

Probiotics and Functional Feed

An intestinal flora in balance is a determining factor of a horse's wellbeing. The gut of an adult horse is generally colonised by several hundred different species of micro-organisms, dominated by the strict anaerobes. Horses are actually depending on bacteria in their normal microflora for the degradation of cellulose in their diet. The delicate balance of the intestinal microflora can easily be disturbed.

The idea of the intestinal microflora comprising both harmless and useful bacteria as well as potentially pathogenic and putrefying ones, was first launched by the Russian scientist and Nobel Price Winner Elie Metchnikoff (1845-1916). He believed that the lactic acid bacteria were of particular interest for prevention of intestinal disturbances.

The often used term "**probiotics**" means "micro-organisms with positive health effects in humans or animals". The best studied probiotic micro-organisms are strains of lactobacilli, which belong to the lactic acid bacteria. "**Functional Feed**" is "feed or feed additives enriched with one or more ingredients with documented positive health effects beyond those that can be attributed to the nutritional value of the product". An example is probiotics.

Certain criteria should be fulfilled if a micro-organism is to be regarded as probiotic:

1. The micro-organism should be correctly identified.
2. The micro-organism should be generally regarded as safe (GRAS) for consumption.
3. The micro-organism should be able to survive the passage through the gastrointestinal tract of the intended species, and, preferably, be capable of transient colonisation.
4. It should be alive and present in sufficient numbers in the intended functional food or feed product throughout the stated shelf life period.
5. Clinical trials on relevant doses of the product, showing significant positive health benefits in the intended species, should have been performed.

The effects of probiotics are suggested to be due to i.e. the production of antimicrobial substances, competitive colonisation in the intestinal tract, as well as influence on the immune system and on the intestinal mucosa. During the last years, a number of clinical studies, mainly in humans, have shown positive effects of probiotics during intestinal infections, irritable bowel syndrome and atopic allergy.

Probiotics for animals have been evaluated mostly in growth studies. The effects of probiotics in horses are so far poorly studied in controlled clinical trials, even though several products are on the market. Most of these products are powders with low numbers of living micro-organisms.

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