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## Use of Essential Oil Extracted from Citronella, Cloves and Peppermint as Supplement in Weaner Pig Diets

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### Abstract

The experiment was conducted at Chiang Mai University, Thailand to determine the effect of supplementing essential oil from citronella, cloves and peppermint as feed additives in weaner pig diets. Thirty weaner pigs (28 days old;  $9 \pm 0.8$  kg) were selected and randomly divided into five groups of six animals each. Each weaner pig was housed in an individual pen. Each group was allocated to one of the dietary treatments: Diet 1. control basal diet, Diet 2. basal diet with amoxicillin as antibiotic ( $2 \text{ g kg}^{-1}$  diet), Diet 3. basal diet with citronella oil ( $5 \text{ ml kg}^{-1}$ ), Diet 4. basal diet with clove oil ( $5 \text{ ml kg}^{-1}$ ) and Diet 5. basal diet with peppermint oil ( $5 \text{ ml kg}^{-1}$ ). The design was completely randomized. Diets were formulated to meet NRC (1998) standards. The growth performance and faecal characteristics were determined for 35 days. Averaged daily gain (ADG) and feed conversion ratio (FCR) of pigs fed the diets 1 to 5 were: 450, 460, 460, 450, 440  $\text{g d}^{-1}$  and 1.79, 1.68, 1.70, 1.71 and 1.76, respectively. There was no significant ( $p > 0.05$ ) differences in ADG, FCR and average daily feed intake amongst the treatments. The faeces of the pigs fed diets with essential oil had significantly ( $p < 0.05$ ) better shape and colour than pigs fed the control diets but there were no significant ( $p > 0.05$ ) differences with the pigs fed the diet supplemented with amoxicillin. The incidence of diarrhoea in the pigs within each treatment group as a percentage were: 48.10, 10.00, 4.29, 25.71 and 22.86 on diets 1 to 5, respectively. It is concluded that the application of citronella oil as feed additive has potential in feeding weaner pigs.

**Keywords:** Citronella oil, clove oil, essential oil, peppermint oil, weaner pig