How a Horse's Hoof Grows

Hoof growth is one of the most important considerations in hoof physiology. Hoof growth occurs from the coronary band down toward the toe. The average hoof grows 1/4 to 3/8 inch per month. Since the average hoof is 3 to 4 inches in length, the horse grows a new hoof every year. Rapidly growing hooves are considered to be higher quality and easier to keep properly trimmed and shod. Factors that effect hoof growth are age, season, irritation or injury of sensitive structures, and nutrition.

Age
Hoof growth rate seems to be highly correlated to heart rate. Young horses have a higher heart rate than that of older horses. Similarly, young horses have a faster hoof growth rate than older horses. Hoof growth rate decreases as the horse ages. The hooves of horses under 1 year of age grow about twice as fast as those of horses more than 12 years of age. Highly conditioned horses have a lower heart rate than idle horses, but their hoof growth is faster. It appears that the exercise they receive offsets the effect of the slower heart rate.

Summary of the effect of age on horse hoof growth rate.

Class of Horse	(mm per day)	(mm per mo.)	(in. per mo.)
Foals	0.50	15.0	0.60
Yearlings	0.40	12.0	0.50
Mature	0.30	9.0	0.33
Aged	0.20	6.0	0.25

**Taken from Principles of Horseshoeing II. Bulter, D. K. 1985. Butler Publishing*

Hind hooves grow 12 percent faster than front hooves in foals and approximately 7 percent faster in weanlings. Differences between hind and front hoof growth diminish as horses age, with no difference apparent by the time they are yearlings. Hoof size has no effect on hoof growth rate. Hoof size except is a function of age.

Season
A horse’s hoof grows faster in the spring of the year than other seasons. This growth rate may be influenced by climate. Hoof growth slows during the winter months.

Sensitive
Structures Stimulation of the sensitive structures by strong counter-irritant products or massage is thought to increase hoof growth. However, research indicates that these products do not significantly affect hoof growth. Systemic fever or injury of the sensitive structures results in rapid hoof growth.

Nutrition
Level of nutrient intake has been shown to affect hoof growth. Proper nutrient intake stimulates maximum hoof growth. Biotin supplementation is suggested to improve hoof growth and integrity over time. After several months of feeding biotin, some horses show increased hoof integrity and quality. However, not all horses respond to biotin supplementation. Hoof quality and growth is most affected by proper nutrition, which involves feeding a properly balanced ration.