What are they and does my horse need one?

Advice

digestive enhancers

There are so many feeds and supplements available for equines now that it is hard to know where to start in deciding whether to use them for your own horse. Digestive enhancers are certainly the supplements of the moment and even if you haven't spotted them on the shelves of your feed merchant or tack shop, you've probably seen adverts on TV advising you to "top-up your friendly bacteria"! But are they really as useful as they're made out to be and how do you know if your horse needs one? Firstly we need to understand what they are and how they work.

What are Digestive Enhancers?

Digestive enhancers include probiotics, prebiotics and yeast culture which all have slightly different functions.

■ Probiotics

These contain live bacteria and aim to flood the gut with beneficial species which can then stop the harmful species from becoming established – a process termed "competitive exclusion". There are many species of beneficial bacteria so a good probiotic supplement should contain at least 5 and preferably 8 or more different species.

The length of time probiotics are used for depends on the reason for their use. They can be used as a shorter term strategy in response to a more acute disruption to the microbial population such as after a course of antibiotics. Alternatively, if the microbial population is likely to be compromised indefinitely such as with old age, they may need to be used long term to counteract the problem.

■ Yeast

Lots of research has been devoted to investigating the benefits of yeast. Studies suggest that the addition of yeast to the diet results in increased numbers of beneficial bacteria and more efficient fibre digestion. It is suggested that yeast may provide the fibre-digesting bacteria with important nutrients, or co-factors, that stimulate their activity and may even bring the bacteria and the food particle together to make the digestion process more efficient.

Because yeast is a live organism itself, it is sometimes referred to as a probiotic and because it requires oxygen in order to live and, as the horse's hind gut is largely anaerobic (free from oxygen), it needs to be supplied in the diet on a continuous basis for the benefits to be effective.

■ Prebiotics

The definition of a prebiotic is "a non-digestible food ingredient that beneficially affects the host by stimulating the growth and/or activity of one or a limited number of bacteria in the colon". In simple terms, this means that the horse or other host animal cannot utilise the prebiotic but it does have an effect on the bacteria in the gut. Prebiotics tend to be sugars called oligosaccharides, the most commonly used in horse feeds being fructo- and mannan-oligosaccharides, which have different modes of action.

To appreciate how prebiotics work we need to understand how bacteria maintain their populations in the gut. Bacteria have hair-like appendages that are able to recognise and attach to special binding sites in the gut wall where they reproduce; a process which requires a readily available source of food. If the gut lining is damaged then the opportunities for the bacteria to attach and reproduce are reduced so the overall population is compromised.

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Mannan-oligosaccharides (MOS) are derived from the surface of yeast cells and provide a binding site for certain harmful bacteria. The presence of MOS in the gut therefore stops harmful bacteria attaching to the oligosaccharides in the gut wall thus preventing them from becoming established in the gut. Because attachment is species specific not all harmful species are trapped by MOS; Clostridia for example, which are known to be a cause of diarrhoea in horses, are not bound by MOS.

Fructo-oligosaccharides (FOS) are found and derived from various different sources including artichokes, chicory, onions and sugar beet and are the active ingredient in Baileys Digest Plus prebiotic. They are, quite simply, a food source for certain beneficial bacteria which they need in order to reproduce. Research has shown that harmful bacteria such as E. coli and Clostridium perfringens, cannot utilise FOS which means that beneficial species are able to competitively exclude them. FOS seems to be particularly useful when horses are suffering with diarrhoea, presumably because numbers of C. perfringens are reduced.

When Might My Horse Need One?

There are times when it is obvious that the gut is not healthy and this is when digestive enhancers have the greatest potential to be of benefit. Diarrhoea, colic or really foul smelling droppings are good indications that all is not well in the horse's digestive tract, although some symptoms are not necessarily as obvious. Many people, for example, would not make the association that an underweight horse may have a compromised bacterial population. A digestive enhancer is therefore usually a good idea for all underweight horses, whether they're the sort that stress and get a bit loose when they go to a show, or even severely undernourished individuals.

An increased rate of passage of food through the digestive tract means that bacteria are carried out quicker than they can maintain their numbers. Horses that get excited when they compete or travel often go to the loo much more frequently and may get very loose droppings as well. These individuals are also usually the ones that come back from a show all tucked-up. Digestive enhancers are often able to help stop this happening.

Bacteria are alive and, just like any other living organism, they need a food supply. If the horse has been starved then it is likely that the friendly bacteria will have been too, which allows harmful species to take advantage. This can lead to an unhealthy gut which can often mean that a horse won't put on weight whatever he is fed.

Benefits to the Young and the Old

Diarrhoea is a serious problem for any horse but it is even more of a threat to foals who can become dehydrated and die within hours. Anecdotal reports suggest that FOS prebiotics are especially beneficial for clearing up diarrhoea and have worked particularly well in foals. It is important to stress that if a foal has diarrhoea, veterinary advice should always be sought immediately and prebiotics should not be considered as alternatives to veterinary medicines but rather as complementary to them.

The importance of certain species of bacteria is becomingly increasingly understood as links between health and nutrition are investigated in various species including humans and farm animals. Research has shown that numbers of Bifidobacteria decrease in old age as a result of diminishing secretion of gastro-intestinal fluids. This decrease has been implicated in reductions in immunity and the onset of age-related diseases which include cancers and arthritis in humans. Obviously it is too early to say whether these associations apply to the horse but indications are that helping to maintain levels of important beneficial bacteria such as Bifidobacteria, helps to maintain the overall health of the host animal.

In Sickness.....

If a horse is injured or suddenly becomes ill they are frequently confined to the stable on box rest. This often necessitates a change of diet and they may also require antibiotics, all of which makes them vulnerable to digestive upsets. Using a digestive enhancer is one way of trying to combat the stress that this scenario loads on both the horse and the microbial population in the digestive tract.

Nutrition-related laminitis is another situation that results in a disruption of the bacterial population and so it makes sense that after an episode of laminitis, attempts should be made to restore the bacterial population. Digestive enhancers are not going to treat the disease but they might just help reduce the risk of further problems such as colic.

and in Health!

Your horse doesn't have to be sick to use a digestive enhancer. In countries where human diets contain higher levels of prebiotics there is a reduced incidence of colonic cancer which has lead some researchers to suggest that prophylactic (preventative) use of prebiotics is generally a good idea! As a result, manufacturers are now including them in a wide range of mixes and cubes as a means of trying to reduce the incidence of digestive upsets in horses. Look out for Baileys Digest Plus and Yea-Sacc®1026 in Baileys products.

For further information or a practical and individual diet for your horse, contact one of Baileys Nutrition team on
01371 850 247 (option 2)
e: nutriiton@baileyshorsefeeds.co.uk
www.baileyshorsefeeds.co.uk