

YEAST SOLUTIONS

EQUINE SPECIAL



FEEDING HORSES...

Unlike cows and sheep, horses are known as “hind gut fermenters”. This means that horses ferment the fibre in their diet at the end of the digestive system - in the caecum and colon. Surprisingly, for an animal whose main diet is grass, a horse can't produce the enzyme needed to break down cellulose which is found in forages such as grass, hay or haylage. Instead, bacteria ferment the cellulose and break it down producing volatile fatty acids (VFAs), which are used for energy. Up to 70% of the energy the horse needs at maintenance is provided by these VFAs.

How can Actisaf help?

Feeding Actisaf live yeast has been shown to improve dry matter digestibility of hay,

especially the fibre component. Actisaf enables the population of good bacteria in the gut to thrive, meaning that horses fed Actisaf will digest their hay better and therefore benefit from the increased digestion of the nutrients in the forage.

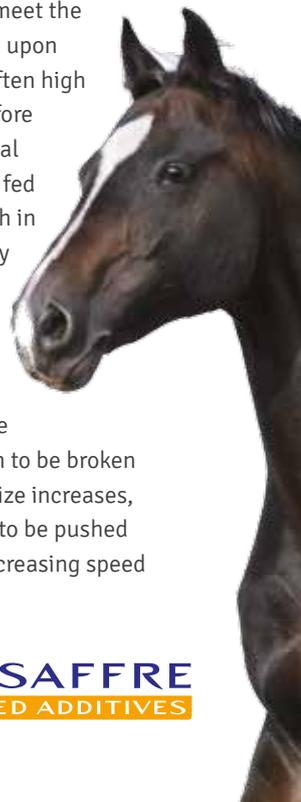
The impact of starch

A horse is designed to ingest large quantities of forage each day. In fact, horses and ponies can consume up to 4-5% of their body weight (BW) per day if fed ad libitum! This is because, historically, horses were nomadic herbivores, consuming small, fibre-rich meals on an almost continual basis. As there is no starch in their natural diet of grass, horses don't produce large quantities of -amylase, the enzyme that breaks down starch into glucose.

Today however, horses are fed diets supplemented with concentrate, or sweet feed, in order to meet the energy demands placed upon them. These diets are often high in starch and can therefore be difficult for the animal to digest. If the horse is fed small meals that are rich in starch, then it is unlikely that they will suffer any consequences (a small meal will move slowly through the gut and there will be more time for the starch to be broken down). Once the meal size increases, though, the food starts to be pushed through the gut with increasing speed

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FEED ADDITIVES



HORSES CAN CONSUME UP TO 5 PER CENT OF THEIR BODYWEIGHT/DAY



A well-balanced diet is essential if a horse is to perform to its optimum and maintain good health but it's also important to remember the basic rules of feeding. Below LFA Celtic Global Equine Specialist, Catherine Hale, shares her top tips to avoid dietary-induced problems:

1. Always provide fresh, clean water

Around 70-75% of the body is water and if just 5% is lost, then the horse will suffer from dehydration. If 15% is lost, then the risk is fatal. Always ensure that water troughs in the field are full and if they fill automatically, check that they are working. Recent research has found that if a horse is left for even a short time in the field without water, then the risk of the horse developing gastric ulcers drastically increases.

2. Feed good quality forage

In the wild, horses graze for around 18 hours a day so forage is an extremely important part of the diet. It also plays an essential role in the mental wellbeing of the animal. Horses have a psychological need to chew so if forage is restricted, especially in stabled horses, the animal will become stressed, thus reducing the welfare, and potentially, performance too.

3. Feed little and often

A horse is unable to regurgitate food, or be sick, so if too much food is fed at any one time, then it will move through the digestive system very quickly and will not be adequately broken down, leading to starch dumping in the hind gut.

4. Make changes gradually

Recent research carried out by vets at Liverpool University found that sudden changes to the diet was one of the main causes of colic in horses. Introduce new feed or forage over 7 to 10 days by gradually reducing the current feed whilst increasing the new feed.

5. Feed according to size, type and workload

Always assess your horse's body condition and weight before deciding on

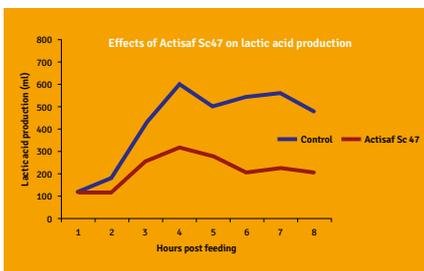


Figure 1: The effects of Actisaf Sc 47 on lactic acid production, in vitro

and the remaining starch is pushed into the caecum. Bacteria then ferment this starch, producing lactic acid as a by-product, rather than the beneficial VFAs seen above.

When lactic acid is produced in the hind gut, the pH tends to drop resulting in many potential health complications – this is often referred to as hind gut acidosis. The low pH effectively kills the good bacteria that would normally ferment fibre, and left to persist this can cause problems such as caecal and colonic ulcers, colic and laminitis.

Many performance or racing horses, with increased energy demands, will often be fed meals high in starch, in an attempt to

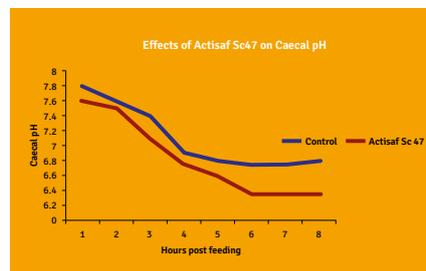


Figure 2: Effects of Actisaf Sc 47 on caecal pH

meet the energy demands placed upon these animals. Studies conducted, in vitro looking at the effects of Actisaf, have found that supplementation with the live yeast reduced lactic acid accumulation (figure 1) and maintained a more stable pH.

Feeding Actisaf not only increases the digestibility of fibre, but can also reduce lactic acid accumulation and also maintain pH within the normal range of the hind gut, therefore improving both the health and welfare of the horse.



BACK TO BASICS

what and how much to feed. Try not to over-estimate the amount of work your horse is in and if your horse starts to put on weight, look to reduce the amount of concentrate fed in the first instance. Rather than cutting back on forage, consider soaking hay to remove soluble sugars, changing to a forage with a lower energy content (i.e. from haylage to hay) and in extreme cases, mix hay with good quality oat straw. This way the horse still receives enough forage to satisfy the need to graze, but will consume much less energy.

6. Do not over-feed starch

It is now widely recognised that excessive starch in the diet can cause a multitude of problems. In order to minimise the effects of over-feeding starch, current guidelines suggest that horses and ponies should not be fed more than 1g starch per kg of the horse's body weight per meal.

7. Do not exercise immediately after food

When a horse exercises, the energy used

in the digestive process is directed away from the gut and towards the exercising muscles. Also, during exercise, a horse needs to take in more oxygen than he would at rest. If the digestive system is very full, then this will be difficult as the gut will take up a large amount of space in the abdomen.

8. Stick to a routine

Changes can cause unnecessary stress to a horse so keep routines (such as when you feed, how much you feed, when you exercise) as constant as possible. If the diet is changed too often, it may even lead to problems such as colic.

9. Feed something succulent every day and always dampen the feed

The horse's natural diet is one of grass, which is high in moisture. Be sure to feed succulents, such as apples and carrots, not only to provide moisture, but also to maintain the animal's interest in the food. This is especially important if the horse has restricted access to pasture. (Do take care

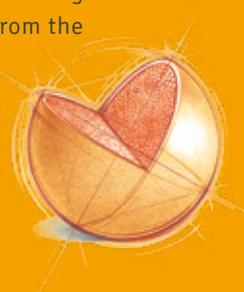
however, that you do not over feed them, as these items are high in sugar and may cause weight gain). Always dampen feed as a very dry feed may cause problems with palatability and put the horse at risk of choking.

10. Always ensure buckets and utensils are clean

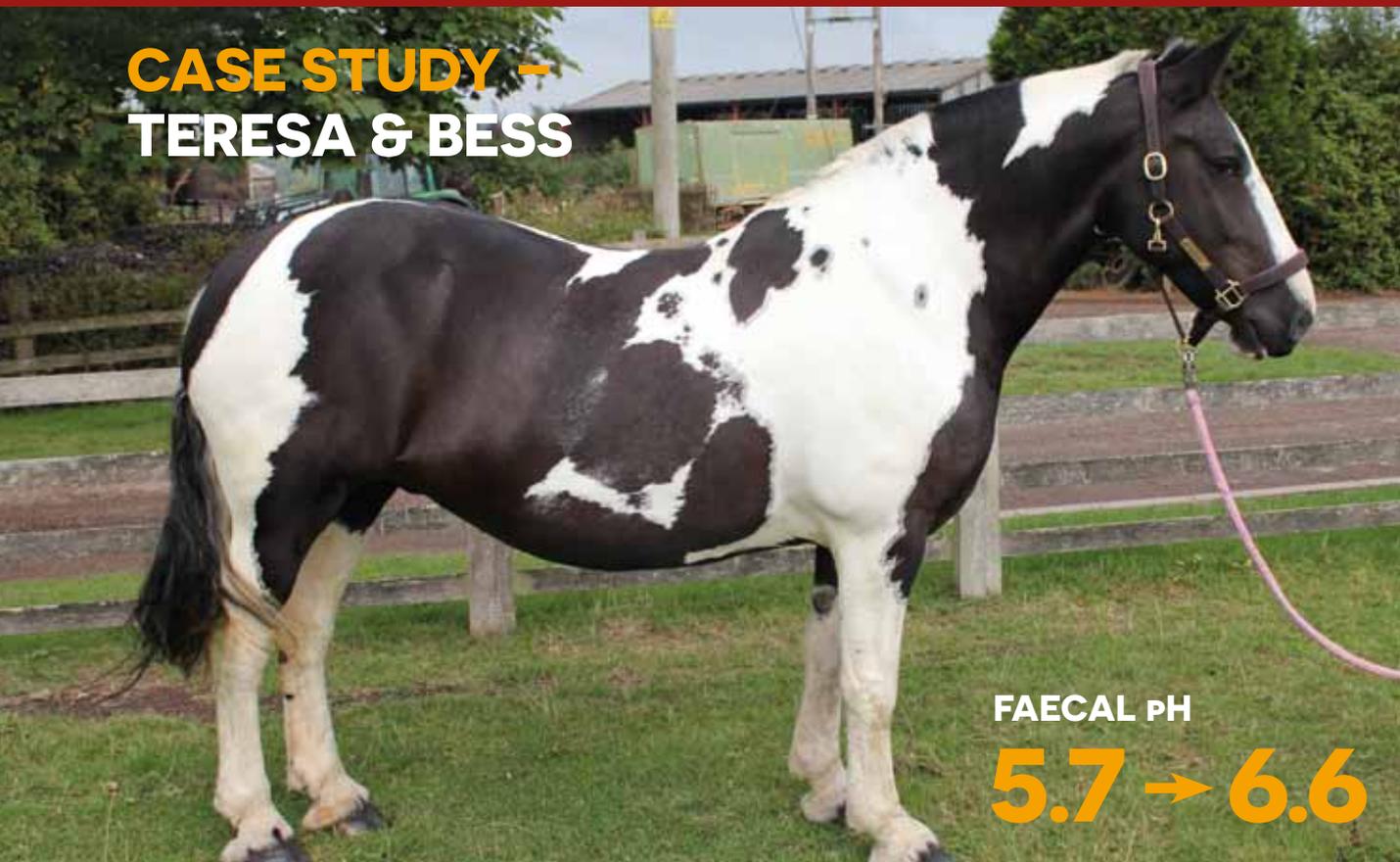
This is probably the most common sense rule, but avoid contamination of both feed and water by always ensuring your horse's buckets are clean, as well as things such as scoops and mixing utensils.

11. Feed Actisaf every day

Actisaf is a live yeast and is officially described in the UK as a probiotic. Actisaf improves the digestibility of forage feeds, meaning that the horse will get more from the forage he is given.



CASE STUDY – TERESA & BESS



FAECAL pH

5.7 → 6.6

When Teresa Basher bought Bess, she was unaware that the gentle black and white gypsy cob was in fact 6 months pregnant. She came to Teresa with a large worm burden, which often manifests as a large “wormy” belly, thus her pregnancy remained undetected. Teresa, who has lived and worked with horses all her life, soon realised something was not quite right and the vet later confirmed what she suspected, that the mare was in foal. Sadly, due to the way Bess was fed and managed in her early pregnancy prior to Teresa buying her, the foal was born with a multitude of health complications and died a few hours after birth.

After this, Bess lost weight very quickly. She started to suffer from itchy, scurfy skin and almost totally lost her appetite. Teresa found out that Bess’ previous owners had tried to substitute her hay with large quantities of starch-rich concentrate foods. As a result, Bess appeared to be suffering from hind gut acidosis.

This was confirmed by measuring Bess’ faecal pH which was 5.7 (A pH of 7 is neutral and acidosis is diagnosed when the faecal pH is below 6.). On the advice of Catherine Hale, LFA’s Equine Specialist, Teresa started to feed 10g of Actisaf a day to Bess. Actisaf, a live yeast, has been proven to increase fibre digestion in horses by promoting a healthy bacterial population in the hind gut.

After just 1 week of supplementation with Actisaf, Bess started to improve. Over the course of the following 8 weeks her appetite increased and she started to put on weight. Her coat condition improved dramatically and she stopped rubbing her mane. Her behaviour also improved, something that has been found to be a benefit of feeding Actisaf to horses. But most importantly, she recovered from the hind gut acidosis that had plagued her for so long. Her faecal pH increased from 5.7 to 6.6, bringing the hind gut environment back within normal parameters.

Teresa and Bess are now competing and are enjoying success in the show ring.

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FEED ADDITIVES

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Actisaf^{Sc 47}®

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