



## **Detection of Hepatitis E virus (HEV) antibodies in swine herds in Quebec, Canada**

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### Abstract

Hepatitis E virus (HEV) has a zoonotic potential and pork products have been identified as possible human infection sources. Swine HEV infection in pigs have now been reported in pigs in many countries and generally occurs at about 2-3 months of age. Data from USA indicated that about 80-100% of pigs in commercial farms are infected. The objective of this study was to estimate prevalence of HEV in selected Canadian herds by serology using the PrioCHECK HEV Ab porcine-ELISA kit. Farms were selected from an integrated swine company in Québec province and came from 3 different production pyramids associated to distinct sanitary status in order to assess the level of HEV antibodies. Pig blood samples from these 3 farms were collected at slaughterhouse. A total of 250 samples were collected from each farm. A total of 10 sera were used for the validation steps and 240 samples were tested to establish the status of each farm. Blood samples were collected and centrifuged to collect sera. Sera samples were frozen (-20 °C) in aliquots until use. Samples were analysed were analyzed following the instructions in the ELISA kit package insert. Results demonstrated a very good reproducibility intra-plate, inter-plate and between days of analysis. It was also shown that the test had a good discriminant power between farms with distinct sanitary status. Results showed 3 HEV antibodies contamination levels: one farm with a high level (farm B - 98,8 %), one with a medium level (farm A - 48,8 %) and a negative one (farm C - 0 %). Further investigations are needed to identify which step in the production is associated to HEV contamination and to propose intervention measures at farm level to reduce the incidence of HEV in highly contaminated farms.