

**TITLE**

**FIRST DETECTION OF ANTIBODIES AGAINST PORCINE RESPIRATORY CORONAVIRUS IN NORWAY**

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**CONTENT**

**Background and objectives**

The emergence and spread of porcine respiratory coronavirus (PRCV) during 1980s, resulted in an endemic manifestation of the infection in most European countries. Due to negligible imports of live pigs to Norway, the commercial Norwegian pig population is essentially closed. An active serological surveillance program for specific viral infections in swine has been conducted annually since 1994, and 126,761 individual pigs have tested negative for PRCV since then. In August 2018, however, antibodies against PRCV were detected in seven herds in the county of Rogaland in southwest Norway. An outbreak investigation was initiated by the Norwegian Food Safety Authority (NFSA) in collaboration with the Norwegian Veterinary Institute (NVI).

**Material and methods**

Ten blood samples per farm and epidemiological data including questionnaires were collected from 42 pig holdings between the 4th and 19th September 2018. Herds were included in the investigation based on trade of live pigs to/from PRCV antibody positive farms and/or distance less than 3 km from positive holdings. Serum was sent to NVI and analyzed using a commercial blocking ELISA from Svanovir (SVANOVIR® TGEV/PRCV-Ab).

**Results**

Antibodies against PRCV were detected in 79% (n=33) of the herds sampled through the outbreak investigation. Signs of respiratory disease were not reported from any of the herds. The outbreak investigation did not identify a primary case herd nor a likely route of PRCV introduction to the Norwegian pig population.

**Discussion and conclusion**

Based on surveillance data, it is likely that the introduction of PRCV occurred during 2018. The virus spread rapidly to a high proportion of herds included in the outbreak investigation, both those connected by trade of live pigs but also herds located <3km from PRCV antibody positive herds. The route of introduction was not identified, but further virological investigations and continued serological surveillance is ongoing.