# **Animal Health Body Condition**



## **SEBWAT parameter**

(Standardised Equine-Based Welfare Assessment Tool)

## **Body condition score**

## Welfare issue

- Body condition scoring is a system to estimate the levels of fat and muscle coverage, to identify whether an animal is too fat, too thin or a healthy weight. It can also be used to monitor changes in an animal's weight over time.
- The SEBWAT manual and Brooke veterinary manual give details on the system used by the Brooke and how to carry out a body condition score assessment. This system scores animals from 1-5, with 1 being very thin and 5 being very fat.

## Note on donkeys

- Donkeys may have unevenly distributed fat deposits, called 'fat pads', particularly over the neck and hind quarters. These may be retained even if the donkey is losing weight<sup>1</sup>, and should be ignored when scoring body condition.
- Aged donkeys can be particularly difficult to assign a body condition score due to a lack of muscle and a dropped belly giving a thin appearance, even when the animal's overall condition may be healthy<sup>2</sup>.



Donkey with low body condition score.

<sup>1,2</sup> McDowell (2009)

## **Welfare significance**

- The animal's body condition is an indication of the overall health of the animal, and reflects upon work load, feeding practices, quality of husbandry, illness and can indicate whether any of these factors are improving or declining.
- A low body condition score is affected by the ratio of energy consumed compared to energy expended. When too little energy is consumed to meet the animal's energy requirements, the animal will become underweight, and vice versa.

## Low body condition score

Working equids with low body condition scores (less than 2.5) are commonly presented for treatment<sup>3</sup> to field veterinarians or encountered during welfare assessments, in communities with a low income and can appear to be the norm in some countries. This does not make it acceptable for the animals' welfare'.

## **Good body condition score**

Animals with a healthy body condition score (2.5 - 3.5) have the best chance of all round health, less risk of lesions, and are best able to meet the demands of their working role. They appear well rounded, their bones are not easily visible and they have some, but not excess, levels of fat.

## **High body condition score**

Whilst a low body condition score presents a dramatic illustration of compromised welfare, it is important to note that a high body condition score (more than 3.5) indicates obesity, which is also a welfare concern.

- A high body condition score, particularly when associated with a thick crest on the neck, is a predisposing factor in the development of laminitis<sup>4</sup>.
- Obesity causes greater strain on the heart during work, causing the animal to tire more quickly.
- Fat equids may also suffer injuries and degeneration of the joints and tendons as the limbs receive additional concussive forces when the overweight animal moves. These forces are increased further if fast work, or work on hard surfaces such as tarmac roads, is involved.

## Hyperlipaemia

- Donkeys (and some breeds of horse) are particularly susceptible to hyperlipaemia<sup>5</sup>.
  Hyperlipaemia occurs where more energy is being used than is being taken in, such as in an animal with a low body condition score being over-worked.
- This causes the body to release stored fat for conversion to glucose in an attempt to meet energy requirements. This fat floods the bloodstream causing the liver and kidneys to degenerate and ultimately to fail, causing death<sup>6</sup>.
- The condition can also occur in overweight animals who are starved in an attempt to reduce weight, for example in the treatment of laminitis. It can also be triggered by stress.



Horse with low body condition.



Horse with good body condition.

<sup>3</sup> Brooke (2013)
<sup>4</sup> Geor (2008)
<sup>5.6</sup> Donkey Santuary (2014)

## **Possible causation**

Since low body condition is a far more prevalent problem than high body condition score in the Brooke context, the following suggestions focus on the former.

## Inadequate quantity of feed

- In the working equine context, feed is often insufficient in quantity and calorific content.
- To maintain condition, working equids need a combination of carbohydrate and protein, and sufficient quantities of fibre to aid digestion.
- Grains like oats, barley and maize are used to provide additional energy for equids in hard work.
- Care needs to be taken that the animal is not overloaded with concentrate by feeding too much grain at one time, as a concentrate overload can cause colic or trigger laminitis. Grains (or concentrated feeds) should be spread over several meals and ideally mixed with high fibre feed such as chaff or sugar beet.

## Cold

- Equids living and working in cold climates or at high altitude will expend additional energy on keeping warm. The digestive process generates heat but when this is insufficient to keep the animal warm, secondary processes such as shivering will use energy in an attempt to generate warmth.
- Note: donkey hair coats do not have the same waterproof properties as horse/mule coats and so donkeys should be protected from getting wet or they can quickly become chilled.



Donkey with blanket.



Aggression between individuals at feeding time - note the backwards ear position and muzzle tension.

#### Inappetance or inability to eat

- Equids who are reluctant to eat will quickly lose condition, therefore the underlying cause of inappetance/anorexia should always be investigated.
- Animals suffering from pain in the mouth will have difficulty eating. This pain can come from mouth or lip lesions (see *Lip lesions* section for further details), poor dentition (e.g. overgrown, damaged or missing teeth), or injury (e.g. firing of the palate as a 'treatment' for lampas, or damage to the tongue).
- An animal may be reluctant to eat due to bullying from more dominant animals at feed time or fear of injury from foreign objects in the feed.

## **Digestive problems**

- If the digestive system is compromised the animal will not receive the full benefit of nutrition from its feed, because nutrients will not be absorbed correctly or normally.
- This could be due to intestinal parasites, dehydration or diarrhoea (when the food passes through the digestive system too quickly for nutrients to be adequately absorbed).
- Some diseases, such as liver disease, can prevent an animal from metabolising food properly.

#### **Poor quality of feed**

- Feed should be carefully stored to avoid contamination from insects or rodents or the development of mould.
- Before feeding, feed should be checked for foreign bodies which could cause injury or discourage the animal from eating, e.g. stones, sand or grit.

#### Overwork

- The other side of the energy ratio is excessive energy output. Overwork can cause loss of condition even in animals receiving large quantities of food, and is the most common cause of excessive energy output.
- Equids require adequate rest periods to recover from work. Suitable rest areas should be provided with appropriate bedding or comfortable flooring, such as sand or grass, to encourage lying down and harnesses should be removed during rest.
- Equids should only be worked within their capabilities, i.e. young, aged or unfit animals should have lighter workloads, and ill animals should not be worked until they have recovered.

## Disease, pain or fever

- An ill equid will use more energy in carrying out normal bodily functions than a healthy animal. For example, animals suffering from advanced respiratory disease will expend more energy breathing due to the effort required to force air out of the lungs (see *Respiratory noise* and *Nasal discharge* sections for further details).
- Animals suffering chronic pain will lose condition because they move less efficiently meaning more energy is expended for the same level of work (see the Lameness, Fear and aggression, Firing and Apathy sections for further links to chronic pain).



Equids with poor body condition being worked.

## **Means of resolution**

- Feed quantity and quality, and workload and rest should be adjusted to meet the animal's requirements and maintain healthy body condition score.
- Animals who are ill, injured, or in pain should be treated in a timely manner, and permitted to rest until recovered.
- De-worming should occur when indicated (by a high fecal egg count) to reduce endoparasite burden and associated digestive problems.
- Oral/dental pain or injury should be addressed in a timely manner, and any inappetance investigated to identify the cause.
- Animals in cold conditions should be provided shelter and blankets to keep warm.
- Owners should be encouraged to monitor body condition regularly and respond to any unwanted changes.

Refer to the Working Equid Veterinary Manual, Community Engagement work plans or strategies and the Handling Guidelines

#### References

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