

The effect of including essential oils in diets for weanling pigs

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A total of 222 weanling pigs (initial BW: 4.79 ± 0.29 kg) were used in a 35 d experiment to investigate the effects of adding essential oils to diets for weanling pigs. Six pigs were sacrificed on the d of weaning and the remaining 216 pigs were randomly allotted to six treatment groups with six pigs per pen and six replicate pens per treatment. One pig from each pen was randomly selected and sacrificed on either d 5 or d 7 post-weaning. The six treatments consisted of a negative control group that was fed diets containing no feed additives. The remaining five groups had either 50 ppm Mecadox (positive control), 100 ppm Horseradish, 100 ppm Mustard, 1,000 ppm Oregano, or 1,000 ppm Cassia added to their diets. Individual pig BW were recorded on the d of weaning and after 1, 2, and 5 wk. At the conclusion of the experiment, the average ADG, ADFI, and G:F were calculated for each treatment group. All sacrificed pigs were opened and segments from the duodenum, the jejunum, and the ileum were recovered. Villus height (VH), Lamina Propria Depth (LPD) and VH:LPD were measured in each segment. The pH and the concentrations of coliform bacteria, aerobic bacteria, anaerobic bacteria, yeast, and Lactobacilli were measured in the contents from the ileum, the cecum, and the colon. Results of the experiment showed that there were no differences in the performance of the pigs among treatment groups over the entire five wk experimental period. However, there was a trend ($P < 0.10$) for improved performance for pigs fed the diets

supplemented with Cassia. There were no differences among treatment groups in gastric and intestinal pH or in intestinal morphology. The concentrations of coliform bacteria were lower in pigs fed diets supplemented with Mecadox compared with pigs fed the negative control diet or diets supplemented with Horseradish and Cassia. However, for the remaining bacteria, no differences among treatment groups were observed. In conclusion, the results from this experiment do not document a positive effect of adding essential oils to diets for weanling pigs.

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