Thesis Title

Studies on Nutritive Values of Hydrolized

Leather Meal in Broiler Feed

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ABSTRACT

Hydrolyzed leather meal (HLM) was evaluated for the chemical composition (proximate analysis and amino acid content), bulk density and the nutritive value when fed to broilers. The HLM contained high content of protein of 81.43 % CP with lower levels of metabolizable energy of 2060 Kcal/Ng, with 0.90 % fat and 408.50 g/l bulk density when compared with those of fish meal. Amino acid content of HLM was lower than that of fish meal with the levels of lysine, methionine, tryptophan, isoleucine, leucine and valine content of 52,47,50,43,65 and 72 % that of fish meal respectively. However, arginine level in HLM was 99 % that of fish meal and glycine was 4.86 times higher than fish meal. The bulk density of HLM was similar to that of leucaena meal, but lower than that of

fish meal, soybean meal and feather meal. The bulk density index of HLM was 33.33% when fish meal was used as a reference. Two experiments were evaluated for the effect of HLM on broiler performance from 0 to 6 weeks of age. levels of HLM from 0 to 8 % were added to the corn-fish meal soybean, basal diet(21.55%CP) without addition of amino acids (experiment1) and with the addition of amino acids (methionine and lysine, experiment2) balance. Results from both experiments indicated that HLM could be a sole source of crude protein up to 4 % without significant effect on weight gain, feed intake , feed efficiency and dressing percentage. The protein efficiency ratio and abdominal fat were decreased (P<0.05) with increasing inclusion of HLM in the diet in both experiments during 0-6 weeks of age. In addition, there were both linear and quadratic responses for weight gain, feed intake and dressing percentage when the levels of HLM was increased in the diet. This relationship reflects the relative lower bulk density and amino acid value of HLM compared with the control fish meal diet. Consequently both protein efficiency ratio and feed efficiency generally decreased as HLM increased. Inclusion of amino acids in the HLM diet had a better(P(0.05) effects on weight gain, feed intake, feed efficiency and protein efficiency ratio. By contrast, the 6 % level of HLM in either with or without addition of amino acids had a detrimental effect on most parameters.