



Ranvet

HORSING AROUND

PROTEIN BUILDS HORSES

What is protein?

Proteins, along with carbohydrates are the two primary energy sources the horse will utilize. In fact, most feeds (inclusive of cereal grains and pre-mix rations) for horses contain some form of protein however, it is important to identify which specific amino acids (the building blocks of protein) are lacking in order to balance the equine diet appropriately.

Protein forms the skin, hair, muscle, connective tissue, hooves, nervous system and much of the horse's skeleton.

The concept of protein and 'protein feeds' is sometimes difficult to grasp, particularly differentiating between crude protein and amino acids. In short, all life processes are dependent on protein which is necessary in the structure and formation of all living cells. **Important to consider is that protein also builds and maintains muscle mass (not fat)** while

strengthening bone and maintaining body condition under stress. Protein is also essential for the repair and rebuilding of soft tissue and damaged muscles.

How crucial is protein?

Physical strength comes primarily from the integrity of muscles, and to build muscles a high quality protein intake is essential. Diets deficient in protein result in poor performance and reduced stamina in the performance horse, failure to grow normally in the case of the developing horse and may even result in death in starvation circumstances. It is important to note that animals engaged in heavy production (i.e; gestational or lactational mares) have much higher comparative protein requirements.

Scientifically speaking...

Amino acids are the building blocks of protein. Different protein sources contain varying amino acid profiles and it is for this reason that a mixture of protein sources is normally included in a ration. A correct amino acid balance is the key to efficient utilization of dietary protein.



A horse will only utilize dietary protein provision up to the lowest level of the limiting amino acid. A shortage of any one essential amino acid makes overall protein utilization by the horse less efficient. The two most important limiting amino acids for horses are Lysine and Methionine.

How can I ensure an optimal amino acid balance?

There are a number of ways to increase the level of lysine and methionine in the diet. One of these is to increase the percentage of protein constituents in the diet however this can lead to an imbalance or excess provision of non-essential amino acids. This excess then becomes waste and must be metabolized and excreted, using valuable energy and resulting in significant monetary loss due to protein being the most expensive component of the ration.

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How can I determine if my horse is protein deficient?

A deficiency of protein in the ration of the horse may result in one or a combination of the following deficiency symptoms;

- Depressed appetite
- Poor growth/stunted development
- Inadequate top-line and muscle wasting
- Unexplained loss of weight
- Unexpected loss of condition
- Loss of stamina/inability to maintain condition and performance level



POINTS FOR CONSIDERATION

- ✓ Don't confuse protein feeds with energy feeds! The cereal grain component in a ration (i.e; oats, corn, barley) provides a poor source of protein and their primary function is to provide the 'fuel' for energy.
- ✓ Growth is the very foundation of horse production. Horses cannot perform adequately or possess the necessary speed and endurance if their growth has been stunted or their skeletons have been impaired due to inadequate nutrition in their early, formative years.
- ✓ For maximum protein utilization (and minimum protein waste), a horse requires a scientific combination of essential amino acids designed to transform the protein present in the ration into utilizable protein.



Did you know?

- Approximately 90% of the re-modeling (and therefore strengthening) of growing bone occurs between the time a horse is born and two years of age. High quality protein is essential for bone strength and development.
- The most common forms of protein fed to horses are cottonseed meal, soyabean meal, sunflower (seeds or meal), linseed meal and lupins. In the human diet these would be translated into meat, fish, avocados, eggs and dairy products.
- A deficiency in protein will do more to depress growth rate (and lactation) than any other nutrient.

Ranvet Power Formula® supplements feeds that may be low in amino acids, vitamins and minerals to give horses full value from other nutrients in the feed resulting in peak condition and performance. A complete supplement compiled into one convenient pellet, the addition of just 300-600g daily mixed with grains of choice allows dietary modification of energy requirements while ensuring optimal protein provision.

Ranvet 500 PLUS® is a high quality protein supplement promoting skeletal integrity, sound bone growth and muscle conditioning in young horses. Additionally, supplementation helps maintain muscle condition on mature horses and keeps them looking young.



Ranvet's Nutritional Consultation Service for your horse's every need;

- Customised diets
- Energetic demands
- Vitamin & electrolyte requirement
- Growth & development needs
- Correcting metabolic disturbance

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