EFFECT OF PELLET VS. MASH: CORN-SOY DIETS ON SALMONELLA PREVALENCE

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Introduction The aim of this study was to examine the effect of pelleted versus non pelleted corn-soy diets on Salmonella recovery from market swine.

Materials and Methods In a randomized clinical trial, with barn as the unit of concern, the effect of a non-pelleted (mash) versus pelleted corn-soy diet on Salmonella prevalence was examined. The diets were formulated to equal nutrient, ingredient levels and particle size, thus, only differed in form. The pigs were fed the diet form for the entire grow-finish period (approximately 116 days). Thirty-two barns from four sites were enrolled. The management and genetics were similar for all barns. The average number of pigs in each barn was ~1149. At harvest, individual fecal samples were collected from 30 pigs from each barn and cultured for Salmonella. A logistic model was used to analyze the data. The outcome was the number of Salmonella-positive samples/number of pigs sampled per barn. The explanatory variables were the site and feed form.

Results The average prevalence of Salmonella pigs in barns receiving the non-pelleted and pelleted diet was 4% (standard deviation=5%, n=16) and 8% (standard deviation=9%, n=16) respectively. After controlling for site effects, non-pelleted diet was associated with a reduction in Salmonella-positive pigs (odds ratio 0.4, 95% Wald confidence interval 0.2- 0.8, p=0.0048).

Conclusion It was concluded that the physical properties of feed affects the on-farm prevalence of Salmonella in finishing pigs.

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