



TECHNICAL BULLETIN

Pure LysineTM

The protein component most often lacking in horses' diets, in its most pure and economical form



Why Lysine? Pure Lysine is pure L-lysine hydrochloride (HCl), the stable form of the essential amino acid most often deficient in the diets of horses. Amino acids serve as the “building blocks” of proteins. To make proteins for growth, development, and maintenance of tissues, the horse must have an adequate supply and balance of amino acids in the diet. The protein of many horse diets, especially that based on grains and grass hay and forage, is often low in lysine. The National Research Council calls lysine “the first limiting amino acid in the diet of growing foals...inadequate protein or lysine intake results in decreased growth and development of young animals. Inadequate intake of protein or required amino acids by mature horses may lead to reduced feed intake, body tissue loss, poor hair coat, and reduced hoof growth.”¹

Minimum Impact On Crude Protein Level The calculation of the crude protein percentage of the horse's diet is based on many pounds of feed. Pure Lysine is so concentrated, just a few grams each day can dramatically improve the availability of the rest of the protein in the diet. Because lysine is only one of the more than twenty amino acids found in proteins, Pure Lysine improves protein value without overloading the horse with excessive amounts of crude protein.

Lysine In The Body Lysine is found in a wide variety of tissues, hormones, and cells throughout the body. Proteins that require lysine include the collagens and elastins that make up the bone matrix, tendons, skin, and articular cartilage. The iron-carrying hemoglobin molecule needs lysine in its unique structure. Myosin and other muscle proteins contain large amounts of lysine. Even the keratin protein in hoof and hair requires lysine. Without enough lysine, the production of these and other proteins is restricted.

How Much Lysine Do Horses Need? The NRC estimates the daily lysine needs of mature 1,100 pound horses from 23 grams for idle horses to 46 grams for horses in intense work. Growing horses have the greatest need for quality protein. In growing to a mature weight of 1,100 pounds, a horse will require 30 grams of lysine daily at 4 months of age, and over 50 grams of lysine as a long yearling in training.

Grains And Grass Are Lysine Poor Unfortunately, the grains we feed to meet the energy needs of growing and working horses are particularly weak in lysine. For example, 10 pounds of most oats can be expected to supply only 20 grams of lysine. The same amount of corn, which is popular for its energy and digestibility, supplies less than 12 grams of lysine. When available, sufficient amounts of soybean meal or alfalfa can make up for this lysine “shortfall,” but these feedstuffs can be expensive and problematic to feed. Pure Lysine is a simple, low cost solution that goes right to the heart of the matter. It supplies the key missing ingredient in its pure form for easy feeding, excellent digestibility, and surprisingly low cost.

Recommended Feeding Each enclosed 4 gram scoop supplies 3 grams of pure lysine. For foals and weanlings up to one year, give one scoop (3 grams L-lysine) per day. Give mature

Questions? Call toll-free 1-800-848-2359 for information.
Visit vitaflex.com for product information and special offers!
Vita Flex Nutrition • 301 W. Osborn Rd. • Phoenix, AZ 85013

