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TITLE

EFFECT OF A NEW PROBIOTIC COMPOSITION (AQ02) ON NEWBORN PIGLETS

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CONTENT

Background&ObjectivesThis study assessed the benefits of the use of a probiotic product on the productive performance and welfare status of the piglets up to weaning.**Material&Methods**AQ02 is a feed additive based on probiotic bacteria. The trial was conducted on a porcine commercial farm in Ireland. Thirty sows were allocated into two groups; piglets from the experimental group (n=216) received orally a single dose (2 mL) of the probiotic product after their first colostrum intake while piglets of the control group (n=203) received placebo. Productive performance, health parameters and welfare related behaviours were monitored in the piglets during the lactation period. Furthermore, faeces were collected for microbiota analysis by 16s rRNA high-throughput sequencing.**Results**No differences were observed in piglet's weight gain or average daily weight gain between groups. The incidence of diarrhoea (P=0.027) and bursitis (P=0.019) decreased in the treated group although the frequency of navel infections or mortality remain similar in both groups. Moreover, welfare behaviours such as "object play" or "total activity" increased among treated piglets (P=0.005). Treated animals exhibited a more homogeneous microbiota (alpha diversity) and higher abundance of strict anaerobes (family Ruminococcus or genus Blautia). In contrast, aerotolerant bacteria (Enterobacteriaceae or Lactobacillus) were more abundant in pigs from the control group.**Discussion&Conclusion**According to these results, this probiotic product improves some health issues and welfare behaviours in piglets. Differences in the incidence of common signs of disease may be related to its effect on the balance of intestinal microbiota or on intestinal immune system development. Also, general activity of the piglets was higher among treated piglets probably as a reflection of a better health. Finally, a significant effect on microbiota composition was also demonstrated. Among treated piglets, faecal microbiota was more stable and composed by bacteria related to gut health.