HHM-PP-40

TITLE
ADAPTATION AND VALIDATION OF A SALMONELLA ELISA FOR THE DETECTION OF ANTIBODIES IN ORAL FLUID SAMPLES FROM PIGS

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CONTENT
Within the framework of the German-Dutch INTERREG V A-project Food Protects, oral fluids (OF) were tested under field conditions for their suitability in antibody detection against Salmonella spp. as a means of herd classification.

In all, 120 OF, 600 blood sera (BS), and 60 pooled faeces samples were collected from 20 pig farms with different histories of Salmonella prevalence in Germany at the beginning, in the middle, and at the end of a fattening period. Serum samples were analyzed by Swine Salmonella ELISA A (cut-off 40 OD%) and compared to the OF samples using Swine Salmonella ELISA B with some modifications. Faecal samples used as reference were analyzed by culture and PCR for Salmonella spp. The cut-off value for Salmonella OF ELISA (B) was determined by ROC analysis.

For the OF Swine Salmonella-ELISA Kit B, the cut-off values of 29 OD% (positive) and 10 OD% (negative) were determined at the specificity and sensitivity level of greater than 95%. Results achieved by the OF Swine Salmonella ELISA represent the approximate mean of the results of all individual BS samples of the same animal group. The 120 statistical mean values from BS results were compared to OF results of the same animal group; 98 of these means tested negative for ELISA A, while 72 OF samples of the corresponding animal group were negative and 20 doubtful for ELISA B. S. typhimurium was identified by culture and PCR from six of the faecal samples, these were also positive by BS and OF. Five of the faecal samples were negative by culture, but positive by BS and OF.

The present study demonstrates that OF samples are promising for use in Salmonella herd monitoring but also that further studies are needed for to evaluate Salmonella OF ELISA for monitoring the Salmonella load of swine herds.