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Number of *Salmonella* spp. in Feces of Weaned Pigs Fed Diets Supplemented with Betel Vine Leaves

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Abstract

Antibacterial activities of crude extracted betel vine leaf have been shown in different experiments to reduce the number of *Salmonella* spp. in feces of pigs. This study therefore was conducted to determine if betel vine leaves feed as supplement in weaned pig diets can help to control diarrhea.

Sixty cross bred weaned 28 day old pigs were randomly divided into six groups for dietary treatments in a completely randomised design. The groups were fed as follows: 1) control basal diet, 2) basal diet with tylosin 500 g/100 kg, 3) basal diet with standard eugenol at 7.5 ml/100 kg (standard eugenol 3.906 $\mu\text{l kg}^{-1} \text{bw day}^{-1}$; 10 times of standard eugenol MIC). Diets 4), 5) and 6) were 30 ml crude extracted, 50 g fresh and 3.7 g dry betel vine leaf/100 kg basal diet (eugenol 0.0154 $\mu\text{l kg}^{-1} \text{bw day}^{-1}$; 10 times of eugenol in crude extracted betel vine leaf MIC). The number of *Salmonella* spp. in the feces was counted according to the most probable number technique (MPN) at day 0 and 35 of the experiment.

The results showed 90, 70, 60, 50, 50 and 60 % of the pigs had *Salmonella* spp. on day 0 ($p > 0.05$) then reduced to 50, 44, 25, 30, 40 and 33 % on day 35, respectively ($p > 0.05$). There was no significant difference in the number of *Salmonella* spp. on day 35 among the groups. Comparison of *Salmonella* spp. on day 0 and 35 within the groups showed a slight reduction of *Salmonella* spp. However, only the pigs fed with tylosin had a significant lower value ($p < 0.05$) on day 35. There were no significant differences in body weight and average daily gain at day 0 and 35 among the treatment groups. This study showed that standard eugenol, crude extracted, fresh and dry betel vine leaf can be supplemented in weaned pig diets to reduce the number of *Salmonella* spp. in the feces and discharge into the environment. For more efficiency, it is suggested to increase the concentration of eugenol in pig diet more than 10 times of MIC.

Keywords: Betel vine, eugenol, *Salmonella* spp., weaned pig