

# Beans – The New Superfood for Nutritional Support and Weight Management

By Gary Lynch, Ph.D., HORN Animal Nutrition

What makes pet food truly contribute to an animal's wellbeing? Healthy ingredients – ingredients whose nutrient profile supports proper digestion and body composition. Beans (*Phaseolus vulgaris*) contribute a research-proven combination of novel proteins, healthy carbohydrates and functional fibers, along with essential minerals and antioxidants, to pet food formulations.

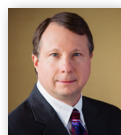
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## Eat Healthy and Lose Weight

In pets, as with humans, one of the keys to overall health is proper body composition. Yet in 2016, 54 percent of dogs and 59 percent of cats were diagnosed as overweight or obese (APOP, 2016). The good news, there are healthy ingredients that have demonstrated to improve satiety and promote weight loss in adult dogs. These ingredients are beans. The nutrient profile in a bean, with its high protein, slowly digested starch and high dietary fiber content, work together to metabolically assist in weight loss and maintain a healthy body composition.

Take a closer look at the benefits of bean ingredients.

- **Low Glycemic Index:** A slowly digested starch will break down slowly and be absorbed throughout the course of the small intestine. Beans and other pulses produce a glycemic response at least 45 percent lower than that of other grain carbohydrates (McCroy et al., 2010).
- **Satiety:** Formulated diets that contribute to satiety provide improved weight management in dogs (Weber et al., 2007). While both high-protein and high-fiber diets are nutritional weight loss tools, diets that are formulated both high in protein and high in dietary fiber can improve satiety and reduce total caloric intake. Combined with a decreased glycemic response, bean flours nutritionally and naturally contribute to satiety in a canine weight management program.



For more than 20 years, Gary Lynch, Ph.D. has been contributing to the progression of the industry through a career in formulation, sales and marketing for the pet food and commercial feed markets. He is a senior project and account manager at HORN, a leading distributor of specialty products for more than 50 years. HORN represents world-class ingredient manufacturers, including leaders in bean and other pulse ingredients supply. Dr. Lynch is part of HORN Animal Nutrition, a specialty team with expertise in product formulation and the delivery of quality ingredients to the pet food industry.

- **Dietary Fiber:** Beans are rich sources of soluble and insoluble dietary fibers that promote physiological benefits for animal health. This includes the prebiotic fermentation role of soluble fibers, plus the viscosity, binding and water-holding capacity of insoluble fibers. Navy beans have the potential to alter gastrointestinal (GI) tract microbial composition and function for chronic disease control and prevention (Kerr et al., 2013)
- **Protein:** Higher protein diets contribute to normalizing insulin and glycemic responses, which aid in satiety and help promote weight loss in dogs (Weber et al., 2007). Bean flours, which contain 24 percent to 28 percent crude protein, help maintain formulated protein levels in diets while also contributing slowly digested carbohydrates and healthy fibers.
- **Lipid Metabolism:** Fats are the most energy dense nutrient. Regulating lipid metabolism along with fat intake is critical to weight management. Bean fibers bind fats and bile acids, while increasing GI tract viscosity (Tosh and Yada, 2010). This slows the rate of passage and absorption of fatty acids, and when combined with normalized insulin levels, reduces the potential for fat deposition (Forster et al., 2012).

## Potential After Effects?

The successful application of any pet food ingredient is dependent on proper formulation and processing. Most plant based carbohydrates are more properly digested with cooking. The extrusion process in making dry pet food kibbles is a very effective tool in reducing anti-nutritional components. Beans contain low levels of resistant starches. Extrusion will break-down these components, significantly reducing their impact on large intestinal fermentation. Pre-cooked navy bean flour added at 25 percent (wt/wt) of a diet has shown no deleterious GI tract effects (Forster et al., 2012). When introducing any novel ingredient to a dog's diet, proper diet transition is always recommended.

## Beans: The Newest Superfood

No single ingredient will make the perfect pet food. However, the proper combination of ingredients can truly make for a better dog or cat food. Bean flours contribute several critical nutrients that, when formulated into a pet food, will support overall health and body condition.

