

I am a natural hoof care practitioner and up until last year had a practice trimming close to 110 horses a month, which I have been doing for 5 years. So, I guess I know feet!

The reduction of soluble carbohydrates (sugars and starches) and elimination of alfalfa from the diet does not really affect the actual hardness of the hoof, but it does affect the laminae and white line connection. Those are the structures that hold the hoof together. Healthy laminae and a tight white line are crucial for a successful barefoot horse. I have seen countless incidences where diet played a pivotal role in restoring a hoof to health or was directly responsible for it's failure.

Sources of soluble carbohydrates in equine diets typically come in the form of green pasture, grains, molasses, and hay. Even carrots can contain as much as 30% sugar. In California orchard grass hay, bermuda, and teff hay, tend to run lower in sugar than other types of hay, but I always buy tested hay that is below 10% sugar and advise all of my hoof care clients to do the same, even for the performance horses. I have been testing hay for the last 6 years and have seen test results come back as high as 27% sugar. Feeding 20 lbs. of that hay would have been the equivalent of feeding a 5 lb. bag of sugar and I have several horses in my care that would founder on that hay. It is impossible to tell the sugar content of hay simply by looking at it.

Alfalfa generally does not test high in sugar, but I have seen more feet fall apart on alfalfa based diets than I can count. Some horses can tolerate small amounts of alfalfa in the diet, but whenever I have a problem with poor hoof horn quality and wall connection I recommend elimination of alfalfa from the diet.

A barefoot horse needs thick walls, a healthy sole with reasonable thickness and as much concavity as possible. When horses are on high soluble carbohydrate diets the laminar connection weakens, causing the coffin bone to drop (distal descent) and the sole to lose concavity. These horses cannot grow a decent sole and become "ouchy", especially on gravel. The frogs are usually unhealthy. These are often the horses that the owners say "can't go barefoot", when in reality it is the horse's diet and lifestyle that is affecting the feet.

The secret to growing healthy feet is a balanced diet. West coast hay is deficient in copper and marginal in zinc, which are important minerals for building healthy connective tissue and hoof horn. In addition to the low copper and zinc levels, the majority of hay is high in iron and typically provides 2-3 times as much iron as a horse needs. High iron competes with other minerals for absorption in the digestive system, so providing additional copper and zinc to help balance the iron makes a big difference in hoof quality.

I have made it a point to send samples of various commercial grain mixes to the lab for testing. Iron levels are seldom listed on the tag, but many popular brands, particularly the Purina products, come back very high in iron. It will vary from batch to batch, but as an example Purina Equine Senior will test from around 800 ppm - 1,000 ppm iron. According to the NRC Nutrient requirements of Horses; a mature horse only needs between 40 and 50 ppm of iron in it's diet. Iron is a naturally occurring element in all feed ingredients and impossible to

eliminate, but many feed companies add more iron to their products. That may be one more reason why eliminating commercial grain mixes from the diet has helped improve your boarders barefoot horses hooves.

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