



Body Condition Scoring for Horses

Karl Hoopes, Eric Thacker, and Linden Greenhalgh

Horse enthusiasts are often concerned about their horse's health, appearance and performance. A major key to accomplishing these three goals is to keep your horse at a desirable body condition, or degree of fat cover. However, being able to accurately evaluate a horse to tell if they are over or underweight has been a subjective practice for many years. As with all aspects of horse ownership, horse owners have different opinions on what is an ideal body weight for an individual horse. Also, because horses come in all shapes and sizes, many horse owners are not able to objectively evaluate the body condition of their horse. Even within the equine industry different standards have been used to describe the ideal horse. For instance, horses being shown in a halter class will carry more weight and condition than a horse that is being trained for racing. Veterinarians have struggled to convince some horse owners their horse is either overweight or underweight and a change in the horse's body condition would be beneficial for the health of the horse. Terms such as "skinny," "fat," "thin," "emaciated" and "fleshy" are subjective terms that can be applied to horses very differently by different individuals.

Early in the 1980s Dr. Don Henneke developed a body condition scoring system during his studies at Texas A&M University.¹ The Henneke Body Condition Scoring System is a scientific, objective, standard scoring method that has since been accepted by the equine industry as the standard system to be used when evaluating the degree of fat cover on a horse.² Body condition score (BCS) is

an effective way to monitor your horse's health and nutritional status. It is not difficult to learn and can be done visually and or by feeling fat cover, or the absence of fat cover, at several specific points on the animal. It is widely accepted and used in the cattle, dairy and sheep industries as a predictor of animal health and fertility.

Henneke Body Condition Scoring System

The Henneke BCS identifies six key anatomical points of a horse to be evaluated when assigning a body condition score. These points are the neck, withers, shoulder, ribs, loin, and tailhead (Figure 1.). Applying this system includes a visual appraisal as well as physically feeling the individual points to assess the amount of fat cover present. This system can be used across all breeds of horses without needing specialized equipment. The Henneke system uses a scale of 1-9 to describe each point. An extremely thin point (no fat cover) is assigned a score of 1, while an extremely fat point (lots of fat cover) is assigned a score of 9. The scores are averaged to systematically assign a horse a Body Condition Score (BCS).

Applying the Henneke system is relatively simple. Here is what you should look for when evaluating the individual points. (Care must be taken when assessing a horse that proper horse handling skills be utilized to ensure evaluator safety.)

Body Condition Score Points

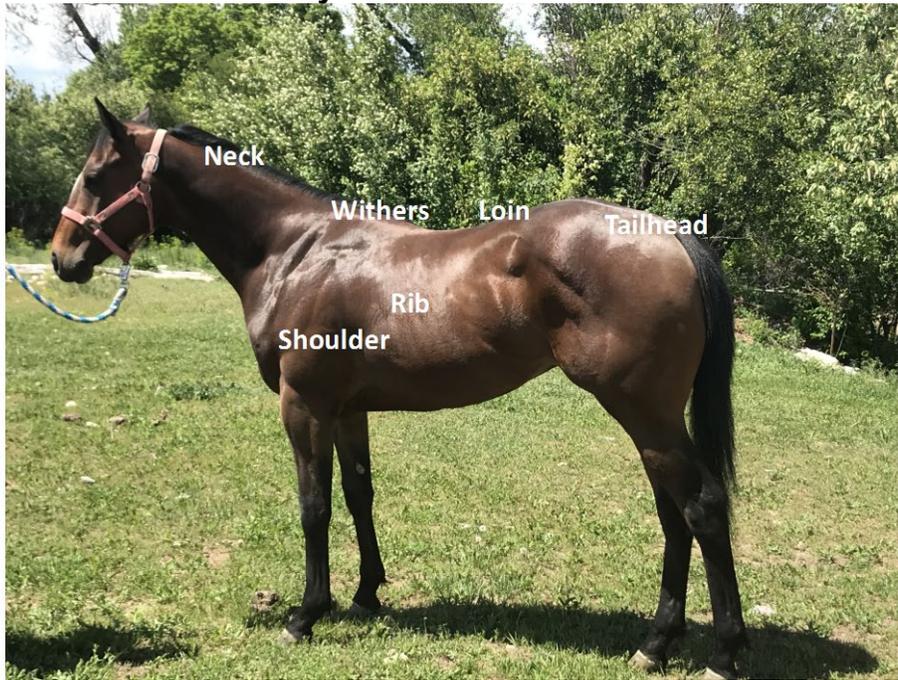


Figure 1. The six areas to be considered when assessing a horse's body condition score.

Henneke Body Condition Scoring System:¹

Condition	Neck	Withers	Loin	Tailhead	Ribs	Shoulder
1 Poor	Bone structure easily noticeable, animal extremely emaciated, no fatty tissue can be felt	Bone structure easily noticeable	Spinous processes project prominently	Tailhead, (pinbone) and hook bones project prominently	No fat cover over ribs.	Bone structure easily noticeable
2 Very Thin	Fairly discernable, animal emaciated	Faintly discernable	Slight fat covering over base of spinous process. Transvers processes of lumbar vertebrae feel rounded. Spinous processes are prominent	Tailhead prominent	Slight fat cover over ribs. Ribs easily discernable.	Shoulder accentuated
3 Thin	Neck accentuated	Wither accentuated	Fat buildup halfway on spinous processes but easily discernable. Transverse processes cannot be felt	Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded but are still easily discernable. Pin bones not distinguishable	Slight fat cover over ribs. Ribs easily discernable.	Shoulder accentuated
4 Moderately Thin	Neck not obviously thin	Withers not obviously thin	Negative crease along back	Prominence depends on conformation; fat can be felt. Hook bones not discernable	Faint outline discernable	Shoulder not obviously thin
5 Moderate	Neck blends smoothly into body	Wither rounded over spinous processes	Back level	Fat around tailhead beginning to feel spongy	Ribs cannot be visually distinguished but can be easily felt	Shoulder blends smoothly into body
6 Moderately Fleishy	Fat beginning to be deposited	Fat beginning to be deposited	May have slight positive crease down back	Fat around tailhead feels soft	Fat over ribs feels spongy	Fat beginning to be deposited
7 Fleishy	Fat deposited along neck	Fat deposited along withers	May have positive crease down back	Fat around tailhead is soft	Individual ribs can be felt, but noticeable filling between ribs with fat	Fat deposited behind shoulder
8 Fat	Noticeable thickening of neck	Area along withers filled with fat	Positive crease down back	Tailhead fat very soft. Fat deposited along inner buttocks	Difficult to feel ribs	Area behind shoulder filled flush with body
9 Extremely Fat	Bulging fat	Bulging Fat	Obvious positive crease down back	Building fat around tailhead. Fat along inner buttocks may rub together. Flank filled in flush	Patchy fat appearing over ribs	Bulging fat

Applying the Body Condition Score

Body condition scores can be used to help determine if a horse's nutritional needs are being met. The BCS gives a measurement of the balance between energy intake and energy demands. Too much energy intake leads to more fat deposits and an increase in the BCS, while too little energy intake leads to loss of fat deposits and a decrease in the BCS.

For most breeds and disciplines, a BCS of "4-5" is considered ideal for a horse.³ Variation within breeds should be taken into consideration. However, some disciplines within the industry desire different scores to improve performance. Many trainers and owners of performance horses want their horses on the leaner side (BCS of 4) to prevent problems that occur with excessive weight. Horses with a BCS of 4 or less are more prone to performance problems stemming from lack of energy reserves.

Broodmares with a BCS of 4-7 will conceive sooner and are less likely to lose their pregnancy when compared to broodmares outside of that range. Due to high energy requirements, care should be taken to closely monitor broodmares BCS in the last 3 months of pregnancy and the first 3 months of lactation.

Horses with a BCS of 7 or greater are more prone to adverse health issues. These problems include Equine Metabolic Syndrome, laminitis, overheating, and joint problems. Horses that are housed outdoors in colder winter months will naturally increase their body fat to help insulate them and conserve body heat.⁵ In areas of cold climates, horses will naturally add a layer of fat in the months prior to winter. Horses in warmer climates will carry less fat allowing horses to not overheat. In addition, horses at different stages of life may require different BCS to meet their energy demands. Older geriatric horses and young growing horses will often require a higher BCS.

Horse Type	Definition	Recommended BCS
Broodmares	Mares used primarily for breeding	4-7
Performance horse	Competitive roping, barrel racing etc.	4-5
Trail horse	Trail riding, kid tending etc.	5
Geriatric	Older age horses	5-7
Juvenile	Young and growing horses	5-7
Cold Climates	Wintertime	6-7

Making Changes

As we evaluate our horses, we may identify opportunities to make changes in the diet to increase their health. Horses will consume 1.5 to 3.0% of their body weight daily (16.5–33 lbs. for an 1100 lbs. horse). To avoid unwanted digestive and health problems, care should be taken to spread out any dietary changes over 14-21 days.⁴ When feeding horses in a group it is beneficial to keep horses with similar energy needs together, this way you can adjust the diet appropriately. Horses are very competitive when eating and those that are less aggressive will often not get enough to eat.

Remember that changes in BCS should take several months to achieve. When looking to change a BCS of a 1,100 lb. horse, it takes approximately 35-45 lbs. of weight gain or weight loss. In order for a horse to gain 2.2 lbs. (1 kg), it takes 20,000 calories above its normal energy demands. For example, an average sized horse (1,100 lbs.) that is a BCS of "3" needs to gain 70-90 lbs. to reach a desirable BCS of "5". This means that the horse will need approximately 640,000 - 820,000 additional calories to reach the desired weight. To achieve this, we want to spread it out over a 120-day period, requiring 5,000-6,800 additional calories per day over maintenance energy needs. The additional calories can be provided with an addition 5.5-8 lbs. of good alfalfa hay per day or an additional 3.5–5 lbs. of oats per day for 120 days. Once the desired weight gain is achieved, the diet should be adjusted back to the normal maintenance energy needs.

For weight loss, decreasing dietary intake and increasing energy expenditure offers the best results. Avoid high energy diets such as alfalfa hay and grains. Decrease the daily feeding amount to 1.5% of their ideal body weight, and if the horse is sound, gradually increase the activity level.

References

¹Henneke, DR; Potter, GD; Kreider, JL; Yeates, BF (October 1983). "Relationship between condition score, physical measurements and body fat percentage in mares." *Equine Veterinary Journal*. **15** (4): 371–2

²American Association of Equine Practitioners: Nutrition: The Key to Unlocking Your Horse's Health. Retrieved from

<https://aaep.org/horsehealth/nutrition-key-unlocking-your-horses-health>

³American Association of Equine Practitioners: Signs of a Healthy Horse. Retrieved from <https://aaep.org/horsehealth/signs-healthy-horse>

⁴Geor, R. (November 2001) The Horse: How Does Your Horse Score? Retrieved from <https://thehorse.com/16479/how-does-your-horse-score/>

⁵Hoopes, Karl, "Caring for Horses in Cold Weather" (2018). *All Current Publications*. Paper 1828. https://digitalcommons.usu.edu/extension_curall/1828

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions.

Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities.

This publication is issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Ken White, Vice President for Extension and Agriculture, Utah State University.