

Feeding Techniques

Dr J H Stewart BVSc BSc PhD MRCVS

It is important to ensure that horses receive correct amounts of Protein, essential amino acids, Carbohydrates, Roughage, Vitamins, Minerals and Electrolytes for their age, reproductive status, workload and temperament. Inconsistencies, imbalances, excesses and deficiencies in rations can all lead to less than optimal performance.

How much to feed

A good rule of thumb when calculating the amount an individual horse requires is to feed 1.5 - 3% of their body weight each day, including pasture. The percentage varies depending on the age, workload, quality of concentrate and roughage and reproductive status. Spelling horses require approximately 1.5 - 2% of bodyweight in feed. To increase weight and for racing or competition horses in hard work, yearlings, weanlings and lactating mares, up to 3% of bodyweight may be required each day in feed. If nutrient-dense highly digestible **STEAM-EXTRUDED or MICRONIZED feed** such as **MITAVITE ECONOMIX** and **BREEDA** or high oil feeds such as **FORMULA 3** and **PRO-SPORT** is fed, then less feed will be required due to greater availability, uptake and absorption of nutrients.

Steam-extruded Feed or Raw Grains

MITAVITE STEAM-EXTRUDED and MICRONIZED feeds are advanced feeds which are over 90% digested in the small intestine. Digestion of feed in the small intestine lowers the amount of feed fermented in the large intestine, decreasing the acid, heat and gas which is produced. Digestion of raw grains varies from 21% for barley to 29% for corn; the balance is fermented in the large intestine. This can overload the digestive system causing a variety of side effects.

Protein

When checking the protein provided by a feed you need to look at the percent protein, the quality of the protein in terms of essential amino acid content and digestibility of the feed in the small intestine.

- Horses require a certain number of grams of protein a day, not a certain percent - the percent must be multiplied by the weight fed to obtain the number of grams.
- The quality of the protein should be optimal - protein should contain adequate levels of the ten essential amino acids, especially lysine, threonine and methionine - all of which can be limiting in grain fed rations.
- The digestibility of the feed and therefore the protein should be high - MITAVITE STEAM-EXTRUDED and MICRONIZED feeds are over 90% digested in the small intestine. Much of the protein in raw grains is lost to the horse because it is not well digested, instead it passes to the large intestine and caecum, where it ferments to ammonia and the amino acids are rendered useless for growth and work. **MITAVITE PRO-SPORT** and **MITAVITE FORMULA 3** are combination muesli-style-steam-extruded feeds formulated for performance horses. They contain steam-extruded and micronized grains and when fed to the recommended levels with adequate roughage the quantity of protein, essential amino acid profile and high digestibility fill the three requirements of protein.

Roughage

Roughage is required by the horse to ensure that the flow of feed through the digestive tract is maintained and as a source of carbohydrate (energy). A minimum of 1% of body weight in roughage is required by the horse each day. If you have a 500kg horse, a minimum of 5kg in roughage, including hay, chaff and pasture, needs to be fed.

As pasture levels fluctuate, depending on the season and weather conditions, the amount of chaff/hay fed may need to be increased or decreased to sustain the correct levels of roughage which the horse requires. When feeding roughage approximately 50-60% should be green chaff/hay and 40-50% should be white chaff/hay. This provides optimal levels of essential amino acids and calcium when fed with recommended levels of MITAVITE complete feeds.

When to Feed Roughage

Recent research on the feeding of hay and grains has revealed that if hay is fed with concentrates then the digestion of the starch in the small intestine is reduced. For high performance horses this can impact on energy levels and fatigue. It is suggested that hay is fed either two hours before or two hours later than concentrates.

How much Concentrate per meal

Feeding more than 2kg of concentrate per meal may overload the small intestine. If you are feeding more than 2kg of concentrate in total in a daily ration, we suggest splitting the ration into two or more feeds so concentrate levels don't exceed 2kg per feed.

Feed to the workload

Always feed a ration with an energy level which matches the workload of the horse. Feeding excess energy will increase the condition and/or energy level of the horse.

Introducing New Feeds

Any changes to your horse's diet should be introduced gradually in a stepwise manner over a two to three week period. Any changes in manure & appetite should be monitored.

Energy-dense feeds

Hardworking horses have high-energy requirements. Increasing grain intake or providing a highly digestible energy-dense, oil-enriched feed can assist in increasing energy intake and meeting requirements. When feeding Mitavite steam-extruded feeds such as **MITAVITE ECONOMIX**, **MUNGA** or **STEAM-EXTRUDED GRAINS** up to 1/3 less feed needs to be fed compared to pelleted and raw grain feeds.

Vitamins and Minerals

The workload and stress levels of the horse determine the amount of vitamins and minerals required. Mitavite has a range of feeds formulated for differing workloads and temperament. All Mitavite feeds have been formulated to ensure that necessary levels of vitamins and minerals are available when fed to the recommended levels and with adequate roughage. Additional protected, heat-stable vitamins are added before and after the steam-extrusion process to meet target levels. Stable natural mineral proteinate prevent interactions between minerals and vitamins, such as those known to occur between iron and vitamin E.

The Mitavite team of Veterinarians, Equine Nutritionists and Agricultural Scientists have formulated rations using advanced feeding techniques such as STEAM-EXTRUSION and MICRONIZATION to enhance digestion in the small intestine. Mitavite takes the guess work out of feeding by giving recommended feeding levels to ensure adequate protein, energy, vitamins and minerals are available. To select a feed which best suits your horse refer to the ***'Find the Right Mitavite'*** table.