

Body Condition

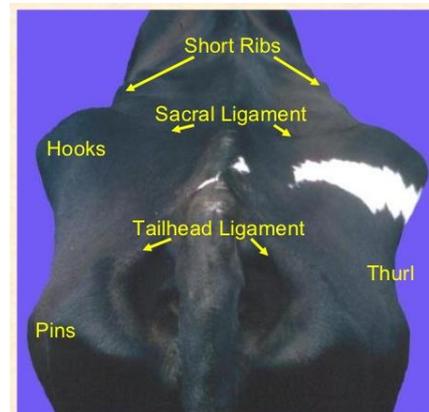
Achieving the correct Body Condition Score (BCS) at the appropriate stage of the cow's production cycle is vital to maximize both the health and profitability of your beef or dairy cows. Whilst there is always some variation between individual animals, body condition scoring at a group level is an incredibly useful tool for assessing overall health status of the animals and their likely productive performance.

Measuring Body Condition

Body condition scoring was developed around 20 years ago and is widely accepted as an accurate way to measure the impact of negative energy during early lactation. Measuring BCS is generally done using a very sophisticated piece of equipment, the human eyeball! Visual assessment is the major part of BCS measurement, but don't forget to lay your hands on and palpate cows that are amenable to it. To try and make this into some sort of repeatable measurement, body condition in the UK is assessed against a scoring system of 1-5. Traditionally the graduations in this scale have been of half a condition score, however, more recently quarter scores have become much more common and are now the norm in the dairy sector.

What to Measure

The specific sites used to assess body condition are seen from both the rear and side. From the side the shape of the Thurl and prominence of the Short Ribs are important. When looking from the rear the shape and prominence of the pin bones, hook bones, sacral ligament and tail head ligament are the structures observed - see photo below left for guidance.

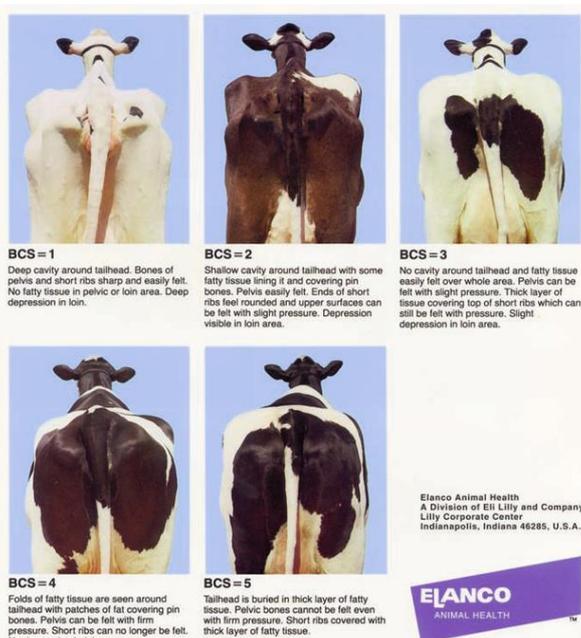


Why is it important?

Body condition score is important in a number of aspects of cattle health. It is particularly relevant to fertility, but can also be related to disease in early lactation, difficult calvings, fatty liver issues and even lameness. It should be noted that not only is condition score itself important but changes in condition score are also significant. Drastic changes can cause real problems and are to be avoided!

Calving

Cattle that are over-conditioned around calving are much more likely to need assistance than those in correct BCS as there is simply less room for the calf to fit through the pelvis due to the deposition of large amounts of fat. In addition to this, calves which are born alive are often weakened by the traumatic birth and may suffer from oxygen deprivation (acidosis). Conversely, thin cows can give you problems at



calving time as they may have little energy to calve and usually have limited, poor quality colostrum which results in a weak or sickly calf.

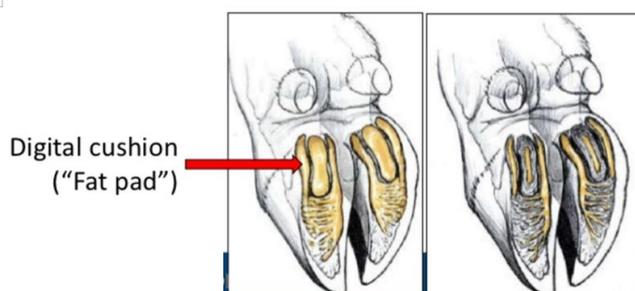
Condition Loss

Rapid loss of body condition after calving causes problems particularly to dairy cattle. To maintain the high energy demands for milk production, fat is broken down as an energy source. Using fat in this way as a major source of energy releases ketone bodies, which can rise to dangerous levels in the blood resulting in ketosis (depressed yield and decreased appetite) and can also predispose to LDA. Extreme body condition loss can lead to overwhelming fat deposits in the liver, impairing its function with the end result potentially being total metabolic failure and a downer cow which may be fatal. Some BCS loss is generally unavoidable in high yielding dairy cows as the energy demands of early lactation are difficult to meet. If this BCS loss can be kept down to half a condition score, the serious consequences of negative energy balance (ketosis, LDA and fatty liver) can be avoided. As a final point, it has been proven that fat cows prior to calving have less of an appetite after calving than their slimmer herd mates. This can lead to a vicious circle – a fat cow has a difficult calving and stays down, being a dairy cow she has a genetic drive to produce milk which takes energy, she doesn't have any appetite so doesn't eat much, despite food being available to her. As a result she burns fat to produce milk - there is a large amount of fat to burn because she is over-conditioned, as a result her ketone bodies build up in the blood, further reducing her appetite. She still produces milk and eventually the liver is overwhelmed by all the fat it is trying to process and she turns into a downer cow.



Lameness

Lameness and body condition have been linked for some time. Lamely cows spend more time lying down meaning they spend less time standing up and feeding, hence lame cows often become thin. Recent research into the structures of the foot suggests that thin cows are at a higher risk of developing lameness as the fat pad in the foot is much smaller in thin cows, consequently the cushioning effect of this fat pad is reduced making lameness and sole ulcers more likely. The diagram below compares the fat pad in a normal cow on the left to a thin cow on the right.



Fertility

Fertility is the cornerstone of any farm and is directly impacted by body condition score. Over conditioned cows at calving are at risk of a host of conditions such as negative energy (ketosis), fatty liver, and LDA's, all of which reduce the likelihood of getting back in calf. Furthermore, fat cows are at a much higher risk of suffering from a difficult calving, making them less likely to conceive. At the opposite end of the spectrum, thin cows are at increased risk of ovarian issues affecting their cycle and reducing their fertility, they are also more likely to go lame.

Problems associated with too thin or too fat cows

Thin condition BCS 1-2	Fat condition BCS 4-5
Failure to cycle and conceive	Failure to cycle and conceive
Increased calving difficulty	Increased calving difficulty
Poor calf vigour	Costly to maintain

Relationship between BCS Loss in First 5 Weeks after Calving and Reproduction

Item	Body Condition Loss		
	< 0.5	0.5 to 1.0	> 1.0
# Cows	17	64	12
Days to first ovulation	27 ^a	31 ^a	42 ^b
Days to first heat	48 ^{ab}	41 ^a	62 ^b
Days to first service	68 ^a	67 ^a	79 ^b
First service conception rate, %	65 ^a	53 ^a	17 ^b
Services per conception	1.8	2.3	2.3
Pregnancy rate, %	94	95	100

The table above shows the relationship between BCS loss during the first 5 weeks of lactation in dairy heifers. The first service conception rate is dramatically decreased from 65% to 17% if heifers loose over 1 point of body condition score.

What to Do About It

Body condition scoring can be very beneficial as a measure of group management as well as identifying individual cows that may be in need of extra attention. The most important time of the production cycle that BCS has an impact on is calving through to conception. After calving, if possible group thin cows and first calvers together to give them access to the best grazing or feed. Aim to have females on a rising plane of nutrition up to service time and maintain good levels of nutrition until at least 6 weeks after service. In year round calving herds, regular body condition scoring of dry and fresh calved cows is most useful. In block calving beef herds target BCS are shown in the table below:

Target body condition scores for cows and heifers

	Spring calving herds	Autumn calving herds
Calving	2.5-3.0	3.0
Service	2.5-3.0	2.5-3.0
Housing	3.0-3.5	3.0

Target BCS for dairy cows are shown below:

Stage of lactation	Target BCS
At calving	2.5 - 3.0
60 days post-calving	2.0 - 2.5
100 days before drying off	2.5 - 3.0
At drying off	2.5 - 3.0

If you think you have a problem with body condition or would simply like to undertake some routine monitoring then either ask your routine vet or contact the office.

Awards and Open Days



www.farmsunday.org

Please come and visit Old Green Farm, Earthcott Green, BS35 3TD from 11am on 11th June for Open Farm Sunday. Mike and Gemma King milk 100 grazing cows using two Lely A3 robots and have recently purchased a raw milk vending machine allowing them to sell farm gate milk to the public.

Gloucestershire NMR Farm Walk

We are delighted to announce that Chris and Liz Best from Poole Farm, Leighterton have won several NMR awards for Gloucestershire including :

- 1st Organic Herd
- 1st Veteran Cow
- 1st Bactoscan (5)
- 1st Cell Count(63)
- 3rd Cow lifetime yield
- 3rd Senior cow group
- 2nd Family group

To celebrate these achievements Chris and Liz will be holding an NMR Farm Walk on 5th July from 7.30 at Poole Farm, Leighterton GL8 8UN, all are welcome to visit the farm and enjoy a hog roast.

Tim.

