

OH6) Influence on fecal microflora after fermented fish meal supplementation to weaning pigs (2)

Hyuk Jun Lee · Dong Hyeon Kim · Young Ho Joo · Sam Churl Kim · In Hag Choi

Division of Applied Life Science (BK21Plus, Insti. of Agri. & Life Sci.), Gyeongsang National University

¹Department of Companion Animal & Animal Resources Science, Joongbu University

1. Introduction

One animal protein source that is widely used for early-weaned pigs (as early as 19 to 21 days) is fish meal. The amino acid composition of fish meal protein is very similar to both sow's milk and piglet body tissue (Fowler, 1997). Recent approaches advocating the use of fish by-product or green algae have focused on fermentation to improve the quality of the animal feed for pig production. The objective of our study was to investigate the effect of dietary supplementation with fermented fish meal on fecal microflora in weanling pigs.

2. Materials and Method

180 weaned pigs ((Landrace × Yorkshire) × Duroc mixed sex) with weaned at 21±1d age) were randomly assigned to 3 dietary treatments (0%, 0.2%, and 0.5% fermented fish meal) in 3 replicate pens (20 weanling pigs per pen) for 3 weeks. To measure *Salmonella enterica* and *Escherichia coli* loads, fecal samples (100 g) were collected weekly from each pen at 4 random locations and immediately analyzed. The colonies, as average colony forming units (CFU)/g litter, were counted immediately at 1, 2, and 3 weeks. All data were subjected to ANOVA using the GLM procedure of the SAS package program with a completely randomized trial. Proc IML of SAS can be used to generate linear and quadratic coefficients for unequally spaced contrasts.

3. Result and Discussion

During the experimental period, diets with 0.2% and 0.5% fermented fish meal showed a reduction in *Salmonella enterica* and *Escherichia coli* populations (but not *E. coli* populations at 3 weeks) that were linear, quadratic or both, compared with controls. In particular, there was a significant reduction in *S. enterica* and *E. coli* populations when fed 0.5% fermented fish meal over 3 weeks. These results indicate that dietary supplementation with 0.2% and 0.5% fermented fish meal could be reduced harmful microorganisms in the feces of weanling pigs.

4. 참고문헌

Fowler, V. R. 1997, Fishmeal in the diets of pigs, Journal of Animal Science 66 (Suppl. 1), 320(abstr.).