

scFOS STABILIZE THE MICROFLORA IN PIGLETS

KEYWORDS

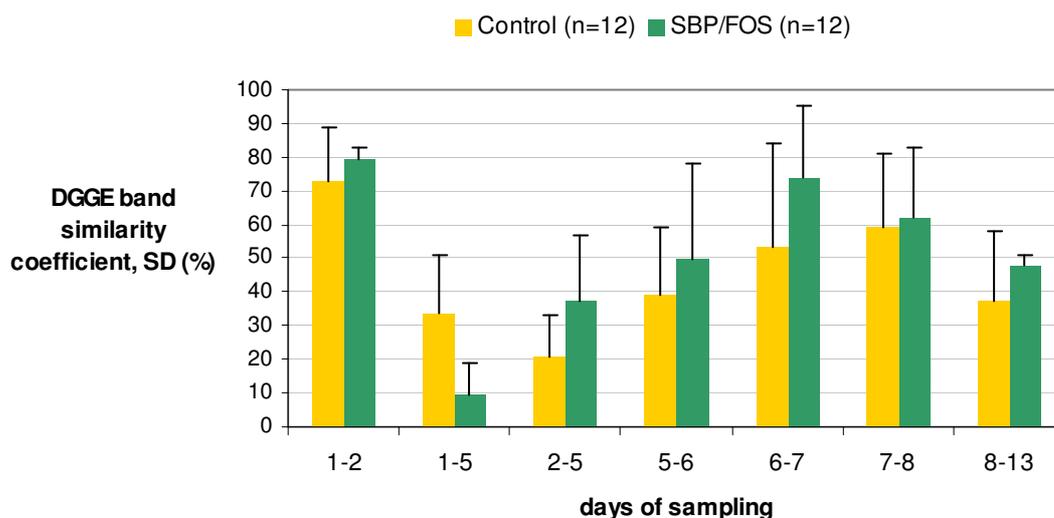
Piglets – digestive flora – weaning stress – *Ruminococcus*

EXPERIMENTAL DESIGN

At weaning occurring between 25 and 28 days, 24 piglets (crossbred Hypor x Pietrain) were randomly allocated to one of the two following diets: a control diet (Maize starch, fish meal, dextrose, without antibiotics) and a SBP/FOS diet (Maize starch, fish meal, dextrose, 2.5% scFOS and 5% sugar beet pulp, without antibiotics). Faecal samples were collected per rectum from days 1, 2, 5, 6, 7, 8, 9, 13 and stored at -20°C until analyses. DNA was isolated and amplified by PCR. The amplicons obtained from the faecal-extracted DNA were separated by DGGE (Denaturing Gradient Gel Electrophoresis).

RESULTS

Effect of scFOS & SBP on faecal bacterial profile after weaning in piglets



With the blend of sugar beet pulp and scFOS, there was a higher similarity between the DGGE bands observed from 5 to 13 days after the weaning of piglets: meaning that the microflora of piglets receiving sugar beet pulp and scFOS was more stable than the microflora of the control piglets.

At day 13, the total number of bands on the DGGE was also significantly higher with the mix of fibre than with the control diet (32 ± 4 vs 19 ± 2 ; $p < 0.05$). This means that the blend of sugar beet pulp and scFOS enhanced the diversity of the microflora. Strains from the *Ruminococcus* group were identified with this treatment but not with the control one.

CONCLUSION

The blend of sugar beet pulp and scFOS enhanced the diversity and improved the stability of the microflora of piglets after weaning.

Ref : B.03.20P (Netherlands)

Konstantinov SR, Zhu WY, Williams BA, Tamminga S, deVos WM, Akkermans ADL. Effect of fermentable carbohydrates on faecal bacteria communities as revealed by DGGE analysis of 16S rDNA. FEMS Microbiol. Ecol. 2003; 43: 225-235.