

Research Update: A Grain-Free Diet Does Not Result In Low Whole Blood Or Plasma Taurine

A Commercial Grain-Free Diet Does Not Decrease Plasma Amino Acids And Taurine Status, But Increases Bile Acid Excretion When Fed To Labrador Retrievers^{1,*}

Practice Implications:

Feeding a commercial grain-free diet **did not negatively impact taurine status in Labrador Retrievers and actually improved plasma and whole blood taurine levels.** You do not need to advise clients to move off grain-free foods.

Background:

- Some anecdotal case reports made to FDA observed that dogs with DCM consuming grain-free diets also had low concentrations of plasma and/or whole blood taurine.
- While there is a known association between low taurine status and DCM, there is little clinical evidence on the relationship of commercial grain-free diets and taurine status in healthy large-breed dogs.

Objective:

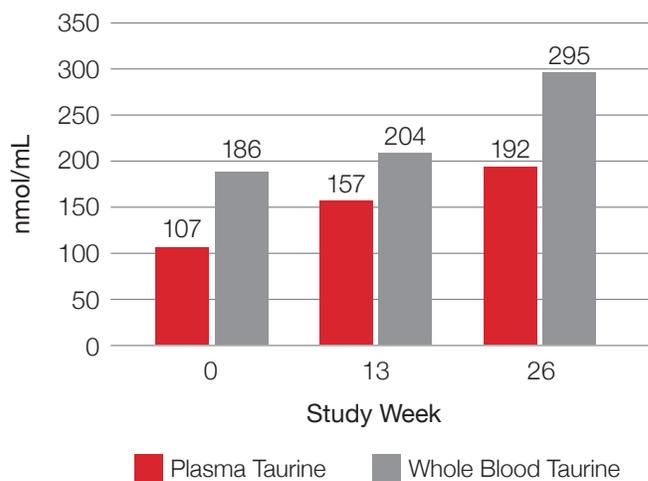
- To determine the effects of feeding a grain-free diet to large-breed dogs on taurine status and overall health.

Methods:

- Eight Labrador Retrievers (4 M, 4 F) were fed a grain-based commercial control diet prior to the start of the study.
- After this washout period, a commercial complete and balanced grain-free diet (Acana Pork and Squash Formula, Champion Petfoods; ~38% protein on a dry matter basis) was fed for 26-weeks.
- Fasted blood samples were taken at baseline, week 13 and week 26; fecal samples and urine at baseline and week 26.

- Research followed recommendations of AAFCO Canine Feeding Trial Protocols. AAFCO is a non-profit organization that enforces regulations established by the FDA Center for Veterinary Medicine and provides nutritional standards for complete and balanced pet foods.

Figure 1. Whole blood and plasma taurine of labrador retrievers fed a grain-free diet for 26 weeks.



Key Findings:

- Dogs fed a grain-based, traditional diet for 26-weeks prior to the start of the study had whole blood taurine concentrations below the recommended consideration level for taurine deficiency set at 250 nmol/mL.²
- The grain-free diet improved plasma and whole blood taurine over the course of the study to be within acceptable levels (P<0.05).
- Suggests no anti-nutritional/binding effect of legumes on taurine.
- Fecal bile acid (BA) excretion increased after 26 weeks (P<0.05), but this did not affect taurine status as supported by increased plasma and whole blood taurine concentrations and stable urinary taurine:creatinine throughout the duration of the study.

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1. Donadelli RA, et al. A commercial grain-free diet does not decrease plasma amino acids and taurine status but increases bile acid excretion when fed to Labrador Retrievers. *Translational Animal Science*. 2020;4(3):txaa141.

2. Kaplan JL, Stern JA, Fascetti AJ, et al. Taurine deficiency and dilated cardiomyopathy in golden retrievers fed commercial diets. *PLoS One*. 2018;13(12):e0209112.