

Aingkharat Thansirathanarom 2013: Study of Crude Palm Oil and Crude Rice Bran Oil Ratio in 20-100 Kg Pig Diets. Master of Science (Animal Nutrition and Feed Technology), Major Field: Animal Nutrition and Feed Technology, Department of Animal Science. Thesis Nutrition and Feed Technology, Department of Animal Science. Thesis Advisor: Assistant Professor Seksom Attamangkune, Ph.D. 62 pages.

The objective of this study is to elucidate the dietary ratio of crude palm oil to crude rice bran oil in pig diets. Two experiments were conducted in order to determine the metabolizable energy values of crude palm oil (CPO) and crude rice bran oil (CRBO) in growing pigs and the effects of dietary lipid sources on growth performance, carcass quality and fatty acid composition in backfat. In Exp. 1 twenty four, 55 Kg BW D x LW x LR pigs were divided into 6 groups. Each group consisted of 4 replications. Each pig was kept individually in metabolic cage. To determine ME values, substitution method was performed for the basal diets which contained 1.5% celite as indigestible marker. Results of exp. 1 showed that ME of CPO (T1) and CPO blended with CRBO in ratio of 75:25 (T2), 50:50 (T3), 25:75 (T4) had ME values of 9,374, 9,303, 9,399 and 9,076 cal/g, respectively, which were not significantly different ($P>0.05$). ME value of CRBO (T5) was 8,499 cal/g which was lower than the other groups ($P<0.05$). However, the digestibility of oils in different dietary treatments were not significantly different ($P>0.05$).

In Exp 2. Eighty, 20 Kg BW D x LW x LR pigs were randomly divided into 5 dietary treatments with 4 replications per treatment and were kept in evaporative cooling house. Pigs were fed with diets formulated by using ME value of CPO at 9,375 cal/g and ME value of CRBO at 8,500 cal/g. The studied fat level in all diets was at 4%. It was found that, ADG, FCR and ADFI were similar for all treatments ($P>0.05$). The carcass quality such as backfat thickness, lean percentage, pH of *Longissimus dorsi*, meat color and drip loss were not significantly different ($P>0.05$). The study of fatty acid composition in back fat demonstrated that pigs fed CPO diet tended to show higher saturated fatty acid ratio than CRBO diets ($P=0.12$). The ratio of C18:0, C18:1 and C18:2 deposited in backfat were significantly different ($P<0.05$) but not in C14:0, C16:0, C18:3 and C20:1.

Student's signature

Thesis Advisor's signature