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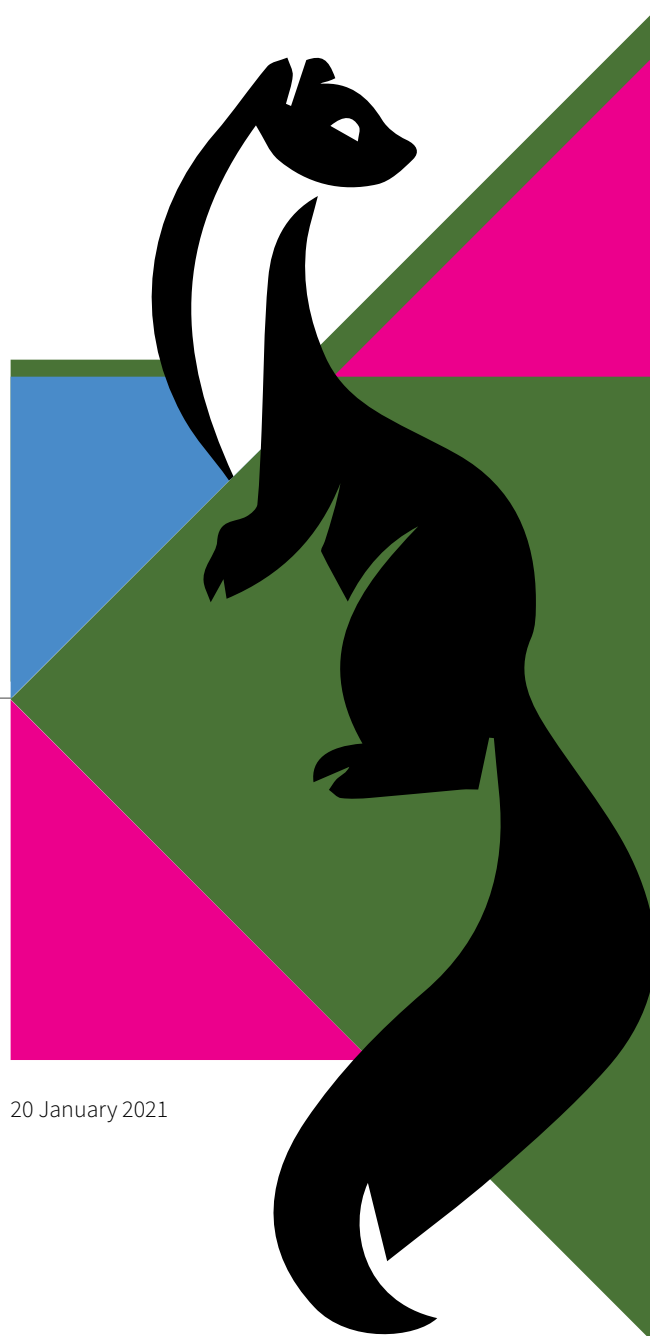
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WORLD ORGANISATION  
FOR ANIMAL HEALTH



World Health  
Organization

# SARS-CoV-2 in animals used for fur farming

GLEWS+  
Risk assessment



20 January 2021

# **SARS-CoV-2 in animals used for fur farming**

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Risk assessment

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# Contents

Date of assessment: 20 January 2021	iv
List of contributors	v
Acknowledgements	vi
Summary	vii
<b>RISK ASSESSMENT QUESTIONS</b>	<b>1</b>
<b>1. What is the risk of introduction and spread of SARS-CoV-2 within fur farms?</b>	<b>1</b>
Rationale	1
<b>2. What is the public health risk from SARS-CoV-2 spillover from fur farming to humans?</b>	<b>3</b>
Rationale	3
<b>3. What is the risk of transmission of SARS-CoV-2 from fur farming systems to susceptible wildlife populations?</b>	<b>4</b>
Rationale	5
<b>SUPPORTING INFORMATION</b>	<b>7</b>
<b>Hazard/Pathogen/Disease information</b>	<b>7</b>
<b>SARS-CoV-2 variant</b>	<b>7</b>
<b>Event background</b>	<b>8</b>
<b>Context description</b>	<b>9</b>
Countries' capacity	9
Countries' vulnerability	10
<b>RECOMMENDATIONS</b>	<b>11</b>
<b>Recommended mitigation measures reducing likelihood of SARS-CoV-2 public health risk as well as introduction and spread within fur farms</b>	<b>11</b>
<b>When entering the farm, the following measures should be followed:</b>	<b>12</b>
<b>Inside the farm, the following measures should be adopted:</b>	<b>12</b>
<b>Data sharing</b>	<b>13</b>
<b>ANNEXES</b>	<b>15</b>
Annex 1	
<b>Risk factors and likelihood of introduction and spread of SARS-CoV-2 within fur farms</b>	<b>15</b>
Annex 2	
<b>Risk factors and likelihood of transmission of SARS-CoV-2 from fur farming systems to susceptible wildlife populations</b>	<b>16</b>
<b>REFERENCES</b>	<b>17</b>

## Date of assessment: 20 January 2021

The aim of the GLEWS+ RA (the Joint FAO–OIE–WHO Global Early Warning System for health threats and emerging risks at the human–animal–ecosystems interface, risk assessment) mechanism is to help the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) Members and the World Health Organization (WHO) State Parties to achieve more efficient control of acute disease outbreaks through a better understanding of the risk of emerging threats and the possible spread of pathogens so that infection prevention, control and response measures can be targeted.

This Tripartite assessment focuses on fur farms, considering that so far the only farms reporting the presence of SARS-CoV-2 are mink fur farms. The presence of this virus in the mink farms may have an important impact on livelihoods, public health and wildlife contributing to widespread socioeconomic disruption. In addition, the spread of SARS-CoV-2 in fur farms impacts animal welfare and poses a risk of spillover to native wildlife which may affect the biodiversity of species. This risk assessment is conducted at regional level to assess the overall risk of introduction and spread of SARS-CoV-2 within the fur farms, the spillover from fur farm to humans and the transmission of SARS-CoV-2 from fur farm animals to susceptible wildlife populations.

This risk assessment is based on information from 36 countries in Africa, Asia, Europe, South and North America, where animals of the families *Mustelidae*, *Leporidae* and *Canidae* are commercially farmed for fur or which have documented export of fur. These families include the known susceptible fur species (e.g.: minks, rabbits and raccoon dogs).

The countries and information considered in this assessment have been identified from data and reports shared with the FAO, OIE Members and WHO State Parties and from open sources. The countries included in this assessment comprise: Argentina, Belarus, Belgium, Bulgaria, Cambodia, Canada, China (People's Rep. of), Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, India, Ireland, Italy, Kazakhstan, Latvia, Lithuania, Malaysia, Netherlands, Norway, Poland, Romania, Russian Federation, Slovakia, South Africa, Spain, Sweden, Thailand, Turkey, Ukraine, United States of America, Uruguay, and Vietnam.

The risk assessment is based on the information available as of 20 January 2021.

FAO, OIE, and WHO will update the assessment as and when new information becomes available.

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# Summary

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified as an emerging coronavirus in humans in December 2019. The first human cases of COVID-19, the disease caused by the novel coronavirus SARS-CoV-2, were first reported by officials in Wuhan City, China (People's Rep. of), in December 2019; the disease has since affected almost 100 million people, causing over 2 million deaths worldwide. Human-to-animal transmission and subsequent circulation in animals and transmission back to humans has been documented in particular within farmed minks in several countries and, in a few cases, mink-to-human transmission has also occurred. To date, SARS-CoV-2 in animals has been identified in farmed minks populations in 10 countries (Canada, Denmark, France, Greece, Italy, Lithuania, the Netherlands, Spain, Sweden, and the United States of America), with the first two mink outbreaks reported in the Netherlands as early as April 2020. While on some affected mink farms, clinical signs in animals could be observed, including respiratory or gastro-intestinal signs (rarely), in most instances the only indication of virus circulation has been animal mortality levels slightly above baseline.

More recently, genetic analysis of SARS-CoV-2 viruses circulating among workers of these farms and in surrounding communities confirmed the transmission from minks to humans. Furthermore, mutations have been observed on several occasions in virus variants circulating in mink populations, some of those variants then being also transmitted to humans, with the associated risk of possible modification of transmissibility and pathogenicity or reduction of efficiency of currently developed vaccines as well as candidate vaccines.

So far genetic changes have not given rise to any change in clinical picture or epidemiology of COVID-19 infected mink farm workers and cases appear to be similar to those in people infected with non-mink related variants.

Using qualitative evidence and based on the likelihood and consequence assessed at the regional level with information available from 36 fur-animal producing countries, the overall risks at regional level of (1) Introduction and spread of SARS-CoV-2 within the fur farms, (2) Spillover from fur farms to humans and (3) Transmission of SARS-CoV-2 from fur farm animals to susceptible wildlife populations are minor in Africa due to the low volume of fur production and low human infection rate; Moderate in the Americas and Asia considering the high volume of fur production in these two regions and the increase in human cases; and high in Europe due to highest number of fur farms compared to other regions concentrated in the same geographical areas, the high variety of susceptible animal species, and highest number of confirmed spillback events from the infected farms into the local community in

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