

Title: Evaluation of antimicrobial alternatives to reduce the development of antibiotic resistance – **NPB #03-075**

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Abstract: A 35-day growth assay was conducted to assess the effect of an oregano oil feed additive on nursery pig performance and development of antibiotic resistance in nursery pigs. One hundred eighty pigs, with an average weight of 12.3 pounds and an average of 17 days of age were randomly assigned to three experimental treatments. Experimental treatments consisted of an unmedicated basal diet (Control diet), and diets supplemented with Carbadox at 50 g/ton and an oregano oil extract at 3 pounds/ton. Pigs were weighed weekly to assess growth. Feed added to feeders was recorded and feeder weights were obtained on days 20 and 35 of the study to assess feed consumption. Rectal swabs were collected from pigs on days 0, 20 and 35 of the study for isolation of *E. coli* to determine antimicrobial resistance resulting from consumption of the experimental treatments. Patterns of multiple antimicrobial resistance were similar across dietary treatments at the beginning of the study. Decreases in resistance to several antimicrobials were observed during the course of the study and the respective diets did not encourage progression in the patterns of resistance observed at the beginning of the study. The diet containing the oregano oil extract failed to improve growth rate or feed efficiency in comparison to the Control diet and the diet supplemented with Carbadox supported the best pig performance overall. Based on the conditions of the study, the oregano oil extract evaluated does not represent a viable alternative to feed-grade antimicrobials.

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