

CHAPTER 4

Monitoring stock condition



This chapter covers the tools for assessing, managing and monitoring cattle condition.

Key Messages

- **Assessing fat cover is an important guide for feeding strategies and sale decisions.**
- **Target fat scores are critical for matching feed rations.**

The body fat reserves of beef cattle are important at critical stages of the production cycle (growth, reproduction and lactation) and need to be considered when developing drought feeding rations. By assessing the stock and the amount of available pasture, you can calculate the rate of supplementary feeding needed for animals to reach desired production targets.

The weight of cattle varies with the breed, sex, age and pregnancy status, so when feeding for survival during a drought, fat score is used as the standard. Fat scoring can be assessed manually and visually.

The aim of fat scoring is to obtain a simple and reliable estimate of the body fat reserves of live cattle.

Two areas of the animal's body are palpated to assess fat cover (see Figure 4.1):

- the short ribs
- around the tail head.

Fat is the only tissue laid down at these sites, which makes them ideal for assessment. Other sites on the body are harder to assess because of the difficulty of determining the difference between fat and muscle.

The short ribs

The degree of fat deposition can be gauged by placing the fingers flat over the short ribs and pressing the thumb into the end of the short ribs (see Figure 4.2). A fat score is given according to the ease with which the individual short ribs can be felt with the thumb.

The tail head

The degree of fat cover around the tail head is assessed using the fingers and thumb, and should be done at the same time as assessing the short ribs.

A score is given depending on the degree to which palpable fat can be felt.

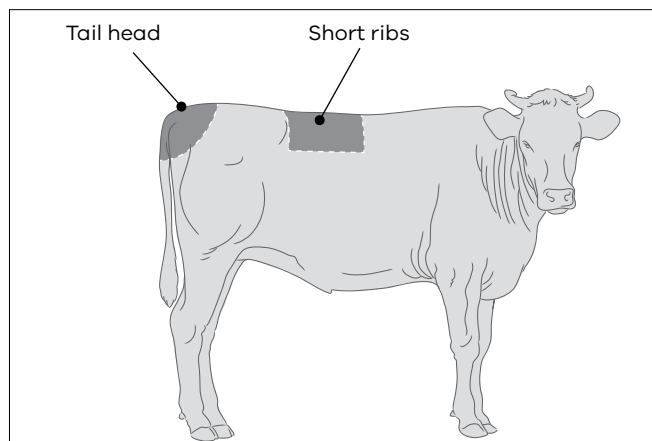


Figure 4.1: The two areas palpitated to assess fat cover.

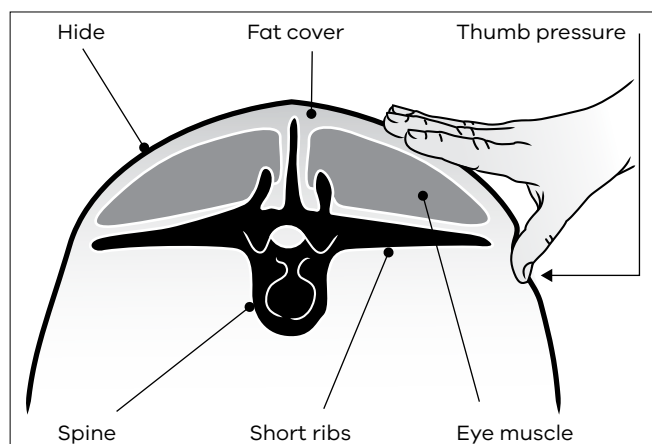


Figure 4.2: The degree of fat cover over the short ribs is assessed using the fingers and thumb.

Fat score descriptions

Table 4.1: Fat score descriptions for manual fat scoring.

0	Emaciated
1	The individual short ribs are sharp to the touch; no tail head fat. The hip bones and ribs are prominent. The individual short ribs can easily be felt, but feel rounded, rather than sharp.
2*	There is some tissue cover around the tail head. Individual ribs are no longer visually obvious.
3*	The short ribs can only be felt with firm thumb pressure. Areas either side of tail head have fat cover which can be easily felt.
4*	The short ribs cannot be felt and fat cover around the tail head is easily seen as slight mounds, soft to touch. Folds of fat are beginning to develop over ribs and thighs.
5	The bone structure of the animal is no longer noticeable and the tail head is almost completely buried in fatty tissue.
6	Bone structure is hard to distinguish. Tail head buried in fat. All other sites show obvious soft fat deposits.

* The score can be varied half a score depending on the amount of tail head fat with half scores reported as low (L) or high (H) within a fat score descriptor.

The scores in Table 4.1 can be varied half a score depending upon the amount of tail head fat. The half scores are reported as low (L) or high (H) within a fat score descriptor. If manual assessment of the short rib area feels like a fat score 2, but an assessment of the fat cover around the tail head fits into the category description of a fat score 3, the score given to the animal would be 2H.

If a manual assessment of the short rib area feels like a fat score 3, but an assessment of the fat cover around the tail head fits into the category description of a fat score 2, the score given to the animal would be a 3L.

Visual assessment

Visual assessment is less accurate but will give a good indication during a paddock inspection. The two main factors associated with cattle condition and finish are fat and muscle. These are assessed visually at three main sites – the rear, brisket and flank (Figure 4.3).

As cattle become fatter:

- the ribs become less visible
- the tail head softens with rounds of fat increasing behind the tail
- muscle seams on the hindquarters become less evident
- brisket, flank, cod and twist all fill out, giving a squarer appearance.

There is no muscle in the tail head, flank, brisket and cod. If these areas are filled out, they will be filled with fat, which makes them ideal sites to assess fat cover.

The same description of fat scores is used for manual and visual assessment.

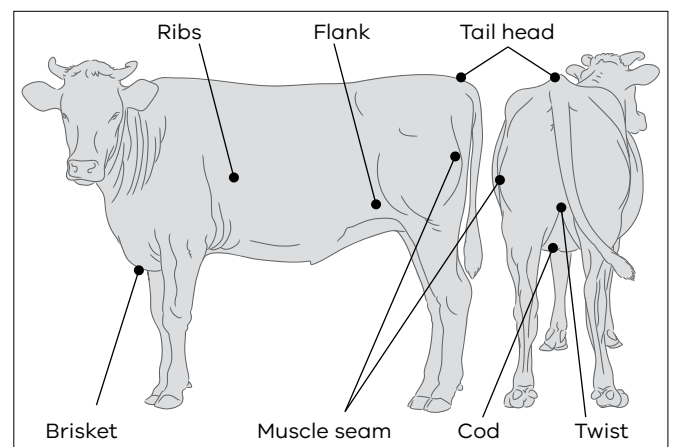


Figure 4.3: Reference points for visual assessment.

Muscling

Indicators of muscling in order of importance are:

- thickness and roundness of the hindquarters
- width through the stifle (lower hindquarter)
- width across the back and the loin
- stance – how wide apart the animal stands, i.e. the width between the hind legs and width between the forelegs.

Fat cattle look 'blocky' and square, well-muscled cattle look rounded.

Observe cattle from behind to assess thickness through the lower hindquarters (stifle area). Heavily muscled stock are thickest here; they also stand with their legs further apart than lightly muscled stock.

Target fat scores

There will always be a range of fat scores within a mob of cattle. If the range is wide, splitting mobs according to fat score is common practice and a good idea. This will enable you to specifically match rations for each class of animal to achieve target fat scores.

Select a number of poorer animals in the mob to monitor regularly and then assess their progress towards the desired fat score every week to gauge the direction of the mob. If the animals' progress is too quick or too slow, you can adjust the ration to compensate.

Table 4.2: Minimum and desired fat scores for different classes of stock.

	Minimum fat score	Fat score ideal for production
Dry cows	2	3
Cows – point of calving	3L (autumn) 2H (spring)	3H (autumn) 3L (spring)
Cows – joining	2H	3-3H
Cows – mid lactation	2H	3
Weaners	2	2-3
Bulls at joining	3	3H

Managing cattle condition

Adult cattle gain and lose condition across the year, depending on the feed available for consumption compared to their needs. Adult cattle that are in forward condition (fat score above 3½) present an opportunity to utilise some of the condition they are carrying to offset supplementary feed costs.

Important notes to consider before reading further:

- Managing cattle condition requires a high degree of management, more frequent supervision of the stock and protection from the elements to ensure their welfare is not compromised.
- Pregnant cows must be fed to allow them to calve without complications.
- Early weaning should be considered so the cows can be treated as dry adults that will have considerably lower nutritional requirements than lactating cows; calves will need a high-protein, good-quality feed.
- Cattle less than 12 months of age should not be allowed to lose weight – young growing stock should be managed to ensure they are maintaining or gaining weight.

The rate of weight loss should be controlled to ensure cows do not lose more than 0.5 kg/day – failure to control the rate of loss will cause the cattle to be prone to starvation ketosis. Starvation ketosis is a metabolic disorder that occurs in cattle when energy demand exceeds energy intake and results in a negative energy balance.

If the negative energy balance is too large, body fat (as an energy source) may be mobilised faster than the liver can metabolise it, resulting in a product called ketone building up in the animal's system. Cattle suffering ketosis will lose weight and have a reduced appetite. This depressed appetite will result in further weight loss and, left untreated, death. A 500 kg dry cow requires 55 MJ ME/day to maintain her bodyweight (see Chapter 6 for information on stock requirements). If the feed she was consuming had an energy of 9 MJ ME/kgDM, the cow would need $(55 \div 9)$ 6.1 kgDM to maintain her current weight.

When cattle lose weight, for each kilogram they lose, 28 MJ ME is released back to the animal. When losing 0.5 kgLW/day, 14 MJ ME is released back to the animal.

If you allowed her to lose 0.5 kgLW/day, instead of requiring the 55 MJ ME/day for maintenance she would only require $(55-14)$ 41 MJ ME/day, equating to 4.5 kgDM of the above feed.

One fat score is the equivalent of 70 kg liveweight. At a rate of 0.5 kgLW loss per day, it would take 140 days for a cow to lose one fat score – drop from a fat score 3H down to 2H. Dry beef cows should not be allowed to fall below a fat score 2.

The fat score that cows calve down in has a significant impact on their subsequent fertility. The better the fat score they are in at calving, the quicker they will return to oestrus, with a better chance of getting in calf within the joining period. Feed quality and quantity post-calving will also have an impact.

Impact of fat score if cows are on good feed post-calving:

- If a cow is in **fat score 3** at calving and is on **good feed** post-calving it will take her about 30 days to first heat.
- If a cow is in **fat score 2** at calving and is on **good feed** post-calving it will take her about 40 days to first heat (extra 10 days due to lower fat score).

Impact of fat score if cows are on poor feed post-calving:

- If a cow is in **fat score 3** at calving but is on **poor feed** post-calving it will take her about 65 days to first heat (an extra 35 days due to poor feed levels).
- If a cow is in **fat score 2** at calving and on **poor feed** post-calving it will take her about 90 days to first heat (an extra 60 days due to the combination of poor condition and poor feed).

This could cause a substantial shift in your calving pattern and result in a high empty rate in your cows.