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Work Area: Non-Ruminant Nutrition and Production

Determination of Metabolizable Energy in Commercial Foods for Adult Dogs

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Domestic animals, such as dogs, are increasingly becoming a part of people's daily lives, and their owners strive to provide the utmost welfare and health, aiming for the longevity of these animals. To this end, the quality of the food provided is essential to ensure proper nutrition and health, which is directly related to food intake. At the same time, the consumption of food is a necessary behavior for animal survival. Therefore, the offered pet food must be properly formulated with ingredients that support the animal's health, considering their nutritional needs according to their life stage for their welfare. With this in mind, a study was conducted on which adult dog foods were most sold in pet food stores in three neighborhoods on the outskirts of Recife. After the research phase, the eight best-selling dog foods for adults were purchased, regardless of whether they were from the same manufacturer. These brands were identified by letters (A, B, C, D, E, F, G, and H) to preserve the anonymity of the manufacturers. The samples were taken to the Animal Nutrition Laboratory of the Department of Animal Science at the Federal Rural University of Pernambuco for bromatological analyses and processed according to the methodology proposed by the National Institute of Animal Science and Technology. Based on the processed sample data, the metabolizable energy (ME) of the foods was calculated using the formula ME = ((CP3.5) + (EE8.5) + (NFE*3.5)). The results in kcal/100g were: 342.25 kcal/100g, 349.00 kcal/100g, 315.25 kcal/100g, 340.50 kcal/100g, 340.75 kcal/100g, 354.50 kcal/100g, 342.25 kcal/100g, 328.75 kcal/100g, respectively for commercial foods A, B, C, D, E, F, G, and H. The average ME of the samples was 339.16 kcal/100g, which is within the general average of the foods available on the market. The metabolizable energy of dog food refers to the amount of energy contained in the food that is actually available to the dog's body after digestion and absorption. Each animal has a necessary energy demand related to its size, weight, and life stage. The foods studied in this research are for active adult dogs, with a daily demand of around 125 kcal * BW^0.75. On average, active adult medium-sized dogs weighing around 20 kg have a demand of approximately 1,182.17 kcal/day. It is extremely important that food packaging includes ME values or at least the metabolizable energy formula so that owners can calculate their dog's needs and provide the necessary amount of food for their animal. If this amount is above what is necessary, the animal can develop obesity and trigger various health problems. If it is below, the animal will not have good body development and may become malnourished. Therefore, the most sold commercial foods in three neighborhoods on the outskirts of Recife deliver results that are within the adequate average for metabolizable energy levels for adult dogs.

Keywords: feeding, analysis, nutrition, health.