

# BEEF COW BODY CONDITION SCORING



Published March 2017



**PĀMU™**



BY FARMERS. FOR FARMERS

## ACKNOWLEDGEMENTS

This body condition scoring guide arose from the 'Beef Cows 4 Profit' 2013-2014 Beef + Lamb New Zealand Farmer Initiated Technology and Transfer (FITT) project which was conducted on Landcorp Farming Ltd farms around New Zealand and facilitated by Bob Thomson from AgFirst NZ Ltd.

The need for an industry standard that enabled consistent assessment of body condition score (BCS) across time led the Beef Cows 4 Profit group to seek Beef + Lamb New Zealand Farmer Initiated Technology and Transfer (FITT) funding and partner with Massey University to create this beef resource.

Information regarding BCS targets was sourced from the Beef + Lamb New Zealand publication "Profitable Farming of Beef Cows", which was edited by Steve Morris and Duncan Smeaton.

The authors are grateful for the technical assistance of Natalia Martin, Geoff Purchas, Phil Brooks and Jonathon Brophy of Massey University. Supporting data for this project was collected in the Koromiko herd of Taratahi Agricultural Training Centre.



Authors: Associate Professor Rebecca Hickson and Professor Steve Morris, Massey University, [www.beef.org.nz](http://www.beef.org.nz), Bob Thomson, AgFirst NZ Ltd.

Photographs by Hanks Photography, Woodville, New Zealand and Beef + Lamb New Zealand.

# THE BEEF BREEDING COW

Beef breeding cows in New Zealand often fill a pasture “grooming” and management role on-farm, which can contribute to considerable fluctuations in the quantity and quality of feed offered to the breeding cow herd.

Beef cows are resilient and can withstand periods of restricted feeding by mobilising body reserves to buffer the feed supply, provided they are in sufficient body condition prior to the feed shortage.

**Dairy-cross** beef cows will have target BCS 0.5 less than recommended for **British breeds**, but BCS 4 should be the minimum for all cows.

Body condition scoring to a standard scale allows consistency within and between herds over time, and more objective assessment of BCS differences.

- A BCS scale of 1-10 is detailed in this booklet.
- BCS should be between 5–7 depending on the time of the year.
- A cow with BCS less than 3 is considered emaciated.
- A cow with BCS of more than 8 is considered obese.

The BCS in this booklet relates to British breeds such as Angus, Hereford, Shorthorn or their crosses.



# LIVE WEIGHT OR CONDITION?

Body condition scoring offers several practical advantages over live weight recording.

Firstly, it is a more accurate predictor of body reserves and measure of change in body reserves over time. This is because it is not affected by weight of the fetus during pregnancy, and it is independent of frame size. Cows continue to grow in size until around six years of age and may increase in live weight without increasing in condition.

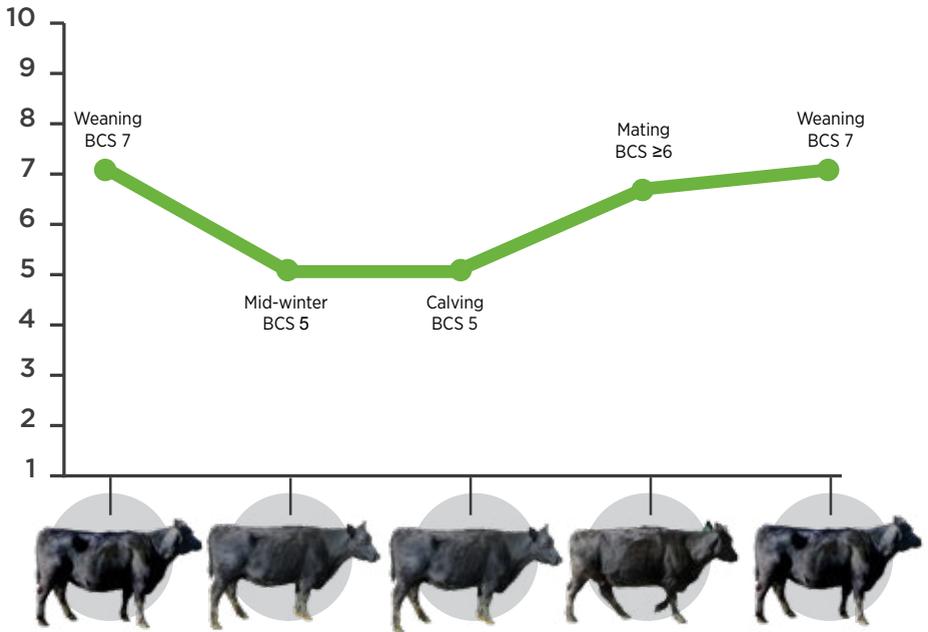
Secondly, body condition score can be assessed in the paddock. Accurate measurement of live weight requires cows to be moved through the yards, whereas BCS can be assessed in the paddock or as they are moved through a gateway from one paddock to the next.

Preliminary investigation indicates that 1 unit of BCS is approximately 30 kg of live weight for cows with a mature live weight of 520 kg, for those between BCS 4 and BCS 8.

A tall thin cow and a short fat cow may have similar live weight but be in quite different body condition. Decisions around their management should be based on body condition score, not live weight.



# BODY CONDITION SCORE TARGETS



- Weaning—BCS 7
- Mid-winter—BCS 5
- Calving—BCS 5
- Mating—at least BCS 6

# CALVING TO MATING

The most important period of the year for the beef cow is from calving to mating.

Gaining body condition during this period gets her calf off to a good start and increases the chances she will conceive early in the mating period.

A BCS of at least 6 is recommended at mating. How well cows can be fed between calving and mating determines the BCS target for calving. A BCS 5 at calving, increasing to BCS 6 at mating, is sensible. When cows are fed well post-calving they have the capacity to gain >1 kg lwt/day. An increase of 1 BCS over this time is just 0.4 kg/day.

If cows fail to reach the target BCS for mating, they will have delayed mating and a protracted calving spread the next year. They will also have reduced milk production and calf growth rate in the current season—this will result in smaller weaners.

# POST-WEANING AND WINTER

BCS at weaning depends on the summer feed conditions each year, but should usually be BCS 6-8. Cows with BCS 7 at weaning can safely lose up to 2 BCS in autumn and early-mid winter.

Running beef cows at too high a BCS wastes valuable feed resources. There is usually a compromise between fat on the back and feed in the paddock. It is better to take body condition off earlier post-weaning to preserve covers in winter, than to eat the grass in autumn/early winter and be forced to take the condition off the cows just prior to calving.

It is not recommended to let cows drop below BCS 4 during winter. If they drop as low as BCS 4 then they should be drafted off and preferentially fed. Ideally they should regain some condition prior to calving at which time they should be BCS 5.

In harsh winter environments, some surplus BCS may be useful to buffer cows through adverse weather events. Cows should not drop below BCS 5 in these conditions.

Consider BCS on a per cow basis, not a herd average. If the light cows are drafted off the bottom of the herd, the rest of the cows can be worked harder.



# WHEN TO CONDITION SCORE

- Weaning—to understand how much “fat on the back” which can be considered as “hay in the barn”. This is useful for feed planning for winter.
- Over winter—to monitor BCS loss with the objective of losing up to 2 BCS over the first 100 days post-weaning. As cows are shifted between paddocks, draft-out cows that have dropped to BCS 4 for preferential feeding.
- Two months pre-calving—last chance to gain condition if needed before calving.
- Calving to mating—monitoring to ensure cows are at least BCS 6 at mating.

There is an old but true saying that over winter “**you cannot have fat on the back and feed in the paddock**” in a productive farm operation.

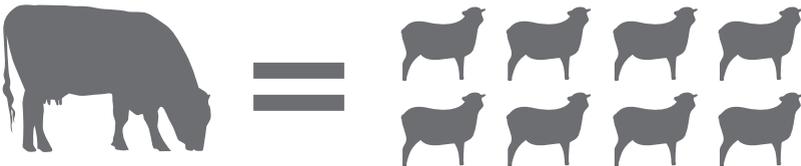
# AUTUMN BODY CONDITION

Cows that are BCS 7 at weaning can afford to lose 2 body condition scores to calve at BCS 5.

By mobilising 2 body condition scores, a 560 kg cow in BCS 7 at weaning requires 19% less energy over the 100 days post-weaning, than a cow that remains in BCS 7.

This is equivalent to 12 bales of hay over the winter period (assuming 9 MJ ME/kg DM and 16 kg DM bales).

The feed saved by mobilising 2 body condition scores from 100 cows would increase pasture reserves later in winter, enough to maintain 800 ewes at BCS 3\* rather than have them drop to BCS 2.5.



*\*Note: cows are scored on a 1-10 scale, whereas ewes are scored 1-5 including half scores.*

# HOW TO CONDITION SCORE

Condition scoring can be done standing on a catwalk as cows move through a race, or by inspecting the cows in a yard or paddock.

Cows can be condition scored as you drive slowly through a paddock or off the back of a horse as you move cows

through a gateway.

The same approach should be used consistently if you want to compare between observations.

When learning to score, it may be useful to use your hands to touch the spine, short ribs, rump, hips, pins and tailhead of a few cows in the race first. This lets you get a feel for the condition carried at the different scores and is useful to calibrate your visual assessment.

Look beyond the cow's rough or

A herd average BCS is of limited value. The **real value** of BCS is knowing how many cows are under the target BCS so feed can be planned to address this challenge.

# BODY PARTS TO CONSIDER WHEN CONDITION SCORING COWS IN A RACE

SPINE



SHORTRIBS



HIPS



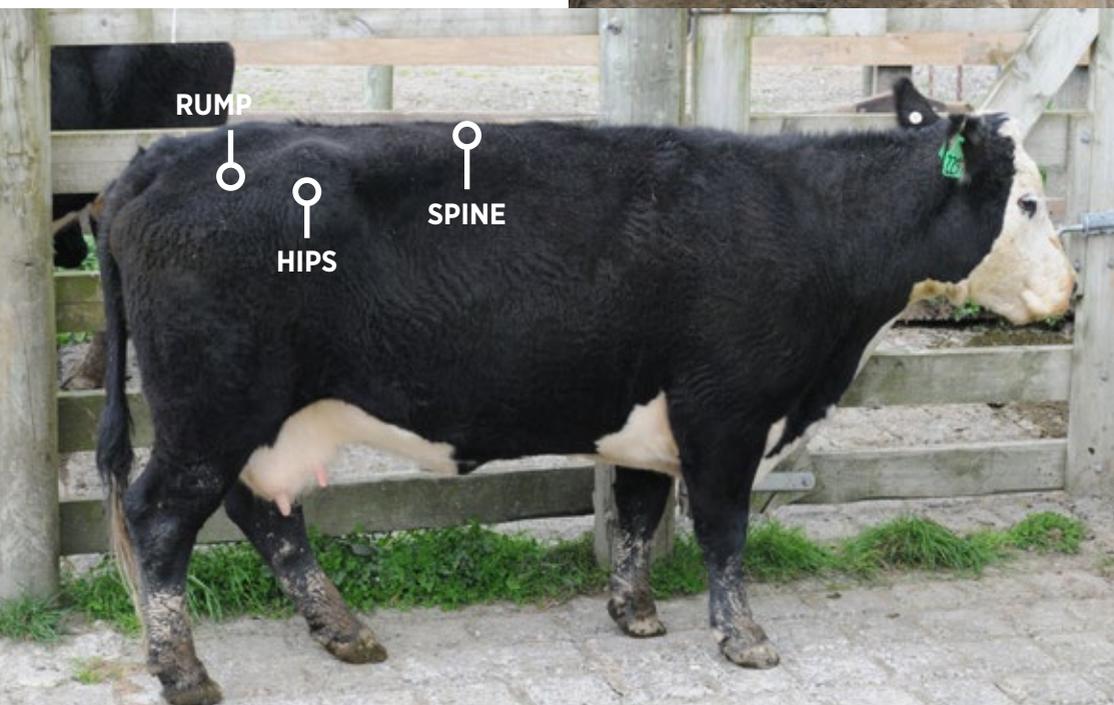
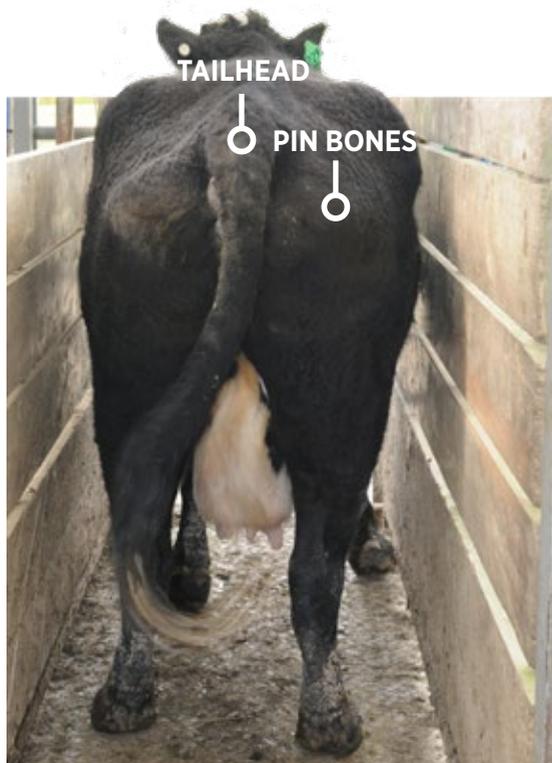
TAILHEAD



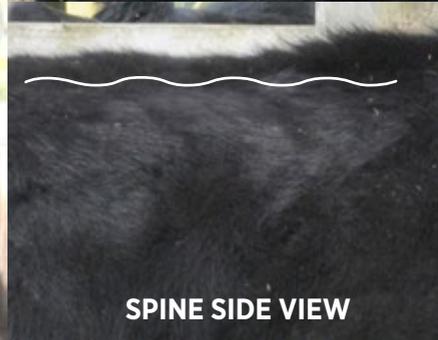
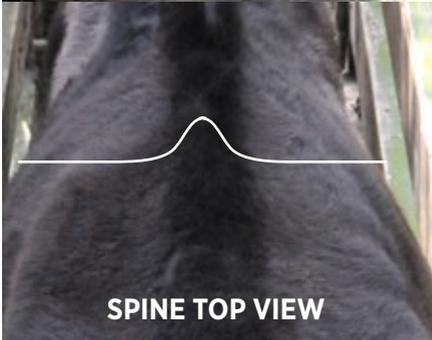
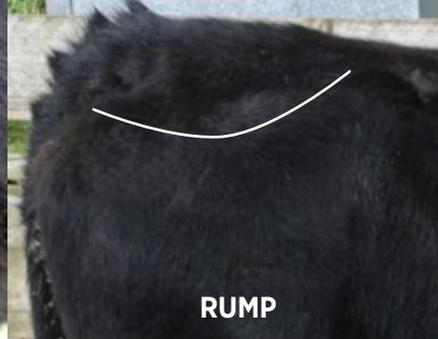
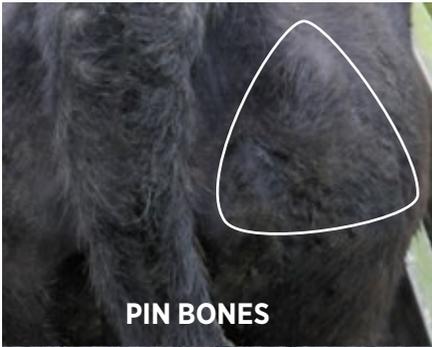
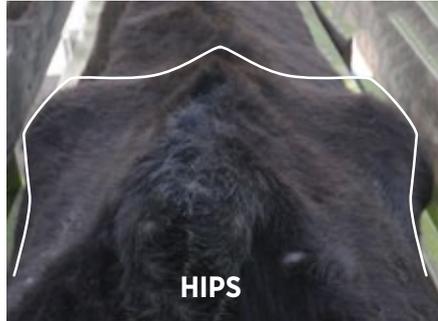
PIN BONES



# BODY PARTS TO CONSIDER WHEN CONDITION SCORING COWS IN A YARD OR PADDOCK

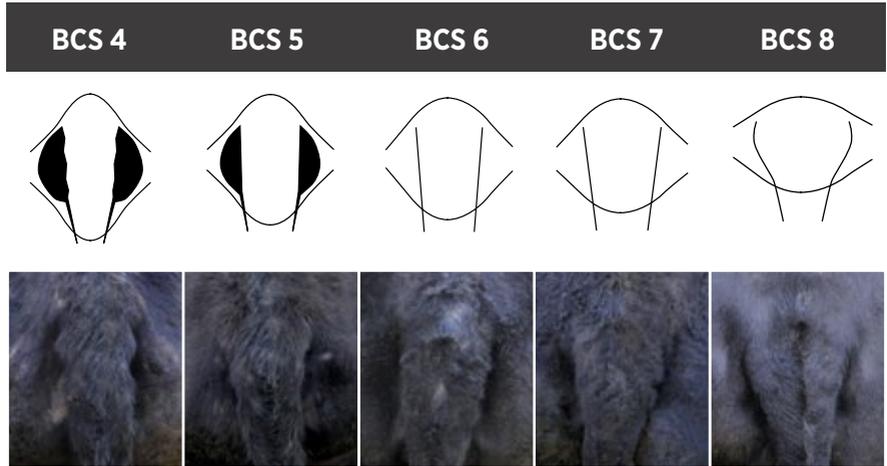


# SHAPES TO LOOK FOR AT EACH PART OF THE COW



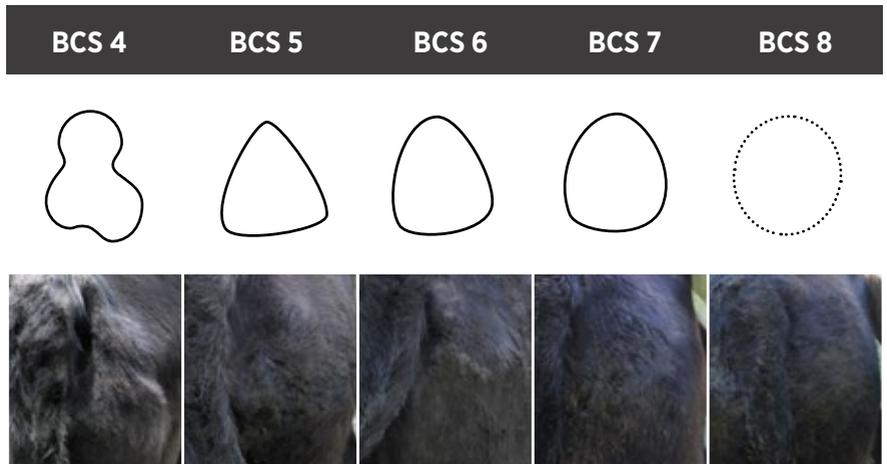
# TAILHEAD

Is the tailhead straight or does it widen to become a triangle? Are there “holes” beside it or are there rolls in the skin where the tailhead sits?



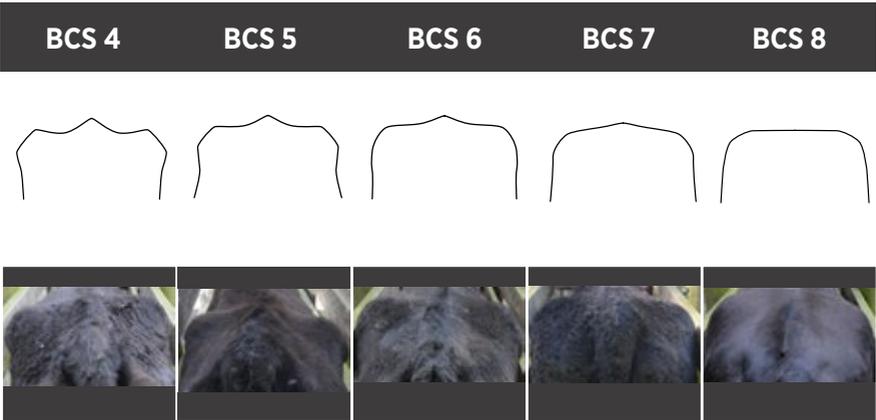
# PIN BONES

Are these easily discernible or obscured by fat cover? If discernible, are they “tap-shaped” or rounded?



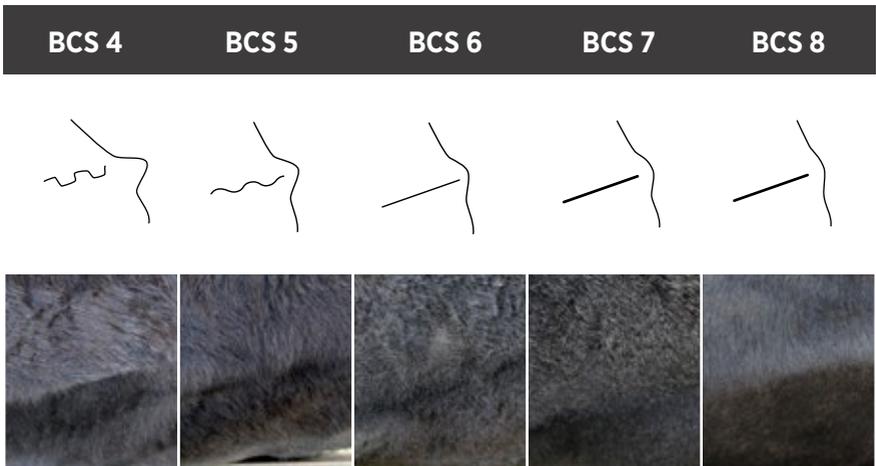
# HIPS

Are these smooth or angular? How obviously do they protrude from the side of the cow? Are they W-shaped or flat across the top, hip to hip?



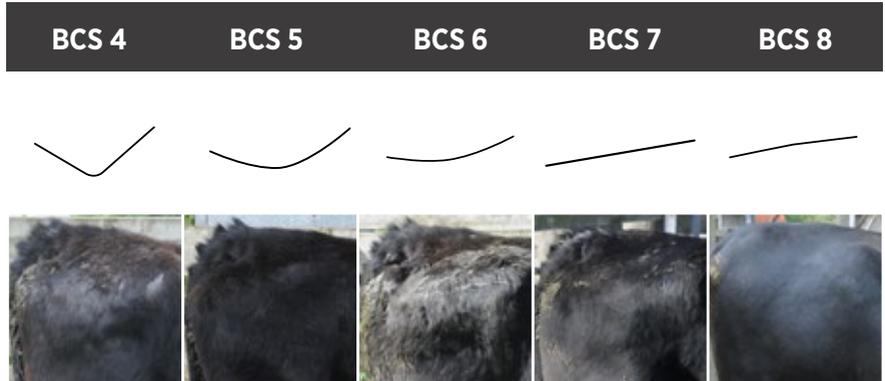
# SHORT RIBS

How sharp are the ends of the ribs? Can you make out individual ribs?



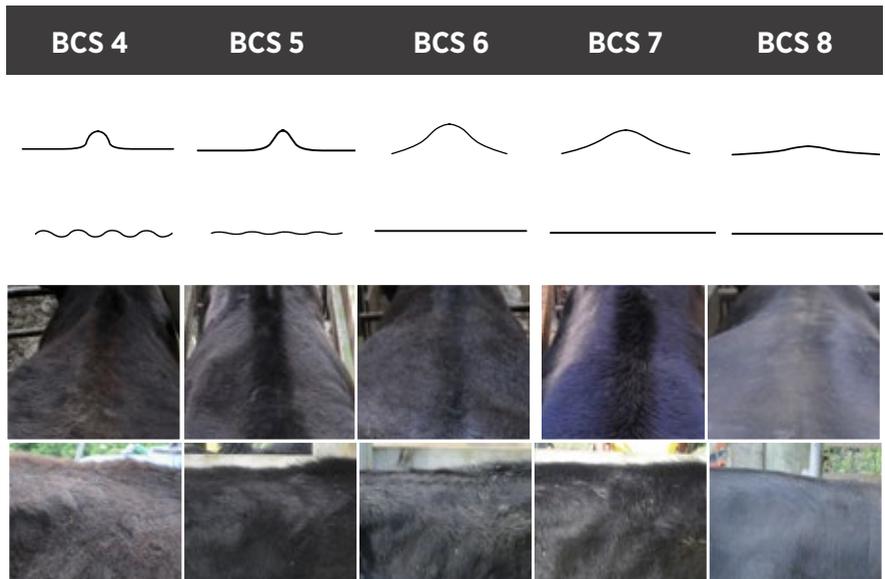
# RUMP

Is it flat or hollow?



# SPINE

Is it ridged or flat across the cow's back? Can you make out the notches of the individual vertebrae?



BCS 4





<b>Tailhead</b>	Narrow tailhead, holes.
<b>Pin bones</b>	Sharp angles, tap shaped.
<b>Hips</b>	Sharp angles, prominent W shape hips to spine.
<b>Spine</b>	Notches just visible, very sharp ridge.
<b>Short ribs</b>	Ends of individual ribs sharp and clearly visible.
<b>Rump</b>	Slight depression, V-shaped line pin to hip.

**PIN BONES**      **SPINE**



**TAILHEAD**      **HIPS**

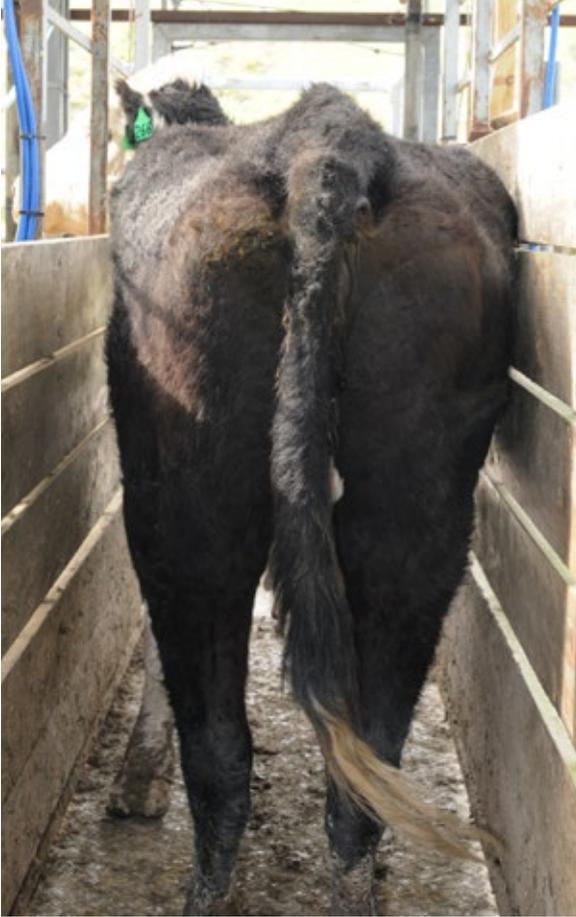


**SHORT RIBS**      **RUMP**



**BCS 5**





<b>Tailhead</b>	Narrow tailhead, shallow holes.
<b>Pin bones</b>	Discernable, triangular.
<b>Hips</b>	Smooth corners on hips, slight W shape hips to spine.
<b>Spine</b>	No notches visible, obvious ridge.
<b>Short ribs</b>	Ends of individual ribs rounded but visible.
<b>Rump</b>	Slight depression, U-shaped line pin to hip.

**PIN BONES**      **SPINE**



**TAILHEAD**      **HIPS**



**SHORT RIBS**      **RUMP**



**BCS 6**



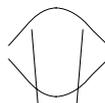


<b>Tailhead</b>	Tailhead slightly widened, no holes.
<b>Pin bones</b>	Discernable, rounded.
<b>Hips</b>	Rounded hips, slight W shape hips to spine.
<b>Spine</b>	Smooth ridge.
<b>Short ribs</b>	Ends of individual ribs not visible, sharp line.
<b>Rump</b>	Slight U shape pin to hip.

**PIN BONES**      **SPINE**



**TAILHEAD**      **HIPS**



**SHORT RIBS**      **RUMP**



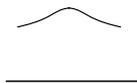
**BCS 7**



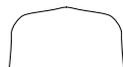
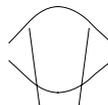


<b>Tailhead</b>	Wide tailhead, no holes.
<b>Pin bones</b>	Indistinct, rounded.
<b>Hips</b>	Rounded hips, almost flat across to spine.
<b>Spine</b>	Slight, smooth ridge.
<b>Short ribs</b>	Ends of individual ribs not visible, rounded line.
<b>Rump</b>	Flat line pin to hip.

**PIN BONES**      **SPINE**



**TAILHEAD**      **HIPS**



**SHORT RIBS**      **RUMP**



**BCS 8**





<b>Tailhead</b>	Wide tailhead, with fat rolls.
<b>Pin bones</b>	Indistinct, well covered, slight bulging with fat.
<b>Hips</b>	Smoothly rounded hips, flat across to spine.
<b>Spine</b>	Tiny ridge.
<b>Short ribs</b>	Ends of individual ribs not visible, rounded line.
<b>Rump</b>	Full muscle, starting to bulge.

**PIN BONES**                      **SPINE**



**TAILHEAD**                      **HIPS**



**SHORT RIBS**                      **RUMP**



**BCS 9**





<b>Tailhead</b>	Wide, high tailhead surrounded by fat.
<b>Pin bones</b>	Indistinct, well-covered, bulging with fat.
<b>Hips</b>	Very smooth rounded hips.
<b>Spine</b>	No ridge.
<b>Short ribs</b>	Very rounded line.
<b>Rump</b>	Rounded, full muscle, bulging.

## BCS 10

<b>Tailhead</b>	Wide, high tailhead surrounded by deep fat.
<b>Pin bones</b>	Indistinct, well-covered, bulging with fat.
<b>Hips</b>	Very smooth rounded hips.
<b>Spine</b>	No ridge, wide flat back.
<b>Short ribs</b>	Line barely visible.
<b>Rump</b>	Bulging muscle/fat.

# BCS 4–7 FOR THE SAME COW



**BCS 4**



**BCS 5**



**BCS 6**



**BCS 7**

**BCS 4**

**BCS 5**



**BCS 6**

**BCS 7**



**BCS 8**

**BCS 9**



## FURTHER INFORMATION

For further information on our research projects and publications, or to download additional copies of this resource, please visit [www.beeflambnz.com](http://www.beeflambnz.com)

Listen to Professor Steve Morris discuss the importance of BCS to managing beef cows on our podcast: [beeflambnz.podbean.com/e/professor-steve-morris-massey-university-the-new-zealand-beef-cow/](http://beeflambnz.podbean.com/e/professor-steve-morris-massey-university-the-new-zealand-beef-cow/)

*This publication is made possible by sheep and beef farmer investment in the industry. Beef + Lamb New Zealand, Massey University and AgFirst NZ Ltd are not liable for any damage suffered as a result of reliance on the information contained in this document.*

*Any reproduction of this publication is welcome as long as you acknowledge Beef + Lamb New Zealand as the source.*



