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Nutrient composition of soya bean meal and soy protein isolate and their effects on the growth performance and haematological parameters of albino rats

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Soya bean meal (SMB) and Soya bean protein lsolate (SOPI) were prepared from soya bean seeds. Based on the crude protein content, infant weaner foods was formulated on the substitution of SMB with SOPI and compared with three different commercial infant brand CFF, CFN and CFC, using weight gain, food conversion efficiency, relative organ weight and blood (haematological) constituents as response criteria. The result showed that 100% substitution of SMB with SOPI had the highest crude protein 16.6±0.1 g/100 g dry matter (DM), while among the commercial weaner foods CFC had the highest 16.2±0.1g/100 g DM. Infant weaner formulation of SMB or SPOI showed highest growth rate of 3.4±0.2 g/rat/day, was in the rats fed diet in which 75%of dietary SMB was replaced with SOPI. The least growth (1.1±0.2 g/rat/day) was in the rat fed commercial foods coded CFN or CFF. The relative organ weight (g/kg body weight) of the liver, kidney, spleen and heart of the rats were within normal ranges irrespective of whether they are fed SMB/SOPI or commercial foods. Haematological assessment showed no significant differences ($p \geq 0.05$) between the rat fed SMB/SPOI based diets and commercial brands with regards to the packed cell volume (PCV), red blood cell (RBC), white blood cell (WBC) and haemoglobin concentration (Hbc). Gross pathological observation of organs using such vital signs as colour, size, edge, and lesions revealed no abnormalities when compared with the controls.

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