A Feeding Trial Using a Fermented-Liquid Diet with and without Probiotics

R. Amezcua[1], R. Friendship[1], S. Weese[2], C. deLange[3], C. Dewey[1]

[1]Department of Population Medicine, [2]Department of Clinical Studies,
[3]Department of Animal and Poultry Science, University of Guelph
519-824-4120 ext 54022, Rfriends@ovc.uoguelph.ca

Background

Theoretically, a fermented liquid diet should have a low pH and therefore reduce the growth of coliform bacteria such as *E.coli* or Salmonella. If these rations are supplemented with live lactic acid-producing bacteria that are known to be effective in killing *E. coli in-vitro*, and appear to survive at low pH and in the presence of bile so that they have a chance of entering the pig's intestine if provided orally in large quantities, then it is expected that nursery pigs receiving these feeds will be less prone to *E.coli* diarrhea.

Objective

To determine if a fermented liquid diet supplemented with live lactic acid-producing bacteria would be effective in preventing post-weaning *E. coli* diarrhea.

Results

Pigs fed a liquid diet tended to eat more feed initially but also tended to develop loose stools or diarrhea more readily than pigs fed a dry feed containing antibiotics. However, the diarrhea did not appear to be caused by *E. coli*. Possibly the fermented diet was difficult for the newly weaned pigs to completely digest leading to a nutritional diarrhea. A consistent finding over several trials was the fact that there were fewer *E. coli* in the gut of pigs receiving the liquid diet supplemented with probiotics (the lactic acid producing bacteria selected for their *E. coli* suppressing properties)

Take Home Message

Liquid fermented feed containing live lactic acid-producing bacteria selected for their probiotic properties might be an effective tool in reducing the prevalence of post-weaning *E. coli* diarrhea; however, further controlled challenge studies will be necessary to investigate this further.

Financial support was received from the Ontario Research Challenge Fund, Ontario Pork, and the University of Guelph-OMAF Animal Research Program.