

Visual and manual assessment of fatness in cattle

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amount of fat for its visual appeal at the point of sale.

Buyers and abattoirs can and will discount heavily the price offered for animals failing to meet their specific fat requirements. To achieve market requirements and maximise returns from the market, producers need to be skilled at assessing fatness on the live animal.

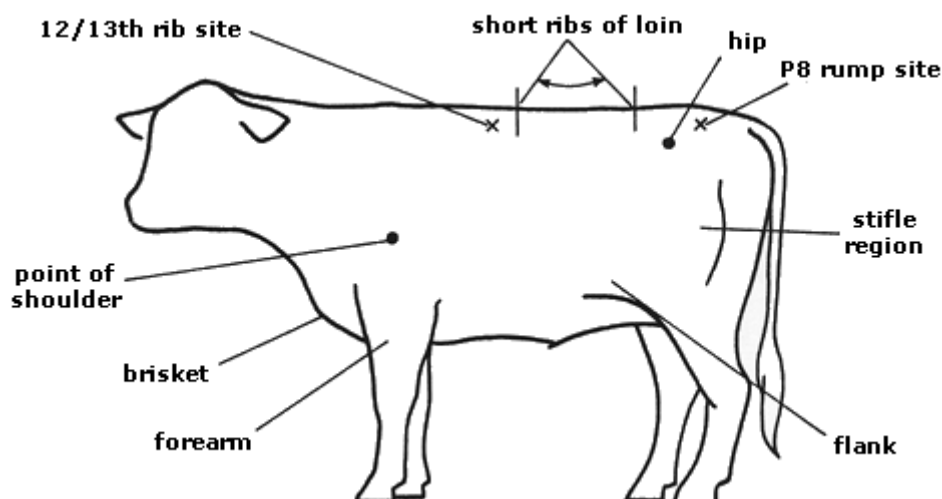
Introduction

Accurate assessment of cattle for fatness has many uses:

- Most obvious is the capability to match sale animals with market requirements. These days markets are very specific about levels of fatness (refer to the NSW Department of Primary Industries booklet *Beef Market Specifications 1999*).
- Too much fat is wasteful and reduces saleable meat yield. Too little fat can cause carcasses to chill too quickly and dry out (in the chillers). Some markets have a requirement for a certain

- Knowledge of the fatness of animals also assists an accurate assessment of the muscularity of an animal (refer to Primefact 328 *Muscle scoring beef cattle*). This skill will also help in maximising market returns and in the selection of breeding stock to produce the optimum market animal.
- Fat assessment of the breeding cow herd will allow producers to more accurately plan their management and nutrition regimes to ensure high fertility and continued high productivity of the breeding cow.

Figure 1.1. Reference points used in fat assessment



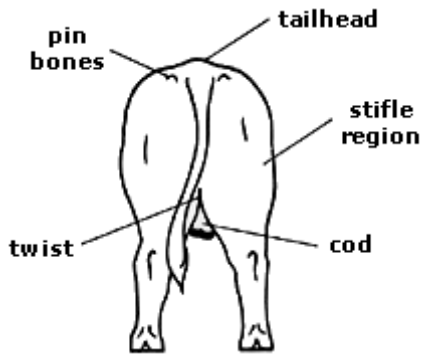


Figure 1.2. Reference points

Whilst ultrasound is increasingly used, subjective assessment of fatness of cattle is still the cheapest and most common method of assessing fat. These skills of subjectively assessing fatness, either visually or manually, are the subject of this Primefact.

When assessing fatness, you should observe several sites and, if possible, also feel these sites by placing your hands on the cattle. Fat assessment can then be expressed either as a fat depth in milliBox - topmetres at the P8 site, or as a fat score.

Fat assessment is a learned skill, and continued practice and testing against measurement (either at abattoirs or using ultrasound) is recommended in order to maintain the accuracy of your assessment skills

Visual fat assessment

Visual assessment of fat is less accurate than manual assessment and feeling the animal, but it can be a reasonable estimate of fatness. It is of course the only practical method in many

situations.

The two main factors associated with cattle appearance and shape are muscle and fat.

To assess either, one looks in the area where the other factor has least influence; that is, to assess fat, look in those areas which are least influenced by muscle, such as the brisket, flank and cod, and over the obvious bony areas (ribs, hips and tailhead). See Figure 2 below.

As cattle fatten:

- **ribs** become less visible;
- **tailhead** softens, with mounds of fat increasing beside the tail;
- **muscle seams of hindquarters** become covered with fat and are less evident when cattle walk;
- **brisket, flank, cod and twist** all fill out, giving cattle a square appearance compared with the roundness of leaner, heavily muscled cattle.

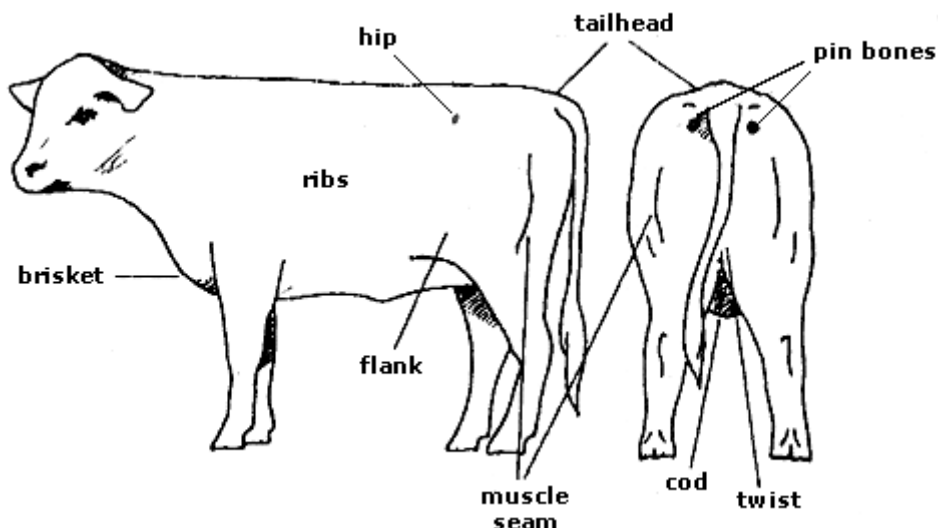
Leaner animals have a more prominent tailhead, the twist is cut up with little cod development. Individual muscle groups and muscle seams can be more readily seen in lean animals.

From the front at the brisket (where the ribs join at the front), fat is most obvious because there is little muscle laid over this area. Deep full briskets are indicative of excess fat.

From the flank, the area contains relatively no muscle, and therefore deep underlines that do not cut up indicate the presence of fat.

An animal is generally at or approaching required fatness (7–8 mm fat) for market acceptance when the cod is half-filled and small mounds of fat appear behind the tailhead over the pin bones (those bony protrusions below the tailhead).

Figure 2. Areas of the body for visual fat assessment



Manual fat assessment

By manually assessing fat, you can get a more accurate assessment because you are actually feeling for fat deposits with the tips of your fingers.

Assessments are made on the live animal at positions where fat can be more readily differentiated from muscle. From Figure 3, it can be seen that these areas include the rib area of the short loin (A), the area over the long ribs (B and D), and the area around the tailhead (C).

For cattle with a fat depth up to about 15 mm, the rib sites A and B and the tailhead C are the most useful, with particular emphasis on C. Pinch a fold of hide next to the tail (anal fold) to feel how much fat is there. Then use the rib sites (A and B) as a cross-check. It may help to also feel the hip bone and the actual P8 site. Site B is not so useful in bulls or very heavily muscled steers, as muscle can overlay the ribs and be mistaken for fat.

For older fatter cattle, the ribs and tailhead may be quite 'buried' in fat. In this case, site D behind the

shoulders is useful—place a hand flat on the hide to see if the ribs can be felt. If no ribs can be felt, the fat depth could be over 30 mm at the P8 site.

Using rib measurements to estimate rump fatness

Warning: This method gives variable results and is not recommended for individual cattle.

For people experienced at assessing fatness at the 12/13th rib site, the following guidelines are suggested to assist in estimating rump fatness.

As cattle increase in weight and fatness, fat is deposited over the hindquarter at a faster rate than over the loin; that is, the 'rump to rib' ratio increases.

While the P8 rump site is the national standard, many people and some carcass-grading systems also assess fat depth over the 12/13th rib.

Figure 3. Manual fat assessment sites

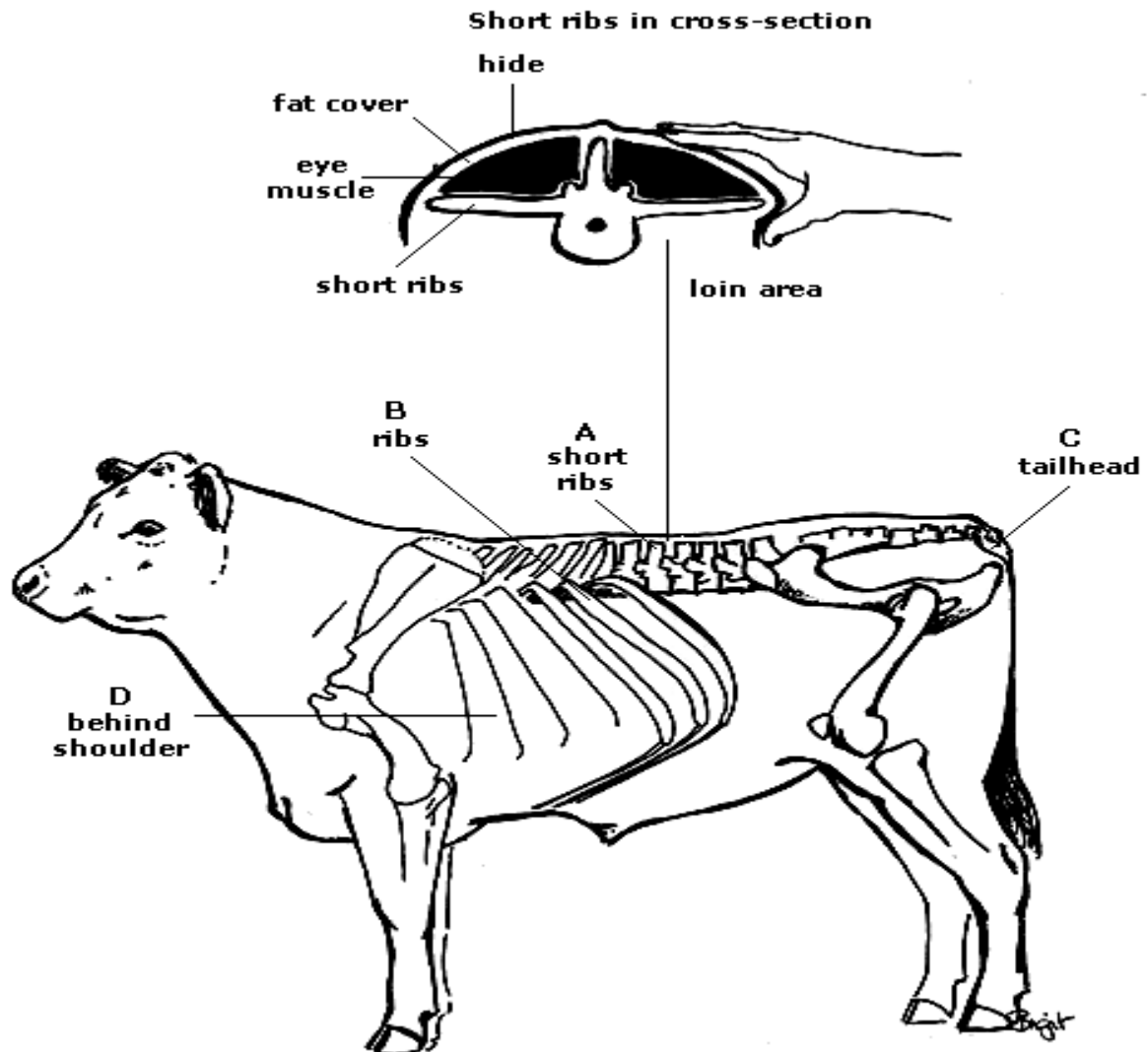


Table 1. Fat score according to the feel of an animal's fat depth

Score description

Score 1 (0–2 mm* P8; 0–1 mm 12th rib)

Animal is emaciated. Ribs and short ribs are sharp. There is no fat around the tailhead (C). Hip bones, tailhead and ribs are prominent.



Score 2 (3–6 mm P8; 2–3 mm 12th rib)

No fat beside tailhead (C). Short ribs (A) and long ribs (B) are easily distinguished. Spines feel rounded rather than sharp. Hip bone and ribs (B) are hard. Ribs are no longer visually obvious.



Score 3 (7–12 mm P8; 4–7 mm 12th rib)

Short ribs are prominent, rounded but still easily felt. The ribs (B) are easily felt using firm pressure to distinguish between them. Fat that is easily felt covers either side of the tailhead (C).



Score 4 (13–22 mm P8; 8–12 mm 12th rib)

Short ribs cannot be felt. There is some fat cover around the hip bone. Small mounds of fat which are soft to touch are present around the tailhead. Ribs are hard to feel.



Score description

Score 5 (23–32 mm P8; 13–18 mm 12th rib)

Short ribs cannot be felt. Tailhead and hip bones are almost buried in fat. Ribs (B) appear 'wavy' due to fat folds. There is fat in the brisket and udder, and squaring-off in the flank area.



Score 6 (32+ mm P8; 18+ mm 12th rib)

Short ribs cannot be seen. Tailhead and hips are completely buried by large 'rounds' of fat. Ribs are 'wavy' due to fat folds. The brisket and udder are heavy. The flank is squared off and has a blocky appearance. The animal's mobility is reduced to a walk.



Table 2. Guidelines to assist in estimating rump fatness

Cattle type	Rump estimate
Young Continental breed crosses	rib + 0–30%
Young British breeds Older Continental breed crosses	rib + 30–50%
British breeds and Bos indicus:	
Steers 1–3 years	rib + 40–60%
Females and older steers	rib + 50–70%

The figures in Table 2 are averages. Individuals, and at times whole mobs, will differ in their rib to rump ratio. This variation in carcass measurements is also increased by any fat removal from the carcass by the hide puller or air knives.

Acknowledgment

The contribution by Brigit Cumming to the drawing of the diagrams contained in this Primefact is gratefully acknowledged.

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ISSN 1832-6668

Replaces Agfact A2.7.16

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Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2006). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of New South Wales Department of Primary Industries or the user's independent adviser.

Job number 7164