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Evaluating Nutritional Status through Body Condition Score

Body condition scoring (BCS) is a method of estimating the amount of fat on a horse's body on a scale of 1 (extremely thin) to 9 (extremely fat) (Henneke et al., 1984). Assessing BCS is a helpful tool to evaluate a horse's nutritional status throughout the year to make sure they are maintaining appropriate weight. This method is based on palpation (feeling or examining with hands) and visual assessments of fat deposits on several areas of the body (Figure 1). The ideal BCS for a given horse will depend on the stage of production, but should range between 4 and 7. A horse is too thin and in need of weight gain if its BCS is a 3 or below. A horse is considered to be too fat and needs to lose weights if its BCS is 8 or 9. A BCS of 4 is expected for horses in heavy race training. A BCS of 5 or 6 is recommended for growing and riding horses. A BCS of 6 is ideal for mares going into the breeding season, and prior to foaling, mares should have ample body fat reserves with a BCS of 7.

Figure 1: Evaluation areas for body condition scoring

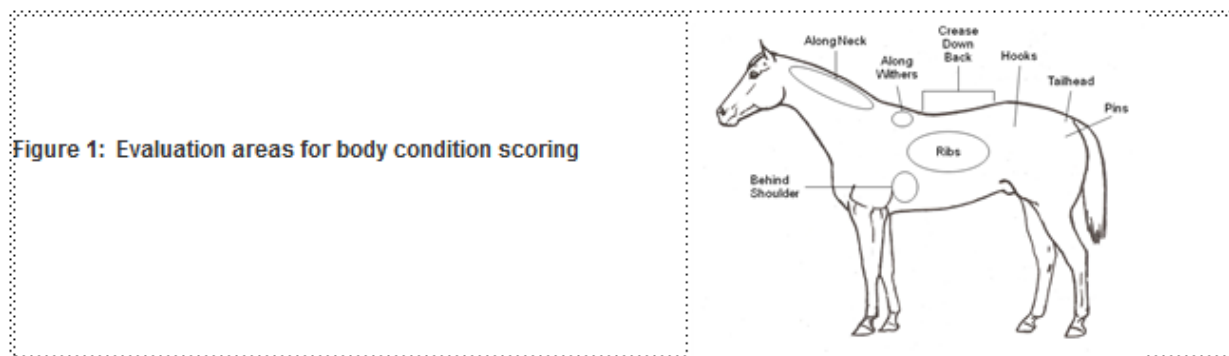


Figure 1: Evaluation areas for body condition scoring

When evaluating body condition, keep the following in mind:

1. Horses that are fed free-choice hay will often develop a "hay belly". When foals are weaned they will also develop a prominent belly. This is from gut distention and should not be confused with fat.
2. Not all horses are proportioned equally. Horses that are tall and long will look leaner than horses that are short and compact.
3. Horses will grow longer hair in the winter and often times appear fatter than they truly are.

An understanding of the equine digestive system is necessary when making management decisions to change the body condition score. Changes made to feeding should be implemented gradually. The digestive system of the horse is sensitive to changes in the diet and disorders such as colic, laminitis or refeeding syndrome may result if changes are made too abruptly. Weight gain or loss should be controlled by gradual increases or decreases in feed consumption.

It should take at least six weeks to safely increase BCS in a horse by one level for the mature average size horse. The difference in body weight to change from one BCS to another is 100 to 165 pounds. When increasing body condition in horses, select high quality forage and feeds that are high in fat, or a fat supplement (vegetable oil, rice bran, etc.) By increasing fat in the diet, more energy (or calories) can be provided without increasing the quantity of feed that can lead to digestive disorders. When decreasing body condition, the horse should be fed a diet that has a lower energy density, such as a first cutting grass hay and ration balancer supplement to provide vitamins and minerals that may be lacking in a lower quality hay. Feeding concentrates that are formulated specifically for horses will ensure that the nutrients are balanced to meet the needs of the horse. Feeding whole grains alone (oats and corn) can lead to mineral imbalances and should be avoided, especially for young growing horses.

Body Condition Score Descriptions

1. Poor: Extremely emaciated; no fatty tissue can be felt. Ribs, spine, withers, hooks and pins projecting prominently. Bony structure of withers, shoulders and neck are easily seen.
2. Very Thin: Emaciated. Slight amount of fat covering the base of the spine. Transverse process of lumbar vertebrae feels round. Tailhead, hooks, pins, spine and ribs are prominent. Neck, withers and shoulders are faintly discernible.
3. Thin: Tailhead is prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded, but are visible. Pin bones are not distinguishable. Slight fat cover over ribs, but easily discernible.
4. Moderately Thin: Negative crease along back. Hook bones are not discernible. Faint outline of ribs is evident. Withers, shoulders and neck are not obviously thin.
5. Moderate: Fat around tailhead feels spongy. Ribs are not visually distinguishable, but can be felt. Withers appear rounded. Neck and shoulders blend smoothly into body
6. Moderately fleshy: Fat around tailhead feels soft. Fat over ribs feels spongy. Fat beginning to be deposited behind the shoulders, on the sides of neck and withers.
7. Fleshy: Individual ribs can be felt, but noticeable filling of fat between ribs. Fat around the tailhead is soft. Fat is deposited along neck, withers and behind shoulder.
8. Fat: Tailhead fat is very soft. A positive crease is formed down the back. Difficult to feel ribs. Area behind shoulder is filled in flush with body. Noticeable thickening of the neck. Fat deposited along inner buttocks.
9. Extremely Fat: Bulging fat around tailhead. Patchy fat appears over ribs. Bulging fat on neck, withers and shoulder. Obvious positive crease down back. Fat along inner buttock may rub together. The flank is filled in flush with body.