

# Serological survey in wild boar in the Netherlands

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## Background and objective

With African Swine Fever (ASF) advancing, the wild boar population is considered a risk for the pig industry. This project aimed to evaluate the prevalence of antibodies against five infectious diseases in serum samples of wild boar, to obtain first insight into possible circulation of known infectious diseases in wild boar in the Netherlands.

## Material and Methods

In total 262 serum samples were tested for antibodies with commercial or in house developed ELISA's :

- ApxIV (*Actinobacillus pleuropneumoniae*);
- Influenza A virus (SIV);
- *Mycoplasma hyopneumoniae* (Mhyo);
- Porcine Epidemic Diarrhoea virus (PEDV).
- PRRS virus;

Serum samples were collected from wild boar, shot from the first of June 2016 till June 30th 2017, in 43 different municipalities spread over the rural areas with commercial pig holdings. The age of the animals varied from 1 to 120 months (on average  $14 \pm 11$  months). The samples originated from 125 male and 137 female animals. Not all samples contained enough serum for all five ELISA tests. Per ELISA 180 till 203 samples were tested (table 1).

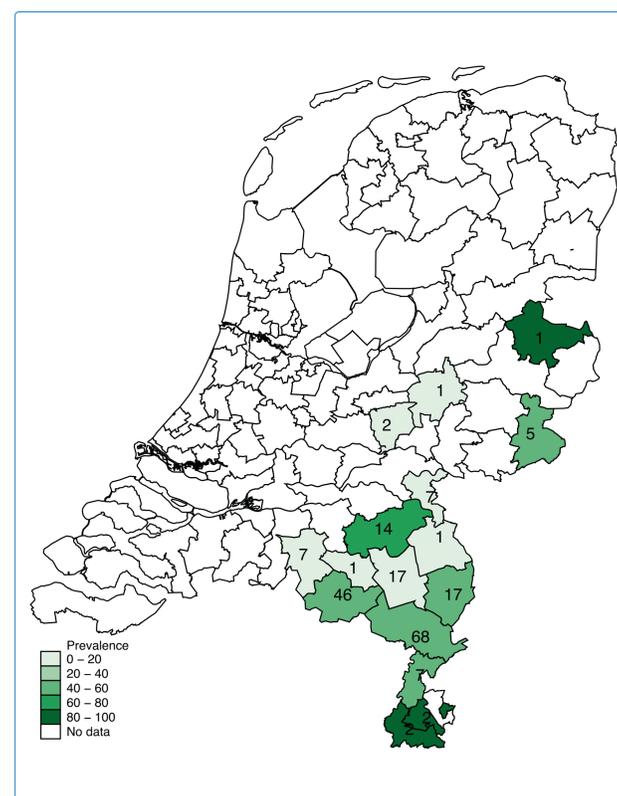
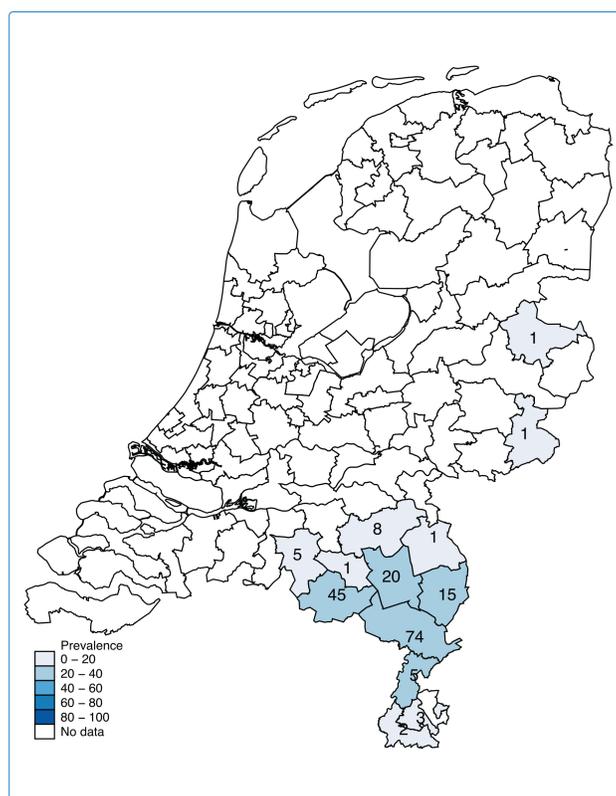
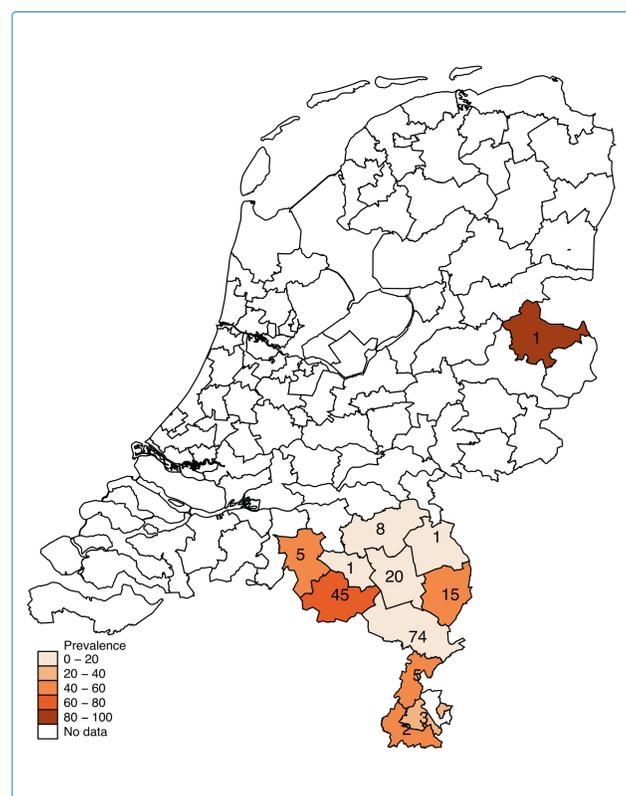
## Results

Table 1 ELISA test results of samples tested for APX IV, SIV, Mho, PEDV and PRRS virus (n<sub>total</sub> = 262 samples)

Antibody-ELISA	Number of samples tested	Positive	Ambiguous	Negative
APX IV	180	59 (32.78%)	3 (1.67%)	118 (65.56%)
SIV	181	49 (27.07%)	-	132 (72.93%)
Mhyo	203	95 (46.80%)	5 (2.46%)	103 (50.74%)
PEDV	183	1 (0.55%)	-	182 (99.45%)
PRRS virus	187	0 (0%)	-	187 (100.00%)

## Discussion

The outcome of this serological survey of wild boar shows circulation of known infectious diseases in the wild boar population in the Netherlands. Distribution of seroprevalence of APX IV and Mhyo antibodies suggests local circulation. Surprisingly all samples tested negative for PRRS virus. The interpretation of the positive PEDV sample is difficult, as no confirmation was performed. Samples were mainly from animals shot in pig dense areas, thus these wild boar could function as a reservoir for commercial pig herds. The contribution of inter wild boar transmission and exchange of infectious diseases to and from commercially kept pigs could not be determined.



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