



**ESPHM**

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April 14<sup>th</sup> - April 16<sup>th</sup>, 2021



# PROCEEDINGS

April 14<sup>th</sup>-16<sup>th</sup>, 2021

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VPH-PP-05

**POTENTIAL USE OF CLINICAL EXAMINATION AND SEROLOGICAL TESTING TO FORECAST THE 'POSITIVE FARMS' FOR LUNG LESIONS IN SLAUGHTERED PIGS**N. Cobanovic<sup>2</sup>, B. Kureljusic<sup>1</sup>, N. Karabasil<sup>2</sup><sup>1</sup>*Department of Pathology, Scientific Institute of Veterinary Medicine of Serbia*<sup>2</sup>*Department of Food Hygiene and Technology, Faculty of Veterinary Medicine, University of Belgrade***Background and Objectives**

This study aimed to determine the potential use of clinical respiratory symptoms recorded on farm during fattening and serological testing for respiratory pathogens to predict the 'positive farms' for lung lesions in slaughtered pigs.

**Material and Methods**

The study was conducted on 240 pigs originated from eight commercial farms. Two weeks before slaughter, pigs were clinically inspected on each farm for the presence of following symptoms: coughing, sneezing and laboured breathing. Serum samples were collected from pigs at slaughter and analysed for the presence of antibodies against *Mycoplasma hyopneumoniae* (*M. hyopneumoniae*), *Actinobacillus pleuropneumoniae* (APP), Swine Influenza Virus (SIV), Porcine Reproductive and Respiratory Syndrome virus (PRRSV), Porcine Circovirus type-2 (PCV2) and Porcine Respiratory Coronavirus (PRCV). The plucks of 30 slaughtered pigs from each farm were examined for pneumonia (Madec and Kobisch, 1982) and pleurisy (Dottori et al. 2007). Farms were classified as positive for pneumonia when the mean batch pneumonia score was higher than five. For pleurisy a farm was considered to be positive when at least one pig had a pleurisy score higher than two.

**Results**

No relationship was found between clinical symptoms and serological values and lung lesions using Spearman correlation analysis (correlation coefficients ranged from 0.0078 to 0.2567;  $P > 0.05$ ). According to receiver operating characteristic curves and the area under the curves (AUC), 'positive farms' for lung lesions at postmortem inspection could not be accurately detected ( $P > 0.05$ ) by the clinical symptoms recorded on farm during fattening (pneumonia:  $AUC_{\text{coughing}}=0.625$ ;  $AUC_{\text{sneezing}}=0.625$ ;  $AUC_{\text{labored breathing}}=0.688$ ; pleurisy:  $AUC_{\text{coughing}}=0.567$ ;  $AUC_{\text{sneezing}}=0.667$ ;  $AUC_{\text{labored breathing}}=0.500$ ) and serological values (pneumonia:  $AUC_{M.\text{hyopneumoniae}}=0.625$ ;  $AUC_{\text{APP}}=0.563$ ;  $AUC_{\text{SIV}}=0.656$ ;  $AUC_{\text{PRRSV}}=0.688$ ;  $AUC_{\text{PCV2}}=0.625$ ;  $AUC_{\text{PRCV}}=0.531$ ; pleurisy:  $AUC_{M.\text{hyopneumoniae}}=0.500$ ;  $AUC_{\text{APP}}=0.567$ ;  $AUC_{\text{SIV}}=0.667$ ;  $AUC_{\text{PRRSV}}=0.533$ ;  $AUC_{\text{PCV2}}=0.400$ ;  $AUC_{\text{PRCV}}=0.500$ ).

**Discussion and Conclusion**

The results of this study suggest that the recording of lung lesions at postmortem inspection is more reliable and feasible method for pig health and welfare monitoring than serological testing and recording of clinical symptoms on farm during fattening.