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APPLICATION OF A RISK ASSESSMENT TOOL TO ASSESS THE EXTERNAL BIOSECURITY OF PIG FARMS

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Currently, the generation of knowledge and implementation of biosecurity on farms is essential in pig production. The development of tools to identify where to focus efforts for improving biosecurity and objectively compare the level of biosecurity among farms is an important component.

The aim of this study was to evaluate the external biosecurity of pig farms in Argentina by adapting a previously developed tool (Allepuz et al. 2017). It was applied in the context of a hypothetical porcine epidemic diarrhea (PED) outbreak were PED herd prevalence was obtained from Beam et al. (2015). We considered six possible routes of disease introduction: i) replacement animals; ii) vehicles transporting replacement; iii) vehicles to the slaughter; iv) vehicles transporting feed; v) visits of people and vi) neighborhood (i.e. from farm, slaughterhouse, road). The importance of the different biosecurity measures aimed at reducing the probability of virus introduction and the probability of transmission given a certain contact were obtain in an expert opinion workshop with 18 veterinarians and researchers following the guidelines described in OIE (2014). Then, we estimated the percentage of risk reduction and the score of the probability of PEDV introduction by the different routes and the overall probability of introduction. In total 192 farms were analyzed. The results showed that there is high margin for improvement the biosecurity of the above farms. The percentage of risk reduction was 42% (range: 5-90%) and the routes with the great margin of improvement were replacement animals, both replacement and food vehicles and finally visits. Besides, for most of the farms, the risk of PEDV introduction was high, especially through the food vehicle, the replacement animals and the visits. This study also showed that in the case of entry of PED a most farms would be infected as happened in North America.