Nutrition: Key Issues and the consequences of getting them wrong

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Summary

We have identified 10 key issues related to nutrition and feeding horses in China. If horse owners or managers get some of these issues wrong, the health welfare and performance of the horse can be reduced and wastage will be increased. There are some very large investments in horseflesh in China but the wastage rate due to poor performance, slow growth, sub optimal body condition, colic, lameness, infertility and other diseases is high. The key issues are lack of nutrition knowledge, lack of grazing, poor water supply, poor forage supply, owner preference for fat horses, reluctance to pay for quality feeds, costs and time of transport of feed, poor nutrient balance, overuses of imported supplements and a tendency to feed all horses the same.

1. Lack of Knowledge

Whilst China has a large horse population, it has a narrow distribution so relatively few Chinese involved in the horse industry have had a long term involvement in horse care. This means that horsemanship skills and an understanding of digestive physiology, nutritional requirements and feeding management is often lacking. This extends from owners and managers through to staff and veterinarians. There are no courses which offer equine nutrition training so it is difficult for Chinese horse industry personnel to gain knowledge.

2. Lack of grazing

The horse evolved as a roaming herbivore grazing for 12 to 18 hours of the day and walking many km per day in search of feed and water. The horse's digestive tract is designed for the trickle feeding of grasses rather than large meals of concentrates. Green grass has many benefits for the horse compared to dried grass when fed as hay – it is referred to as Dr Green for a good reason. Green grass will be higher in energy, protein, amino acids, fat, omega 3 fatty acids, Vitamin A, Vitamin E, Vitamin K and antioxidants than when it is dried and made into hay. Grass is dust free and the horse grazes with its head down which is good for drainage from the respiratory tract. Grazing horses have less gastric ulcers than stabled horses eating concentrates and hay.

Because of competition for land use, climate and some ignorance of the importance of grazing, few horses are given year round grazing and many horses in China get no grazing time at all. This means supplementary concentrates and forages must supply all or nearly all the horses nutrient requirements.

3. Poor water supply

Water is a critical nutrient and deprivation of water will impact on health faster than deprivation of other nutrients. Temperature and the quality of water will both have an impact on intake. If water is too cold or too hot then the horse drinks less. If water is hard or polluted again voluntary intake can be reduced. The consequences of inadequate water intake include poor performance and an increase risk of colic. Few stables monitor intake or consider keeping water at an optimum temperature to reduce temperature related effects on water consumption.

4. Poor forage supply – Quality and Quantity

Horses are capable of eating and need large quantities of forage to meet their nutrient demands and maintain gastrointestinal health. In an attempt to maximise growth or productivity, horses are often fed diets that also contain high levels of grains and supplements. Unfortunately, this type of grain supplementation often overshadows the significant contribution that forages make in supplying the horse's nutrient demands and can lead to serious gastrointestinal, metabolic and behavioural disturbances.

In China, few horses have access to pasture and so rely on hay for their forage intake. When forage is grazed as pasture, its nutrient content is almost always higher than when it is harvested as hay, except if the pasture is the dead remnant left from the previous growing season. Chinese grass hay is cut too late and is usually of lower quality than that grown in many countries. Poor transport conditions and storage often leads to further deterioration in quality. Many horses are not fed enough hay or are fed hay of inferior quality leading to health, productivity and welfare issues such poor growth, condition, performance, stable vices and digestive disturbances.

5. Many horses are too fat and not fit

In common with many other countries, Chinese horse owners tend to like their horses to be fat and shiny, rather than fit. They confuse fat and muscle and need to remember this is a sport horse not a pet. The extra bodyweight requires extra feed and increases the risk of joint disorders, behaviour problems and colic.

6. You get what you pay for in horse feed

There is currently only 1 registered horse feed manufacturer in China and several imported brands are approved. To save money, many stables use unapproved cheap feeds, mix their own feed from raw grains or use feeds designed and made for other animals. This risks the horses being fed unbalanced diets with nutrient excesses or deficiencies resulting in poor health, fertility, growth or performance. Some feeds made for other animals contain substances which are toxic to horses and are dangerous to feed. You get what you pay for with horse feed!

7. Feed transport is expensive, time consuming and prone to delay

China is a very large country and road freight is slow and expensive. As most hay is made in northern China shipping it to other parts of the country is slow and expensive. This can lead to shortages or inadequate amounts of forage being fed due to the cost. The high cost of freight pushes up the price of compound feeds so sometimes stable choose cheap locally made feeds instead, or mix their own feed without the knowledge needed to get the nutrient intakes right.

8. Poor nutrient balance – Poor health and Performance

Chinese forages tend to be much lower in minerals like calcium, phosphorus, zinc, selenium and iodine. Hay is made once a year and as hay ages it loses fat soluble vitamins like A, E and K so intakes from forage vary throughout the year. Horses are often kept indoors all day so Vitamin D intakes from sunlight is less than in many countries. If horses are fed feeds designed for other countries then nutrient deficiencies can occur because the feeds are designed for different forage composition. This can be avoided by increasing intakes, but this might make the horse too fat or risks colic and other digestive disturbances, tying up, laminitis and behaviour problems. Alternatively supplements can be added but this requires some nutritional expertise to pick the best supplement and intake. The result is often horses are fed poorly balanced diets with consequent effects on health and performance.

9. Overuse of expensive supplements

There are no registered Chinese made supplements for horses so owners who want to feed supplements tend to rely on expensive illegally imported supplements. Many of these are added without regard for what nutrients the horse needs in the hope it will improve performance but that's not unique to China. However the imported supplements are often expired or past their best before date, so that means that horse owners are paying a lot for something their horse may not need or the product may not supply what the label claims.

10. Don't feed all horses the same

The nutrient requirements of a horse vary with body weight, breed, metabolism, workload, growth rate and reproductive status in mares. This means you can't use the same feed or the same feed rates for all horses in a stable but some stables follow this principal for simplicity. This results in underfeeding or overfeeding and can lead to obesity, poor body condition and poor health, fertility, growth rate and performance. Horses need to be fed as individuals and when horses are in stable you have full control. The type of feed used should be based on the life stage or activity of the horse and intakes need to be adjusted to maintain optimum weight and body condition.