

HHM-PP-05

TITLE

PROBIOTIC SUPPLEMENTATION (CLOSTRIDIUM BUTYRICUM) VIA DRINKING WATER AS A SALMONELLA CONTROL MEASURE

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CONTENT

A producer with five Danish fattening farms buying pigs at 30 kg had reoccurring high Salmonella antibody levels in slaughterhouse meat juice readings, causing economic fines despite all in – all out practices (batches). Pigs were fed a commercial pelleted feed. The piglet supply farm was Salmonella positive, tested in pen floor samples. To counter the challenge two farms received probiotics via the drinking water, with the other three as negative controls (no treatment).

Pre-treatment meat juice OD% titers were compared to blood (pre-slaughter, right before slaughterhouse transport) and meat juice (post-slaughter) OD% titers from treated batches. 95 pre-treatment meat juice samples were used from the first experimental herd and 56 from the second, compared to 70 serum samples from each respectively. The official Danish ELISA Salmonella test protocol was used, calibrated to be able to compare results from either substrate. Treated herds received 2.5×10^6 CFU/pig/day Clostridium butyricum (Top Gut®) via the drinking water (dosatron), from arrival to slaughter. Meat juice prevalence and relative risk (RR) of Salmonella positive classification were calculated based on statistic values.

For both treated farms the prevalence of Salmonella was reduced: from 0.32 to 0.1 and from 0.42 to 0.21 (pre-treatment compared to pre-slaughter OD% titers). Due to half-life times these numbers decreased further when Salmonella titers were determined post-slaughter, with values of 0.16 and 0.17. At the same time the three control herds had meat juice prevalence values of 0.25, 0.52 and 0.79 at slaughter. As such treatment decreased the risk of being classified Salmonella positive significantly (lower relative risk of 0.31 (P=0.003) and 0.51 (P=0.01), respectively).

Clostridium butyricum supplementation via the drinking water significantly reduced the risk of pigs being classified Salmonella positive, and is thus a useful tool for Salmonella control in pigs fed pelleted feed.