

ONE HEALTH PhD FORUM

ABSTRACTS BOOK | SHORT TALKS

O8 - Impact of feeding a new sustainable insect hydrolysate to adult Beagle dogs on diet digestibility and cardiac health

D. Leal¹, C. Barroso¹, A.P. Fontes-Sousa², S. Borges³, M.R.G. Maia^{1, #}, A. Almeida⁴, M. Pintado³, A.J.M. Fonseca¹, A.R.J. Cabrita¹

¹ LAQV, REQUIMTE, ICBAS, Universidade do Porto, Porto, Portugal

² Department of Immuno-Physiology and Pharmacology, MedInUP, Veterinary Hospital of the University of Porto (UPVET), ICBAS, Universidade do Porto, Porto, Portugal

³ Universidade Católica Portuguesa, Escola Superior de Biotecnologia, Porto, Portugal

⁴ ETSA, SGPS, S.A, Loures, Portugal

Present address: Instituto Superior de Agronomia, Universidade de Lisboa, Lisboa, Portugal

Introduction: In recent years, there has been increasing attention on sustainable protein sources for both food and feed, leading to a growing interest in edible insects. However, the potential impact of their bioactive properties on health remains limited. This study aimed to address this gap by investigating the effects of dietary inclusion of *Hermetia illucens* (BSF) hydrolysates on diet palatability, nutrient digestibility, and cardiac health of adult Beagle dogs. **Material and methods:** Three complete commercial diets were formulated with the inclusion of 3% shrimp hydrolysate or 3% BSF hydrolysate obtained by enzymatic hydrolysis with Alcalase® 2.5 L or Corolase PP. Palatability was assessed in two-bowl tests with 12 dogs. The feeding trial followed a replicated Latin square design with 12 dogs, three periods of 28 days each, and three diets. Cardiac biomarkers and apparent total tract digestibility of nutrients and energy were evaluated at the end of each period. **Results:** The dietary inclusion of BSF hydrolysates was well accepted by dogs, with the BSF-Alcalase diet showing higher dry matter and protein digestibility ($P < 0.05$). No significant differences were noted in serum levels of C-reactive protein, cardiac troponin I, and pro B-type natriuretic peptide among diets and echocardiographic measurements were within the reference ranges. However, dogs on the BSF-Alcalase diet tended ($P < 0.10$) to increase serum angiotensin-converting enzyme activity and decrease serum insulin-like growth factor 1 levels, while arterial blood pressure tended to be lower in dogs on the BSF-Corolase diet. **Conclusion:** Dogs readily accepted diets supplemented with BSF hydrolysates, but the nutritional impact of insect hydrolysates varied depending on the enzymatic hydrolysis method employed. While BSF-Alcalase improved diet digestibility, BSF-Corolase may influence mechanisms regulating blood pressure.

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