Humane World for Animals™

Formerly called the Humane Society of the United States and Humane Society International

Fur farming and zoonotic disease risk

Scientists are raising serious concerns about the role of fur farms in the spread of zoonotic disease and the potential for the practice to cause the next pandemic.

It is estimated that 75% of emerging infectious diseases are zoonotic (transmitted between species from animals to humans) and are mainly of viral origin[1]. Examples in recent years include outbreaks of severe acute respiratory syndrome (SARS), Ebola, Middle East respiratory syndrome (MERS), Highly Pathogenic Avian Influenza (HPAI) and SARS-CoV-2.

The rapid spread of SARS-CoV-2 on fur farms and the virus? ability to jump back and forth between humans and farmed mink have highlighted such concerns. Recent outbreaks of Highly Pathogenic Avian Influenza on fur farms, with evidence of mammal-to-mammal transmission and mutations with potential public health implications, have further increased fears of the serious risk posed by this industry.

Fur farms confine many thousands of animals, such as mink, foxes and raccoon dogs, in small wire cages, crammed together row-upon-row in very close proximity to one another. Unable to act out their most basic of natural behaviours, these chronically stressed animals can become immune-suppressed, increasing their susceptibility to infections. Such low- welfare, high-density environments are inherently suited to the development and rapid spread of zoonotic diseases. In addition, mink, the main species bred for their fur globally, are particularly susceptible to respiratory diseases.

Each year tens of millions of animals are bred and killed for frivolous fur fashion. Although politicians in more than 20 countries have vote in favour of legislation to ban fur farming, it still remains legal and active in more than a dozen countries.

What the scientists say....

"We strongly urge governments to also consider the mounting evidence suggesting that fur farming, particularly mink, be eliminated in the interest of pandemic preparedness. Fur farming should be in the same category of high-risk practices as the bushmeat trade and live animal markets. These activities all increase the likelihood of future pandemics".[2]

Professor Wendy Barclay and Dr Thomas Peacock
Department of Infectious Disease, Imperial College London

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SARS-CoV-2 and Highly Pathogenic Avian Influenza

SARS-CoV-2

Since the COVID-19 pandemic began, mink on almost 500 fur farms across Europe and North America have been infected with SARS-CoV-2. Initially introduced by humans, the virus spread rapidly on the farms, creating mutations and transmitting not only amongst the farmed mink but also back to humans.

In the Netherlands, researchers found that 68% of mink farm workers tested positive for the virus or had antibodies to SARS-CoV-2[3]. In Denmark, 643 people connected to mink farms were found to be infected with SARS-CoV-2, and it was estimated that around 4,000 people were infected with a mink variant[4], including 12 cases with a unique variant (termed Cluster 5)[5]. A risk assessment by the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO) and World Organisation for Animal Health (WOAH) rated the public health risk from SARS-CoV-2 spillover from fur farming to humans in Europe as “high” with “severe” consequences[6].

The level of public health concern was so great that almost 20 million animals were ordered killed, and several countries temporarily closed down their mink farming industries. Many have never recovered: The Dutch and Italian governments ended the practice, 99% of Denmark’s mink fur farmers took government compensation and left the industry, and the Swedish government has offered a financial incentive to its remaining two dozen farms to end the practice.

However, despite the very real concern, fur farming has been allowed to continue unabated in countries including Finland, Greece, Poland, the United States, Canada, Russia and China. As there is no mandatory testing for zoonotic diseases on fur farms, the true extent of infection remains unknown.

Highly Pathogenic Avian Influenza (HPAI)

Of further concern to scientists, outbreaks of Highly Pathogenic Avian Influenza (HPAI) A(H5N1) have been recorded on fur farms in Europe, likely initially introduced by infected wild birds. The first occurred on a mink farm in Spain in 2022, where mammal-to-mammal transfer was believed likely to have occurred[7]. In late 2023, outbreaks were recorded on 72 fur farms in Finland, where analysis revealed mammal-to-mammal spread and the presence of mutations known to facilitate viral adaptation to mammals. Researchers were unable to exclude the transmission of the virus between different animal species[8]. Alarmingly, researchers also found that dead and culled animals, who might have already been infected, were taken from the farms to be processed as feed for other fur animals[9].

By early 2024, almost 500,000 mink, foxes, sable and raccoon dogs had been ordered killed on public health grounds[10] at a cost to the Finnish state of more than 50 million euros[11].

Symptoms in the animals ranged from asymptomatic infections to fatal pneumonia and meningitis, with some infected animals suffering from neurological symptoms including tremors, disorientation and apathy. Noting “severe inflammatory lesions on the lungs and the brain”, the researchers noted the “severe effect” the virus can have on the host, underlining “the serious risks associated with any possible human cases.”[12]

"I think that this [fur] trade is a roll of the dice. We’re exposing ourselves to viruses that come from wildlife, which is an obvious route [for the] next pandemic to occur...”. **Fur farms present a “clear epidemic or pandemic risk.**"[13]

Professor Edward Holmes, Evolutionary biologist and virologist, University of Sydney

What the science says...

"This outbreak [in Finland] demonstrated the vulnerability of fur farms to pathogens that can have severe human health implications. The virus spread efficiently in the farmed animals, creating many opportunities for spillover to humans.”[14]

Eurosurveillance.

“Future influenza pandemic threats are driven by extensive mutations and reassortments of avian influenza viruses rooted in frequent interspecies transmission and genetic mixing and underscore the urgent need for more effective actions.”[15]

Mei Kang et al, The Lancet.

“The intrinsic susceptibility of farmed fur animals, such as mink, to influenza viruses coupled with the risk derived from the farming system with high animal density and promiscuity among animals of the same and of other species require that biosecurity...and surveillance of influenza viruses in mink farms should be constantly implemented both in animals and exposed humans.”[16]

European Food Safety Authority (EFSA) and European Centre for Disease Prevention and Control (ECDC).

"[The data] reveal potential virus transmission between farmed animals and wild animals, and from humans to farmed animals, indicating that fur farming represents an important transmission hub for viral zoonoses."[17]

Zhao et al, Nature.

Mixing vessels

A study of farmed mink in China showed they were commonly infected with both human and avian influenza A viruses, causing concern that mink may become “mixing vessels” for a novel pandemic strain[18, 19].

Further, a recent European Food Safety Authority (EFSA) and European Centre for Disease Prevention and Control (ECDC) assessment stated that the risk of disease is low-to-moderate for those occupationally exposed to mammals infected with avian influenza, and noted concern at the detection of antibodies in animals without clinical disease on fur farms, as workers may be exposed unknowingly and without the use of personal protective equipment. It further warned of the risk of infected, but undetected, animals being exposed to human respiratory illness, which "could lead to re-assortment and emergence of viruses better adapted for human-to-human transmission."[20]

Intermediate hosts

A 2024 paper published in Nature[21], focusing on animals farmed for their fur in China, showed "potential virus transmission between farmed and wild animals, and from humans to farmed animals, indicating that fur farming represents an important transmission hub for viral zoonoses.”

The data showed evidence for seven coronavirus species in 66 farmed fur animals, and "of particular concern," bat coronavirus HKU5-like viruses were found in two farmed mink. Avian influenza (H5N6) viruses were also found in mink, with a mutation associated with mammalian adaptation. In all, 39 viruses were identified as of high-risk for spillover potential, including 11 zoonotic viruses, 15 viruses that showed transmission between animals, and 13 potentially high-risk novel viruses.

Raccoon dogs carried the most potentially high-risk viruses, and they were also found in mink, rabbits and arctic foxes, with the scientists noting they "constituted potentially high-risk hosts for the transmission of viruses to humans and other animals."

The paper concluded, "The high prevalence and diversity of coronaviruses and influenza viruses was of particular note, implying that **farmed fur animals are important intermediate hosts or reservoirs for these viruses**" and pointed out that, "Influenza viruses are a common cause of epidemics and pandemics in humans and other animal species."

Testing for disease

The European Commission instigated mandatory monitoring and reporting of SARS-CoV-2 in certain species, including farmed mink and raccoon dogs, from from May 2021 to March 2023. The Finnish authorities ordered testing on all its fur farms after the initial outbreaks of HPAI occurred in 2023 and again from June through September 2024, to coincide with peak infection risk in wild birds. We are not aware of any current mandatory testing of animals on fur farms for avian influenza or other zoonotic diseases.

Quick facts

SARS-CoV-2:

Has affected mink on almost 500 fur farms in counties across Europe and in North America to-date.

Transmission has occurred between humans and farmed mink, between farmed mink, and from farmed mink to humans (both farm workers and the wider community).

Millions of mink have been ordered killed on public health grounds.

Highly Pathogenic Avian Influenza:

Has so far affected mink on one fur farm in Spain and numerous species kept on 72 fur farms in Finland.

In both countries, initial infection likely occurred via transmission from an infected wild bird. On-farm transmission from mammal-to-mammal is believed likely to have occurred.

Around 500,000 animals, including mink, foxes, raccoon dogs and sable, have been ordered killed on public health grounds.

Coronaviruses and Avian Influenza:

Species including mink, foxes, raccoon dogs and rabbits found dead on fur farms in China are known to have carried coronaviruses and avian influenza. In one study, 39 viruses were identified as of high-risk for spillover potential, including 11 zoonotic viruses.

Despite these disease risks, more than 20 million animals were bred and killed for fur in 2023, and fur farming remains legal and active in more than a dozen countries worldwide.

Top: Humane World for Animals; Left: Jay Akbar

Conclusion

In addition to the unacceptable cruelty experienced by animals confined on fur farms, evidence now also points to an industry that by its very nature acts as the perfect petri dish for zoonotic diseases, creating not only additional suffering for the infected animals but risk to farm workers as well as the wider public.

Given the enormous financial and human health cost of the COVID-19 pandemic globally, there is rightly much talk about prevention of and preparation for the next pandemic. However, more needs to be done, governments must take urgent action to identify and act on the root causes of zoonotic disease to prevent spillover to humans. Where we know there are risky practices, such as fur farming, we should take urgent action to close them down.

Ending the import and sale of real fur in the UK will send a strong message that not only is the suffering caused in the production of fur unacceptable, so is the risk it presents to human health.

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About Humane World for Animals

Together, we tackle the root causes of animal cruelty and suffering to create permanent change. With millions of supporters and work happening in over 50 countries, Humane World for Animals —formerly called Humane Society International and Humane Society of the United States— addresses the most deeply entrenched forms of animal cruelty and suffering.

As the leading voice in the animal protection space, we work to end the cruelest practices, care for animals in crisis and build a stronger animal protection movement.

Driving toward the greatest global impact, we aim to achieve the vision behind our name: a more humane world.

Support our Fur Free Britain campaign:
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Contact us:
Telephone: 020 7490 5288
Email: infouk@humaneworld.org

Humane World for Animals | UK
5 Underwood Street
London
N1 7LY
United Kingdom

Humane World for Animals