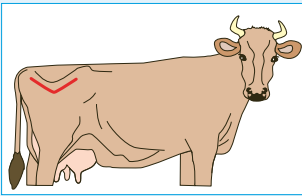
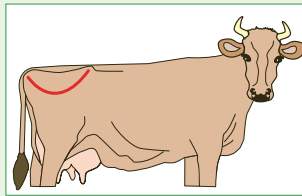


Body Condition Scoring

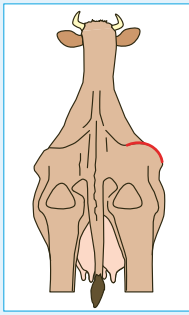
1a
Focus area:
Pelvic line
V-line



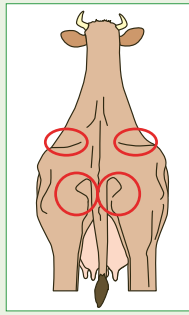

1b
Focus area:
Pelvic line
U-line



2a
Focus area:
Hook bones
Rounded hook bones
3.00



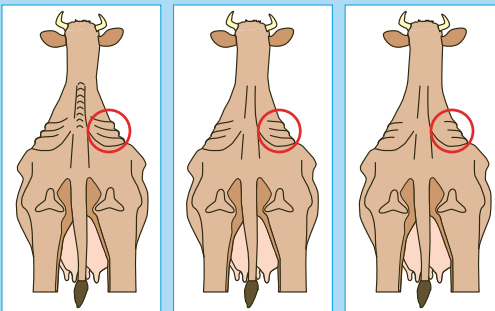

2b
Focus area:
Sacral ligament and tail-head ligament
Both clearly visible
3.25




thin ← Pin bones fatless Angular hook bones →

Indistinctly visible → Invisible → fat

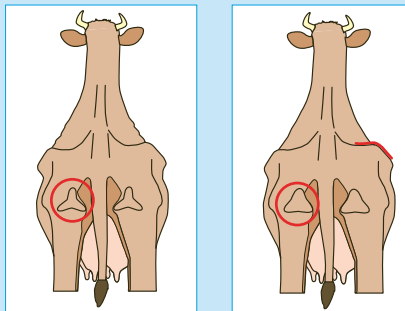
4a
Focus area:
Transverse processes



<2.00 **2.00** **2.25**

2.25: 1/2 visible
2.00: 3/4 visible
<2.00: Saw-toothed

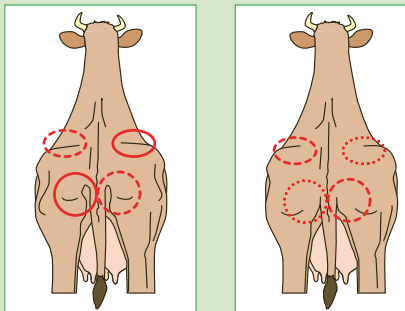
3a
Focus area:
Pin bones



2.50 **2.75**

2.75: Prominent fat padding
2.50: Slight fat padding
<2.50: Fatless

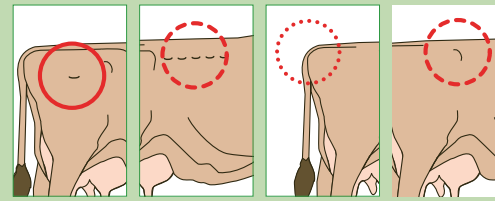
3b
Focus area: **Sacral ligament and tail-head ligament**



3.50 **3.75**

3.50: One ligament visible, one barely visible
3.75: One ligament not visible
>3.75: Both ligaments not visible

4b
Focus area: **Pelvis region (bony prominences)**



4.00 **4.25** **4.50** **4.75**

4.00: Pelvic line barely buckled
4.25: Transverse processes still visible
4.50: Pin bones invisible
4.75: Hook bones still visible
5.00: All bones shrouded with fat

After having defined a value, always compare the result with the criteria of the neighboring values!

Explanations on body condition scoring

Why is it useful and when should it be assessed?

Body condition scoring (BCS) serves to assess the dairy cow's energy reserves. Cows are scored on appearance and palpation of body fat stores in certain body regions. The method described here allows for the easy and swift assessment of the animals' nutritional status at regular intervals. This method is a good management tool at the level of the individual animal and allows for the early detection and correction of errors in feeding practices.

Excessive body condition in particular has been recognized as a risk factor for health problems in dairy cows. Overconditioning in late lactation and in the dry period and a too high degree of body fat prior to parturition can give rise to problems at calving and to post-parturient metabolic disorders (milk fever). Such cows have a lower feed intake following parturition. They draw on their body reserves and, partly due to their high milk production, mobilize body fat. As a result, they are susceptible to liver disorders and ketosis (acetonæmia). These strains on the system can in turn result in other illnesses, such as fertility disorders.

Regular body condition scoring during the lactation and dry period provides a good indication of an animal's nutritional status. It is particularly important to compare body condition scores in the weeks pre- and post-partum.

How is it done?

Different body regions are assessed in sequence. If on evaluation a certain assessment point meets the defined criterion (bold text), the relevant score is recorded and no further assessment is needed.

1 At first, the cow is viewed from the side to assess the line running from the pin bone (P) over the greater trochanter of the femur (T) to the hook bone (H). It must be decided whether this line in the pelvis region is gently curved like a «U» or angular like «V». Cows with a «U» appearance in the pelvis region are classed as having a BCS of 3.25 or more. Those with a «V» appearance are classed as having a BCS of 3.00 or less.

2a Cows with a «V» appearance in the pelvis region are assessed from the rear: The fat pads covering the hook bones (H) are assessed first: If the hook bones have a rounded appearance, the **BCS is 3.00**. If they have an angular appearance, the BCS is less than 3.00.

3a Scoring is continued by assessing the fat pads covering the pin bones (P): If there is a good fat pad covering the pin bones, the **BCS is 2.75**. If the fat pad is thin, the **BCS is 2.50**. If there is no discernible fat pad, the BCS is below 2.50.

4a In this latter case the tips of the transverse processes (the «short ribs» – R) of the spinal vertebrae are scored. They appear as undulations anterior to the sacral ligament: If approximately half of the length between the transverse and spinous processes is a visible undulation, the **BCS is 2.25**. If $\frac{3}{4}$ of the length is a visible undulation, the **BCS is 2.00**. If the spinous processes appear sharp, the **BCS is below 2.00**. Such an animal must be considered emaciated.

2b For cows with a «U» appearance in the pelvis region an assessment is made of the visibility of the sacral ligament (E1) and the tail-head ligament (E2). The tail-head ligament connects the pin bones to the tail head, while the sacral ligament connects the hook bones to the spinous processes of the vertebra (both will simply be termed «ligament» in the following). If both ligaments are visible, the **BCS is 3.25**.

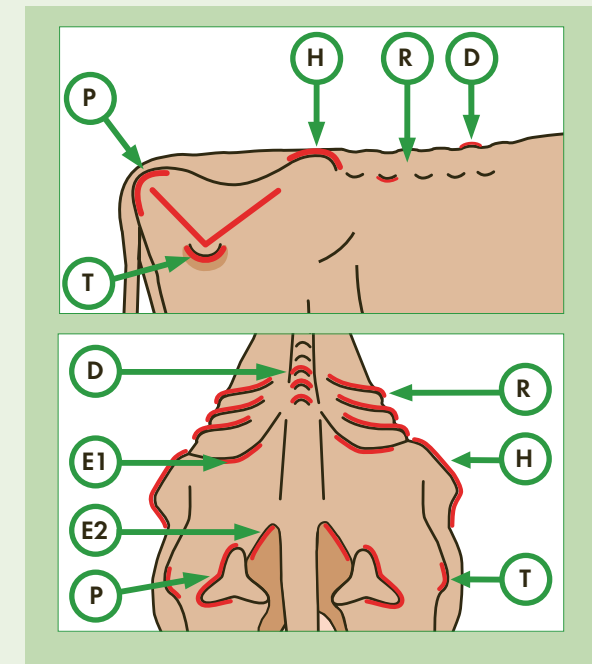
3b If one ligament is visible and one only slightly visible, the **BCS is 3.50**. If one ligament is still slightly visible and one no longer discernible, the **BCS is 3.75**. If none of the ligaments are visible, the BCS is at least 4.00. At a body condition score of **4.00** the trochanter (T) is just about still visible.

4b To determine scores above 4.00 an assessment is made as to whether the spinous processes of the vertebra are just about still visible (**BCS 4.25**), the pin bones (P) are no longer visible (**BCS 4.50**) or the hook bones (H) are just about still visible (**BCS 4.75**). If all contours are covered by body fat, the cow is assigned the maximum score of **5.00**.

Guide values:

- For calving: maximum BCS 3.75
- After peak of lactation: minimum BCS 2.5
- Easily tolerable difference between calving and peak of lactation: 0.5 units

Specific anatomical regions for assessment



Literature / Sources:

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Wildman E. E., Jones G. M., Wagner P. E., Boman R. L., 1982. A Dairy Cow Body Condition Scoring System and Its Relationship to Selected Production Characteristics. *J. Dairy. Sci.* 65: 495-501

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