

improvement protein utilization of soybean meal, nutrient digestibility and production performance in nursery pig diets

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Abstract

This study was purposed to use pineapple juice fermented soybean meal on Protein Dispersibility Index (PDI) and nutrient digestibility in nursery pigs. The study divided into 3 experiments. Experiment 1 was studied the soybean meal and pineapple juice fermenting ratio and timing assigned into 5x4 factorial in CRD between pineapple juice fermenting ratio 1 : 1, 1 : 2, 1 : 3, 1 : 4 and 1 : 5 and timing on 60, 90, 120 and 150 minute respectively. The results revealed that 1 : 5 ratio of soybean meal : pineapple juice fermented for 120 and 150 minutes and ratio of 1:4 for 120 and 150 minutes were highest ($P>0.05$) of PDI (17.70, 17.71% and 17.27 and 17.03%, respectively). Experiment 2 was studied pineapple juice fermented soybean meal on apparent total tract digestibility (ATTD) of weaning pigs, 12 males (LRD) with average weaning age of 6 weeks, bodyweight average 12 kg. and assigned into Completely Randomized Design (CRD) with 4 treatments and 3 replications each. Treatment 1 was positive control (PC), while, treatment 2, 3 and 4 were negative control by decreasing crude protein level in diet and replacing soybean meal with fermented soybean at 0, 25 and 50% (NC, NC-25 and NC-50, respectively). The results show that there was not significantly difference ($P>0.05$) in ATTD of DM, protein and energy. However, ATTD of crude fiber of NC-25 was highest (87.08%), that was significantly difference ($P<0.05$) from PC (72.12%). Experiment 3 was studied pineapple juice fermented soybean meal on productive performance of weaning pigs (LRD), 36 each of males and females with average initial body weight 7.70 kg., assigned into Randomized Completely Block Design (RCBD) with 4 treatments and 3 replications. The experimental diets were used as same as experimental 2. The results were found that productive performance in all groups of nursery pigs were not significantly difference ($P>0.05$).

Key words: Pineapple Juice, Bromelain enzyme, Soybean Meal, Protein dispersibility index, Apparent total tract digestibility, Productive Performance, and Nursery Pigs