

THESIS TITLE STUDIES ON NUTRITIVE VALUE AND AMINO ACIDS AVAILABI-
LITIES OF SOME FEEDSTUFFS FOR MEAT TYPE-DUCKS

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ABSTRACT

Two experiments were conducted to estimate nutritive value and amino acid availabilities of some feedstuffs for meat type duck. In experiment 1, some feedstuffs were assayed for nutritive value using a conventional assay procedure with Pekin ducks. Sixteen-week old ducks were given feedstuff rations 100 grams per day for seven days, except rice bran and rough rice bran was fed. In these cases rations were 60 grams per day for seven days. Feces sample were collected for analysis on days five through seven. True metabolizable energy (TME) value determined for corn, broken rice, rice bran, rough rice bran, fish meal sample A, fish meal sample B, Thai soybean meal and Chinese soybean meal were 3,905, 4,334, 4,351, 1,944, 3,122, 3,509, 3,309 and 3,277 kcal/kg, respectively. Apparent amino acids digestibility values tended to decrease with increasing of fiber content of feedstuffs. Average true amino acids

digestibilities values for corn, broken rice, rice bran rough rice bran, fish meal sample A, fish meal sample B, Thai soybean meal and Chinese soybean meal were 89.94, 102.32, 78.74, 81.95, 94.24, 92.96, 87.64 and 90.80%, respectively.

In experiment 2, four isocaloric and isonitrogenous diets were formulated using soybean meal differed in source emanating from Thai and Chinese sources, included four diet, Diet 1 consisted of Thai soybean meal supplemented with synthetic amino acids (lysine and methionine), diet 2 consisted of Thai soybean meal, diet 3 consisted of Chinese soybean meal supplemented with synthetic amino acids (lysine, methionine and threonine) and diet 4 consisted of Chinese soybean meal. Four hundred and forty-eight meat ducks were fed ration with 22% CP and 2,900 kcal ME/kg from 0-4 weeks of age, 16% CP and 2,970 kcal ME/kg from 4-8 weeks of age. Result of 0-4 weeks old duck trials showed that, average body weight and body weight gain were greater for ducks receiving diets 1 and 2 than for ducks receiving diet 3 and 4 ($P < 0.01$). Feed conversion ratios and protein efficiency ratios were best for diet 3, followed by diet 1, 2 and 4 ($P < 0.01$). No significant differences were observed in 4-8 weeks old ducks for any of the measured factor ($P > 0.05$). When the overall period was considered (0-8 weeks) duck fed diets 1, 2 and 3 showed more body weight gain than ducks fed diet 4 ($P < 0.05$). Feed conversion ratios were also better for diets 1, 2 and 3 than for diet 4 ($P < 0.01$). The result of the overall results indicated that it was necessary to supplement the Chinese soybean meal or under processing soybean meal diets with synthetic amino acids in order to achieve satisfactory performance levels.