Fiber in Dog Foods

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Fiber is one of the nutrients listed on every bag of dog food. As this article explains, fiber can have many health benefits for your dog. The type of fiber determines its role in the digestive process. Choosing a fiber to help in the treatment of some common medical conditions may be a good adjunct to traditional therapies.

Definition

Fiber is made up of several different compounds all of which are carbohydrates. Some of the most common fibers are cellulose, hemicellulose, pectin, lignin, and gums. Fiber can be classified according to their structure, the rate at which they are fermented, their digestibility, solubility in water, and other criteria. The different properties of fiber determine its function within the body.

Sources

Fiber is found in a variety of sources, but in dog foods, it comes primarily from the cell walls of plants and grains present in the food. Almost all carbohydrate sources will contain some fiber. Some of the most common sources of fiber in dog foods include rice hulls, soybean hulls, beet pulp, bran, peanut hulls, and pectin.

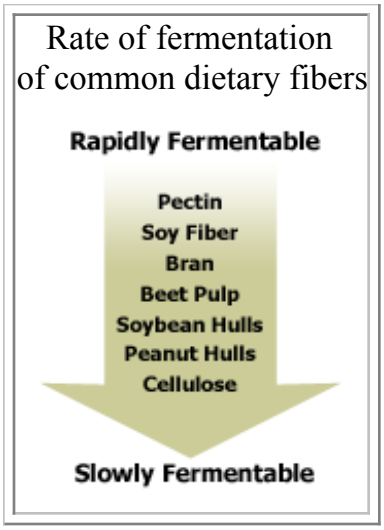
Requirements and function

Fiber is not considered an essential nutrient in the diets of cats and dogs, but it is present in almost every commercial pet diet. Dogs do not derive any energy from fiber, however, improved colon health is a benefit of having fiber in the diet, and therefore, its presence in dog food is often considered beneficial. There are several medical conditions that are greatly improved by the addition of fiber in the diet and they will be discussed in depth later in the article.

The function of fiber in the diet is to increase both bulk and water in the intestinal contents. Fiber will lengthen intestinal transit time (that is, slow down the rate at which food moves through the digestive tract) in pets with fast transit times, and speed up the transit times in animals with slow transit times. What this means is that fiber will help treat both diarrhea and constipation. Fiber absorbs extra water in diarrheic stools, and it helps hold onto water, which prevents constipation. Some fiber is broken down in the intestine into fatty acids. These fatty acids will aid in preventing the overgrowth of harmful bacteria. They will also help the colon cells to recover from injury and possibly help reduce the risk of colon cancer.

Rate of fermentation

When people think about fiber, they are often concerned with the quantity of fiber present, however, the rate of fermentation is actually more important. The rate of fermentation of the fiber will actually dictate how beneficial it is for the given medical condition being treated. The rate of fermentation of a fiber determines its effect on the water holding capacity and the overall bulk of the stool. Slowly fermented fibers are the most effective stool bulking agents because they maintain their structure longer and hold more water. The rapidly fermenting fibers lose their shape and hold less water and bulk. In fact, if a large amount of rapidly fermenting fiber is fed, it can produce a laxative effect and produce diarrhea as a result. Unless a dog food is designed to treat a certain condition, a mix of both rapidly fermenting and slowly fermenting fiber sources is usually the most desirable.



Role of fiber in weight management

One of the most common uses of fiber in dog foods is in the dietary management of obesity. The addition of extra fiber in the diet may be useful in reducing and preventing obesity. The fiber that is added to specialized weight loss diets helps to increase bulk and promote a feeling of satiety (fullness) without adding calories. The dog eats a satisfying meal, but consumes fewer calories and thus loses weight.

Role of fiber in the control of diarrhea and constipation

It may be confusing to hear that fiber can be used for two very different problems, namely diarrhea and constipation, but once you understand the function of fiber it all begins to make sense. Fiber will absorb moisture in cases of diarrhea, and add moisture in cases of constipation. In addition to its water absorbing properties, the binding and gelling properties of fiber also aid in the treatment of diarrhea.

Role of fiber in the control of diabetes mellitus

Diabetes mellitus is a common metabolic disease in dogs. In some animals, controlling the disease can be difficult and time consuming. One of the more important breakthroughs in managing this disease has come from the recognition that by feeding a diet high in fiber to dogs with diabetes, we can help control the swings in blood sugar, minimizing the peaks and valleys in blood glucose that often accompany this disease. Feeding a high fiber diet to diabetic dogs has now become a standard part of treatment and has helped in the management of many diabetic patients.

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Summary

Fiber has been an often overlooked ingredient in dog food. There appear to be many benefits from the addition of both rapidly and slowly fermented fiber sources to pet diets. Most commercial diets more than meet this need, but if your pet needs to be managed for obesity, diarrhea, constipation, or diabetes mellitus in dogs, additional fiber sources may be beneficial.

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