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ERYSIPELOTHRIX STRAINS ISOLATED FROM TONSILS OF FATTENING PIGS IN SWEDEN

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Introduction

Erysipelothrix rhusiopathiae (ER) causes erysipelas and the tonsils are recognized as a common site for ER in pigs. The aim of this study was to estimate the incidence of ER in the tonsils of pigs in Sweden.

Material & Methods

Tonsils were collected from 200 apparently healthy pigs at slaughter in 2017, 100 in spring and 100 in autumn, from 10 abattoirs slaughtering 88% of the pigs in Sweden. The sample size per abattoir was based on the number of pigs slaughtered. Only one pig per herd was sampled.

Tonsil tissue (about 1 x 1 cm) was inoculated in 5 ml broth with 0.2 mg/ml sodium azide and 5 µg/ml crystal violet at 37°C for 48 h. Approximately 10 µl of the broth was spread on horse blood agar plates containing 400 µg/ml kanamycin and 50 µg/ml neomycin and incubated at 37°C for 48 h. Growth of ER was confirmed by colony morphology and MALDI-TOF MS.

Results

ER was isolated from six of the 200 tonsils (3%); None from 7 abattoirs (n=108), 3/60 in I (5%), 2/12 in II (17%) and 1/20 in III (5%). All ER-isolates were from southern Sweden with a mean distance to the abattoir of 235±99 km (range 111-377 km).

Discussion & Conclusion

Approximately 50% of all healthy pigs have been reported to be subclinical carriers of ER, corresponding to preliminary results from a survey in Swedish wild boars. In contrast, the results indicated a low risk (3%) for fatteners to be carrier of ER, ranging from 5-17% of the herds in affected areas.

The results obtained indicate that indoor rearing of fatteners combined with vaccination of sows, hygiene and limited access to straw prevent colonization of ER, which is further supported by the fact that erysipelas rarely is diagnosed in such herds.

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