

PORK SAFETY

Title: Dietary Manipulation as a Method of Modifying Intestinal Bacteria and Reducing the Need for Sub therapeutic Administration of Conventional Antibiotics - **NPB #01-060**

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Abstract

An experiment was conducted with weaned pigs entering a conventional nursery facility. This experiment was designed to evaluate the effects of feeding graded levels of short chain fructooligosaccharides (SCFOS; 0, 0.1%, and 0.2%) alone or in combination with 100 g Tylan/ton of feed. Response was measured as pig performance and changes in intestinal bacterial populations as exemplified by two lactic acid bacterial genera: Lactobacilli and Bifidobacterium. Pigs fed diets with 0.1% SCFOS tended to have greater feed intake and weight gain than pigs fed 0.2% SCFOS; however, pigs fed 0% SCFOS diets had similar performance to pigs fed 0.1% SCFOS diets. Addition of Tylan significantly increased feed intake and weight gain during weeks 3 and 4 of the 6 week study. However, for the rest of the experiment, performance of Tylan-fed pigs was only modestly better than control pigs. Concentration of Lactobacilli in the feces was not altered by SCFOS or Tylan. The presence of Bifidobacterium could not be verified. This experiment indicates that low level feeding of antibiotics did not dramatically improve pig performance. Likewise addition of SCFOS did not enhance performance.

A second experiment with market weight hogs was conducted to evaluate the efficacy of adding lactic acid to drinking water as a method of reducing rapidly acquired Salmonella infection. This experiment was designed to model the preslaughter conditions of hogs in slaughter plant holding pens. Supplying 0.44% lactic acid in the drinking water was unable to reduce the prevalence of Salmonella in the contents of stomach, cecum, distal colon, ileum and ileocecal lymph nodes. The presence of sub therapeutic Tylan (20 g Tylan/ton of feed) had no effect on Salmonella prevalence.

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