



The "Keep it Simple" Equine Diet Plan

By The Nude Horse
(Equine Epidemiologist)

Social media feed fads, peer preferences and clever marketing can make selecting a straight forward and effective diet for your horse a difficult one.

Do you ask yourself:

- Do I need all these additives?
- Do premixes really meeting all my horse's need?
- Is my feed shed filling and my pocket emptying yet my horse still hasn't improved?

Some worthy facts to consider:

- Meeting dietary needs is important
- Sustaining muscles and electrolytes at rest and in work is essential
- Providing nutrients for breeding and lactating horses is necessary
- Minimising sugar intake for overweight and insulin resistant horses is paramount
- Hoof growth and quality is the foundation of a good horse
- Managing an itch prone or immunocompromised horses can be achieved

The confusion begins:

- Fads on Omega 3 from Chia seeds, flaxseed or fish oils - which one is best or is any necessary?
- Reading articles about Vitamin C from Ascorbic Acid or herbs like Rosehip, again necessary or just a fad?
- Lecithin for suspected ulcers? True or False?
- Toxin binders - does my horse even consume toxins?
- Pre and or pro-biotic? Do I need these?
- My horse is stressed sometimes, is it a behavioural issue or can I help through nutrient balancing?



Are you bombarded with choices of supplements for horses kept on grass - without grass - in work - at rest?

Keeping It Simple--

The basics needs:

- **Roughage** – approximately 70 % of the horses feed should be in the form of roughage (hay, pasture or chaff).
- **A salt lick** (Himalayan rock salt is a great option as it doesn't contain any additives).
- **Water** at least 30ltrs a day in cool weather for full size horses and double in hot weather or heavy workloads.
- **Minerals and Vitamins** to meet dietary needs

The volume feed needed can be worked out as:

$$\frac{1.7 (\% \text{ of bodyweight}) \times 500 (\text{kg horse})}{100} = 8.5 \text{ kg max feed}$$

(In this example the horse weighs 500 kg, so it can safely consume up to 8.5 kg of dry feed per day.)

Next work within your budget, if you can afford additional quality feeds stuffs, work out what you can afford and what you actually need. If constrained in your budget, work out your cheapest roughage option and add a quality mineral and vitamin supplement. Readers of The Nude Horse voted **Flowers Gold** as the most comprehensive and absorbable daily mineral and vitamin mix to meet dietary needs.

You can make your own hard feed to carry the mineral supplement with something like copra & lucerne chaff that is low GI (sustained energy and a cool feed), the bonus is you can increase the bulk to gain weight or reduce when grass and forage abounds. If using a premix, be wary of varying the feed quantities as this will alter the mineral intake. Choosing to make your own feed blend allows you to take control of the quality and quantity of mineral and vitamin consumed daily and know your ingredients are fresh and mould free.

According to the National Research Guide formulated by combined global research from the very best University studies one can see the necessary daily intake for each age, sex, weight of horse whether in work, breeding or rearing.

Facts:

Protein: Protein is made up chains of amino acids. Only lysine has been studied in horses and the known daily requirement has been established. Quality of proteins should be considered above quantity as amino acids need to be utilised in the foregut to contribute to the amino acid pool for tissue synthesis and repair.

Pasture grass delivers approximately 0.92% Lysine/DM. Lucerne hay supplies 0.83 % Lysine/DM and Soybean meal delivers 3.38 % Lysine/DM. All feed sources should be factored into daily intake.

Sugar resistant horses: Chromium appears to be directly involved in carbohydrate, fat and protein metabolism. It is especially important for horses with endocrine disorders or metabolic syndromes such as Cushings and Hypothyroidism. Chromium is integral in the regulation, stabilization, metabolism and absorption of sugars in the blood.

Feeding the right hay is important for sugar sensitive horses, of note Lucerne hay delivers approximately 12 % NSC (non-structural carbohydrates) compared to oaten hay supplying around 22% NSC. (<https://kppusa.com/tips-and-topics/picking-hay-sugarstarch-sensitive-horses/>).

Biotin for hooves assists the outer wall of the hoof to grow faster, fed with organic manganese enables the body to utilise biotin. Feeding together encourage healthy outer and inner hoof wall growth. Organic Selenium and Organic Zinc also play key roles in healthy hooves.

Healthy shiny coat: Predominately organic zinc and organic selenium balanced in their synergies such as with organic copper produce healthier coats. When dietary needs are adequately met coat colour will deepen and glow. Bioavailability of nutrients means sourcing a supplement with these hard to absorb minerals in an organic and chelated form.

Allergy to midge saliva: The problem with allergic reaction begins when incorrect signalling occurs at the cytokine level. (<http://cid.oxfordjournals.org/content/32/1/76.short>)

Experimental feed supplements are showing signs of assisting a correct response cytokines to initiate an anti-histamine and heparin defence.

Horses fed diets enriched with Omega 3 EPA and DHA (fish oil) demonstrated modulation of inflammatory mediators, possibly resulting in a decrease of allergic skin responses. (NRC, Nutrient Requirement for Horses 6th Ed).

Omega 3: When grass abounds the natural balance of Omega 6 to 3 ratio occurs close to 1:4, this is ideal for horses. When pasture is unavailable, it is recommended by Kentucky Equine Research to supplement 60 ml/day of fish oil. (Pagan, Lawrence, Lennox).

Flaxseed provides a plant based ALA form of Omega 3, however only 5% is able to be converted into the necessary EPA and DHA able to be utilised.

Feeds that are proportionately **too high in Omega 6 to Omega 3** are vegetable oils (soybean, cotton seed, sunflower seed, corn, grape seed, rice bran, peanut, sesame oils) **Corn oil** for example has an omega 6 to omega 3 ratio of about **45:1!** Caution should be exercised with seeds like sunflower, sesame & pumpkin along with grains including corn, oats, wheat, quinoa and rice, not to be missed are legumes like soybean and peanuts that are very high in the Omega 6 fatty acids.

<http://nutritiondata.self.com/foods-00014100000000000000-1w.html?>

Vitamin C: Horses synthesise Vitamin C in their liver from green feeds and thereby supplying additionally in their feeds is deemed unnecessary. Studies show supplementation of small doses of Vitamin C at the 80 km endurance level may be beneficial.

(<https://dl.sciencesocieties.org/publications/jas/abstracts/82/2/0820588>)

Lecithin for ulcers: In a comprehensive study pectin lecithin failed to prevent lesions in the gastric ulcers. (<http://onlinelibrary.wiley.com/doi/10.2746/042516402776767268/abstract>).

Another comprehensive clinical trial revealed there were no significant differences in the ulcer scores between mares that received lecithin and mares that didn't. (http://www.repository.up.ac.za/dspace/bitstream/handle/2263/45481/Sanz_Efficacy_2014.pdf?sequence=1&isAllowed=y)

Toxin Binders: Horses exposed to mycotoxins in their feeds (mouldy hay) can benefit from varied forms of toxin binders. A variety of options include: diatomaceous earth, zeolite, cellulose, polysaccharides, mannans, oligosaccharides, bentonite clay and alumina-silicates.

Toxin Binders are useful as a preventative feed supplement, not a treatment once toxins have been ingested. Avoiding premixes/pellets may reduce the exposure to potential moulds hidden after processing.

Pro and prebiotics: Dr David Marlin a Scientific and Equine Consultant recommends "It is worth considering feeding a gut balancer type of product to horses under stress, horses prone to colic or laminitis, horses that develop GI upset on medications such as antibiotics, to horses around the time of worming, when changes to diet are made, for poor doers, older horses that lose condition and horses that develop loose droppings".

Nervous horses: Supplementing with nutrients that have been demonstrated to reduce symptoms of anxiety and stress hormones, along with supporting normal cognitive functions that assist building the brain's chemical messengers called neurotransmitters can be beneficial.

Caution must be exercised not overloading with high quantities of magnesium for example whereby 'slurred' behaviours can potentially endanger the safety of you and your horse. Magnesium can throw off absorption of other vital nutrients. Look for a balanced blend of amino acids, vitamin B's (not with Vit B12 in combination as it blocks out the functions of the other B's), small amounts of magnesium and select beneficial plant extracts.

