



Dilated Cardiomyopathy (DCM) in Canines and Pulses FY 2027

Background:

The U.S. Food and Drug Administration (FDA) has been investigating the causes of canine dilated cardiomyopathy (DCM) for the past few years – after sporadic reports in 2014 to a higher volume of case information beginning in 2018 and has focused on possible diet causation, specifically grain-free pet foods. To date, the FDA has received medical case information on over 2000 dogs, of which 1100 the agency believes were diagnosed with DCM (out of 77 million dogs nationwide). The FDA’s first announcement was made on 12 July 2018 followed by an update on 19 February 2019. These announcements implicated pulse crops as a cause even though no cause-and-effect relationship had been demonstrated. On 27 June 2019, the FDA gave an update that included a list of brands that were associated with the reports of DCM. Following the June update, the already impacted market for pulse crops in pet food plummeted. Concerns have been voiced that the agency’s focus on diet vectors has been at the expense of analysis of other possible causes and without a full understanding of the incidence of DCM.

On 29 September 2020, Kansas State University hosted a virtual scientific forum in concert with the FDA on research and science related to canine DCM. In addition to opening and closing remarks from FDA Center for Veterinary Medicine (CVM) officials and leaders from the Kansas State University College of Veterinary Medicine, there were presentations from academics and scientists who have focused on better understanding canine DCM and its possible causation.

Up to this point, the FDA has focused its DCM investigation on diet-related causation. It was evident from the FDA’s panel discussion that this has continued to be where they have devoted their research attention. There were academic presentations by other panelists that also associated grain-free diets with causing DCM. At the same time, other research outlined a range of other factors that were found to be related to DCM. This included specific breeds, genetics, obesity, infectious diseases, and other heart conditions, among other factors. The nutrition of pulse crops and their capacity to deliver sufficient amino acids was discussed, and research pointed to concerns with the methodology and data used by the FDA in its investigation. Important research was presented that demonstrated that DCM incidence had remained steady during the timeframe in which grain-free dog food sales/consumption rates increased 5-fold. This raises the question of whether the baseline of DCM was natural, and whether the anecdotal evidence of DCM frequency that led to the FDA investigation was within the normal incidence of this disease, and not attributable to dogs’ diet.

Current status:

While the FDA has implicated diet causes in its investigation of DCM to this point, they acknowledge that the disease is complex and multi-factorial and that its cause is not singular. This is a nuanced but significant admission by the FDA that, if there is a rise in DCM among dogs, diet causes are not the only basis for that. The FDA’s singular focus on diet has been too narrow and research needs to continue to know whether this disease is increasing and the causation. FDA recently announced no further updates to its website regarding DCM in dogs without the release of new scientific information.



In terms of research that diverged from the FDA's DCM linkage hypothesis, there were presentations at the 29 September scientific forum that addressed topics including genetics, alternate canine cardiology conditions, manufacturing effects on food nutrition, the nutritional value of pulse crops and legumes, the relation between taurine levels and heart conditions, and the relationship between grain-free food sales/consumption and the incidence of DCM.

- Research (Jeff Johnston, Champion Pet Foods) was shared that demonstrated that pulse ingredients were sufficiently nutritious, met AAFCO nutrition guidelines, did not inhibit the digestibility/uptake of amino acids, and enabled stable taurine levels. He outlined problems with the case information data the FDA used in its investigation, arguing it was anecdotal and imbalanced (e.g. too many male dogs and pre-disposed breeds, skewed representation of certain proteins and grain-free diets).
- Another panelist (Dr. George Collings, Nutrition Solutions) discussed prior literature and research that established a natural baseline of DCM, using that to argue that genetics and other factors beyond diet were causes of this disease.
- A research group (Drs. Eva Oxford, Shiva Garimella, and Renee Streeter, BSM Partners) presented research that sought to establish what the recent baseline incidence of DCM is among the American dog population. This group collected medical case files from over 67,000 dogs from diverse canine cardiology practices across the United States over 15 years to evaluate an average incidence of DCM and compared this with the growth in grain-free pet food sales. While grain-free food sales increased 500% from 2011-2019, the data did not indicate an overall increased DCM incidence.

This group also presented research from a controlled-feeding study where 64 dogs were fed grain-free diets and then had their blood and heart tissue biopsies tested to evaluate taurine levels and DCM diagnosis. They presented that despite some changes in taurine blood levels, heart tissue samples did not demonstrate a DCM diagnosis among this dog population. This brings into question the theory that amino acid and taurine levels in the blood, resulting from diet, are a cause of DCM.

- Other research (Dr. Roberto Santilli, Cornell University) was outlined that demonstrated how various infectious causes (viral or bacterial) from various vectors can affect canine cardiohealth and can cause a disease called myocarditis. This research showed that myocarditis is more common than DCM, and can often be mistaken for DCM, or if untreated can lead to concurrent DCM.
- Research was also presented (Drs. Jennifer Radosevich and Kathy Gross, Hill's Pet Nutrition Inc.) that highlighted the effect of breeding on genetics related to DCM, expanding the incidence from genetic DCM among predisposed breeds as well as within mixed breed dogs. The pathway linking certain genetics to metabolic issues was established. This analysis also noted these predisposed breeds are overrepresented among the groups of dogs recruited for DCM-related studies.

USA Pulses has worked hard for over 65 years to support sound scientific research of pulse crops. Pet owners are owed the truth and we continue to fiercely support determining the causes of DCM. We request your investment in companion animal research to better understand DCM in canines. Additionally, full funding for the Pulse Crop Health Initiative is critical to offset any spillover of companion animal health concerns to human pulse crop consumption.

Resources:

KSU Scientific Forum: <https://www.ksvdl.org/resources/dilated-cardiomyopathy-dogs-forum.html>