

The importance of forage

Feeding horses should not be complicated. In fact, it should be a straightforward process. Yet in many instances, even experienced horsemen will have experienced difficulty in determining which requirements of the horse's diet are the most important. There is now a wealth of information available to us via articles, internet, magazines and lecture evenings and we are all aware of the latest new feed or obscure new nutritional deficiency, that the most basic requirements for our horse's health and productivity often become overlooked. Horses require a variety of energy rich sources to pay their energy bill and the foremost requirement is forage.

Horses have evolved over millions of years as grazers and have a specialized digestive tract, which is adapted to digest and utilize diets containing high levels of plant fibre. Horses are classified as non-ruminant herbivores. They have a large intestine, which is home to billions of bacteria and protozoa that produce enzymes, which ferment the plant fibre. The by-products of this fermentation process (volatile fatty acids) provide the horse with a source of energy and micronutrients. Horses may obtain 60-100% of their energy from volatile fatty acids produced via microbial fermentation of fibre (Glinsky *et al.* 1976). The stomach and small intestine of the horse are only capable of digesting feed that arrives in small, but fairly constant rates, and are certainly not adapt to coping with single large meals, a factor that is sometimes overlooked when we have a hard working horse or poor doer to deal with!

The fact that horses evolved as hindgut fermenters has several implications. Since the horse is designed to trickle feed and live on fibre, he has both a psychological requirement for fibre and a physical requirement for fibre. Even though the horse has been domesticated for hundreds of years, these two requirements for fibre will always remain and never change.

Physical Requirement for fibre:

Fibre provides bulk to the digestive tract to maintain peristalsis, and, therefore the movement of digesta through the system. This also helps to eliminate gas bubbles from the system, which is usually demonstrated when you go to pick up a back foot or groom a tail!! A lack of fibre in the diet can lead to constipation, and gastric ulcers but at the other extreme, too much indigestible and very tough fibre, such as wheat straw, may lead to impaction colic's.

As the horse evolved to almost continually trickle feed, the way in which he stimulates saliva production and gastric acid production is different to the likes of you or me. When the horse chews copious amounts of saliva is produced to lubricate the food to aid swallowing. To cope with the continual ingestion of food, the stomach continually secretes gastric acid in to the stomach lumen. Humans produce saliva constantly and gastric acid only when we actually eat. Gastric acid is extremely nasty and at the site of secretion the pH level is about 1-1.5, extremely acidic. At the top of the stomach the pH level is more alkaline, that means, it is not so acidic. The saliva that is produced during chewing also has an important function of helping to neutralise the acid that is produced in the stomach. If the horse is not eating and therefore chewing, he is not producing any saliva. However, he will still be producing plenty of gastric acid and have nothing to neutralise this with. Long periods without saliva and fibre reaching the stomach results in the acidity building up in the stomach and eventually causing erosion to the delicate cells that line the upper half of the stomach, leading to gastric ulcers.

The incidence of gastric ulcers has been shown to be as high as 95% in racehorses and is thought to be as high as 60-70% in horses performing other disciplines. The biggest cause of this is reduced forage intake and irregular feeding times.

A sign of gastric irritation may cause, poor appetite, unthriftiness, irritability, and poor coat condition and all of these can be easily avoided. Remember how the horse evolved and make sure that he is not left for long periods with nothing to eat. Even if you are away at an event, make sure that you allow your horse regular access to a haynet or to nibble at some grass. Small meals of Alfa A are good, as alfalfa has natural acid neutralising properties. This will stimulate saliva production and help to neutralize the stomach acid. You are more likely to have a horse that finishes his day feeling good in himself and ready to tuck in to his supper when he gets home!



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Psychological Need

During his day in the wild, a horse would spend the majority of his time eating, the rest he would be sleeping, roaming or mutual grooming etc. This means that most of his day is actually spent chewing! Research has shown that it takes a horse more chews, and therefore more time to chew 1 Kilo of hay compared to 1 Kilo of concentrate feed. Chewing (and therefore eating) is a horse's favourite pastime, and by putting our horse in a stable, potentially we can severely reduce the time that he spends eating. If the horse is not eating then he is probably going to be very bored and more likely to wood chew, box walk or crib bite etc. To enable your horse to carry out his normal behavioural needs, try to give him daily turnout. For the time that he spends in the stable always make sure that he has plenty of fibre to keep him occupied. Try putting piles of hay or haylage at different places around his box and giving him some high fibre cubes to nuzzle out of clean straw bedding. All these simple things help us to allow our horse to exhibit their natural behaviour and to keep their digestive systems healthy, as well as keeping them occupied.

What Kind Of Fibre Is Good For My Horse?

- **Grazing Is Good.** Grazing is the most common method of forage consumption and can provide exercise and companionship. It helps to prevent boredom and minimises the problems with ulcers. Young and good quality pasture can meet the energy requirements of a mare in early lactation.
- **Grazing Is Bad.** Unlimited access to rich pasture or frosted pasture can cause colic or laminitis. Grazing may expose horses to pasture hazards such as poisonous plants and parasite eggs, so field management is important. It is also difficult to determine the amount and type of forage that a horse is consuming when formulating diets for sports horses etc. Soil testing, manure collection and weed control are important to maintain excellent pasture quality.
- **Grass Hay Is Good.** Grass is the most natural of all horse feeds. It provides energy through the fermentation of fibre in the hindgut. When hay forms the basis of a horse's diet there is a lower risk of metabolic disorders and gastric ulcers than when horses are fed large concentrate diets.
- **Grass Hay Is Bad.** Horses that are in training or work may not be able to derive sufficient energy on a diet that is based on hay alone and will require alternative energy sources to supplement their diet. Older hays will be more indigestible and less suitable for older horses or for those that are difficult to keep condition on. Good grass hay should be soft, green and leafy, with a sweet smell. Hay that is mouldy or dusty will cause respiratory problems such as COPD.
- **Haylage is Good.** Haylage is a popular alternative to grass hay in this country. Usually haylage has a higher digestible energy level than hay, which means that less concentrate feed can be fed to meet requirements. However, haylage also has a higher moisture content than hay so remember to feed more of it by weight to ensure that dry matter requirements are met. Providing that haylage is stored correctly it lasts for a long time.
- **Haylage Is Bad.** It spoils quickly and must be fed soon after opening, usually within 3-4 days. Do not use haylage that smells rancid or has a wet or slimy mould on it (white mould is usually normal and a yeast formation). Avoid bags that have been punctured or split.



Fact Sheet



Forage is now also available in a multitude of forms, from traditional long stemmed hay to symmetrical cubes. Cubes and pellets are another acceptable way of providing forage to horses, and one that is commonly used in the diet of older horses that can no longer chew hay or haylage. Despite their non-traditional form cubes or pellets can provide adequate fibre to horses, allowing the gastrointestinal tract to function uninhibitedly. However, cubes and pellets usually take less time to chew and therefore saliva production is reduced, which can increase the risk of choke. Dampening high fibre cubes and mixing with some chaff will help to combat this. An advantage of using pelleted fibre products is that like other processed feeds cubes and pellets must have a printed guaranteed levels of protein, fat and fibre printed on the feed tag. Therefore, the level of nutrition remains consistent. In addition, cubes and pellets are easier to measure, feed and store than baled hay. Minimal dust in cubes and pellets makes them ideal for horses with respiratory problems. A small amount of long stemmed forage should be offered to horses on completely cubed or pelleted forage diets.

NO MATTER THE TYPE OF HORSE THAT YOU ARE FEEDING YOU SHOULD AIM FOR FORAGE INTAKE TO BE 1.5-2% OF BW AND IT SHOULD NEVER FALL BELOW 1% OF BW.

- **FOR FURTHER TECHNICAL INFORMATION ABOUT THE PRODUCTS MENTIONED PLEASE VISIT OUR WEBSITE www.saracenhorsefeeds.co.uk OR FOR A PERSONAL FEEDING PLAN PLEASE CALL OUR FEED HELPLINE 01622 718487**



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