



Nutrition Commentary from the VNC Think Tank:

## **Grain-free diets and Heart disease in Dogs**

Updated: July 14, 2019

### **Should I change my pet's diet?**

The FDA has not reached any conclusions yet and, more importantly, is not recommending any diet changes. It is difficult for nutritionists to recommend a diet change at this time because the investigation is ongoing and not knowing the exact cause(s), makes recommendations that ensure safety not plausible. Additionally, most manufacturers in the abundance of caution have added or increased the taurine concentration in their pet food products in 2018. You may consider calling the manufacturer of your dog food and ask them what precautions they have taken to help avoid DCM in dogs. If you have confidence the manufacturer is practicing due diligence and actively monitoring the situation, then you should follow the FDA's advice and not change to another dog food. If you have little or no confidence in the manufacturer of your current dog food, then you should ask for recommendations.

There are no nutritional or medical advantages to feeding a grain-free diet unless your dog has been specifically diagnosed by a veterinarian with an adverse reaction to a specific grain.

- Grains (rice, wheat, corn, barley) have been included in commercial pet foods for many decades and their nutritional contribution and interactions with other ingredients in the food are well understood. Based on more than 50 years of both private and university research, grains have been shown to deliver excellent digestibility, nutrient bioavailability, and safety in dogs. Grains do not contain taurine, so their omission from the food cannot be the sole reason why some the dogs are taurine deficient.
- Grain-free diets are a particular marketing niche that appeals to some consumers. The carbohydrate source (or grain) has been replaced with potatoes (white and sweet) and/or legumes (lentils, peas). At this time, we do not fully understand how legumes interact with other ingredients either within the food itself and /or within the dog.

### **Should I give a taurine supplement to my dog?**

We would recommend against blatantly giving your dog a taurine supplement for no well-established reason or endpoint. On one hand, there may be little risk giving your dog a taurine supplement, but on other hand, there is no specific dose to recommend as a preventative. It is important to keep in mind that not all dogs with DCM were taurine deficient or responded to supplemental taurine, although the majority did respond positively. The suggested taurine dose for dogs with DCM is 500 to 1000 mg by mouth 2 to 3 times a day for dogs weighing less than 12 lbs, and 1 to 2 grams by mouth 2 or 3 times per day for dogs weighing more than 12 lbs. Again the preventative dose is not known and we would advise against supplementation without the guidance of your veterinarian.

### **What is the concern about heart disease and grain-free diets?**

The FDA has released an alert to pet owners and veterinarians warning that there is currently an investigation underway of a possible link between a specific heart disease type called dilated cardiomyopathy (DCM) and some dog foods marketed as “grain-free” diets.

### **What type of heart disease has been linked to these diets?**

Canine DCM is a heart disease in which the chambers of the heart become dilated and the heart muscle becomes weakened causing congestive heart failure. Typically, it is a genetic disease affecting certain large breeds such as Boxers, Great Dane, Newfoundlands, Irish Wolfhounds, Saint Bernards and Doberman Pinschers. Rarely, small and medium breeds such as Cocker Spaniels are affected. The reports of DCM linked to dog foods has affected multiple breeds where 33% of the dog were Golden Retrievers. You can see all the breeds affected at the FDA link #1 listed below.

### **What can I do right away?**

Our suggestion at this time is to stay informed and do not change your dog’s diet unless recommended by your veterinarian for a very specific reason. In the big picture, ‘no grain or grain-free’ products have been on the market for more than 20 years and currently are about 40% of the products sold in a \$30 billion market. The American Veterinary Medical Association estimates that there are at least 77 million pet dogs in the United States, and we have less than 600 canine cases of DCM reported in the last 2 years. Therefore many dogs in the U.S. have been eating tons of grain-free dog food for many years without apparently developing DCM. This may be an emerging disease problem and so staying informed is important.

### **What precautions can I take?**

If your pet has been eating a grain-free diet for several months to years, we suggest having your dog examined by a veterinarian for a cardiac murmur and other systemic indications of heart disease. We strongly recommend an examination in those pets with a cough, labored breathing, lethargy or those showing a decreased willingness to exercise or play as once before. If there is a confirmed suspicion of heart disease, before changing your dog’s diet, we suggest a cardiac ultrasound and some laboratory blood work. If a taurine deficiency is suspected, we suggest submitting the appropriate sample to the University of California at Davis Amino Acid Laboratory. Based on the results of all the tests, then appropriate medication and diet and/or supplementation can be recommended.

### **What is a “BEG” dog food that is to be avoided?**

‘BEG’ is an acronym suggested by a minority and purported to help pet owners select the right food to avoid DCM. We do NOT consider this to be helpful in any way to pet owners and here’s why.

B = “boutique”: Avoiding products sold in boutique/specialty/small pet shops or made by a ‘small’ manufacturers is not helpful because brands on the FDA list belong to some very large parent companies:

- Mars: California Natural, Nutro, Iams, Crave, Royal Canin Multi-function renal, Pedigree (33 cases)
- Purina: Merrick, Castor Pollax, Whole Earth Farms, Purina ONE lamb rice, Purina ProPlan Savor (27 cases)

- Smucker's: Rachel Ray, Nat Bal, Nat's recipe (29 cases)
- Hill's: u/d, Ideal, Science diet, Sensi skin, d/d (6 cases)
- Diamond: Taste of Wild, Kirkland, 4 Health, Nature's Domain (115 cases)
- General Mill: Blue Buffalo (31 cases)

E = "exotic": Avoiding products that contain unusual meats is not helpful because the most common meat ingredient to the foods on the FDA list is chicken, lamb and salmon were second and third most common.

G = "grain-free": More than 90% of products were "grain-free" and 93% of reported products had peas and/or lentils. On the other hand, not all cases of DCM were fed a grain-free diet and some cases of DCM improved when dogs were switched from one grain-free to another grain-free product.

You can see the brands of dog food associated with 10 or more case of DCM thus far at FDA link #1 below. You can see the entire list of pet foods associated with DCM at FDA link #2.

### **Final points**

Most likely the DCM problem is a unique interaction between the food ingredients, nutrient levels, and the individual dog, i.e., a "perfect storm" because not all dogs on legume diets develop DCM. Certain dogs, some known and some not known to be genetically susceptible, did develop DCM. Therefore, it is not possible at this time to make specific product recommendations that avoid DCM. But be assured, industry partners and veterinarians are collaborating with the FDA to identify the root cause of this new DCM problem.

1. FDA Investigation into Potential Link between Certain Diets and Canine Dilated Cardiomyopathy  
<https://www.fda.gov/animal-veterinary/news-events/fda-investigation-potential-link-between-certain-diets-and-canine-dilated-cardiomyopathy>
2. Dilated Cardiomyopathy in Dogs & Cats: Complaints Submitted to FDA-CVM  
<https://www.fda.gov/media/128303/download>
3. Exploring the link between Diets and DCM. Veterinary Practice News. July 2019 pp 30-32 by Dr. Sarah Cavanaugh, DVM, MS., DACVIM (cardiology).
4. An update on diet-associated dilated cardiomyopathy. Veterinary Practice News. July 8, 2019 by Dr. Lisa Weeth, DVM, DACVN <https://www.veterinarypracticenews.com/an-update-on-diet-associated-dilated-cardiomyopathy/>