



THE NATURAL AUTHORITY™

ON HIGH PROTEIN DOG FOODS

Pet foods with higher protein levels are often viewed as being closer in nutrition to the “natural” diet of dogs or wolves, and are therefore assumed to be healthier. The majority of dog foods have protein levels less than 30%, and many important factors should be taken into account when considering a high protein dog food in excess of 30%.

How much protein do dogs need?

For a typical dry dog food (3500 kcal/kg diet), The Association of American Feed Control Officials has outlined protein requirements at 18% for adult maintenance and 22% for growth formulations. However, these levels only represent the minimal amounts of protein necessary to sustain life. Currently, there is no defined “optimal” protein amount for healthy longevity. Maximum protein levels are also undefined, given that there is no level that has been determined to be toxic to healthy dogs.

Are there benefits to a high protein dog food?

Dogs have a minimum protein requirement, but providing more than the minimum can provide health benefits for specific conditions.

- **Diabetes:** Usually, when a dog food is higher in protein it is also lower in carbohydrate. Lower carbohydrate foods elicit lower glycemic responses compared to high carbohydrate foods. This can benefit dogs that have trouble regulating their blood sugar, such as those with insulin resistance or diabetes.¹
- **Obesity:** Studies have shown foods higher in protein (103 g/1000 kcal, or ~31% for a 3000 kcal/kg diet), in addition to higher fiber, increase satiety and help dogs maintain lean muscle mass during weight loss.²
- **Finicky Eaters:** Palatability studies conducted at WALTHAM, THE WORLD’S LEADING AUTHORITY ON PET CARE AND NUTRITION® have demonstrated that dogs prefer higher fat foods, with ~30% of their energy coming from protein.

Are there concerns with a high protein dog food?

Dogs have the metabolic capacity to utilize high levels of protein in their diet, however more may not always be better.

- **Digestive Health:** Even high quality protein is not 100% digestible, meaning that there is always some undigested protein reaching the large intestine. Higher amounts of undigested protein, either from higher dietary protein levels or poor quality protein, can lead to changes in the type and amount of bacteria growing in the digestive tract. Increased undigested protein from a diet consisting of 54% protein was found to increase the faecal count of potentially pathogenic bacteria, producing compounds which can lead to decreased intestinal cell health, increased fecal odor and loose stools when compared to diets of 23 to 25% protein.³
- **Metabolism:** Once an animal fulfills its protein requirements, excess protein is converted to glucose or ketones to be used for energy. This is less efficient than using carbohydrates for energy and it generates nitrogen waste, which has detrimental environmental implications.
- **Urinary Health:** Although research indicates high protein diets do not contribute to kidney disease or urinary stone formation in healthy pets, low protein and phosphorus foods are clinically beneficial to pets that have been diagnosed with kidney disease or in dogs predisposed to urinary stone formation.⁴
- **Sustainability:** Pets have a relatively high carbon footprint because they eat foods high in protein and meat. Higher protein dog foods can have a greater environmental impact and be less sustainable in several ways:
 - Ingredients from animals have a higher carbon footprint than ingredients from plants
 - Higher protein diets can lead to more nitrogen waste (i.e. more pollution by dog feces)
 - As with any ingredient, care needs to be taken to not compete with the human food supply, in order to feed both the human and pet populations of the world.

¹Elliott et al. (2006). A low carbohydrate, high protein, moderate fat and fiber diet reduces postprandial glucose concentrations compared with a traditionally recommended canine diabetes diet and an adult maintenance diet in healthy dogs. *JVIM* 20(6):1508-1514.

²Weber et al. (2007) A high-protein, high-fiber diet designed for weight loss improves satiety in dogs. *JVIM* 21:1203-1208.

³Zentek et al. (2003) Dietary effects on bifidobacteria and *Clostridium perfringens* in the canine intestinal tract. *J Anim Physiol Anim Nutr* 87(11-12), 397-407.

⁴Martin et al. (2005) Dietary protein intake and renal function. *Nutrition and Metabolism* 2, 25-33.

NUTRO® Dog Foods are formulated with moderate protein levels to balance nutritional benefits with nutritional and environmental concerns of dietary protein.



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