

## **A survey on external biosecurity in selected commercial Polish pig farms**

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### INTRODUCTION

Biosecurity is defined as the implementation of measures which can reduce the risk of pathogens (viral, bacterial, fungal or parasitic) being introduced and spread within the pig herds. The One Health European Joint Programme (OHEJP) funded project BIOPIGEE the 'Biosecurity practices for pig farming across Europe' which studies biosecurity measures for the control of Salmonella and Hepatitis E Virus (HEV) in pigs across Europe from multiple aspects. As part of the project a description of the biosecurity practices related to the external biosecurity of pig farms in Poland was carried out to inform which practices were common, and describe differences between farm types.

### METHODOLOGY

The questionnaire was developed to further the aims of the BIOPIGEE project. It contains 56 questions regarding different categories of biosecurity practices in indoor pig farms. Surveys were filled out via personal interviews carried out by 2 veterinary practitioners on pig farms from central and northeast Poland, between September 2020 and June 2021. Among the 30 farms visited 15 farrow-to-finish and 15 fattening units were included. The responses for 21 questions making up the category of external biosecurity were analysed in terms of the frequency with which particular practices were implemented. Moreover, comparisons were made between farrow-to-finish farms and fattening units using Chi-square test or Fisher's exact test.

### RESULTS

None of the external biosecurity practices were implemented in all of the surveyed farms. Farm-specific clothes and footwear were in use on 97 % of the farms and 97 % of farms did not share machines and equipment with other farms. Other, frequently used external biosecurity practices were: the barns being protected from birds access (93 %), feed and bedding stored protected from wildlife (93 %), pest control programme (90 %), use of a ramp for loading/unloading of pigs (87 %). The external biosecurity practices less implemented were: pest control being carried out by a professional company (10 %), taking a shower

before entering the barn (27 %), cleaning and disinfection of water system at least once a year (30 %).

Comparisons between the farrow-to-finish farms and fattening units show that a statistically significant difference ( $p < 0.05$ ) was observed regarding : the presence of perimeter fence surrounding all farm buildings (100 % farrow-to-finish farms vs. 67 % fattening units), taking a shower before entering the barn (53 % farrow-to-finish farms vs. 0 % fattening units) and pig-contact free period of >12h before any external people are allowed to enter the barn (80 % farrow-to-finish farms vs. 0 % fattening units).

## DISCUSSION

The results indicate that some of the basic external biosecurity practices are still not fully implemented on Polish pig farms. Especially those which require considerable financial outlays from a farm's owner such as: the hygiene lock with shower or carrying out pest control by a professional company. On the other hand, the pig-contact free period before any external people are allowed to enter the barn which is almost costless is not implemented by majority of the farms. However, compared with the results obtained in the previous study some improvements can be observed. The study is still in progress so biosecurity practices which are important for the control of Salmonella and Hepatitis E Virus will be determined in the future.

(Fund OHEJP GA 773830)