



World Organisation for Animal Health  
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### Update 1 on the COVID-19 situation in Denmark

Dear Dr. Monique Eloit,

Following my letter on June 17 2020, I hereby update you on the situation regarding detection of SARS-CoV-2 in mink farms in Denmark. Unfortunately, the situation has evolved, and below you will find what the state of the matter is, and what initiatives the Danish Veterinary and Food Administration (DVFA) has launched accordingly.

#### Updated number of infected mink farms

SARS-CoV-2 has until now been confirmed in three mink farms in Denmark. All farms are located in the Northern part of Jutland.

In all farms, the suspicions of COVID-19 were raised due to contact with infected people at the farm. In farm 1 the mink showed no clinical signs or increased mortality.

In farm 2 weak clinical signs were observed in few animals during the first sampling, but in the following week an increased number of mink with respiratory symptoms were observed together with increased mortality.

In farm 3 respiratory signs and increased mortality were observed. Details of the infected farms are available in table 1.

Farm no.	Municipality	No. of animals	Clinical signs	Date of confirmed COVID-19	Date of culling
1	Hjørring	11.000	No	15/06/2020	18/06/2020
2	Frederikshavn	4.200	Yes	19/6/2020	30/06/2020
3	Hjørring	5.500	Yes	30/6/2020	03/07/2020

Table 1: COVID-19 infected mink farms in Denmark, 3 July 2020

#### Other infected animals

One dog at farm 2 tested positive for SARS-CoV-2 on 19 June 2020. The dog showed no clinical signs, and was tested on the owners request. Upon retesting of the dog 5 days later no virus could be found.

#### Control and eradication measures

DVFA is dealing with this situation in an one-health perspective and has initiated a close cooperation with the health authorities at both central and local level. Relevant information is exchanged between the authorities in an effort to effectively investigate the chain of infections. In addition, jointly prepared guides and recommendations about protective equipment and other preventive measures have been distributed to the mink farmers, veterinarians and others in contact with mink farms.

All infected farms were placed under official movement restrictions when the suspicions were raised.

Due to a precautionary principle the Danish government decided to cull all mink in the three farms. All mink in farm 1 and 2 have been culled and the carcasses have been disposed of by rendering. Cleaning and disinfection is in progress at farm 1 and is in the planning phase in farm 2. Culling of all mink in farm 3 is executed (today) 3 July 2020.

#### Epidemiological investigation

According to the epidemiological investigation of farm 1 and 2, done by experts from the University of Copenhagen and Statens Serum Institut (SSI), it is more likely than unlikely (>50%) that the introduction on at least one of the two farms originates from humans infected with SARS-CoV-2. It is not certain if virus transmission occurred in both directions, i.e. from human to mink and vice versa.

The epidemiological investigation revealed that both farms had a contact to the same nursing home in the municipality of Hjørring. In farm 1 the farmer's relatives work at the nursing home. The whole family tested positive for COVID-19.

In farm 2 a relative to the farmer also works at that particular nursing home. The farmer, relatives and dog all tested positive for COVID-19. At the nursing home, 43 persons (staff and residents) have been diagnosed with COVID-19.

In farm 1, full-genome analyses show some mutations in the virus genes in mink, which can be found also in members of the farmer's family, in several persons related to the nursing home, and in persons from the same area, but without contact to either the mink farm or the nursing home. Based on the genotype they all seem to be related to the same chain of infection.

Analyses are still in progress to assess the transmission of nearly identical viruses between mink and humans. Similar full-genome sequence analyses of farm 2 show that this farm is part of the same chain of infection as farm 1. The results show that farm 1 had been infected for some time by the time of detection, while farm 2 was infected shortly before detection.

The epidemiological investigation of farm 3 is in progress.

#### Regulation and obligation to report

The Danish Veterinary and Food Administration (DVFA) has made SARS-CoV-2 in animals notifiable. SARS-CoV-2 in mink and ferrets in commercial herds are now notifiable upon suspicion, while SARS-CoV-2 in other animals are notifiable upon confirmation of disease.

A suspicion can be raised by a veterinary practitioner based on his/her assessment, which includes an evaluation of clinical signs and possible contact with infected humans.

#### Surveillance in Danish mink farms

In order to support the strategy to reduce the spread of Covid-19 in humans in Denmark, DVFA has launched a comprehensive screening of mink farms for SARS-CoV-2. In total 125 mink farms, ten percent of all mink farms in Denmark have been tested for SARS-CoV-2.

Blood samples and tracheal swabs were sampled from 30 animals in each farm. In addition tracheal swabs from 5 recently died mink animals were collected. None of the 125 farms tested positive for SARS-CoV-2.

Additional surveillance activities in Danish mink farms are currently being discussed in order to eliminate possible risks in the future.

#### Laboratory and testing

All samples were/are analyzed at the national reference laboratory, Statens Serum Institut (SSI). Blood samples are tested for antibodies against SARS-CoV 2 by ELISA and swabs are tested for SARS-CoV 2 by RT-qPCR.

I will keep you informed about any further developments concerning this issue.

Yours sincerely,



Dr. Hanne Larsen  
Chief Veterinary Officer, DVFA

*This information is transmitted in the context of Article 1.1.6 in the OIE Terrestrial Animal Health Code in order to provide the relevant information arising from field observations to enable the OIE to have more clarity on which animal species are susceptible to infection and may potentially be involved in the epidemiology of the human disease through.*