



# EquiPage



***NUTRITION AND OTHER TOPICS OF INTEREST TO THE HORSE INDUSTRY.***

**Volume II Issue 3**

## **Protein Nutrition Of The Horse: Myth and Reality**

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Myths about horse nutrition have persisted for many years. In general, myths may persist because they are more interesting than the truth. People may prefer to believe the myth for a variety of reasons or the myths have not been questioned.

The following is a discussion of four myths related to protein nutrition:

*Myth 1. Too much protein causes a horse to become overly spirited.* Although there is some evidence that high intake of soluble carbohydrate can make a horse become more easily agitated (Pagan et al., 1987; McKenzie et al., 2003), there is no evidence that excess proteins will have an adverse effect. Of course if the horse is fed a protein deficient diet, feed intake may decrease and the horse will become subdued. Feeding protein above the requirement, however, is not likely to cause behavioral problems. For example, young horses fed a diet containing a low 9% protein for 140 days consumed only 2.7 kg of feed daily and gained only 0.06 kg per day. They were subdued compared to horses fed 14% or 20% protein that consumed 4.4 and 4.7 kg of feed and gained 0.63 and 0.69 kg daily, respectively. But no obvious behavioral differences were noted between the two groups fed 14% or 20% protein (Schryver et al., 1987).

*Myth 2. A high protein diet increases the incidence of skeletal problems such as osteochondrosis in young horses.* Excess protein per se does not increase skeletal problems. Skeletal problems, however, may be correlated with excessive growth rate. If the horses are fed a protein deficient diet, growth rate will decrease and the incidence of some skeletal problems might be decreased. Feeding a protein deficient diet to reduce growth rate and therefore skeletal problems, is not recommended because it could result in deficiencies of other nutrients and thus other developmental problems. Increasing the protein content above the requirement, however, is not likely to increase the rate of gain (NRC, 1989).

*Myth 3. A performance horse needs a high protein diet.* It is true that work can increase the protein needs because of muscle hypertrophy and the loss of nitrogen in sweat.

The additional protein needs can easily be met if the protein to caloric ratio fed at maintenance is provided in the diets of performance horses because of the increased intake required for work (NRC, 1989).

Wickens et al. (2003) suggested that the protein requirement recommended by NRC should be increased by 12.5% for moderate exercise because they found increased nitrogen retention by working horses fed the higher protein concentration in a short term balance study, but performance was not measured. Graham-Thiers et al. (1999) reported that diets providing protein at a rate two-thirds of NRC levels were adequate for working horses in long term studies if the diet provided adequate amounts of lysine and threonine. They reported that high protein diets could be thermogenic, ureogenic and acidogenic.

*Myth 4. Alfalfa hay causes kidney disease because of the high protein content.* It is true that horses fed alfalfa hay will produce significantly more urine than horses fed grass because of the excess nitrogen and minerals in alfalfa hay but there is no evidence that the kidney is damaged. There will, of course, be more ammonia in the environment.

McC Campbell (1912) stated that "excess nitrogen [in horses fed alfalfa] is excreted thru the kidneys, overworking them, leading to a chronic inflammatory condition." He did not provide any evidence to support the claim. He recommended that horses not be fed more than 1.2 lb of alfalfa per 100 lb of horse. He also stated that "if properly fed, alfalfa is the most valuable horse feed available for the average horse owner."

McC Campbell recommended a ration of 1.7 lb of oats, 6.8 lb of corn and 8.5 lb of alfalfa hay per 1000 lb of body weight.

Merrill (1902) of the Utah State Agricultural College wrote that he "fed alfalfa as the only hay source for all work and driving horses for 12 years with no loss of horses." Merrill may have contributed to the persistence of a corollary of Myth 4 that "alfalfa washes out the kidneys" when he reported that horses fed alfalfa produced 27 lb of urine per day whereas horses fed timothy hay produced only 16 lb of urine daily.

Alfalfa and horses have a long history. Russelle (2001) wrote that the name alfalfa "may have arisen from modifications of the Persian aspo-asti (horse fodder), the Arabic al-fasfasa or the Kashmiri ashwa-bal (both meaning horse power)."

Some of Alexander The Great's success in conquering the world has been attributed to the alfalfa he fed his horses.

The major introduction of alfalfa to America can be traced to the connection between alfalfa and horses. Putnam (1996) wrote that alfalfa had been introduced to Spain by the Moors of the Eighth Century, who used alfalfa to feed their horses. The Spanish explorers then introduced alfalfa to South America and Mexico as a horse feed. Early attempts to introduce alfalfa to the eastern United States failed. The first important introduction of alfalfa into the United States was to California from South America during the Gold Rush in 1849 (Putnam, 1996). Putnam (1996) pointed out that contrary to the pathway of many crops which were important in the East and moved West, alfalfa moved West to East.

*Dr Harold Hintz has just retired from a distinguished career in equine nutrition. At the time of his retirement, Dr Hintz was the director for the Department of Animal Science in Cornell University. A dedicated researcher and author of numerous articles in both scientific and popular journals and books, he has contributed a wealth of knowledge in equine nutrition. He has served on The National Research Council Committee on Animal Nutrition and the Subcommittee on Horse Nutrition, which was responsible for the 1989 edition of Nutrient Requirements of Horses.*

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# A Soul Healing Journey From The Saddle

Submitted by Linda Veblin



Linda Losey, the first lone woman to attempt 4,600 miles of the coast-to-coast American Discovery Trail (ADT) on horseback, left San Diego, CA in April on a nine month journey across America. Linda will ride through cities, small towns, national parks, deserts, and wilderness to complete the journey in her hometown of Baltimore, ending at the Chesapeake Bay, sometime before Christmas.

Accompanied by her companions Val, an abused horse that Linda rehabilitated, and Rocky, a Tennessee Walking Horse, the team has and will continue to face many challenges as they connect a southwestern trail system to the centrally located ADT, joining the trail in Colorado. The entire journey will take the 42 year-old mother, artist, and writer more than 4600 miles across America. The ride is to raise funds and awareness for horse rescues. It is also a memorial ride for Linda's 10 year-old son, Sam, who died in a tragic family accident in June, 2004. It is in Sam's memory that Linda set out on the trail to find healing along the way.

McCaughey Brothers is a major sponsor of this journey and has been providing Linda's horses with feed along the route. Val, a 6 year-old Quarter Horse mare was recently diagnosed with EPSM, and has been symptom-free since switching to McCaughey's Alam. Rocky, a 5 year-old Tennessee Walker, is on Original 14. Both horses are thriving despite traveling 20 miles per day, six days per week!

Linda is now in La Junta, CO, and has joined with the ADT. She has traveled 1210 miles from San Diego and has been hosted by many truly wonderful people along the way, including those from horse rescues, Back Country Horsemen of America, numerous Mounted Search and Rescue teams, The Navajo Nation, and veterinarians. Linda is continually amazed by the generous spirit of the American people. So far it has been an amazing journey!

Details of the ride are posted on Linda's website, [www.americandiscoveryride.com](http://www.americandiscoveryride.com). For more details about the ADT and to view Linda's route, visit [www.discoverytrail.org](http://www.discoverytrail.org).

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*“This is a product I will definitely take with us whenever we go on the road – whether it’s 30 miles or 300 miles. It made a big difference!”*  
~ Lori Bohland, Hemmersbach Percherons

Lori Bohland and the Hemmersbach family of Cashton, Wisconsin have been using Hydrolyte® Equine Electrolytes with their horses and have been very pleased.

At one specific show, the Hemmersbach’s arrived at their destination at about 9 am and finally showed at 4 pm. In addition to waiting most the day, the water was very bad and had an odor of sulfur, like artesian water, which the horses never like to drink, so in each pail they mixed a packet of Hydrolyte®, and after a little bit of tasting, all the horses drank it! So needless to say, Lori and her family were sold on Hydrolyte® and will always take it with them – whether it’s 30 miles or 300 miles.

At that particular show, the Hemmersbach Percherons won every class they were in except for one, and all the horses looked great and really showed their best.

***Lori states, “If anyone ever has any questions about if they should use this product or not, they should! It is a great product, that at its price, they can’t afford not to use”, she continues, “We’ve had great success with this product!”***

Lori and her family and their Percherons also traveled to Canada for the World Show and had the horses on the road 20 hours. She reported that everyone drank the Hydrolyte® mix and no one went off water! Show days usually involve 8-12 classes, so lots of endurance needed by the horses. Water intake is vital to making the showing experience a good one.



Photo taken by Robert Mischka

Britt Draft Horse Invitational in Britt, Iowa  
Drivers: Wally and Lynn Hemmersbach  
Lead Right – Doc, Lead Left – Joker  
Wheel Right – Dan 2, Wheel Left – Dan

Submitted by Amy Brown, Ridley Feeds.



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