

Aujeszky's disease virus seroprevalence in wild boar, Southern Belgium, 2012

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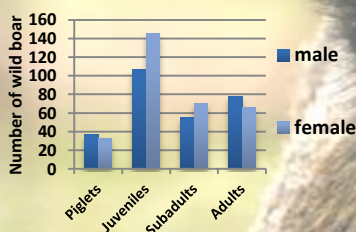
INTRODUCTION

Sus scrofa is a largely distributed wild species in Southern Belgium (Wallonia), with an estimated population of about 25 000 animals over 16 844 km². As wild boars share a variety of pathogens with farm animals, they theoretically constitute a source of contamination. This hypothesis requires close monitoring in situations where a given pathogen circulates in wild boar whereas the domestic pig population living in the same geographical area is free.

This is officially the case in Belgium since October 2011, after the pig sector conducted a systematic vaccination campaign against Aujeszky's disease virus (ADV). Since January 2009, the vaccination is prohibited, which left the Belgian pig population seronegative, thus immunologically naive against ADV. To assess the risk posed by this situation, it is important to evaluate the fraction of the wild boar population that hosts the virus and could therefore reintroduce it.

MATERIALS AND METHODS

Fig. 1. Age and gender distribution



From October 2012 to January 2013, an active surveillance program was carried out throughout 4 of the 5 provinces of Wallonia with the help of hunters and hunting societies. Five hundred ninety-six blood samples were drawn on dry tubes from hunter-killed wild boars. The corresponding sera were screened for the presence of antibodies targeting the membrane glycoprotein-B of ADV using a competition ELISA. Descriptive characteristics of the cohort sampled are the following : 142 adults (> 2 yr old) of which 78 males and 66 females, 125 subadults (1-2 yr old) of which 55 males and 70 females, 252 juveniles (6-12 mo old) of which 107 males and 145 females and 70 piglets (< 6 mo old), of which 37 males and 33 females (Fig. 1).

RESULTS

Fig. 2 . Observed prevalence by age - 2012

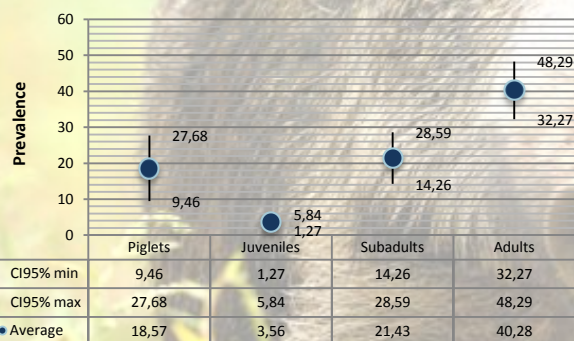
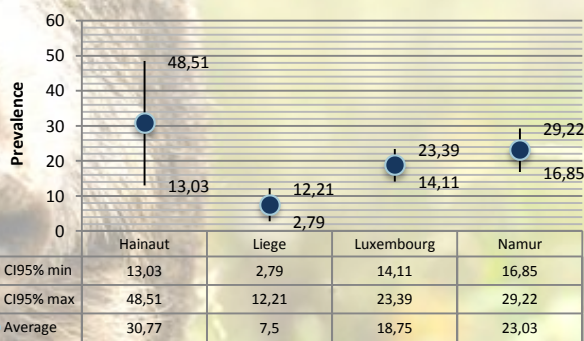


Fig. 3. Observed prevalence by province - 2012



Global seroprevalence was 18.3% (IC 95% : 15.2 – 21.4). There was no significant difference in seroprevalence between males and females or between the different months of sampling. The age of the boar had a significant effect, the apparent seroprevalence observed being higher in adults than in subadults, juveniles and piglets (Fig. 2). The high seroprevalence in piglets is explained by the presence of maternal antibodies. The location of sampling had a significant effect on the seroprevalence too. The apparent prevalences were higher in the provinces of Hainaut, Namur and Luxembourg than in the province of Liege (Fig. 3).

CONCLUSION AND PERSPECTIVES

The results gathered here are consistent with an endemic circulation of ADV in the wild boar population living in Southern Belgium. The risk of reintroduction in the domestic pig population is therefore not negligible, especially where domestic pigs are raised outdoors. If a reintroduction happens in the future, confirmation or refutation of its "wild" origin will rely on the comparison of genomic sequences. Therefore, isolation of a set of wild boar strains currently circulating in the region is a priority.

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