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FIRST MOLECULAR DETECTION OF BRACHSPIRA SUANATINA IN POLAND

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Background and Objectives

Swine dysentery (SD) is a severe enteric disease substantially affecting the swine sector worldwide. SD was first described in the 1920s in the USA. Historically, SD is a name of a specific disease associated with Brachyspira hyodysenteriae, Gram-negative, strongly beta-haemolytic, motile species of the anaerobic spirochaetal genus Brachyspira. Recently, B. hampsonii and B. suanatina have been recognised as a new pathogenic species causing SD symptoms. Prevalence of these species in European farms has not been adequately investigated yet. Therefore, this study aimed to identify the presence of all the aforementioned Brachyspira species in faecal samples collected from diarrhoeic finishers reared under conditions of modern swine farms in Poland.

Material and Methods

The investigation was carried out in November 2022 in 9 Polish herds with 6000 - 18000 finishers. At every finisher farm one fresh pooled faecal sample was collected by a veterinarian from 40 individuals (60 - 110 kg) defecating abnormal, loose stools. Each sample containing approximately 120 ml of faecal matter was collected into a sterile screw-cap specimen jar using a plastic spoon and then allowed to cool down. All the samples were transported overnight to IVD lab (Seelze-Letter, Germany) and processed on the following day using multiplex PCR.

Results

The genetic material of B. suanatina was detected in samples collected from 7 out of 9 finisher farms. All the collected samples were B. hyodysenteriae and B. hampsonii negative.

Discussion and Conclusion

Official reports describing infections with B. suanatina in pig farms are exceptionally rare and still limited to a few countries located in Northern and Western Europe. To the best of the authors' knowledge, the described investigation was the very first to prove the occurrence of this pathogen in Poland. Moreover, our results clearly highlight a considerable need for unified diagnostics programs across the EU regions.