

Development of a Dog Treat Incorporated with Pharmaceutical Gelatine By-Product and Poultry By-Product Meal

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The gelatine residues resulting from soft gelatine capsule manufacturing in the pharmaceutical industry (pharmaceutical by-product gelatine (PBG)) has not been effectively utilized. This study was aimed to formulate a palatable and low-cost dog treat using PBG, poultry by-product meal (PBM) and *Gotu Kola* (*Centella asiatica*) as a nutritious and healthy plant source. Eight different dog treat formulations were prepared by using different percentages of the above mentioned raw materials to select the most suitable gummy textured dog food. The selected dog food formulation composed of 90% of PBG, 8% of PBM and 2% dried powder of the whole *Gotu Kola* plant. Physiochemical and microbiological qualities of the selected dog treat were analysed at weekly intervals during one month of the storage period and the proximate analysis of the selected dog treat was analysed after one week of manufacturing. A feeding trial was conducted using eight (4 to 5 months old) local crossbred dogs to assess the palatability of the prepared dog treat and control diet (rice with minced broiler meat) by measuring the feed intake within a given time. Results of the proximate analysis of the selected dog treat revealed that the moisture content, crude protein and crude fat were $16.27 \pm 0.14\%$, $75.33 \pm 0.12\%$ and $3.51 \pm 0.55\%$, respectively. As the pH and total viable aerobic plate counts changed during the storage period ($P < 0.05$), this semi-moist dog treat should be stored in vacuum packaging during the storage period. The dog food was free of coliforms. The dogs showed ($P < 0.05$) high preference to the treat indicating high palatability of the prepared dog treat over the control. The digestible crude protein value of the selected dog food was $82.64 \pm 1.76\%$. This study reveals that the developed dog treat is nutritious, highly palatable and highly digestible.

Keywords: Dog treat, Gelatine, Gummy, Palatability, Poultry by-product

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