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Investigation into the Palatability of Lamb, Beef and Chicken Offal used in the Production of Pet Food

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Abstract

This series of studies investigated the palatability of individual offals used in the production of pet food for cats from lamb, beef and chicken species.

Before initiating testing, a literature review was carried out to define palatability and identify possible drivers of palatability in both cats and dogs. Various palatability testing methods and the selection of suitable ingredients to analyse were also evaluated in the early stages of this study.

A standardised testing protocol was established and followed for palatability trials. These trials included the use of two-bowl acceptance tests to develop an overall ranking of offal within each species. Two-bowl preference tests between equivalent beef and lamb offals were also conducted to observe whether the panel showed preferences for one species over the other whilst also evaluating the meal size, frequency and rate of consumption. The final three-bowl preference tests between the top and bottom ranked beef, lamb and chicken offals were used to observe whether there were differences in the species of offal first approached, first consumed and first/most completed by the panel.

Acceptance testing revealed that within each species, liver was the most palatable offal presented, with kidney equivalent to it in the lamb acceptance testing. In all three sources of offal, liver possessed the highest amounts of protein compared to the other offals, which was identified in literature as a positive driver for palatability in cats due to their high requirements for protein. In addition, MDM was the least accepted offal, although heart was equivalent to it in the chicken acceptance testing. Furthermore, preferences for lamb over equivalent beef offals, with the exception of heart and liver, were also demonstrated.

The final three-bowl preference tests between the top and bottom ranked beef, lamb and chicken offals revealed that cats showed high palatability for liver with no preference for one species of liver over the other. However, of the bottom ranked MDM ingredients, chicken was consumed preferentially over beef and lamb MDM. Compositional data for the MDM showed that chicken had the highest protein content of the three MDM varieties.

As well as detecting difference in palatability between offals, this study suggested the amount of protein within individual offals may play a role in influencing offal acceptance and preference in cats.

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