BACTERIAL DISEASES

BBD-004

USE OF FREE-RANGE PIGS AS SENTINELS FOR ANIMAL TUBERCULOSIS IN SPAIN

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Introduction

Tuberculosis continues being one of the main threats of outdoor rearing systems. It has been proposed that pigs may represent a useful sentinel for *Mycobacterium tuberculosis complex* (MTC) infection in both wildlife and cattle. The objective of this study was to evaluate the use of free-range pigs as sentinels of animal tuberculosis in bovine farms from Spain.

Material & Methods

Pigs ranged outdoors from 20 farms with MTC positive cattle in the las four years were evaluated for the presence of tuberculosis-like lesions (TBL) at slaughterhouse. TBL were submitted to bacteriological and qPCR analysis. A total of 582 serum samples were sampled at slaughterhouse to evaluate the presence of antibodies against MTC by using ELISA. Bacteriology results from bovine lesions evaluated in the last four years from two farms were also available and compared.

Results

A herd prevalence of 20%, a within-herd seroprevalence ranging from 6.67% to 43% (considering only seropositive farms) and an individual seroprevalence of 3.26% was detected in pigs by both bacteriological analysis and serology. In one farm (ID29) the *M. bovis* spoligotype SB1869 detected in cattle from 2015 to 2017 was also isolated from pigs. In a second farm (ID33) the same (SB0295 – isolated in 2014 from bovine lesions) and new (SB1869) *M. bovis* spoligotypes were detected from pigs as well as from bovine samples, showing that *M. bovis* spoligotypes associated with previous bovine MTC outbreaks were still present in pigs.

Discussion & Conclusion

Results of this study show the suitability of both serology and meat inspection surveillance of free-range pigs to monitor MTC infection or to detect exposure to this pathogen within a positive area. In addition, these results point out the role of pigs as potential carriers of new strains of *M. bovis* highlighting the necessity of implementing appropriate biosecurity measures.