On 49 breeding and 9 rearing farms bacteriological examination for Salmonella was performed monthly during 6 months. On each sampling round 2 pair of hand swabs and overshoes were taken in the farrowing-, insemination- and gestation units. In the fattening unit only 2 pairs of hand swabs were taken. In the rearing farms, samples were taken spread over the different compartments. In the last sampling round, only overshoes were taken. The association between serology and bacteriology was studied in the fattening unit. Therefore serological results of blood samples from the Belgian Salmonella Action Plan were taken into consideration. On each herd a questionnaire about biosecurity (Biocheck) was completed and the standard use of antibiotics and acids was registered.

An overall proportion of positive samples of 15.34%, a herd prevalence of 73.47% and a medium within herd prevalence of 29% was found. The 3 most frequently isolated serotypes were S. Derby, S. Typhimurium including monophasic variants and S. Livingstone. 62% of the herds had a changing status over the different consecutive sampling rounds. The probability to have 2 or 3 consecutive positive statuses was 0.31 and 0.24.

Statistically more positive samples were found using overshoes compared to hand swabs. No difference was found between pooled and non-pooled overshoes. The correlations between the results of the 4 sampling units are small to moderate.

There was no relationship between the standard use of acids and antibiotics or the results of the biocheck and the Salmonella status. In conclusion, these results indicate a high prevalence of Salmonella on the Belgian breeding and rearing farms. The most optimal way to determine the Salmonella status is by taking 12 pools of 2 pairs of overshoes spread over the different units. At least 3 consecutive sampling results are needed.

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