



Evaluation of the sanitation of *Brachyspira hyodysenteriae* in Swiss pig herds

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Key words

Motivation, satisfaction, socio-economic analysis, control, prevention

Aim of the study

This study was performed to (i) to retrospectively evaluate completed sanitations of swine dysentery (SD) in Swiss pig farms, (ii) to prospectively evaluate running sanitations of SD, (iii) to evaluate the use of antibiotics before and after SD sanitation, (iv) to calculate the benefits and costs of these sanitations, wherever possible, (v) to analyse the socio-economic impact of such sanitations, (vi) to provide guidance/recommendations for future regional SD eradication projects, and (vii) to provide profound knowledge about combat strategies against *B. hyodysenteriae* infection.

Material and methods

First, an electronic questionnaire including questions about herd characteristics, management and hygiene, sanitation procedures, economy and health was created and validated in four pig herds. In a second step, farmers of Swiss pig herds with completed sanitation of SD were contacted and asked for participation in the voluntary interviews. The interviews were conducted by one author on-farm and additional data (e.g. on antimicrobial usage, performance of pigs and on pigs' health) were requested from the pig farmers. The final dataset comprised 68 completed questionnaires. In respect to performance and to antimicrobial usage and health aspects, 19 and 11 analysable datasets, respectively, were available. In order to minimize the individual characteristics of each herd, the percentage changes in relation to the year before the sanitation were studied.

The data were descriptively analysed. Selected parameters were examined in-depth with various statistical tests.

Results and significance

In the 68 herds, mainly total depopulations had been performed. Reasons for the sanitation were both intrinsic due to e.g. financial aspects and extrinsic motivation due to the official infection status. Several parameters (e.g. duration or costs) differed significantly between the sanitation types. The majority of the pig farmers had been motivated to sanitize, and was satisfied both of having performed the sanitation and with the result. As pig owners' perception of the sanitation was very homogeneous, no associations with other farm properties were found. We did find however, that fattening farms were 5 times more likely to be motivated to sanitize when the reasons to sanitize were of their own (initiative). Both economy and general health of the herd were subjectively rated as improved after the sanitation. The drug usage was assessed being lower. Efforts and costs of sanitation were rated between 'justifiable' and 'too high', depending on farm type. In summary, the sanitation of SD was positively evaluated in at least one out of nine aspects of satisfaction by 67/ 68 of the pig owners concerned (median: 4). However, efforts and costs are substantial and provide starting points for optimization of the pig farmers' compliance.

Comparison of objective data in relation to pigs' performance and health (including data on antimicrobial usage) before and after sanitation revealed that the majority of the herds had better performance and health after the sanitation with a further increase in the second year after the sanitation.

The results provide data on motivation and reservations of pig farmers concerning sanitation of SD and the performance of herds after having undergone a sanitation. This supports future decisions regarding targeted control and finally (nationwide) eradication of SD in Switzerland.

Publications, posters and presentations

Cadetg, R. (2018) Retrospektive Studie zu den Sanierungen von Beständen mit Schweinedysenterie in der Schweiz. Schweizerische Tierärztetage, 26-27 April 2018, Basel

R. S. S. Cadetg, B. Vidondo, H. Nathues, G. Schüpbach, F. Zeeh (submitted, October 2018) Retrospektive Studie zur Sanierung von Beständen mit Schweinedysenterie (*Brachyspira hyodysenteriae*) in der Schweiz. Schweizer Archiv für Tierheilkunde.

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