Tidaporn Soodying 2009: Effects of Dietary Enzyme Supplementation in Cassava Pulp Diet on Broiler Performance. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Ornprapun Songserm, Ph.D. 103 pages.

Two experiments were conducted to evaluate effects of dietary enzyme supplementation in cassava pulp diets on broiler performance. In the first experiment, three hundred and sixty, 21 day of age, male Ross 308 broilers were used to evaluate nutrients digestibility of cassava pulp diets supplemented with dietary NSP-degrading enzymes The birds were randomly assigned into six dietary treatment combinations. Each treatment combination consisted of 6 replicate groups of 10 birds. The birds were kept in metabolic cages where excreta could be collected. Each group of the birds was randomly fed an experimental diet as follows: diets containing with cassava pulp 0, 5 and 10% (Diet 1, 2 and 3) and diets containing with cassava pulp 0, 5 and 10% supplemented with dietary NSP-degrading enzymes (Diet 4, 5 and 6), respectively. No interaction effect between enzyme supplementation and cassava pulp level in diets neither nor effect of each factor on the protein and fat digestibility of experimental diets ($P>0.05$). However, supplementation of NSP-degrading enzymes in diet tended to improve metabolizable energy of diet ($P = 0.0595$).

The second experiment was conducted to study effects of dietary enzyme supplementation in cassava pulp diets on broiler performance, carcass trail and histological properties of the digestive tract of broilers. One thousand and eight hundred day-old chicks were divided into six dietary treatment combinations. Each treatment combination consisted of 6 replications, 3 replications of male and 3 replications of female, with fifty chicks per replication. Broilers diets were assigned using 2 x 3 factorial experiment in randomized complete block design. Each group of birds was randomly fed one of dietary treatments similar to the first experiment. Results of the study have shown no interaction effect between enzyme supplementation and cassava pulp level in diets on broiler performance, carcass trail and histological properties of the digestive tract in jejunum of broilers ($P>0.05$). An increase in cassava pulp level up to 10% in diet significantly decreased body weight gain of broilers comparing to that of birds fed diets containing 0 and 5% cassava pulp ($P<0.05$). Supplementation of NSP-degrading enzymes in this experiment did not improve the performance of broilers, whereas significantly decrease feed intake of broilers ($P<0.01$). However, there were no effect of each factor on carcass quality and histological properties of the jejunum examined by villus height, crypt depth and the ratio of villus height per crypt depth ($P>0.05$).

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