

The cecum and large intestine contain an active population of microbes (bacteria and protozoa), which break fibrous feedstuffs into short-chained volatile fatty acids. **Volatile fatty acids** are an energy source for the horse, and the amount and proportion produced can be altered by composition of the diet. Starch that reaches the hindgut is fermented to the volatile fatty acids plus **lactic acid**. Therefore, maximizing starch digestion in the foregut is of the utmost importance to horsemen to avoid digestive disorders such as colic or laminitis due to excess lactic acid.

Microbes in the large intestine are also responsible for synthesis of **B-vitamins** and **vitamin K**. The primary function of the small colon is **water absorption**. Accessory organs that aid in digestion are the **teeth, salivary glands, liver and pancreas**.

Body Weight Estimation

Probably the most commonly used technique for estimating body weight is a heart girth tape. Heart girth tapes are available from feed dealers, veterinarians and livestock supply companies. When used according to instructions, these tapes are reasonably accurate. Another method for estimating a horse's body weight is use of a body weight equation.

$$\frac{W = HG^2 \times BL}{330}$$

W = weight in pounds, HG = heart girth in inches, and BL = body length in inches.

Body Condition Score

Condition scoring is a procedure where you visually observe and/or feel the fat cover at six body sites (**back, ribs at mid-barrel, neck, behind the shoulders at the fore-rib, withers and tail-head**). These estimates of fat are then compared to the descriptions for a body condition score system, and a body condition score (BCS) is determined for the horse.

Feeding Management Guidelines

Specific nutrient requirements for horses are determined based on their body weight and physiological status. In general, forage based diets and small frequent meals should be the foundation of all feeding programs to ensure digestive and overall health. Forage (pasture and/or hay) should account for a minimum of 1% of their body weight per day. For example, a 1,000 pound horse would require at least 10 pounds of forage per day.

The following leader guide includes answers and, if applicable, any preparation or considerations that are specific to each activity. Refer to the youth activity handouts for additional details.

Leader Guide to Youth Activities

Activity Level: Beginner

Expected Time Needed to Complete This Activity: 2 hours