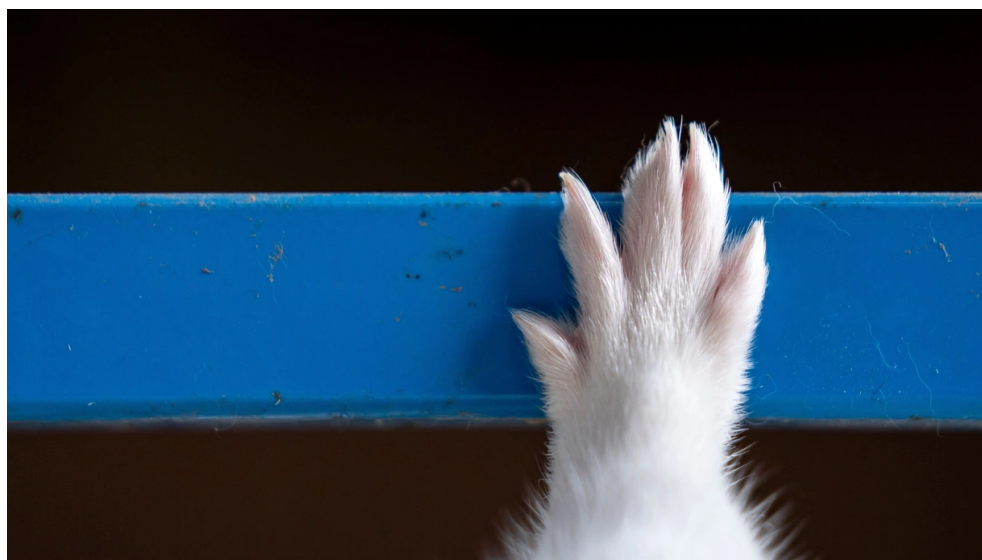


HEALTH

The Mink Pandemic Is No Joke

Nine countries have now reported outbreaks on mink farms.

ZOË SCHLANGER DECEMBER 23, 2020



MADS CLAUS RASMUSSEN / GETTY

Since early this summer, Keith Poulsen, the director of the Wisconsin Veterinary Diagnostic Laboratory, was worried about mink. Poulsen's lab is part of a national network of veterinary labs that work on animal diseases, and they had "been watching COVID-19 very carefully," Poulsen told me. In Europe, mink on fur farms were catching COVID-19. And they seemed to be able to pass it back to people. The Netherlands had an outbreak in April; Danish mink farms quickly followed in June. By October, the situation was gruesome: Hundreds of mink farms in Denmark and the Netherlands had COVID-19 cases, and two farms in Utah had reported the first U.S. cases in mink.

Since then, the global mink situation has significantly worsened. To date, COVID-19 has been found on mink farms in a total of nine countries, including Spain, Italy, Lithuania, Sweden, Greece, and—just two weeks ago—Canada.

For nearly a year, the coronavirus has spread with little check through the places where humans live and work, but the growth of the pandemic among mink poses

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AMANDA MULL



Around 11 a.m. on a Friday in October, Poulsen got the call he'd been expecting for months. Mink in Medford were sick, and it looked a lot like COVID-19.

Medford, a city of just more than 4,000 people in north-central Wisconsin, used to call itself the mink capital of the world. There, a person can live in the neighborhood of "Mink Capital Terrace" or on a road called "Mink Drive." A generation ago, a Medford girl could have aspired to be crowned Mink Princess U.S.A. at the annual Medford Mink Festival.

Though the United States mink industry has shrunk along with Americans' waning appetites for fur coats and the festival is no more, Wisconsin is still the country's biggest producer of mink pelts. And Medford is still a mink town; there are 12 mink ranches in the area, within five miles of one another—and the coronavirus has now reached two of them.

Once the coronavirus finds mink, it works fast. When Poulsen picked up the phone, the veterinarian for the Medford-area mink ranches told him that several hundred mink had already died. Plus, some people on the ranch had COVID-like symptoms. "I think we need them tested," the vet said. By 11:30 a.m., Poulsen was driving a van 250 miles upstate; by the time he arrived at the ranch, at 3:30 p.m., several hundred more mink had died.

Mink are extremely vulnerable to respiratory disease. Like people, they get seasonal respiratory issues. They're also prone to pneumonia. Respiratory viruses replicate so readily in minks and their mustelid relatives (ferrets, most notably) that the animals

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to attach to them, which made mink a greater concern than other farmed animals, including Wisconsin's immense dairy-cow population, he says. "Cows don't allow the virus to enter their cells quite as easy. They do get infected, but the virus just doesn't replicate very well in their system."

 Empty mink cages

OLE JENSEN/GETTY

Farmed mink have proved to provide absolutely excellent conditions for the virus to be fruitful and multiply. In addition to all of the ways mustelid physiology makes them similarly predisposed to the malady as humans, mink on farms are housed closely together. Social distancing is out of the question, and transmission is all but guaranteed. As of December 3, a total of 644 people associated with mink farms had contracted COVID-19 since June, along with another 338 people who work in mink pelting, according to a World Health Organization report that came out before the news of Canada's outbreak, where an additional eight people on a mink farm have been sickened. In mid-November, a virologist at the Danish health authority told *Nature* that COVID-19 mutations believed to have originated in mink had shown up about 300 times in people in Denmark.

Denmark, the world's largest mink exporter, has seen arguably the worst of this species-leaping horror show. In early November, the country ordered a complete cull of the farmed mink population; even so, by the beginning of December, 289 mink farms in northern Denmark had reported outbreaks.. The bodies of thousands of culled mink, buried in shallow graves, then proceeded to ferment. Gases built up in their bodies, propelling them to rise, luridly, from the ground.

The Danish mink outbreak also birthed a new strain of SARS-CoV-2, the coronavirus responsible for COVID-19. The variant has mutations in the spike protein, which the virus uses to invade host cells, and has been named "Cluster 5."

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genetic code helps these viruses guard against antibodies that otherwise can fight back. Researchers initially speculated that the mutations in the mink variant could make a vaccine less effective, but the little information available so far on human-to-human transmission suggests that these particular variants aren't more infectious or more deadly, and won't interfere with the vaccine..

But the mink outbreak raises another fear—if the coronavirus escapes into the wild mink population, COVID-19 could become an entrenched and uncontrolled animal disease, wreaking havoc on animal communities and probably also occasionally infecting people.

“On a ranch, you can quarantine them. When you have a wild population, that's impossible; you can't stop them all,” Poulsen said.

After the mink in Wisconsin tested positive for SARS-CoV-2, what followed “happened really, really fast,” Poulsen said. The lab alerted the USDA, the state department of agriculture, the state department of public health, and a local public health official. By Sunday afternoon, the CDC had teams on the ground to interview ranch owners and take stock of the environment.

Soon a second Medford-area mink ranch reported cases. (The Wisconsin Department of Agriculture, Trade and Consumer Protection has not released the names of the ranches.) As of December 8, COVID-19 cases had been confirmed at 16 mink farms in four states: 12 in Utah, one in Michigan, and one in Oregon, in addition to the two Wisconsin farms. The farms are being quarantined, and none have culled their animals, though many thousands of mink have now died of COVID-19.

It's another blow to the contracting mink business. “This is just one more industry that can't really afford it,” Poulsen said. “I feel terrible for everyone involved, whether it's the feed mill, the veterinarian, the family. Everyone's tired of it.” When a farm is struck by foot and mouth and other animal diseases, “the government would pay for those animals so you don't completely wipe out a farm.” But there are no indemnity programs for mink. “If you have a major mortality problem, you're losing a significant amount of profitability. Then there's the cost of testing. 62 animal tests cost \$3,000, which is a big deal to a farm that just suffered losses of tens of thousands of dollars,” Poulsen said. To avoid further contamination, mink farmers must compost the dead bodies, as well as any used feed and fecal matter. “There's no money to do that on the federal or state level, so that's all on the farm.”

In Europe, the already-shrinking mink industry is now quickly crumbling. Efforts to ban fur farming, often in response to campaigns led by animal rights activists, are now accelerating. The Netherlands announced it would end mink farming for good

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In China, meanwhile, where about 8,000 mink farms hold roughly 5 million animals, the state has reported no COVID-19 cases among mink, either on farms or in the wild. China's mink farmers say they are benefiting from the Danish mink cull; Wang He, a Shangcun trader and breeder, told Reuters his earnings increased 30 to 50 percent when the price of mink fur jumped after Denmark ordered the cull. (In the past decade or two, China became the main export market for U.S. and European mink; demand for fur coats there now dwarfs that of every other country.)

But Ilaria Capua, a veterinarian and virologist who recently authored a paper on the possibility of a COVID-19 panzootic—the spread of a disease among animals across a large region or globally—is worried that the levels of infection in Asia were high enough that *some* mink were likely infected. “I am just concerned that we are not looking well enough,” she told me. “If the virus spills over into wild mustelids, then you lose track of it.”

“I would really like to be wrong, but I fear mink are just the tip of the iceberg of what could be coming,” she added. If the virus keeps spilling over into wild animals, it could circulate in parallel and keep reseeding outbreaks among humans.

On December 13, the world took another step toward this scenario: The USDA announced the first known case of a non-captive wild animal with the coronavirus. A wild mink, trapped just outside a mink farm in Utah where there was a COVID-19 outbreak, tested positive. The strain was “indistinguishable” from that of the farm outbreak. The spillover had happened. The question now is whether the virus will become established in the wild population. The USDA says there is “currently no evidence that SARS-CoV-2 is circulating or has been established in wild populations surrounding the infected mink farms.” Several other wild animals in the vicinity were sampled, but they tested negative.

“Let's put it this way,” Capua said. “We realized the spillover of SARS-CoV-2 in a new animal population—*Homo sapiens*—when it was too late. Let's not make the same mistake with other animals.”

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