



## Perplexed about Grains?

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Leading with Technical Expertise - White Paper

Leah Lambrakis & Jarrod Kersey, Department of Technical Services

The pet food industry has seen a plethora of “free-from” trends and claims, and grains are no exception. The originating concern surrounding pet foods that included grains was primarily due to these ingredients being considered as fillers, thereby lessening the value or quality of the product. Secondly, allergy concerns resulted in a market demand for grain-free options for companion animals with food sensitivities and intolerances, or households that are gluten-free. This was the start of a “grain free” trend.

### Grains Defined

Let’s begin with defining grains, their characteristics, and functionality in foods. Common grains used in both human and pet food include corn, wheat, rice, barley, rye and oats. They are similarly structured with three main fractions; the outer fiber-rich bran, the nutrient rich germ, and the main body that is high in starch, known as the endosperm <sup>(1)</sup>. Whole grains are packed with nutrition providing energy, vitamins, minerals, essential fatty acids, protein, phytonutrients and most importantly, fiber. It is when whole grains are broken down, processed and then further refined (think bleached white flour or modified starches) that the remaining fraction may lose many of the beneficial nutrients and could become less valuable, nutritionally, to the consumer. Conversely, many of these fractions can also be very functional on their own, such as providing concentrated sources of dietary fiber or protein.

Some whole grains, referred to as ancient grains, are now trending for both people and pets. Examples of ancient grains are quinoa, spelt, amaranth and millet. Unlike refined grains, ancient grains have not been grown by genetic modification or hybridization, thus remaining in their natural whole state just as they were cultivated for many generations. While ancient grains are certainly more nutritious than *refined* ‘modern’ grains, they provide similar benefits as most whole grains, and are not necessarily better for our pets. To date, the science supporting the benefits of ancient grains over other whole grains in companion animal health and nutrition has been limited.

### What is the Better Choice?

Pet parents may choose to purchase grain-free or grain-inclusive foods for a variety of reasons; a professional recommendation, a personal preference, or simply that their pet is thriving on this type of product design. There is no right or wrong in either choice, as each pet may have unique nutritional requirements and food preferences.



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Do our pets need grains in their diets? Not necessarily. Cats and dogs are both of the order Carnivora, and both species by nature thrive on a diet that is primarily comprised of animal flesh and organs. Cats are obligate carnivores, meaning they are required to obtain many nutrients essential to them from a diet that contains animal tissue. However, dogs are often referred to as facultative carnivores, as in they behave like omnivores and generally, have a higher tolerance for carbohydrates in their diet due to increased pancreatic enzyme activity in their digestive system. Neither species requires dietary carbohydrates; however both cats and dogs have the ability to digest and utilize plant-based food sources as part of a nutritionally balanced diet, and most efficiently if the carbohydrates are properly cooked<sup>(2)</sup>. Due to the cat's higher requirement for protein, amino acids and fat, commercial pet foods are typically lower in grains and carbohydrates for cats compared to foods for dogs.

Grain-free pet foods have become one of the largest growing trends over the last two decades, marketed as better for your pets, more nutritious, and less likely to cause allergic reactions. But are they? From a nutritional standpoint, this is debatable, as depending on the species and the animal's specific health condition, our pets can benefit from the nutritional complexity of these carbohydrates. As an example, the fiber content and low-fat nature of whole grains can aid in the management of an animal's daily caloric intake by providing fullness and satiety. As well, grain-derived allergies are rare for cats and dogs. Most allergic conditions stem from proteins such as chicken or beef, making dietary protein in food the nutrient of most concern by veterinarians for patients with a suspected food allergy<sup>(3)</sup>. However, a large-scale survey published by the University of Guelph, which investigated consumer habits related to purchasing grain-free dry dog food across several countries, found that people who believe their dog has a food allergy were four times more likely to select 'no grain' when choosing a pet food<sup>(4)</sup>.

Grain-free pet foods can also vary in their nutritional composition and are not equal across brands and product design philosophies. Depending on the product design, a grain-free food may be rich in fat and calories due to the high inclusion of meat and poultry ingredients. This is often the challenge with limited ingredient or single sourced formula designs. On the other hand, many grain-free pet foods can be high in other non-grain carbohydrates such as legumes, potatoes and tapioca, often including high levels of their starchy refined fractions. Therefore, it is important to be mindful that grain-free pet foods do not always equate to low-carbohydrate, nor do they necessarily offer health benefits over a food that contains grains.



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### Along Came the FDA

In July 2018, at the height of this trend the industry saw a shift in how grain-free pet foods were perceived. A report from the Federal Food and Drug Administration (FDA) implicated grain-free pet foods as the cause of reported cases of canine dilated cardiomyopathy (DCM)<sup>(5)</sup>. The words ‘grain-free’ were no longer associated with ‘healthy’ in the media. The simple absence of grains is not the cause of DCM, but likely a multi-factorial result of nutrient imbalance, processing, formulation approach, anti-nutritional factors, breed, genetics and the health status of the animal (meaning pre-existing health conditions). To date there has been no direct cause and effect found that substantiates the grain-free-DCM nutritional association, but unfortunately these reports did a disservice to the pet food industry.

As a result, pet parents quickly switched their pet’s food to grain-inclusive or alternatives, and were scrutinizing pet food labels and brands without fully understanding the issue. Animals require nutrients, not ingredients. Thereby, the consistent nutritional profile of the food, optimal nutrient balance and the bioavailability of these nutrients to the animal is what is of importance, not the inclusion or exclusion of specific ingredients. It is the excess or deficiency of a nutrient that can result in either short- or long-term health concerns. Does ingredient quality matter? Absolutely. Sourcing high quality ingredients from trusted suppliers is of utmost importance, as is a robust ingredient testing program and a well-formulated approach that is backed by science.

### In Closing

While a diet free from grains certainly has its place and can provide excellent nutrition, this trend was most realistically created as another marketed “free-from” category, resulting in the consumer-based perception that it must be better for your pet. At Simmons Pet Food, our position is that a high quality and expertly formulated pet food can provide excellent and optimal nutrition, whether inclusive or exclusive of grains. As always, switching your pet’s food should be first discussed with your animal health and nutrition expert to ensure you are making sound decisions about your pet’s long-term health.



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**Our Commitment** – Leading with Technical Expertise – Leah and Jarrod are here to provide guidance and insights – do not hesitate to connect with us at Simmons Pet Food, [pfcomments@simfoods.com](mailto:pfcomments@simfoods.com). We would love to hear from you and be part of your pet’s nutrition solution!

### Literature Referenced

1. Călinoiu LF, Vodnar DC. Whole Grains and Phenolic Acids: A Review on Bioactivity, Functionality, Health Benefits and Bioavailability. *Nutrients*. 2018; 10(11):161
2. National Research Council (NRC). Carbohydrates and Fiber: *In Nutrient Requirements of Dogs and Cats*. National Academies Press, Washington, DC. 2006, pp. 49–80.
3. Roudebush P, Jackson HA. Adverse reactions to food. In Hand MS, Lewis LD (eds): *Small Animal Clinical Nutrition, 5th ed*. Topeka: Mark Morris Institute, 2010, pp 609-635.
4. Banton S, Baynham A, Pezzali JG, von Massow M, Shoveller AK. Grains on the brain: A survey of dog owner purchasing habits related to grain-free dry dog foods. *PLoS ONE* 2021; 16(5): e0250806.
5. FDA. 2019a. FDA Investigation into Potential Link between Certain Diets and Canine Dilated Cardiomyopathy. Available from <https://www.fda.gov/animal-veterinary/outbreaks-and-advisories/fda-investigation-potential-link-between-certain-diets-and-canine-dilated-cardiomyopathy> [updated June 27, 2019; accessed November 02, 2021].