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PREBIOTICS, PROBIOTICS AND YEAST

FOR HORSES,

by Jessica Lynn DOGS AND CATS

There seems to be a general misunderstanding about prebiotics, probiotics, and yeast, and whether any of them should be fed to horses, cats, and dogs. And if so, what kinds and how much?

IMPORTANT DEFINITIONS

Probiotics (literally “for life” in Greek) are live microorganisms, usually bacteria, that are similar to the beneficial microorganisms found naturally in the body – particularly in the digestive tract. Also known as “friendly” or “good” bacteria, probiotics are either already present in foods or can be added to them. When introduced into the body, they work together with the natural bacteria to help the digestive and immune systems function properly.

Prebiotics (“pre-life”) are essentially “food for life” for intestinal bacteria and probiotics, promoting their growth and activity. Prebiotics cannot be digested directly by the body, but are consumed by the beneficial bacteria in order to help them function properly.

Yeast (meaning “boil, bubble, foam”) are fungi. There are numerous species of fungi, many of which can be very beneficial organisms, not just decomposers and pathogens. Yeast have been used throughout history for fermentation (the conversion of sugar to carbon dioxide and alcohol) and baking. The introduction of yeast or yeast culture may assist your horse in breaking down the fiber in his diet. Some species of fungi also provide valuable digestive enzymes including amylase, cellulase, protease, and hemiculase.

THE EQUINE DIGESTIVE SYSTEM

The intestinal tract is the largest immune organ in the mammalian body. Probiotics play a vital role in supporting the intestinal tract and, therefore, immunity. Probiotics may also help prevent ulcers and some gas colic in horses. Here is how it appears to work:

When a horse starts grinding food with his teeth his mouth releases salivary enzymes, and thus begins that mouthful’s approximately 100-foot journey through the digestive tract. The food travels down the esophagus, enters the stomach, and mixes with digestive juices and enzymes. Billions of good microbes begin their work.

The partially broken-down food then enters approximately 70 feet of small intestine, where some of the nutrients – soluble carbohydrates, along with minerals, fats and proteins – get absorbed into the bloodstream. Insoluble carbohydrates that are not so easily digested (as well as any undigested soluble carbohydrates) then pass to the cecum, the “fermentative vat,” and the beginning of the large intestine. In the cecum, a variety of live microbes break down the remaining food into a usable form – absorbable volatile fatty acids - which the horse uses for energy and nutrients. Remaining undigested solids are broken down as they travel through 10 to 12 feet of large colon, 10 to 12 feet of small colon, and the foot long rectum.

FEEDING THE HORSE PROBIOTICS, PREBIOTICS, AND YEASTS

Supplementing with probiotics (a variety of strains) helps to keep the intestinal bacteria populations flourishing and balanced (there are good, neutral, and bad bacteria that all live in concert in the mammalian

digestive tract). These bacteria can quickly become unbalanced when an animal is stressed, thereby undermining the health of the animal.



Starting at the bottom of the photo at 6 o'clock is a yeast culture; at 9 o'clock is a yeast bi-product from distillers grains including corn; at 12 o'clock is a yeast culture with probiotics; and at 3 o'clock is a yeast culture with pre-biotics and probiotics added.

A FEW OF THE MOST COMMON STRAINS OF BENEFICIAL BACTERIA

The various strains of lactic acid bacteria (one being *Lactobacillus acidophilus*) are the most common type of probiotics used as feed additives, not only for horses but for dogs and cats as well.

Some of the common strains of beneficial bacteria and their purpose within the mammalian digestive system are listed below.

- **Lactobacillus strains:** Produce lactic acid that keeps "bad bacteria" in check. Continued colonization by this bacteria helps to inhibit the growth of pathogens by competing for nutrients and promoting healthy pH levels. Produces specific substances that have been observed to inhibit the growth of some pathogenic microorganisms including *Escherichia coli*, *Staphylococcus aureus*, and *Salmonella* species.
- **Bacillus strains:** Counteract deadly bacteria that can cause diarrhea. They also help to ensure that nutrients, vitamins, and other supplements are being absorbed into the animal's cells and guard the entire intestinal tract.
- **Enterococcus strains:** Help to keep bad bacteria in check and can help to prevent diarrhea, irritable bowel syndrome, and may help to prevent colic in some situations.
- **Bifidobacterium strains:** Help promote a healthy balance of flora within the

animal's intestine. This organism is especially helpful for enhancing immune response and encouraging motility within the intestinal tract. (Note: "Bifidus regularis" is a name which was created by Dannon for marketing purposes, it is also known as *Bifidobacterium animalis* DN-1 73 010. This strain of probiotics is used exclusively in Dannon's popular Activa products which Dannon claims promote regularity in humans.)

NUMBERS COUNT

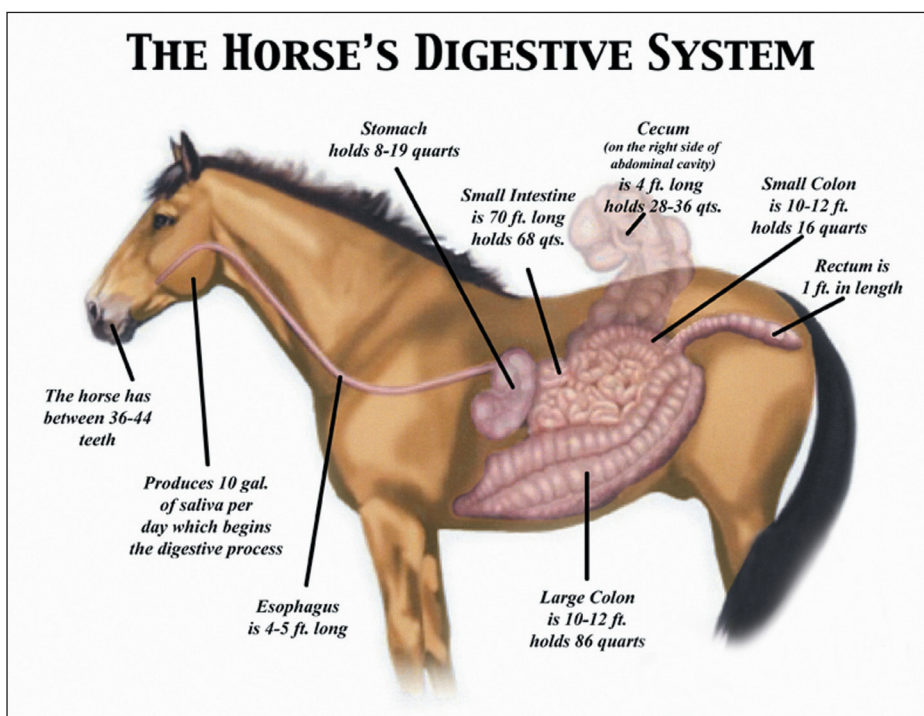
The strength of probiotics is measured in Colony Forming Units (CFUs). A CFU is a measure of viable (live) bacteria or fungi, with CFU/mL (per milliliter) for liquids, and CFU/g (per gram) for solids.

Read the labels when selecting a probiotic or yeast-based feed additive to reintroduce or replenish beneficial gut microorganisms. Compare products and find the one with the highest guaranteed CFU count of multiple strains of beneficial bacteria and yeast. CFU's in the billions are required for the success of an equine oral product. A horse needs from 36-43 billion cfu's per serving, of multi strains, so again read your labels and find the guaranteed analysis. Because a bag feed says "probiotics" added does not mean there is a guarantee or that your horse will get what he needs.

WHEN TO USE PREBIOTICS AND PROBIOTICS

While I supplement my horses with high potency prebiotics and probiotics daily, this is not necessary for every horse, especially if they have a simple, stress-free lifestyle. These horses can be supplemented twice per week or every other day.

However, horses who are stressed from weather, showing, travel, high carb or premixed feeds, rich green grasses, breeding, vaccinations, chemical wormers, or drugs, will benefit from a daily dose of a high potency, multi-strain prebiotic/probiotic supplement.



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PROBIOTICS FOR DOGS AND CATS

It has only been in recent years that pet guardians have begun to understand the value of probiotics and what these beneficial microorganisms can do for their furry family members. Even though there are now direct-feed microbial products for them, they can be fed the human probiotics in capsules that contain a variety of strains of probiotics. Dogs and cats who are not lactose intolerant can also be fed plain yogurt. I occasionally feed my cats and dogs a regular, non-flavored regular yogurt from the health food store. Some people do not agree with this practice, but I have found it to be beneficial for my animals.

Some of the pet-friendly probiotics that you may find in products are:

- ***Lactobacillus acidophilus***: Often found in yogurt products, guards the health of your pet's entire digestive tract.
- ***Lactobacillus casei***: Works with other helpful organisms and encourages the growth of other "good" bacteria.
- ***Lactobacillus plantarum***: Helps to ensure that the nutrients in vitamins and supplements are absorbed into your pet's cells.
- ***Bifidobacterium***: Promotes a healthy balance of "good" bacteria and enhances immune response.

Some of these pet friendly probiotics can be found in human products, as well.

Probiotics are "generally regarded as safe" (GRAS) by the FDA and other regulatory bodies. The majority of current research shows that most mammals can benefit from being supplemented with a variety of probiotic strains. Probiotics help to keep the immune system healthy and the intestinal tract functioning properly. Follow manufacturer's recommendations on any yeast or yeast culture product. If you have a question about dosages, call the manufacturer or consult your veterinarian or holistic health care provider for guidance. ♡♡



About the author:
Jessica Lynn is the founder of Earth Song Ranch, a licensed natural feed supplement company, specializing

in probiotic blends, and other natural products. Jessica grew up with organic food, osteopathy, homeopathy, and herbs so all of this comes naturally to her. She continues to live a natural lifestyle on a ranch in So. California with 3 horses, a Border Collie, a Mini Aussies, and a gaggle of cats. You can contact her at Jessica@earthsongranch.com, or go to her web site www.earthsongranch.com & visit her face book page at <https://www.facebook.com/#!/earthsongranch> or via phone 951-514-9700