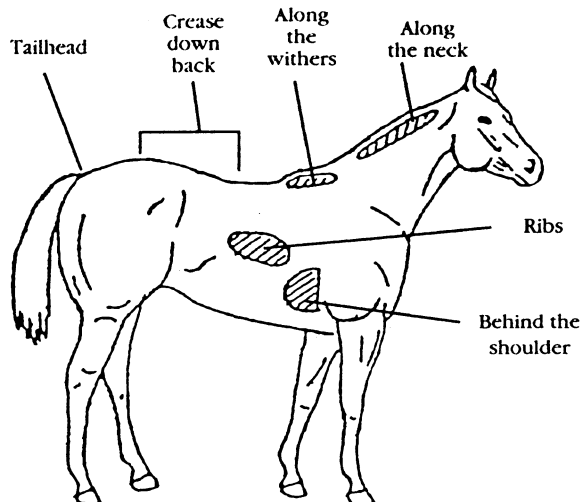




## BODY CONDITION SCORING OF HORSES

B. Wright, G. Rietveld, and P. Lawlis

Body Condition Scoring (BCS) is an objective system of evaluating a horse's level of body condition (amount of stored fat) and assessing a numeric score to facilitate comparisons between horses. Many owners fail to recognize significant variations in the weight of horses or variations due to age and breed types. This often results in overfeeding or underfeeding.



**FIGURE 1. Diagram of Areas Emphasized in Condition Score** (Adapted from Henneke et.al. 1981, Texas A&M)

Body condition scoring involves the palpation and visual assessment of the degrees of fatness of various areas of the horse, such as: over the ribs, tailhead area, neck and withers, and behind the shoulders. (See *Figure 1.*) Fat reserves in these areas depend on the balance between energy intake and energy loss, for various activities.

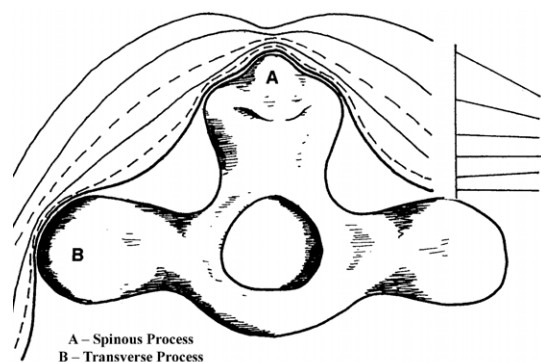
If there is a negative energy balance (energy loss greater than energy intake), then weight, and subsequent body condition, will be lost. This energy balance depends on such factors as: availability of food and water, weather (e.g., ambient temperature and wind chill), reproductive activity (e.g., pregnancy, lactation) and physical activity demands for growth and health status. A positive energy balance (energy expenditure less than energy intake) will result in a horse adding fat and muscle and improving body condition.

### BODY CONDITION SCORING

The body condition score system described here is mainly based on the system described by Carroll and Huntington (1988).<sup>1</sup> Palpation and visual inspection of the ribs, tailhead area, neck and withers, and behind the shoulders, facilitates the comparison of horses with differing amounts of stored body fat, independent of body size or breed of horse.

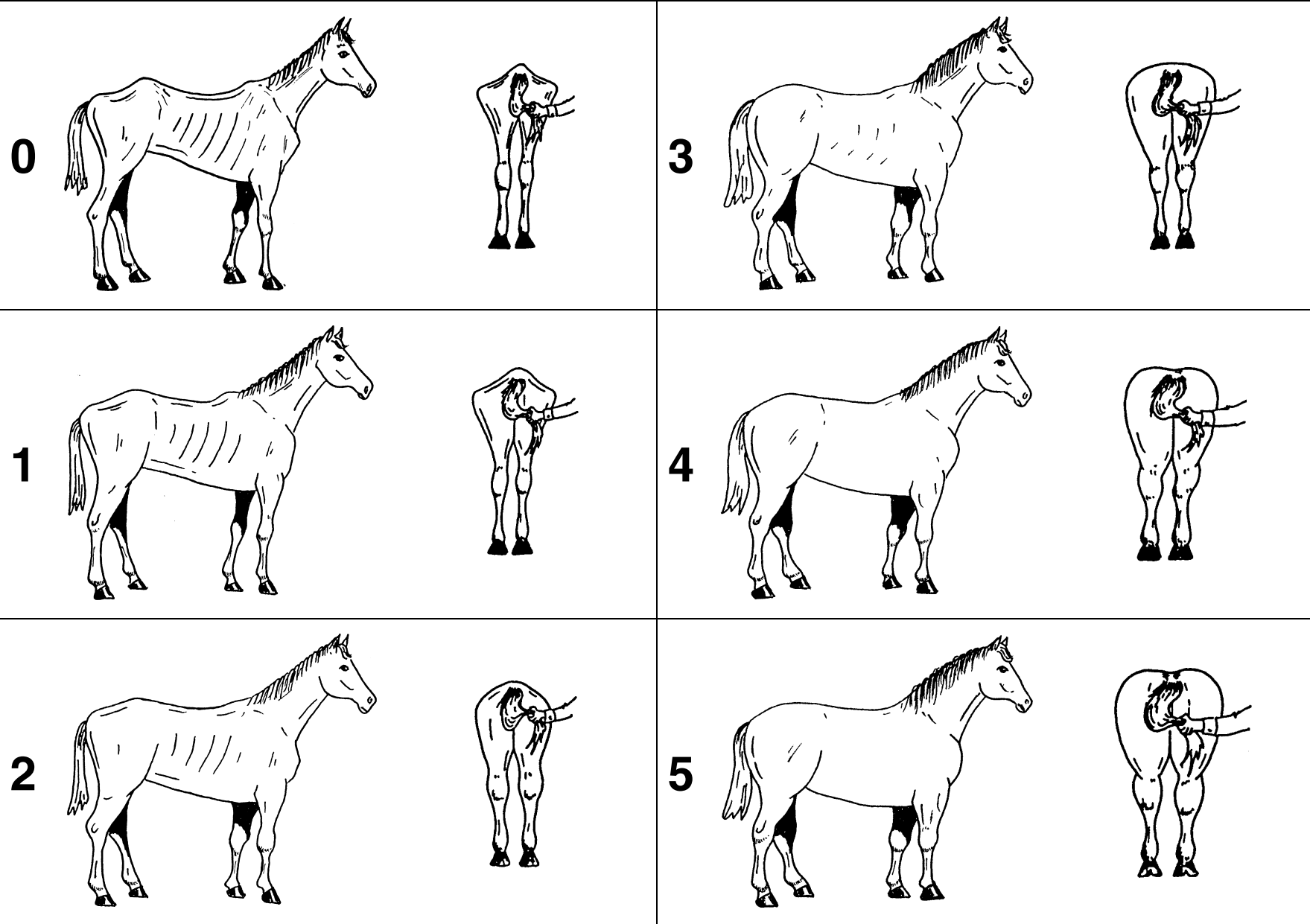
*Figure 2* shows the profile lines for the various body condition scores. The profile of BCS 0 and 1 follow the anatomical skeleton and describe stages of emaciation and extremely thin respectively. A score of 3 has a smooth appearance to the skeletal structure and represents a horse in optimum body condition for maintenance and is neither gaining nor losing weight. Horses scoring 3+ to 4 have a rounded appearance to their skeletal structure. They are in above average flesh but this should not impair their reproductive ability, especially if they are being maintained in outdoor housing during the winter.

A long hair coat can be misleading. Some conformational differences make it difficult to apply certain criteria to a specific animal. For example, animals with prominent withers, or flat across the back and mares heavy in foal (weight of the foal pulls skin taut over the ribs) may cause body condition scores to be lower than they actually are. However, when properly applied, the scoring system is independent of size or conformation of the horse.



**FIGURE 2. Lumbar Vertebra-Anterior View Indicating Profile Lines for Each Body Condition Score**

**FIGURE 3. Body Condition Scoring** (adapted from Carroll C. L. and Huntington P.J., *Body Condition Scoring and Weight Estimation of Horses*)



When evaluating animals, there will be an animal-to-animal variation; thus the use of the terms “easy-keeper” and “hard-keeper”. Easy-keepers include any of the individuals of the draft breeds, ponies and quarter horses. They also include the dominant animals in a herd situation. Hard-keepers include many of the individuals of the

following breeds: Arabian, thoroughbred and gaited horses. Hard-keepers will also include the shy individuals who are lower on the pecking order in a herd situation. *Table 1* summarizes the various body condition scores, while *Figure 3* depicts the changes in body appearance.

**TABLE 1. Descriptions of Anatomical Differences Between Body Condition Scores**

Condition	Neck	Withers	Back & Loin	Ribs	Hind Quarters
<b>0 Very thin</b>	bone structure easily felt — no muscle shelf where neck meets shoulder	bone structure easily felt	3 points of vertebrae easily felt (see <i>Figure 2</i> )	each rib can be easily felt	tailhead and hip bones projecting
<b>1 Thin</b>	can feel bone structure — slight shelf where neck meets shoulder	can feel bone structure	spinous process can be easily felt — transverse processes have slight fat covering	slight fat covering, but can still be felt	can feel hip bones
<b>2 Fair</b>	fat covering over bone structure	fat deposits over withers — dependent on conformation	fat over spinous processes	can't see ribs, but ribs can still be felt	hip bones covered with fat
<b>3 Good</b>	neck flows smoothly into shoulder	neck rounds out withers	back is level	layer of fat over ribs	can't feel hip bones
<b>4 Fat</b>	fat deposited along neck	fat padded around withers	positive crease along back	fat spongy over and between ribs	can't feel hip bones
<b>5 Very fat</b>	bulging fat	bulging fat	deep positive crease	pockets of fat	pockets of fat

As a guide to learning the scoring system and interpreting the results, examples of "typical" condition scores are listed below. There will be a range of condition within each score so it is sometimes convenient to assign +'s and -'s or half point scores as in 2.5 or 3.5.

<b>Score 0</b>	<b>Emaciated</b>	– with sunken rump and deep cavity under tail, skin tight over ribs; e.g., severely debilitated older horses with abnormal teeth occlusion, starvation.
<b>Score 1.0</b>	<b>Poor</b>	– very thin with prominent pelvis and croup, ribs visible.
<b>Score 2.0</b>	<b>Moderate</b>	– thin with flat rump, croup well defined, some fat; e.g., mare that has been severely dragged down by milking while on poor pasture.
<b>Score 2.5</b>		– e.g., racing condition or endurance horse.
<b>Score 3.0</b>	<b>Good</b>	– ribs and pelvis covered with fat and rounded; e.g., a halter horse in prime show condition.
<b>Score 3.5</b>		– e.g., mature mare in mid-gestation.
<b>Score 4.0</b>	<b>Fat</b>	– fat covering ribs and pelvis requiring firm pressure to feel; e.g., an easy-keeping, mature horse on pasture with little or no work.
<b>Score 5.0</b>	<b>Very Fat</b>	– severe over condition with ribs and pelvis that cannot be felt, deep gutter in back; e.g., a fat pony prone to founder (laminitis).

### HERD EVALUATION WITH BODY CONDITION SCORING

The BCS system is often used when evaluating individual animals. However, when dealing with a group of horses, changes in the body condition from month to month as a result of changes in total feed being fed, or feed quality and utilization, can be evaluated. Follow the instructions and evaluate a group or herd of horses throughout a winter feeding period or throughout the year.

1. Body condition score each horse in the herd. (The example uses a herd of 22 horses.) Record the results in a table like *Table 2*.
2. Create a blank chart similar to *Figure 4*, where Number of Horses is on the vertical-axis and BCS is recorded on the horizontal-axis. Place an “X” on the graph at the intersection of the number of horses in each group and the BCS.
3. Join the markings, creating a line graph. Use a different colour for each month.

4. Do this consecutively on a monthly basis. Observe any changes to the shape of the graph or movement of the curve either left or right

**TABLE 2. Evaluation of Herd**

Body Condition Score	Number of Horses in Each Score		
	Sept.	Dec.	Mar.
0	2	0	0
1	3	0	0
2, 2 ½	10	8	2
3, 3 ½	5	12	13
4	2	2	5
5	0	0	2

Figure 4 shows the change in body condition for the herd of horses. Movement of the curve to the right shows that the herd is in a positive energy balance while movement to the left shows a negative energy balance.

The individuals who need extra care and energy are those whose body condition scores are 2 or less. These individuals usually include: older horses with poor teeth; young and shy horses that are competing for food; aged mares in foal; or mares that have been dragged down by lactation. Horses with a body condition score of 3.5 and above are usually the “easy-keepers”, the dominant individuals, and ponies.

Nutrition was improved for the herd, especially those with body scores of less than 2. By the end of December, their body scores had improved and, by March, they were all greatly improved.

**SUMMARY**

A consistent method of body condition scoring is a useful management tool. It will improve communication between stable employees, owners and veterinarians by providing a descriptive method, which is affected by changes in nutrition, physiological level of activity, or environmental conditions. It promotes a better awareness of feed utilization and allows for changes to feeding regimes based on individual and/or herd responses.

**REFERENCES**

1. Carroll C.L., and Huntington P. J., *Body Condition Scoring and Weight Estimation of Horses*, Equine Veterinary Journal (1988) 20 (1), 41 – 45.
2. Henneke D. R., Potter G.D., Kreider J. L. and Yeates B. F., *Relationship Between Condition Score, Physical Measurements and Body Fat Percentage in Mares*, Equine Veterinary Journal (1983) 15 (4), 371 – 372.

**Dr. Bob Wright** is Veterinary Scientist, Equine and Alternative Livestock, Agriculture and Rural Division, OMAFRA, Fergus. **Gerrit Rietveld** and **Penny Lawlis** are Animal Care Inspectors, Agriculture and Rural Division, OMAFRA, Fergus and London respectively.

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**FIGURE 4. Change in Body Condition for the Herd of Horses**

