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Use of Lemon Oil as Feed Additive in Weaner Pig Diets

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Abstract

Lemon oil is an essential oil extracted from lemon fruit (*Citrus aurantiifolia* SWING). Some of effective ingredient in lemon oil has been seen to be effective in reducing the colony of some micro organisms, which may cause the diarrhoea in piglets. An experiment was conducted at Chiang Mai University, Thailand to determine the use of lemon oil as feed additive in weaner pigs. Thirty, 28 day old weaner pigs weighing on average 9 ± 0.8 kg were randomly distributed into 5 groups of 6 animals each. The pigs were housed in individual cages. The pigs were allocated by group to the five diets: 1. Control basal diet containing corn-soybean meal; 2. Basal diet supplemented with 1 g tetracycline kg^{-1} feed; 3. Basal diet plus lemon oil (LO) at 1 ml kg^{-1} ; 4. Basal diet plus LO at 2.5 ml kg^{-1} ; and 5. Basal diet plus LO at 5 ml kg^{-1} . The experimental diets were formulated according to NRC (1998) requirements. The growth performance and faecal characteristics of the pigs were determined for 35 days. Average daily gain (ADG) and feed conversion ratio (FCR) of pigs fed diets 1 to 5 were: 467, 493, 458, 469 and 446 g d^{-1} and 2.46, 2.32, 2.38 2.48 and 2.32 respectively. There were no significant ($p > 0.05$) differences in ADG and FCR amongst the treatments. The inclusion of lemon oil at 5 ml kg^{-1} diet tended to improve FCR and faecal shape score values compared to the control. The results suggest that lemon oil can be included at 5 ml kg^{-1} in weaner pig diets and has potential to act as tetracycline as feed additive in weaner pig diets.

Keywords: Essential oil, feed additive, lemon oil, weaner pig