

Effects of two direct fed microbials on digestibility of amino acids and energy in diets fed to growing pigs

L Blavi¹, J Jørgensen² and H Stein¹

¹Department of Animal Science, University of Illinois; ²Chr. Hansen

The hypothesis that two direct fed microbials (**DFM**) improve apparent ileal digestibility (**AID**) of AA, CP, and GE, apparent total tract digestibility (**ATTD**) of CP and GE, and hindgut digestibility (**HGD**) of CP and GE was tested. The two DFMs included **DFM1** based on *Bacillus amyloliquefaciens* (DSM 25840) and **DFM2** based on *Bacillus subtilis* (DSM 25841). Three diets based on corn, soybean meal, distillers dried grains with solubles, and no DFM (control) or DFM 1 or DFM 2 were formulated. Twenty-four growing barrows (22.69 ± 1.48 kg) with a T-cannula in the distal ileum were individually housed and allotted to a 24×3 incomplete Latin square design with 24 pigs and three 21-d periods. There were eight pigs per diet in each period and 24 total observations per diet. Fecal samples were collected from d 13 to 18 and ileal digesta were collected on d 20 and 21 of each period. Data were analyzed by ANOVA. There were no differences in ATTD of CP, but the AID of CP was reduced ($P < 0.05$) in the DFM2 diet compared with the control and DFM1 diets, whereas the HGD of CP was greater ($P < 0.005$) for the DFM2 diet compared with the other diets. The AID of total indispensable, total dispensable, and total AA was greater ($P < 0.05$) in the DFM1 diet compared with the control diet. There were no differences among diets in ATTD of GE, but the AID of GE was greater in the DFM1 diet than in the control and DFM 2 diets ($P < 0.001$), whereas HGD of GE was less ($P < 0.05$) in the DFM1 diet compared with the other diets. In conclusion, supplementation of *Bacillus* sp. in diets fed to growing pigs enhanced the AID of AA and GE.