

Body Condition Scoring of Horses

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Introduction

Equine body condition is primarily a function of the balance between a horse's intake and expenditure of energy and is affected by both external and internal factors. Availability and amount of feed and water, reproductive status, changes in weather, parasite load, performance demands, and dental abnormalities are all factors that may influence the body condition of horses. A detailed system of appraisal based on the amount and proportion of fat present on an animal was reported by Henneke and others (1983). In this Body Condition Score (BCS) system a numerical designation of 1 (extremely emaciated) to 9 (extremely fat) is assigned to horses based on visual appraisal (what the horse looks like) and palpable fat cover (what the horse feels like) at six areas of the horse's body (Fig. 1). The technique of evaluating and quantifying a horse's body condition is a tool horsemen can use for nutritional and reproductive management decisions.

Body condition, or change in body condition, may be a more reliable indicator of nutritional status than live weight and assessment of body condition should be used to supplement regular weighing programs. It is important to note that not all horses of the same weight will necessarily have the same BCS. Depending on the animal's muscling and frame size, horses at the same body weight may have large differences in fat deposition. Each animal must be scored according to its individual characteristics.

Evaluating Body Condition

It is not difficult to learn how to evaluate equine body condition. Initially, almost all horsemen will be able to recognize the difference between BCS 2 and BCS 5. Minor differences may be more difficult to detect until scoring has been practiced. Condition scoring requires a modest amount of training and will improve with experience.

Develop a mental picture of a BCS 5 and then use this image as a benchmark for determining other condition scores. A BCS 5 horse will look average - neither fat nor thin (Fig. 2). The ribs cannot be seen, but can be easily palpated. The horse's back will be level and the body will appear smooth. In addition, definition of muscling on the hind legs will be apparent.

Condition scores of 5 or higher generally reflect fat deposition, whereas BCS 4 or lower generally reflect fat mobilization.

When scoring a horse, begin by visually and manually evaluating the amount of fat deposition as it occurs at the following sites:

- behind the shoulder
- ribs at mid-barrel
- crest of neck
- withers
- crease of the back, and
- at the tailhead.

Next, consider external and internal factors. Fill or shrink from digestive contents and/or pregnancy can change the appearance of moderately fleshed horses. Long hair may also make it difficult to visually appraise body condition. When horse are difficult to evaluate visually, the amount of body fat in relation to musculature must be determined by feel.

Finally, compare results of direct observation and manual palpation with the descriptions of body condition scores given in Table 1. (Source: Henneke et.al.,1983).

Table 1. Description of Body Condition Scores

<u>BCS</u>	<u>Description</u>
1	Poor Animal extremely emaciated; spinous processes, ribs, tailhead, tuber coxae (hooks), and ischii (pins) projecting prominently; bone structure of withers, shoulders, and neck easily noticeable; no fatty tissue can be felt.
2	Very Thin Animal emaciated; slight fat covering over base of spinous processes; transverse processes of lumbar vertebrae feel rounded; spinous process, ribs, tailhead, tuber coxae (hooks), and ischii (pins) prominent; withers, shoulders and neck structure faintly discernible.
3	Thin Fat buildup about halfway on spinous processes; transverse processes cannot be felt; slight fat cover over ribs; spinous processes and ribs easily discernible; tailhead prominent, but individual vertebrae cannot be identified visually; tuber coxae (hooks) appear rounded but easily discernible; tuber ischii (pins) not distinguishable; withers, shoulders, and neck accentuated.
4	Moderately Thin Slight ridge along back; faint outline of ribs discernible; tailhead prominence depends on conformation, fat can be felt around it; tuber coxae not discernible; withers, shoulder, and neck not obviously thin.
5	Moderate Back is flat (no crease or ridge); ribs not visually distinguishable but easily felt; fat around tailhead beginning to feel spongy; withers appear rounded over spinous processes; shoulder and neck blend smoothly into body.
6	Moderately Fleshy May have slight crease down back; fat over ribs spongy; fat around tailhead soft; fat beginning to be deposited along the side of withers, behind shoulders and along the side of neck.
7	Fleshy May have crease down back; individual ribs can be felt, but noticeable filling between ribs with fat around tailhead soft; fat deposited along withers, behind shoulders, and along neck.
8	Fat Crease down back; difficult to feel ribs; fat around tailhead very soft; area along withers filled with fat; area behind shoulder filled with fat; noticeable thickening of neck; fat deposited along inner thighs.
9	Extremely fat Obvious crease down back; patchy fat appearing over ribs; bulging fat around tailhead, along withers, behind shoulders, and along neck; fat along inner thighs may rub together; flank filled with fat.

Recommendations

Adjust feeding program to ensure adequate energy intake from a forage-based diet.
For horses below BCS 5, provide higher quality forages and/or higher levels of energy supplements balanced with protein to reduce weight loss or improve condition score.
Provide free-choice mineral year-round.
Control disease and parasites by developing an appropriate herd health program. (Consult your veterinarian.)

Summary

When performed on a regular basis, condition score may be used to provide an overall view of the nutritional status of the herd as well as individual horses in the herd. Condition score is a helpful tool in determining the amount and type of forage, concentrate, and supplement needed.

Adjustments of condition score should be made prior to the foaling and breeding season. Research has shown earlier estrus, and higher conception rates with fewer services for mares that enter the breeding season with a BCS 5 or greater (Henneke, et al., 1984). Even though excess body fat was not shown to adversely affect conception rates, obese mares may experience difficulty foaling, produce less milk, and be more prone to laminitis problems.

References

Henneke, D. R., Potter G. D., & Kreider, J. L. (1984). Body condition during pregnancy and lactation and reproductivity efficiency of mares. Theriogenology, 21(6), 897-909.

Henneke, D. R., Potter G. D., Kreider, J. L., & Yeates, B. F. (1983). Relationship between condition score, physical measurements and body fat percentage in mares. Equine Veterinary Journal, 15(4), 371-372.