Feeding your horse in winter

Marsha Hathaway, PhD, University of Minnesota

A horse's nutritional requirements change when the temperature dips low during the winter. The ideal situation is to have a horse entering the winter acclimated to the cold with a thick hair coat and fat cover. It has been estimated that a horse with a healthy winter coat and can keep dry, will be comfortable at temperatures down to 18° F; but if the horse has access to a shelter it can tolerate temperatures as low as -40° F.

As the temperature decreases with the onset of winter, the horse requires additional dietary energy in order to maintain its body temperature and condition. For every degree below 18°F the horse requires an additional 1% energy in their diet. The question then becomes, what is the best source of additional dietary energy during the cold winter months? A horse manages to utilize the dietary energy in the winter to keep warm in a couple of different ways. First, there is the heat given off as a by-product of normal metabolic processes. Secondly, there is the heat generated from microbial fermentation of forages that occurs in the hindgut during digestion.

Many people believe that feeding more concentrates (because they are energy dense), will help keep the horse warmer. However, there isn't as much heat produced as a byproduct of digestion, absorption and utilization of grains as there is from the microbial fermentation of forages. Consequently increasing the amount of forage in the diet will help meet the increasing energy needs and will result in an increase in microbial fermentation which will help keep the horse warm. For example, if a 1000 lb horse needed 16 lbs of good-quality hay each day when the temperature was 18° F, its requirement could be expected to increase by approximately 2 - 2.5 lbs to 18 -18.5 lbs if the temperature dropped to 0° F. The increased dietary energy requirement would be even greater if the horse didn't have access to shelter.

An additional very important point to consider is the need to provide access to clean, "warm" (45° - 64° F) water. A horse will require a lot more water when eating dried feedstuffs like hay, compared to horses grazing on lush pasture. If the water is ice cold, the horse will not drink as much. The goal should always be to maximize water consumption to help prevent the possibility of dehydration and colic.