

FEEDING OLDER HORSES FOR COMPETITION AND TRAVELLING

For performance horses, maintaining body condition is the minimum requirement of feeding. A more important consideration is how performance can be improved through nutrition. Many current practices developed last century in the cold climates of England and Ireland are inappropriate in the heat and humidity of Australia.

In addition, for disciplines requiring years of training and physical development, peak performance often occurs in the mid to late teens. The needs of horses change from around 15 years of age, but many horses compete well beyond this. Physical changes that accompany ageing include arthritis, anaemia, susceptibility to respiratory and skin conditions, changes in the teeth, reduced salivation, and a 20% reduction in the ability to digest and absorb certain nutrients.

Pleasure riding: Feeding the pleasure horse is not difficult or complicated. Exercise increases energy requirements in proportion to the distance travelled, frequency of exercise and weight of the horse. Amount of feed required depends on its quality and digestibility, and the horse's age and dental care. If the exercise level is low an extra 1 - 2kg of chaff or hay will meet energy requirements. The temptation to add grain on the days the horse is ridden should be avoided. If suddenly fed 1 - 2kg of grain, colic and founder are real possibilities. A better approach is to maintain a consistent daily ration or provide a highly digestible, high oil concentrate which will reduce acid and gas production. Pleasure riding does not increase protein, vitamin or mineral requirements - the addition of supplements on top of a well-balanced diet is unnecessary and in fact can be detrimental to the horse's health and performance.

Endurance and three day eventing: Both 3DE and endurance horses share prolonged low intensity (aerobic) work. In endurance riding and in the roads-and- track phase, heart rates are between 150-180 beats per minute or 70%-80% of maximum. However, for 3DE horses there are also phases of maximum exertion.

Horses fed high roughage (6 - 8 kg/day) diets have more water and electrolytes in the gut. Horses should be fed at least 3 to 4 hours before an endurance event, as most of the feed will have passed to the large intestine where it forms a reservoir of water and electrolytes. To balance high roughage diets, the concentrate needs to be 'complete'(ie contain correct levels of ALL nutrients); have a high energy density - so a lower amount can be fed; and be fully digested - to reduce lactic acid, ammonia and heat build up - major players in the onset of fatigue.

Fatigue is correlated with depletion of muscle glycogen and increasing blood lactate (which begins at speeds of 10metres/sec). Feeding strategies should address this. Blood glucose is lowest 90 minutes after feeding high carbohydrate diets and these should be fed no closer than 3 - 4 hours before an event.

Campdrafting, Polo, Cutting and Western Performance: require bursts of intense speed and athletic agility. Horses in these disciplines require less roughage as it presents them with added weight to carry. Energy deficiency and heat build up are the major limitations to performance and the diet must address these.

Dressage: The gymnastics required of the dressage horses place unusual demands on the joints, ligaments and muscles. Maintaining a steady supply of 'cool' energy is essential. Oil-enriched diets offer significant advantages and both membrane flexibility and joint function benefit from added Omega 3 oils.

Showjumping: During training, showjumpers work for extended periods at submaximal levels, interspersed with periods of intense effort. A heavy gastrointestinal tract can be a disadvantage during competition, so highly digested, low residue feeds should be considered.

Supplements: Although horses can live on pasture alone, for optimum performance supplementation of the average diet is required. However intakes above requirements cannot improve performance. For high performance, horses need all nutrients in the 'optimal range' and supplements should only be used on veterinary advice.

Oils: High oil diets (10%) reduce heat and increase energy density. Horses may require 21 days to adjust to a fat-supplemented diet. High fat feeds improve palatability and absorption of vitamins A and D, essential fatty acids and help reduce dust and fines. **Omega 3 oils** have been found to benefit blood oxygen levels and reduce the incidence and severity of arthritis and inflammatory skin conditions in both humans and animals.

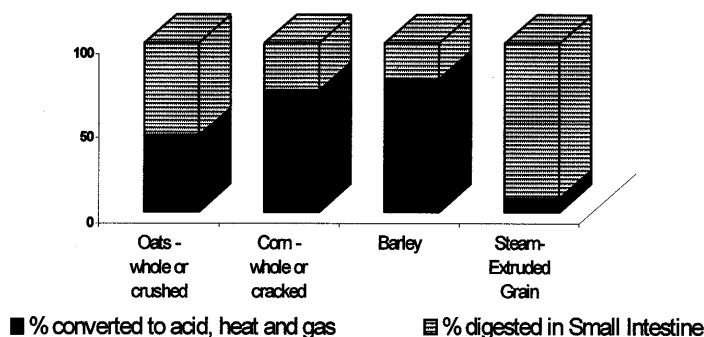
Electrolytes: Requirements increase with exercise, but excess electrolytes increase water loss. Except on veterinary advice, total intake should not exceed 100grams per day. Adding electrolytes to the water is a potentially dangerous practice because it does not allow the horse to regulate electrolyte or water intake and can lead to dehydration.

Protein: Excess protein also upsets electrolyte balance because more urine must be formed to rid the body of the excess nitrogen. This leads to loss of minerals, electrolytes and body water reserves and high ammonia levels in stables and blood.

Calcium: Grains, bran and many grasses are deficient in calcium and contain excess phosphorus, as well as chemicals called phytates and oxalates. These chemicals bind to calcium - preventing absorption. Oxalates are present in kikuyu, buffel grass, pangola, green panic and setaria. Horses on these feeds may require up to 100 grams of extra calcium per day - the equivalent of 1/3 kg of lime per day.

Grains: Although traditional feed for horses, raw grains were first used in the cold climates of England and Ireland and are not necessarily appropriate for hot and/or humid countries. In addition, equestrians have long known to process feeds - boiling and grinding to improve digestion. Many older methods damage nutrients and have little effect on digestibility. For example - even if crushed, over 45% of the energy in oats, 70% of corn and 78% of barley is converted to acid, heat and gas.

Digested in the Small Intestine or Converted to Acid, Heat and Gas ?



As well as not being able to use this energy for exercise and muscle development, the heat adds to heat stress in hot weather; the acid contributes to tying up, laminitis and fatigue; the ammonia to fatigue, respiratory conditions and diarrhoea and the gas can lead to spasmodic colic. Pelleting has been shown to increase the risk of choke, ulcers and colic and decrease calcium and magnesium absorption.

Research has shown the duration and temperature at which cooking should occur to improve digestion without damaging nutrients. This has led to extrusion - an advanced form of processing that combines and refines time-honoured practices of grinding and boiling. The untangling of nutrients during wet steam-extrusion allows digestive enzymes to work up to 100 times faster - increasing nutrient availability, feed conversion efficiency and reducing acid, heat and gas production.

Horses eat slower, chew for longer and produce more saliva with extruded nuts - reducing wood chewing, gastric ulcers, choke and colic. Extruded nuts are low density, gentle on teeth and can be readily softened to a warm mash in winter, at days-end after competition or for horses with ageing mouths. Being clean and dust-free, extruded feeds preventing respiratory irritation and the low moisture level (8% compared to grains which are 11 to 13.5%) reduces mould spores which are known to irritate the respiratory system.

Travelling: Horses have been shipped from place-to-place for 3500 years. Over this time, we have learnt much about the stresses of travel. The risk of 'shipping fever' or pneumonia is related to inability to lower the head for long periods, ammonia fumes from urine and manure, dust in feeds and car exhaust. 'Shipping colic' is linked to impactions from reduced water intake, grain in the diet, changes in diet or feed quality and low roughage intake.

Horses prefer to travel backwards and if untethered, most will turn to face the rear. This results in a lower head carriage, a more relaxed posture, a 35% reduction in moving and changing position, less sweating, lower heart rate and more normal manure consistency.

Other diet-related health risks come from feeds produced by mills that also make feeds for other species. Many compounds in cattle, pig, poultry, dog and cat food are toxic to horses and include animal by-products and offal. Cases of cross-contamination have occurred when milling equipment is used to produce feed for several species. Jenquine products are formulated and produced in Australia in APVMA licensed and ISO accredited facilities.

Nutrition may be the final piece in the puzzle of 'optimum' performance. For the performance horse, feeding properly is the factor that differentiates the 'run-of-the-mill' horse from the exceptional performer. But, whatever the feeding regime, it should remain consistent when travelling and competing. Changes in diet and feeding schedule alone, may cause a stress response in the equine athlete.

Jenquine all-4-feet® is a veterinary formula that has been tried and tested by many veterinarians and horse owners with amazing results, making it suitable for all horses at all ages, stages of life, work level, breed and equestrian disciplines.

It is both a feed replacer and balancer and is based on vegetable proteins, free-form amino acids, biotin, omega 3 oils and vitamin E. Jenquine all-4-feet® is not cooked or heat-processed and contains no grains or by-products. It can be fed to all horses to balance any roughage/pasture/ grain-based diet.

Jenquine all-4-feet® removes the need for multiple supplements (except on veterinary advice) and the need to buy multiple different feeds for different horses.

Jenquine all-4-feet® is a concentrated feed that is ideal for ALL horses and ponies - and their feet. Based on diet analysis, it may replace, balance or remove the need to feed the following:

- Many manufactured feeds
- Vitamin & Mineral Balancers
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- Hoof supplements
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If you are currently paying for two or more of the above Jenquine all-4-feet® will save you money and you will know that your horse is getting everything they need – all you need to add is fibre and extra salt/oil/energy if needed. How easy is that? More information and feeding guides are available on our website <https://www.jenquine.com/all4feet>

Horse Nutrition can be simple with all-4-feet®

Remove the need to feed:

- Many manufactured feeds
- Vits & mins balancers
- Hoof supplement
- Essential Amino Acids
- Omega 3 Oil
- Probiotics
- Tying up supplements

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STARCH 2.1%
SUGAR 3%
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Dr Jen Stewart has been an equine veterinarian for more than 40 years and an equine nutritionist for more than 20 years. Jen has been developing premium formulas for studs, trainers and feed companies - such as Mitavite - in Australia and around the world. Consulting to leading international studs and trainers in various countries while working on research projects and being involved in nutritional management of a variety of equine clinical conditions, including colic, tying-up, laminitis, performance problems, developmental orthopaedic diseases and post-surgery.

Dr Jen is currently the only practicing equine veterinarian and clinical nutritionist in Australia and was also an official veterinarian at the Sydney Olympics 2000. Jen's passion for nutrition along with her extensive experience and knowledge strives to continue to BRING SCIENCE TO YOUR FEED BIN