

NUTRIENTS FOR HOOF HEALTH



There are three main effects on the hoof health of horses:

1. Genetics - Effect on nail development, quality and foot form
2. Nutrition – Effects on nail growth and quality
3. Environmental Impacts
 - *Humidity, temperature, contamination of litter with feces and urine;
 - *The work of the horse and the quality of the soil;
 - *Nail care and farrier

Studies in recent years have shown positive results in the direction that nutrition or nutritional supplements can improve hoof quality in horses.

Proteins and amino acids

- Adequate protein intake with adequate ration is important for good quality nail development.
- For keratin synthesis, supplementation of methionine amino acid or gelatin, sulfur-containing compounds is recommended. However, in a recent article; Methionine is a vital compound for a healthy horse, but toxic in excess. Excess methionine can cause progressive degeneration of the nail and even spread beyond the white line, resulting in intermittent lameness lasting more than a few days. In addition, consuming excess methionine can lead to zinc, copper and iron deficiencies.

Carbohydrates

- Excessive carbohydrate loading should be avoided to prevent laminitis.
- Grains high in indigestible starch, such as corn and barley, should be minimized in the ration.
- Fructans in rangelands may have similar adverse effects

Minerals

- Calcium supplementation may be required depending on the amount present in the ration. Especially feeds containing grains such as wheat can contain high amounts of phosphorus known as phytate, which prevents the absorption of calcium from the intestines. Calcium deficiency can lead to severe nail weakness and damage.
- Researchers have also suggested that high amounts of inorganic zinc can improve the horse's condition (Coenen and Spitzleik, 1996).
- Excess selenium is an issue that has unfortunately become fashionable in recent years, but horses show signs of both severe hoof damage and selenium toxicity.

Vitamins

- Vitamin A plays a role in the development and maintenance of epithelial cells of the nail.
- Biotin In a study in thin, fragile, cracked and prone to infection British horses, it was reported that the use of 15 mg/day biotin showed significant improvement, but there was no control group in the study (Comben et al., 1984). In a study of the effect of biotin supplementation in Lipizzaner stallions (Linden et al., 1993), 26 horses were fed 20 mg of d-biotin daily for 2.5 years, and horses supplemented with biotin overall had 30% better hoof health for up to 14 months. It took 6 months before signs of improvement and 19 months for white line conditions to improve. There are other studies that find biotin useful only for specific defects. It has been shown that biotin, which has effects on hoof health in horses, reaches higher values after supplementation with a combination of zinc and methionine compared to biotin alone (Munzinger, 2005).

**“THE SECRET TO GOOD HORSE NUTRITION IS BALANCE.
HORSES' NUTRITION PROGRAMS SHOULD BE AS SIMPLE AS CAN BE, NATURE BUT BALANCED.”**

References

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