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**TITLE**
REDUCTION OF SALMONELLA SEROTITERS BY CLOSTRIDIUM BUTYRICUM IN A COMMERCIAL TRIAL

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**CONTENT**
A Danish fattening farm buying pigs at 30 kg experienced a sudden increase in Salmonella meat juice index (based on Salmonella antibodies present), resulting in higher economic deductions at the slaughterhouse. One of the piglet supply farms was positive for Salmonella tested in pen floor samples. The farm management was all in – all out at section level, with cleaning and disinfection between batches. The farm used liquid feed based on 30% barley, 25.25% wheat, 25.25% rye, 16.25% soybean and 3.25% mineral premix, stabilized with formic acid.

334 pigs were allocated to either a treatment or control group, each divided over 10 pens. Five to six pigs per pen were ear tagged with individual identification tags, as a reference for later blood sampling. Blood samples were taken and analysed three times during the trial: at entry, 5 weeks after entry and 10 weeks after entry, with 50 samples being taken each time per group. The treatment group received 2.5 x 10*6 CFU Clostridium butyricum (Miya-Gold®)/pig/day through the feed, from the first feeding until slaughter.

The initial number of Salmonella positive pigs above the OD% cut-off value at arrival was 16 for the treatment group, which decreased to 11 after 10 weeks. For the control group 12 pigs exceeded the Salmonella OD% cut-off value at arrival, which increased to 16 after 10 weeks. The average OD% at 10 weeks was significantly lower (P-value = 0.051) for the treatment group compared to the control: a mean of 6.52 +/- 12.3 (standard deviation) versus 12.76 +/- 18.7 respectively.

Supplementation with Clostridium butyricum reduced Salmonella titers, confirming the potential of the probiotic to restrict and suppress Salmonella. As such the risk of economic deductions at the slaughterhouse due to a high Salmonella meat juice index was reduced.