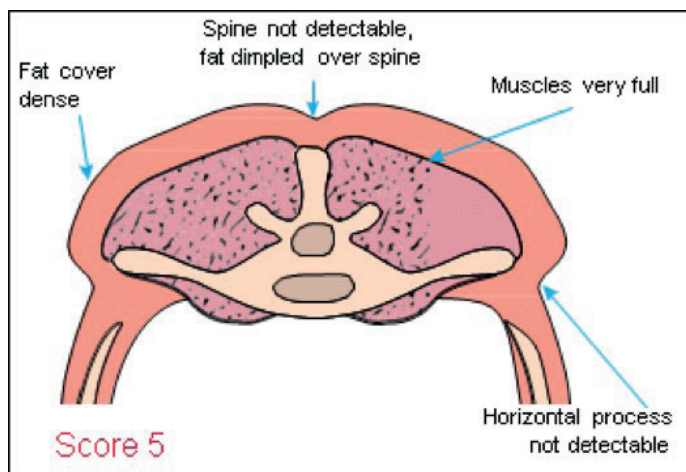


Figure 7 – Cross section showing fat and muscle cover for condition score 5.

Target Condition Scores

The stratified sheep system practiced within Scotland means that management systems vary considerably. Breed type, breed size, lowland, upland, hill, early lambing, late lambing make it impossible to be precise about target condition scores. Figure 8 (below) shows some guidance towards target condition scores at four key times in the production cycle for hill, upland and lowland breeds.

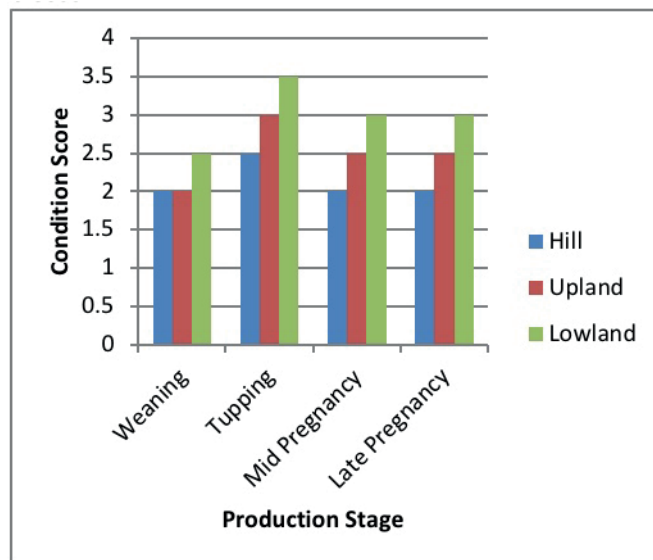


Figure 8 – Target Condition Scores for Mature Sheep.

The four key times above are essential stages for condition scoring ewes. Although monitoring ewes at every handling is advised, condition scoring a sample of the ewes e.g. 20%, gives an indication as to changes in overall flock condition and thereby allows for a change in management and or nutrition in good time.

When should condition scoring be used?

Weaning

Condition scoring at weaning or at the very latest, eight weeks before tupping, is vital. By assessing scores at this time there is the opportunity to adjust the management of the individual ewes if scores are too low or too high. At this time condition can be improved cheaply with good quality grazing. Wean hill ewes in good time as grass quality deteriorates quickly in the autumn.

Ewes that have successfully reared multiples or gimmers/hoggs having reared lambs should receive special attention as they are likely to require preferential treatment. Hill ewes are especially vulnerable as they may not survive the winter, far less grow a lamb, if they are returned to the hill in too poor condition. It takes approximately eight weeks to change one condition score in a typical situation. The below graph illustrates the growth rate that is required for a 60kg hill ewe who is condition score 1.5 at weaning to increase approximately 7kg of weight over 90 days to tupping.

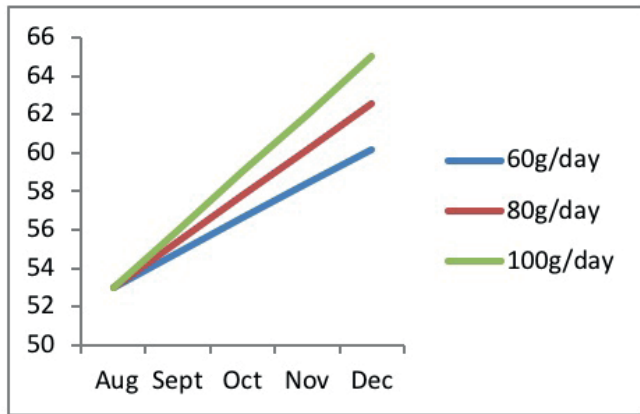


Figure 9 – Time for a 60kg hill ewe to increase 1 condition score at various growth rates.

Adjusting management at this stage can increase the amount of live lambs born as show below in Figure 10.

Tupping

Condition scoring at this time provides an indicator of the success of post weaning management and nutrition following the condition scoring at weaning. It also serves as an early warning for the coming winter if ewes are too lean so there is time to get the ewes in the best physical condition to survive the winter.

Ewes in the wrong condition at tupping can endure problems such as

- Coming into oestrus slowly or erratically
- Foetal reabsorption
- Low lambing %

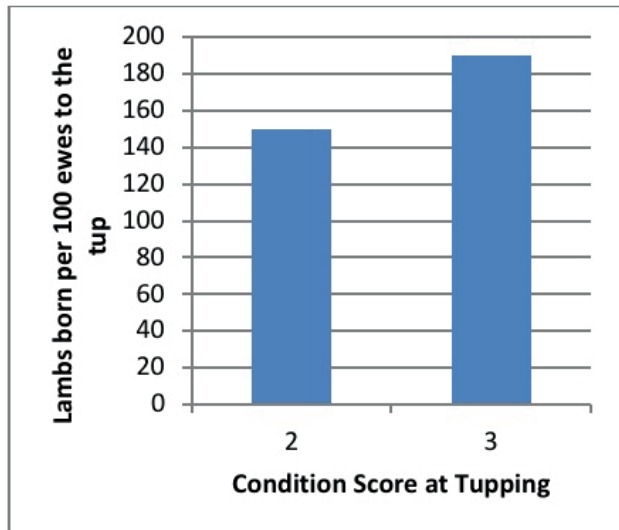


Figure 10 – The positive effect of condition score at mating on the lambing percentage of lowland ewes e.g. mule and half bred.

Additionally, ewes in the correct condition can benefit from better grass or feed pre tupping ('flushing') which can result in improved conception rates.

Mid Pregnancy/Scanning

Scoring at this time identifies problem ewes and increases lamb survivability. It is necessary to identify individual ewes rather than a whole flock average. Ewes below the target score will require preferential treatment which will generally be supplementary feeding.

The flock should be split depending on the number of lambs carried and condition score to make supplementary feeding more cost effective and targeted e.g. groups of thin single-bearing ewes with twins, fat twin-bearing ewes with singles. Gimmers/hoggs and older ewes with twins should be scored carefully as they are likely to be the most vulnerable age groups.

70% of a lamb's foetal growth is in the last 6 weeks of pregnancy. Therefore, in the last 45 – 50 days of pregnancy avoid any dramatic changes in body condition score. Ensuring the condition score is on target at mid pregnancy is key. With lean hill ewes at this time survival of the ewe is the prime issue.

Late Pregnancy/Lambing

A ewe is pregnant for approximately 21 weeks, but 70% of the lamb(s) foetal growth happens in the last six weeks of this pregnancy. The ewe has a large nutritional requirement at this stage for maintaining her self, growing her lamb(s) and starting to produce colostrum. An average 80 kg ewe in lamb with triplets will be growing an additional 17.6% of her bodyweight in lambs at this stage (see figure 11).

	Single	Twin	Triplet
Birthweight per lamb	6kg	5.6kg	4.7kg
80kg ewe % of bodyweight	7%	14%	17.6%

Figure 11 – Average lamb birth weight in relation to the mothers body weight.

Six to Eight Weeks Post Lambing

Often ewes and lambs are gathered at six to eight weeks post lambing for routine vaccinations. This is an excellent time to monitor the condition of the ewe. Often leaner ewes will have a poor milk yield resulting in a poor growth rate in their progeny and often low immunity. Any leaner ewes can be split from the group at this stage and moved to better grazing or lambs offered supplementary feeding.

Condition Scoring of Tups//Rams

It is important that rams are in fit condition for working and a condition score 3.5-4.0 is recommended at tupping time. A pre tupping check should be performed eight weeks prior to being introduced to the ewes. This should include checking the tup's condition score, feet, teeth, testicles and general health.

Rams can lose up to 15% of their body weight during the mating period. A small amount of concentrate feeding may be required six weeks pre mating if rams are not in the correct condition score. This will increase energy, allow for testicular growth and semen production. Ensuring the correct condition aids semen quality and libido.

Avoid high levels of magnesium in the feed.

Over-fat rams can be lazy with reduced libido, while fat in the scrotal neck can increase the temperature of the testes reducing semen quality. They can also be too heavy for some ewes. Those that are thin may stop working during the mating period. Condition score should be assessed 8 to 12 weeks prior to tupping to allow time for manipulation of the diet to achieve target body condition at mating time.

Once the tup is removed from the ewes he will need care and attention. If he is under condition score 3.0, he should ideally be taken indoors or to a sheltered field and offered a small amount of concentrate feeding and hay. When under condition score 3.0 there is a higher chance of not surviving a hard winter.

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Updated from the original Technical Note by Brian Hosie, Elspeth Scott, Siobhan Macdonald



Tupping Time.

Important points

- Hill ewes should not be returned to the hill with a score less than 2. Poor hill grazings mean that condition will not improve. Ewes which are lean may not survive the winter.
- Remember when condition scoring at scanning/mid lambing that barren ewes will be in better than average condition so it is important to condition score all sheep.
- Upland and Lowland ewes with a score of 2 at mid pregnancy must receive preferential treatment which may be inbye grazing and/or supplementary feeding. Often lean ewes at this stage are older ewes carrying twins or gimmers/hoggs with their first lamb. If no action is taken then lambing problems with weak and sickly lambs, ewes with no milk and pregnancy toxaemia all contribute to unacceptable stress on the ewe.
- Hill ewes in very good condition e.g. score 3, at tupping have a higher likelihood of carrying twins, which may not be desirable in the hill situation. These ewes could be kept on poorer grazings prior to tupping (i.e. not flushed)
- Training courses are available using Condition Score pads which give the impression of spines, wool cover, fat and muscle for Condition Scores 1-5 and some half scores.



Condition score training on pads (feeling the short ribs of a condition score 3 model).