Sample submissions

(Anonymized for the purpose of showing examples; during review of actual submissions, the authors/co-authors are identified)

Abstract Title: Impact of a high calcium diet in growing Labrador Retriever puppies

Presentation Type: Research poster

Topic: Nutrition/ingredients

Submission Details:
An important function of feeding large breed puppies is providing appropriate amounts of calcium and phosphorus, which is utilized for skeletal mineralization during growth. National Research Council stated calcium requirements are 0.8-1.2%, and phosphorus 1.0-1.6%. The objective of this study was to compare a high calcium diet (Ca: 5.7%; P: 2.9%) (HC) to a normal control diet (Ca: 1.6%; P: 1%) (CON) in growing Labrador Retriever puppies. Thirty-two puppies (16 HC/16 CON) were used in two 10wk modified AAFCO large breed puppy growth trials. Body weights were measured twice weekly, feed intake daily, and digestibility, body composition, hematology, chemistry, and bone metabolism biomarkers were measured at 8wks, 13wks, and 18wks of age. All puppies passed all AAFCO large breed puppy growth requirements, including veterinary exams, body weight gain, and bloodwork parameters. Both groups had similar average weight gains from baseline to the end of the trial. No significant differences in bone mineral density were found between HC and CON groups at any timepoint. No significant differences were found between groups after baseline for parathyroid hormone, calcitonin, or tartrate resistant acid phosphatase bone metabolism biomarkers. Total tissue mass, fat mass, and lean mass were lower in the HC group compared to CON group ($p < 0.05$), likely due to lower caloric content and metabolizable energy in the HC diet than expected. Calcium digestibility was significantly higher in HC diet vs CON diet ($p < 0.01$). Based on this data, a high calcium diet had no negative impact on major physiological parameters in growing Labrador Retriever puppies.
represent an effective and safe tool that pet food manufacturers can employ to ensure the overall safety of the final products. Bacteriophages have been granted the GRAS "Generally Recognized As Safe" status from the US FDA for commercial use on different foods.

Learning Objective:
1. Apply knowledge to the nutrition and feeding of large-breed puppies.
2. Interpret the potential effects of high calcium vs normal calcium puppy diets.
3. Infer how energy intake can effect the metabolism of calcium and the effect on body composition in growing puppies.

Abstract Title: Long-term effects of diet format on body weight, body composition and insulin sensitivity in the domestic cat

Presentation Type: Oral presentation

Topic: Nutrition/ingredients

Submission Details:
Companion animals are starting to mirror humans in terms of longer lifespans and acquisition of age-related health problems. It is estimated that 20% of pet cats are reaching and exceeding 11 years of age. As with humans, older pet cats are facing many health problems, including an increased incidence of obesity and related illnesses (e.g. diabetes).

The incidence of Type 2 diabetes is rare, but increasing in the domestic cat. The impact of diet, specifically its carbohydrate content, and its potential contribution to the development of Type 2 diabetes in the cat, has long been of interest. Recent epidemiological evidence suggests that kibbled diets are a risk factor for diabetes in non-obese cats. While the risk associated with Type 2 diabetes varies with breed, cats typically have increased risk of developing Type 2 diabetes from around six years of age, with the mean age of diagnosis being ten years old.

We aimed to determine the impacts of both diet and aging on body weight, body composition and insulin sensitivity on a single cohort of cats. We followed a cohort of related (siblings) kittens, maintained on two commercial diets (kibbled and canned) from weaning (8 weeks) to nine years of age. We hypothesized that the long-term feeding of specific diet formats would impact body composition and affect insulin sensitivity in the ageing cat. We observed that bodyweight of the cats was similar until the cats reached eight years of age, and then they started to diverge with the kibble-fed cats gaining more weight compared to the canned-fed cats. We observed that while age correlated with changes in body composition and insulin sensitivity, diet did not when the cats were five years of age. Preliminary data suggests that this is not the case in older cats.

Learning Objective:
To explain findings on the long-term effects of diet and aging on body weight, body composition and insulin sensitivity on domestic cats.

Abstract Title: Pet Food Customer Perceptions of Product Attributes: Implications for Marketing and Product Strategy

Presentation Type: Oral presentation

Topic: Market/marketing

Submission Details:
The pet food industry continues to grow driven by higher disposable income and increased popularity of pet ownership amongst millennials. Research shows that pet food sales increased by 27% from $59.3 billion in 2010 to $75.25 billion in 2016. The increase in demand is accompanied by growing preference for specialized product attributes such as natural, organic, and many other premium product attributes. Research shows that many pet food trends today mimic human food trends as there is a growing tendency among pet owners to humanize their pets. These trends have forced companies to re-evaluate their production and marketing strategies in order to take advantage of the profit potential. They have begun using product differentiation based on various intrinsic attributes (e.g. color, texture, smell, appearance, etc...) and extrinsic attributes (e.g. brand, denomination of origin, image, etc...). As companies aim to accommodate the increasing specialized demands of consumers, they must be aware of consumer's perception of value associated with different product attributes. The ability of the companies to accurately analyze and

interpret consumer value perceptions and expectations is crucial for successfully capturing and maintaining market share in expanding specialty pet food categories.

There is emerging literature in this area examining customer preferences and willingness to pay for specific attributes of pet food. However, the extent of this literature is limited by the availability and quality of consumer data. Recent advancements in information and communication technologies combined with the growing trend of online shopping in general and pet food in particular have generated new data source and provided opportunity for analysis of consumer perceptions. The online pet food and supplies purchases in the U.S. have increased by 58% from $1.18 billion in 2011 to 1.86 billion in 2015. Studies in other areas such as human food, health, services, banking, and many other markets have used online review data to study consumer preferences. However, there are no such studies in pet food. The growth in pet food and increasing profit potential combined with increased online shopping provides a good opportunity for research in this area.

The purpose of this thesis is to provide insight on consumer perception of pet food product attributes. Specific objectives include identifying major emerging consumer trends in pet food, examine strategies used by pet food in designing and communicating points of differentiation targeted at emerging consumer trends, analyze consumer perception of the value associated with intrinsic and extrinsic attributes of specialty pet food products.

The analysis is based on the data from consumer reviews of online pet food buyers. Websites such as Amazon, Chewy, and Pet Food Direct are used to obtain consumer review, as they are the leading websites for pet food sales. Data on company marketing strategies is obtained from websites and packages of the companies associated with the select specialty pet food brands and product lines. Methods include utilizing the R Studio Statistical software to conduct a content analysis of the consumer reviews. A comparative analysis is performed to examine differences in perception of attributes by customers in different categories based their rating of the product and shopping experience.

The primary results showed both companies are primarily marketing the health/benefit characteristics to customers. The results also revealed pet food customers tend to place the most value on health/benefit and ingredient characteristics. The three-circle analysis results showed that each of the attributes and terms marketed by both companies are perceived by customers. This implies that both companies are successfully communicating the value of their products to customers. However, there is potential for both companies to increase their current product positioning strategy to incorporate attributes highlighted as value/needs. The alterations in marketing approach can increase competitive advantage over other companies in the market. The insights generated by this research have a potential to inform marketing, product strategy decisions, and facilitate successful product differentiation by companies in the pet food industry. The methods and the results of this research contribute to the literature in the area of agribusiness and agri-food marketing in general and pet-food marketing in particular, thus it will potentially generate interest among agribusiness scholars and pet-food industry stakeholders.

Learning Objective:
To apply an economic approach to analyzing the current product differentiation strategies used in the pet food industry and examine the ability of pet food companies to effectively communicate value through product marketing; to highlight new ways of analyzing customer perceptions of product attributes in pet food.