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Examining US Pet Food Buyers Preferences: Implications for Product Development and Marketing Strategies

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Examining US Pet Food Buyers Preferences: Implications for Product Development and Marketing Strategies



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INTRODUCTION

The United States, home to approximately 85 million pet owners, exemplifies a unique consumer market in the global pet food industry (Bir, Widmar, and Croney, 2017). This market's evolution, primarily driven by the deepening human-pet bond, has profound implications for agribusiness, necessitating a nuanced understanding of consumer preferences and spending patterns (Gates et al., 2019). The pet food market in the United States is characterized by its rapid evolution, driven by the surge in pet ownership and shifting consumer preferences. Recognizing pets as family members has revolutionized pet care and food quality expectations, posing new challenges and opportunities for the pet food sector (Boya et al., 2012). Recent years have witnessed a dramatic increase in the pet population in the United States, propelling the US pet food market and pet food buyer preferences to the center of attention of agribusiness industry decision-makers. Despite the growing interest of industry decision-makers, the literature on the management and economics of pet food remains limited.

OBJECTIVES

1. Examine the relative importance of price, ingredients, and attribute claims in pet food buying decisions.
2. Examine the relative importance of various product attributes/claims in the ingredient, health and wellness, processing, and supply-chain categories.
3. Examine the relationship between pet food buyers' preferences and the average monthly expense of pet food.

SURVEY DESIGN

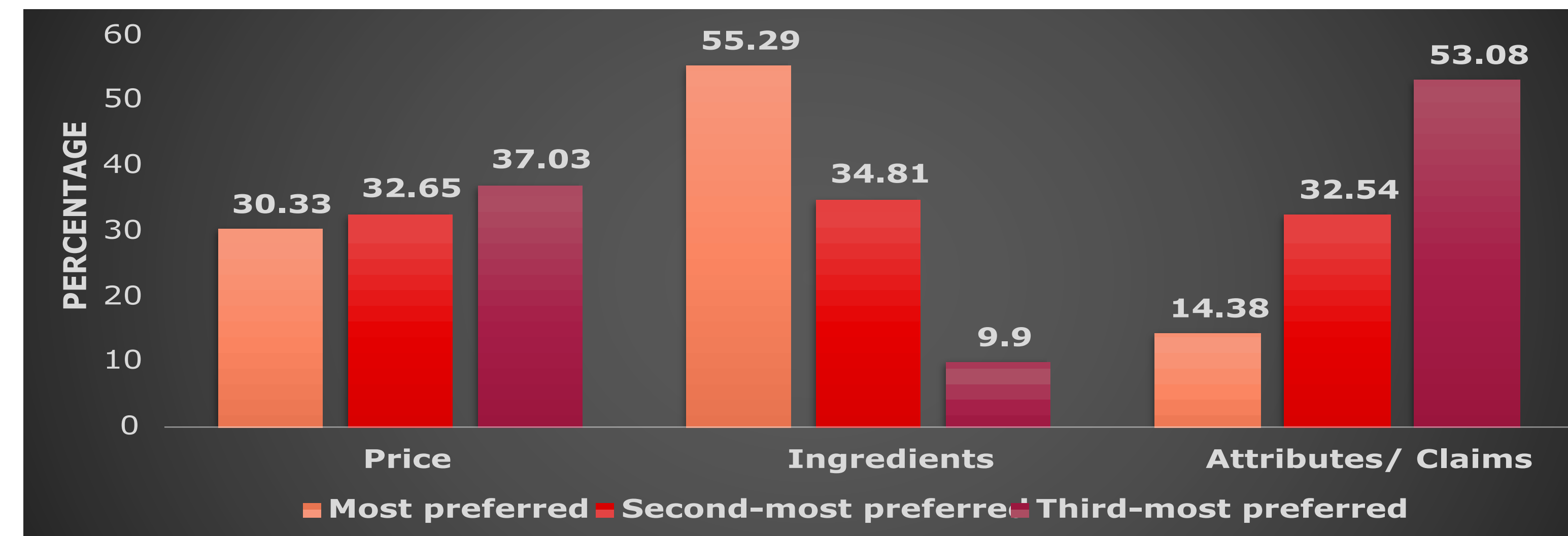
A consumer survey involving 5,000 US dog owners investigated perceptions of sorghum in pet food and preferences for pet food attributes. Implemented via Qualtrics after a soft launch and mid-point review, the survey garnered over 6,000 responses. In addition to descriptive statistical analysis, the survey data was evaluated by methods like Best Worst Scaling, Extreme Gradient Boosting, and Categorical Boosting.

REFERENCES

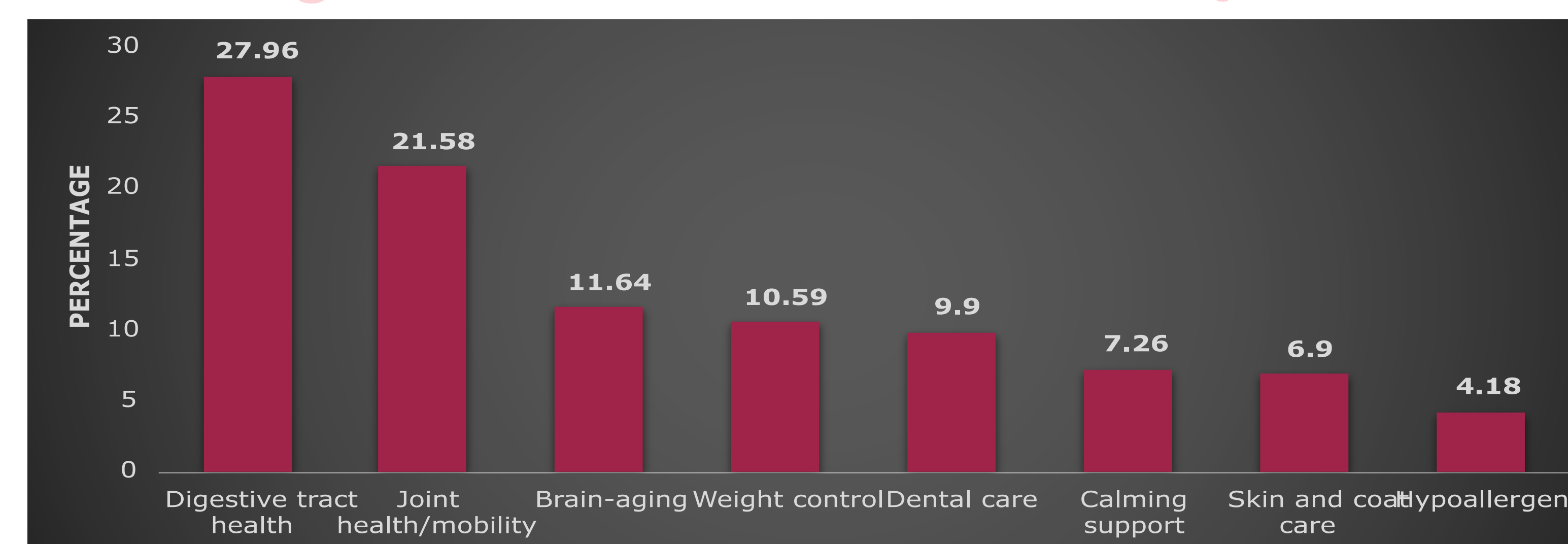
- *Bir, Courtney, Nicole Widmar, and Candace Croney. 2017. "Stated Preferences for Dog Characteristics and Sources of Acquisition." *Animals* 7 (12): 59. <https://doi.org/10.3390/ani7080059>. *Pet Food Processing*.
- *Boya, Unal O., Michael J. Dotson, and Eva M. Hyatt. "Dimensions of the dog-human relationship: A segmentation approach." *Journal of Targeting, Measurement and Analysis for Marketing* 20 (2012).

RESULTS

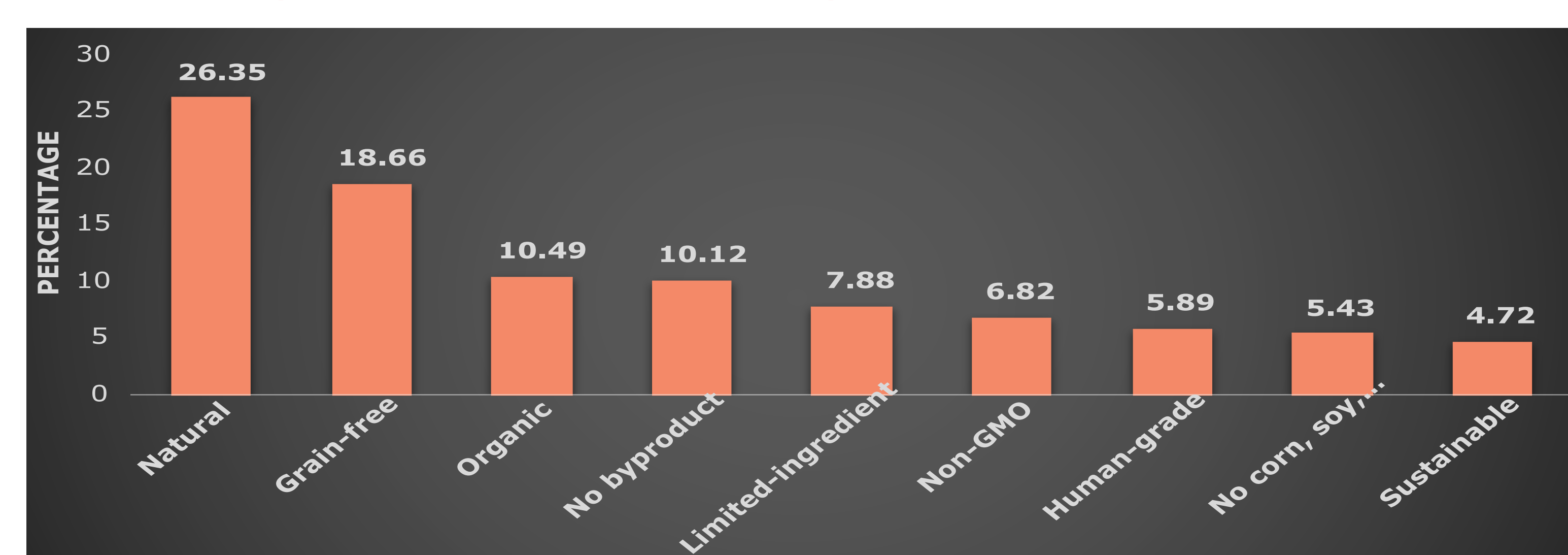
Preference Ranking of Criteria for Product/Brand Selection



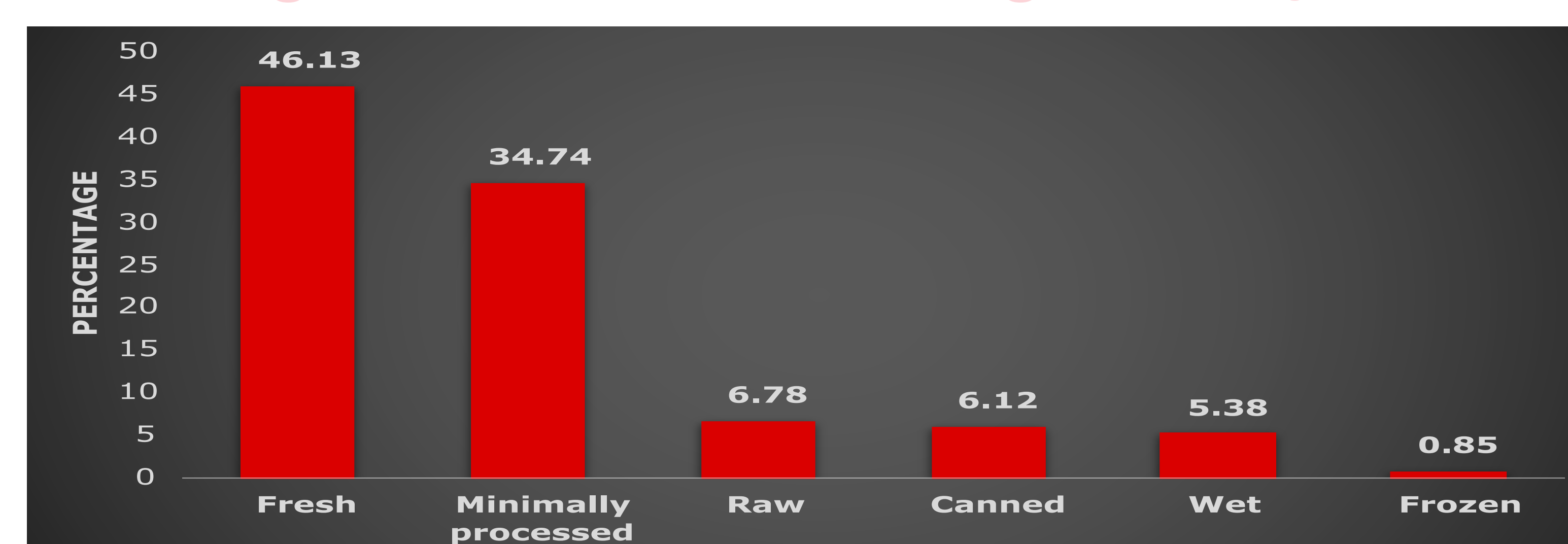
Ranking of Most Important Health Attributes/Claims



Ranking of Most Important Ingredient Attributes/Claims



Ranking of Most Important Processing Attributes/Claims



RESULTS(cont.)

Predicted Monthly Expense on Pet Food



Performance of Machine Learning Models

Test size=20% K-fold=5		
Model/Criteria	RMSE	Feature importance
SVM	57.0016	
Random Forest	55.7661	Level of Education 0.0309
Decision Tree	60.4286	Level of Education 0.0248
Gradient Boosting	55.4635	Level of Education 0.0500
XGBoost	55.2459	Level of Education 0.0239
CatBoost	55.1576	Level of Education: 5.6132

CONCLUSIONS

1. Education level and product pricing significantly influence monthly pet food expenses. Targeting advertising efforts at schools and colleges is advised based on our analysis.
2. The respondents indicated that "Digestive tract health", "Joint health", "Natural", "Grain-free", "Fresh", "Minimally processed", "Eco-friendly", and "Made in USA" are among the most important health, ingredient, processing, and supply-chain attributes.
3. Among select plant-based ingredients, rice is perceived as the most important by pet food buyers, followed by oat and barley. Sorghum ranks lowest among the seven ingredients, which also include quinoa, corn, and millet.