

Growing a Healthy Hoof

Your horse's feet become strong from the inside out.

By Georgia Brown.

If you own a horse that needs to build a stronger hoof, sifting through the available choices of supplements can be a challenge. Fortunately, ongoing research is making more information available every year. Latminitis inflammation

Experts agree that horses with poor hooves are likely to be deficient in nutritional biochemistry. Research shows that the key ingredients for a healthy hoof are biotin, a vitamin B complex, zinc and methionine, one of the amino acids. However, two apparently similar horses may have genetic differences that will determine how well they absorb and utilize nutrients.

A healthy hoof is such a critical issue for performance horses—remember the old adage, “No hoof, no horse”—that there are entire magazines devoted to the topic. Hoofcare & Lameness is a quarterly journal that can be accessed at www.hoofcare.com. According to the editor, Fran Jurga, vital nutrients are just one part of the picture. There are two equally important factors that promote a healthy hoof: moisture level and circulation within the foot. “What isn't stressed enough is how nutrients circulate down to the foot,” says Jurga.

How Nutrients are Delivered

The hoof is a complicated protein, better known as horn, not bone. Nutrients reach the hoof through a blood-filled structure called the sensitive coronary band, which is just above the hoof. Extensions of the coronary band, called coronary papilla, reach down into the outer wall and supply nutrients to three types of the horn (hoof wall) tissue. The sensitive lamina extends down between the coffin bone and inner hoof wall and supplies nutrition and shock-absorbing capacity to the hoof wall from within. An extension of the sensitive lamina is called the sensitive sole, which provides nutrients to the horny sole.

Moisture & External Factors

“A moisture level problem may compromise even the best supplement,” Fran Jurga says. If a horse's pasture frequently turns to mud from dusty dry, the hoof may flake and crack.

Experienced horsemen know that many things can dry out hooves. Frequent bathing with soap may remove the horse's protective natural

oils. Ammonia from equine waste and home remedies containing bleach, strong solvents, iodine, motor oil, axle grease or pine tar are extremely destructive to hooves. A horse's bedding should be kept clean and dry. Bedding such as fresh pine shavings contains turpentine, another harmful chemical to the hooves, and should be thoroughly dried before use. A good protective hoof dressing used regularly can help seal in the proper amount of moisture.

Doubling Up? healthy hoof

To avoid giving too much of any nutrient, consider what is already in your feeding program. Combining a hoof nutritional supplement with other feeds or supplements may be too much of a good thing for your horse.

Although biotin is water soluble and will be excreted in urine, keep in mind that methionine, a sulfa-containing amino acid, is present in other equine products including joint supplements and MSM. According to Dr. Frank Gravlee, an early researcher in the field and developer of Farrier's Formula™, too much methionine causes a copper deficiency in the horse's system and stops the hoof from growing. His studies conducted over 20 years concluded that 7 grams of methionine per day is the amount to feed.

Chester Weber, United States Equestrian Team national driving champion, uses and recommends the nutritional product developed by Dr. Gravlee because it is a result of extensive research and scientific production standards. "Farrier's Formula™ contains the highest quality ingredients and I know that it is produced under strict quality control conditions," Chester says.

Dr. Gravlee's research and clinical trials confirm that the hoof grows from within as well as down from the coronet band. "The inner wall is built by the lamina and produces 25 to 30 percent of the hoof wall. In six to eight weeks the cells within the hoof wall begin to grow and will show measurable changes in the frog and sole," Dr. Gravlee says.

Help via Supplements

Currently one of the top-selling supplements on the market, Right Balance™ contains a zinc complex called ZINPRO® that bonds methionine to organic zinc. The Mustad Company's research concludes that zinc is as important as biotin in growing a healthy hoof wall. Right Balance also contains biotin, a vitamin B complex that builds collagen tissue, and vitamin E, which acts as an antioxidant and helps prevent cell damage by free radicals. The zinc complex builds the immune system and protein tissue that makes up the skin, hair coat and hoof material. The company believes a diet high in biotin alone is not the answer, rather the right

balance of important minerals and vitamins must be present to produce healthy hooves and good health in your horse. Right-Balance™ from Mustad is available as heart-shaped cookie treat or in pellet form and is made from natural ingredients including alfalfa, wheat flour, rolled oats and dried molasses. Right Balance is the hoof supplement of choice for horsemen such as Olympic gold medalist Robert Dover.

Farrier's Formula®, another top-selling and well known product, is the result of clinical trials and specific field testing by Dr. Frank Gravlee and is backed by independent university research. His company, Life Data Labs, Inc., prides itself on quality control and was the first to use vacuum packaging and put expiration dates on product containers. Mostly notably, it was one of the first feed supplements of its kind to attain the ISO - 9001 certification (International Organization for Standardization). The pelleted formula includes lecithin, gelatin, DL-methionine, ascorbic acid, copper, zinc, L-tyrosine, biotin and other nutrients that allow the horse's liver and hoof corium to build and assemble a denser, highly crosslinked hoof wall that resists cracking. For 11 consecutive years, farriers responding to a survey by the American Farriers Journal (www.americanfarriers.com) have rated it number one.

Happy Hoof, manufactured by Spillers/Seminole, is a complete feeding system recommended for horses suffering, or prone to, laminitis or irritation of the hoof wall. A high-fiber, low-starch, chopped forage of timothy and oat hay, mint, wheat middlings, soybean hulls and garlic is combined with pellets containing minerals and vitamins, including biotin, zinc and methionine, as well as yucca, an anti-inflammatory. It may be used as a complete feed or as a supplement. Happy Hoof, which originated in England, is the only product of its kind in the United States.

Also new on the market, Seminole Happy Hoof Builder, just released in December 2003, is a cutting-edge hoof supplement loaded with healthy omega 3 and omega 6 fatty acids, linoleic acid, biotin, methionine, chelated zinc, yeast culture and other nutrients to advance the development of quality hooves. This highly palatable hot shoeing, nutrient-dense product is slightly sticky, making it attach to your horse's feed, which prevents waste.

Where to Start

If you are not sure your horse is nutritionally deficient, you can ask your vet for an inexpensive, screening type CBC blood test. It's the best way to determine which of many nutrients your horse may need.

When shopping for a supplement, look for guaranteed nutrient content. Is there a telephone number to call? When you call, ask to talk to a professional nutritionist for answers to your questions. Don't hesitate to

ask for proof of research—if they have it they will be proud to tell you.

Measuring Results

After you begin treating a horse with poor hoof condition, you should see the first signs of improvement in the shine and condition of your horse's coat, mane and tail because they are related to the dermal tissue of the hoof. After two months, you and your farrier will see a thickening of the wall and changes in the frog Georgia Brown and sole. However, it will take nearly a year for the hoof to grow down from the coronary band.

Freelance writer Georgia Brown lives in Bradenton, Florida, where she continually researches ways to improve her horses' health and nutrition.