TITLE
QUANTIFICATION OF RISK FACTORS FOR SWINE DYSENTERY

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CONTENT

Introduction: Swine dysentery (SD), caused by *Brachyspira hyodysenteriae*, is an important disease in pig production worldwide but quantitative data on risk factors are rare.

Material & Methods: Twenty herds with SD (cases) and 60 herds without SD (controls) were analysed by means of a questionnaire and a herd examination. Herds with previous eradication of SD were excluded. Statistical analysis comprised univariable and multivariable tests.

Results: Analysis revealed that a SD positive or suspicious source herd, a frequent treatment with antimicrobials, purchasing more than four batches/year, contact to foxes, diagnostics during last 12 months, liquid feeding system, rats on farm, and >250 fatting places were associated with higher likelihood of a herd to have SD. On the contrary, having different sources of grower pigs within one batch, the presence of raptor birds and the presence of martens in the farm's environment were associated with a lower likelihood of having SD. The final multivariable logistic regression model identified 'more than 4 batches/ year purchased' (odd ratio (OR) = 7.5, 95% confidence interval (CI): 1.8-54.3) and 'contact to foxes' (OR = 5.9; CI: 1.2-34.6) as the two main risk factors in our study.

Discussion & Conclusion: 'More than 4 batches/ year' implies continuous herd management supporting persistence of *B. hyodysenteriae* in an infected herd, but also increased the number of purchases each enhancing the risk of *B. hyodysenteriae* introduction. Foxes might be infected with *B. hyodysenteriae* by feeding on positive piglets or rodents. Besides, contact to foxes might represent a lack in biosecurity. In conclusion, the risk factors detected underline the importance of biosecurity in SD prevention and control and identify the need for further research.