



Evaluation of dietary supplements of lipase, detergent, and crude porcine pancreas on fat utilization by young broiler chicks.

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The purpose of Experiment 1 was to improve the digestibility of fat through the use of supplemental lipase enzymes. A 2 x 3 factorial arrangement of treatments involving two levels of animal-vegetable blend fat (AV) (4 and 8%) and three enzyme treatments, namely none; Pancreatic, 0.714%; and Pancreatin, 0.714%, were randomly allocated within a battery brooder. There was an increase in diet ME and apparent fat digestibility where Pancreatic Pancreatin enzymes were used (P 60 0.01). However, both enzymes caused lower feed intake and lower BW gain (P 60 0.01). In Experiment 2, Pancreatic enzyme was used at graded levels of 0, 0.214, 0.429, 0.643, 0.857, and 1.071%, involving 4% dietary AV fat. The ME values were greater as the enzyme level increased (P 60 0.01). However, as found in Experiment 1 lower feed intake and BW gain were observed with all enzyme levels compared with the control group. There was a linear effect on feed intake and BW gain (P 60 0.01) and a quadratic effect on apparent fat digestibility (P 60 0.05) and feed utilization (P 60 0.01). Experiment 3 was designed to test the effect of Pancreatic enzyme at 0 or 1.339% in combination with two levels of detergent, namely 0 and 10% (with 4% added AV). The detergent used consisted of a mixture of 95% Span 60 and 5% Tween 60. In general, there was no significant effect of detergent (P > 0.05). Experiment 4 was conducted to test the effect of supplementation of graded levels of ground crude porcine pancreas at 0, 0.321, 0.535, 0.750, 0.964, 1.178, or 1.392% of the diet on performance of male broiler chicks to confirm the anorexic effect caused by supplementing with Pancreatic enzyme. In general, there was no significant effect of feeding crude porcine pancreas on the performance of male broiler chicks (P > 0.05). In these studies, lipase enzymes improved fat digestion, although it is suspected that associated reduced feed intake may be associated with contaminants such as cholecystokinin hormone.