

HOT TOPIC

Prebiotics



CHICORY ROOT



In focus

Purina was the first to use prebiotics in pet food and is a leader in the field.

What are the benefits of prebiotics to pets?

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What is the difference between a prebiotic and a probiotic?

Although the names are similar and are often confused, prebiotics and probiotics are very different. However, they do have a (symbiotic) relationship, one being the 'food' for the other.

Probiotics are live, beneficial microorganisms (or bacteria) that when consumed in adequate amounts, can provide health benefits to the pet.¹ Hundreds of bacterial species can be found in the gut, some are 'good' (e.g., lactobacillus and bifidobacteria) and some potentially pathogenic (disease causing, e.g., clostridia). Collectively the bacteria that colonize the intestinal tract are known as the microbiota.² The objective is to have an optimal balance between the good and the bad bacteria to help minimize the risk of digestive upsets.

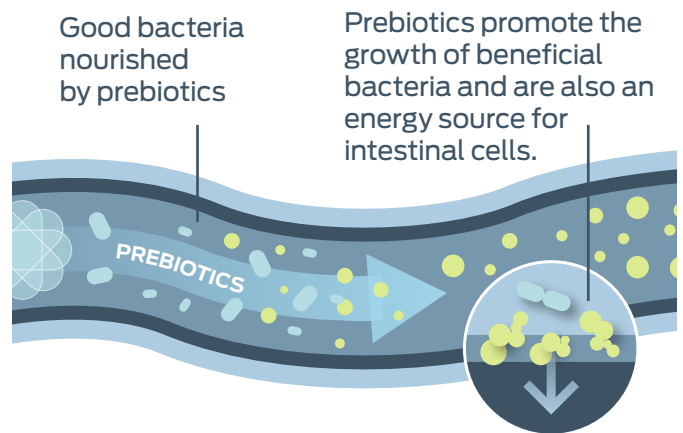
A prebiotic is a dietary fiber that when added to the pet's diet, helps nourish and feed the good bacteria. Examples of prebiotics found in pet foods include chicory, a source of inulin, and wheat aleurone.



- Since ‘good bacteria’ can preferentially use prebiotics as an energy source, prebiotics in the diet can also help stimulate the growth of beneficial bacteria while inhibiting growth of pathogenic bacteria.³

Multiple Purina studies have shown that when dogs and cats were fed the prebiotic chicory, levels of good bacteria (e.g., bifidobacteria and lactobacillus) increased and levels of pathogenic bacteria (e.g., clostridia) decreased.⁴⁻⁸

- Butyrate also helps lower the intestinal pH, creating an optimal environment for beneficial bacteria to thrive.²



What are the benefits of providing prebiotics in the diet?

- Prebiotics are often referred to as the ‘fuel’ for the good bacteria. Prebiotics are broken down or ‘fermented’ by beneficial bacteria in the intestine, predominantly in the colon, or large intestine.³ This fermentation results in the production of short chain fatty acids, which have positive effects on gut health:
- Intestinal cells use the short chain fatty acids, especially butyrate, as an energy source.^{1,3} This enables the intestinal cells to grow and multiply, expanding the surface area of the colon’s inner lining, which helps maximize nutrient absorption across the intestinal wall.^{1,3}

When fermented by beneficial bacteria, wheat aleurone and inulin are excellent sources of butyrate

Prebiotics can help reduce imbalances in the microbiota that may occur with infection, stress, increasing age, or a change in diet.^{1,2,4}

Prebiotics help reduce fecal and urine odors

Research by Purina and others has shown that prebiotics such as chicory can help reduce fecal odor in dogs and cats.^{6,9,10} Certain bacteria, e.g., clostridia that are found in the colon ferment undigested protein resulting in by-products such as ammonia and indoles which contribute to fecal odor. Adding prebiotics to the diet helps reduce the levels of clostridia and ultimately leads to a decrease in the level of malodorous by-products.^{9,10}

Prebiotics have also been shown to reduce urine odor in cats by decreasing the level of ammonia in the urine.¹⁰

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