

Title: Corn Particle Size and Pelleting Influence on Fecal Shedding and Enteric Colonization of *Salmonella enterica* serovar Typhimurium - **NPB #02-046**

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Abstract: Ninety-six pigs (initially 13.8 lb.) were used in a 28-d trial to determine the interactive effects between pelleting and particle size on *Salmonella* serovar Typhimurium shedding and colonization in a young growing pig model. The experiment was a 2 x 2 factorial arrangement consisting of meal or pelleted diets with fine or coarse ground corn. Pigs were fed the diets 1 wk pre-salmonella inoculation and allotted based on weight to one of four dietary treatments. For the main effect of particle size, pigs fed finer ground corn had significantly improved feed efficiency ($P < 0.01$) than pigs fed coarser ground corn for the 28 d trial. Pigs fed meal diets had greater ADG, ADFI, and greater F/G ($P < 0.05$) than the pigs fed pelleted diets. Fecal shedding of salmonella was low and variable with no significant differences between main effects ($P > 0.26$) or in treatments ($P > 0.82$). There was no difference in salmonella infection scores of mesenteric lymph nodes obtained on d 28 between treatments or main effects. Finer grinding and meal diets generally improved growth, feed intake, and feed efficiency compared to pigs fed coarser ground or pelleted feeds. However, particle size or diet form did not alter the fecal shedding or mesenteric lymph node infection rates of salmonella in this study.

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