

## Science vs. Pet nutrition-related fads and trends

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Nutrition trends are as common for pets as they are for humans, and many times these may be similar.

Multiple recent pet food trends have increased in popularity despite the lack of scientific evidence to for their health benefits. Often, trends gain popularity using social media, the internet, and aggressive and guilt-driven marketing. Notably, several trends such as raw pet foods, pose a risk for serious, and potentially life-threatening consequences; others may include diets that may not provide balanced nutrition and diets that are made with natural ingredients or diets that are genetically modified organism (GMO) free and have no known health related advantages or risks but are often costly to the owners that perceive better quality and healthful benefits for their pets.

Grain-free dog foods have grown in popularity since the early 2000s and these diets currently constitute approximately 20% of the total market share. This trend is partially motivated by a pet owner's desire to avoid ingredients that they perceive as 'cheap carbohydrate fillers' or ones often considered to be associated with the development of adverse food responses (i.e. allergies). On July 12, 2018, the US Food and Drug Administration issued an announcement that a connection between certain canine diets, including those labeled as grain-free, and a heart disease called 'dilated cardiomyopathy' (DCM) was being investigated (1). Several of the reported cases were found to have low blood taurine concentrations. Taurine, which is a free amino acid (not part of a protein) is present in high concentrations in heart and retinal tissues and has several functions in the body and specifically in cardiac muscle, where it is speculated to facilitate the activity of ion channels and act as an important antioxidant. The association between taurine deficiency and DCM in dogs has been known since the 1990s (2). Taurine is considered a conditionally essential (rather than essential) amino acid in dogs therefore, the exact association between diet and cardiomyopathy is still being investigated.

Many home-prepared diet recipes are available online or in books. Most of these recipes are either unbalanced or can be interpreted in multiple ways allowing for an unbalanced diet (3,4). Therefore home-prepared diet recipes should be provided by a reputable source such as a boarded veterinary nutritionist.

Other important trends include natural foods, vegetarian/vegan diets and more. These trends have strong advocates; however, the scientific basis for these trends needs further investigation as some trends may not be beneficial and even harmful. Owners may also often use natural supplements in the hopes of providing health benefits; however, many supplements that are often used or recommended lack scientific data and some may be harmful.

References:

1. <https://www.fda.gov/animal-veterinary/outbreaks-and-advisories/fda-investigation-potential-link-between-certain-diets-and-canine-dilated-cardiomyopathy>
2. Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations in normal dogs and in dogs with heart disease. *Journal of veterinary internal medicine*. 1995 Jul;9(4):253-8.
3. Stockman J, Fascetti AJ, Kass PH, Larsen JA. Evaluation of recipes of home-prepared maintenance diets for dogs. *Journal of the American Veterinary Medical Association*. 2013 Jun 1;242(11):1500-5.
4. Wilson SA, Villaverde C, Fascetti AJ, Larsen JA. Evaluation of the nutritional adequacy of recipes for home-prepared maintenance diets for cats. *Journal of the American Veterinary Medical Association*. 2019 May 15;254(10):1172-9.