

Formulation and Development of a Dry Dog Food for the Local Market

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Almost all dry dog foods available in the Sri Lankan market are imported products and are comparatively expensive. Due to present import restrictions, the price is unaffordable to dog owners and the product is unavailable in the local market. This research was conducted to formulate a palatable dry adult dog food for the local market and to compare it with the imported brands. Nutritional requirements for the formulation were determined using the daily nutrient requirement of an adult dog, literature, pet shop owners, consultation with veterinary practitioners, and an online survey of dog owners. The dry adult dog food in the form of the nugget was formulated using 14 ingredients. Crude protein, fat, carbohydrates, energy, and crude fiber were balanced in the formulation using a linear programming method. The flavour was developed separately by acid hydrolysis of chicken liver and gizzard. The hydrolysate was filtered and concentrated. Nuggets were prepared manually, coated with the developed flavour concentrate followed by drying. Proximate composition, Total Plate count, and yeast and mold count were determined in the developed product. Palatability tests were conducted using local cross-breed of 30 adult dogs. Feeding pan choice, preferred nugget colour, shape, and size, and preference over the market branded products was evaluated. The developed product contained 23.4% crude protein, 2.3% crude fiber, 49.3% carbohydrate, 9.5% crude fat, 6.0% ash, and 6.5% (dry basis) moisture. The Total Plate Count was 47.62 cfu/g and the yeast and mold count was 28.57 cfu/g Red-coloured, round-shaped large nuggets were selected as the most preferred nuggets. The preference for the developed dry dog food was not significantly different ($P>0.05$) compared to the imported brands.

Keywords: Flavour, Nugget, Nutritional requirements, Preference, Proximate composition analysis

This work was funded by the Raigam Marketing Services

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