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**Evaluation of the impact of biosecurity on antimicrobial resistance in pig farms**

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**Abstract:**

**Background/Objective:** Biosecurity is one of the most effective tools to reduce the consumption of antimicrobials. The aim of our work was to create a comprehensive system for assessing the level of biosecurity in livestock farms, including an analysis of its influence on the emergence and spread of antimicrobial resistance.

**Methods:** Methodologically, our research is based on a comprehensive analysis of the results of the assessment of the level of biosecurity and the subsequent design, modification and verification of critical control points in pig farms resulting in the expression of mutual relationships between sources of penetration and spread of infection in farms.

**Results:** Based on the results of a comprehensive analysis of the level of biosecurity in pig farms, we divided the critical control points into eight areas that represent a high potential risk of penetration and spread of infectious disease agents: farm and domestic animals, wild animals, persons, transport, feed and water, technological systems, tools and equipment and air.

As a result of improving the level of biosecurity in observed pig farms in the area of pigs buying and quarantine, regular removing of dead animals, improved management of handling, processing and storage of waste, regular effective disinfection, insect and rodent control with including compliance with the vaccination plan, the frequency of piglet diseases was reduced by 28.4%, in fattened pigs by 76.9% and in sows by 7.5%.

**Conclusion:** Introduction and, above all, continuous observance of a high level of biosecurity represents an investment for the farmer in the future, manifested not only in the improvement of the herd's health, including an increase in the level of welfare, a reduction in morbidity and mortality, but also in the improvement of production and reproduction indicators, which has a positive effect on farms economic profitability.

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**Keywords:** biosecurity, antimicrobial resistance, farm animals