Winter Energy Needs in Horses

Feeding horses during the winter season is a task with two goals: to maintain the animal's body condition and to keep the horse warm.

In the winter, just as in any season of the year, the horse needs a combination of nutrients such as carbohydrates, fat, protein, vitamins, minerals, and water to remain healthy.

During cold weather, energy derived from feeds and the resulting body heat generated are very important for the horse's health and survival.

Horses use energy produced from nutrients in their rations. Each cell in the horse's body needs a certain amount of energy on a daily basis in order to live and function.

The most common nutrient used for energy is carbohydrates, followed by fat, then protein. Protein is not ideal as an energy source. It will be used as an energy source in two situations, one where excessive protein is fed, and another where a horse is not consuming enough energy through carbohydrates and fats.

A 1,000-pound, idle, adult horse will need approximately 20 to 25 pounds of total feed per day during the winter. Eighty to 90 percent of the total nutrients needed will contribute to body energy demands.

Horses will naturally grow a longer coat for insulation in response to cold temperatures, but they still need to be in good body condition with a small layer of fat under the skin and be able to generate adequate body heat in order to tolerate cold temperatures.

When horses have a long hair coat, it is difficult to determine their body condition just by observation. Weekly, horse owners should check their horses' body condition by palpating (touching) the rib and back areas.

A horse's body condition score (BCS) is judged on a 1-9 scale, with 1 equaling emaciated, and 9 equaling very obese.

Pleasure horse owners should try to maintain their horses between 5.5 and 6.5 BCS. This is a healthy BCS for the horse. At this body score, the ribs are nicely covered with a layer of fat but are easily felt.

A slight or no fat cover indicates that the horse's BCS is between 2 and 4, and that the horse is too thin.

Horse owners that suspect their horse's BCS is less than 4 should contact their veterinarian for help in determining whether this is a dietary or medical problem, or both.

Owners that are uncertain about their horse's BCS should contact a veterinarian to do a physical examination.

The secondary goal during the winter is to provide adequate nutrition to allow the horse to generate enough body heat to remain comfortable.

In the spring, horse owners are often surprised when their horses shed their winter coat to reveal that they are much thinner than expected. The long hair coat was masking the fact that the horse did not receive adequate nutrition during the cold months and therefore lost weight.

Feeds vary in their caloric content, and just as importantly they vary in the amount of heat the horse can generate from them during the winter.

It is not predictable exactly how much body heat each horse can generate from a feed or combination of feeds because of the individual variations in metabolism. Also, it depends on the composition of the feed.

Research has shown that even though roughage (hay) is lower in digestible energy than grains, it allows the horse to generate more body heat due to the fermentation process in the large intestinal tract.

A higher percentage of energy is given off as heat from good-quality hay compared to grain because of the way roughages are processed by the intestinal system. Roughages are digested by microbial fermentation in the large intestine of the horse, and this process generates greater amounts of heat.

Good-quality roughages should be the foundation of any equine ration, regardless of the season. Along with trace mineralized salt and water, good-quality roughages--such as a first cutting alfalfa and grass mix--can make up most or all of the ration for an idle adult horse during the winter.

Feeding concentrates is necessary only when the horse cannot maintain body condition on a roughage diet or roughages are unavailable due to lack of supply or cost.

Contrary to some myths, corn is not a "heating feed." It provides less body heat than oats--even though corn has more digestible energy. This is because corn has a much lower fiber content than oats.

If the horse does not maintain or improve its BCS when hay quality and/or quantity is increased, then grain should be added. Start the horse out slowly on grain and allow it to adjust over a two-week period. Horses should not require more than five to six pounds of grain per day.

A 1,000-pound horse should receive no more than four pounds of grain at one feeding. Feeding this amount of grain decreases the risk of colic by reducing fermentation changes in the large intestinal tract.

Another alternative that allows feeding a higher proportion of roughage and a smaller amount of concentrate is to feed a commercial grain mixture with additional fat added. Fat is much more energy-dense than grain. This type of concentrate would have higher digestible energy with less volume. Total added fat should not exceed 10 percent of the total ration. Many concentrates are now available with additional fat supplementation.

Several factors should be taken into consideration if the horse cannot maintain proper body condition.

Is the horse drinking adequate amounts of good quality water? A 1,000-pound idle adult horse should be consuming at least 10 to 12 gallons per day. If it is not consuming adequate water, it will decrease total feed eaten.

Good dental care is necessary for a horse to chew properly and use feed efficiently. Teeth should be examined by a veterinary dentist at least yearly. If the horse's teeth are no longer able to provide the processing of roughage needed, a complete or senior feed may be required as the horse's sole source of nutrition. A 1,000 pound horse should receive 15 to 20 pounds of senior feed daily to meet its nutritional needs.

Internal parasite control is necessary for any horse. A fecal exam should be performed at least yearly prior to and seven- to ten-days after deworming to monitor the horse's parasite load. Horse owners should review their parasite control program with their veterinarian to determine if changes are required.

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