

Parkpoom Sukpopet 2009: Effects of Complex Enzymes Supplementation in Cassava Diets on Growth Performance and Nutrient Digestibility in Weaned Pigs. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Associate Professor Uthai Kanto, M.S. 84 pages.

The effects of complex enzymes composed of NSPase phytase amylase and protease supplementation in high cassava-soybean meal diets were studied by using 100 crossbred (LWxLRxD) pigs weaned at 28 days old. The animals were divided into 4 groups of 25 animals each which was further divided into 5 subgroups of 5 animals each. Each group of the animals was randomly fed 1 of 4 experimental diets as follows until 56 days of age; T1: Positive control cassava-soybean meal diet containing all nutrients according to standard nutrient requirement, T2: T1 but supplemented with the complex enzymes at 0.2 kg/ton feed, T3: Negative control diet which contained 75 kcal/kg, 0.1 % and 0.1 % less ME, Ca and available P than T1, respectively, and T4: T3 but supplemented with the complex enzymes at 0.2 kg/ton feed. Results of the study showed that pigs on T2 were higher final weight, ADFI and ADG but the differences were not significant ( $P>0.05$ ). However, pigs on T2 had significantly better FCR ( $P<0.05$ ) than those on T1. The differences of growth performance between pigs on T4 and T1 were not statistically different ( $P>0.05$ ) but pigs on T4 had significantly better FCR ( $P<0.05$ ) than those on T3. There was no significant difference in mortality rate of pigs among the treatment groups. Thus, the complex enzymes supplementation demonstrated an improvement on growth performance of weaned pigs in high cassava and soybean meal diets. However, there were no statistical differences ( $P>0.05$ ) in microbial population, pH-value in digestive tract, volatile fatty acid level and gut morphology among the pigs fed experimental diets, whereas there were improvements of ileal and total tract digestibility of dry matter ( $P<0.05$ ) when enzymes were supplemented to pigs in T2 group. Furthermore, when enzymes were supplemented to pigs in T2 and T4 group, an improvement on total tract digestibility of organic matter were detected ( $P<0.05$ ). The results indicated that supplementation of the complex enzymes in cassava and soybean meal diets could improved growth performance and nutrient digestibility in weaned pigs.

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