

Monitoring options for SARS-CoV-2 in animals in EU

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INTRODUCTION

Since 2020, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has caused a pandemic with millions of human cases. Even animal species have been infected by SARS-CoV-2 through contact with infected humans, and instances of backward transmission have also been documented in humans working in mink farms. Therefore, SARS-CoV-2 infection in mink and other animals could represent a significant health risk for both human and animal health.

METHODOLOGY

The options for monitoring SARS-CoV-2 in animals have been formulated based on data, evidence and information collected from the national authorities of MS, in particular where animals, especially mink on mink farms, were affected by SARS-CoV-2.

RESULTS

Up-to-date (September 2021) SARS-CoV-2 virus has been detected in more than 400 mink farms in eight countries in the EU/EEA, most located in Denmark and the Netherlands, in 2020, but also in France, Italy, Lithuania, Spain, Greece and Sweden. The virus was detected in the latter two countries as recently as summer 2021.

All farmed mink are at risk of infection, as the human disease is widespread. To avoid further transmission from mink to human, the monitoring objective of choice should be early detection. This requires regular periodic testing of samples from both humans on the farm (ideally weekly testing) and animals. Animal monitoring could be based on testing preferably dead or sick animals using RT-PCR, targeting 5 % design prevalence in the epidemiological unit at ideally weekly intervals. For the monitoring objective of confirming SARS-CoV-2 infection in case of suspicion, a minimum of five suspected sick or dead animals should be tested, and genetic sequencing analysis should be carried out on positive samples to monitor the evolution of the virus.

DISCUSSION

SARS-CoV-2 is characterised by its ability to spread efficiently from animal to animal once it has been introduced into a mink farm, mostly by direct contact and indirect contact: large and densely populated mink farms with high animal density provide ideal conditions for SARS-CoV-2 transmission.

When introduced into areas with a high density of mink farms, inter-farm virus propagation is likely to occur, mostly when farms are close to each other. It appears that humans have most likely contributed to the observed farm-to-farm spread.

The monitoring of SARS-CoV-2 in animals can be based on passive surveillance (observation of clinical signs), ideally wherever animals susceptible to SARS-CoV-2 are bred or where people infected or suspected of being infected are in contact with them, or on active surveillance, i.e. detecting cases of SARS-CoV-2 infection through planned and designed disease monitoring and laboratory testing.

Wild mustelids, wild canids, wild rabbits and hares should also be tested for SARS-CoV-2 infection to monitor possible spill-over from infected mink farms, in particular those animals trapped in the vicinity of infected mink farms.