(10)(2e) @promedmail.org[(10)(2e) @promedmail.org]; medmail.org]; (10)(2e) @promedmail.org[(10)(2e) 10)(2e) @promedmail.org[(10)(2e) (10)(2=)@promedmail.org]; @promedmail.org]

(10)(2e) @promedmail.org

Sent: Thur 5/28/2020 2:58:31 AM

PRO/AH/EDR> COVID-19 update (215): Netherlands (NB) animal, Subject: mink-to-human, epidem., control

Received: Thur 5/28/2020 3:01:48 AM

CORONAVIRUS DISEASE 2019 UPDATE (215): NETHERLANDS (NORTH BRABANT) ANIMAL, MINK-TO-HUMAN, EPIDEMIOLOGY, CONTROL

A ProMED-mail post http://www.promedmail.org ProMED-mail is a program of the International Society for Infectious Diseases http://www.isid.org">

Date: Wed 27 May 2020

Source: Boerderij (subscription) [in Dutch, trans. Mod.AS, abridged,

https://tinyurl.com/y6vec5bh>

The transmission of the mink coronavirus to 2 people rings alarm bells. Researchers consider the risk of spreading small. Still, there are major concerns.

The call to clean up the mink farms infected with the coronavirus is increasing. Veterinarians and an affected livestock farmer are also calling on the government to take more measures on the infected farms. You ought to have the required knowledge to make decisions about this. says agriculture minister Carola Schouten.

On the infected mink farms, the virus now seems to be extinguished. The number of illnesses is declining, and mortality is again at a normal level. In the yearly cycle of mink, the puppy's throwing time is from mid-April to mid-May. Central to the research is whether the virus flares up again in the pups. If that is the case, the farms may encounter the threat of a virus that circulates for a long time.

(10)(2e) of the Faculty of Veterinary Medicine (Utrecht University) calls this an undesirable situation for public health. Further measures are needed. Minister Schouten will make a decision on this on Friday [29 May 2020], when the 1st results of the investigation become known. Schouten says that public health is paramount, and that there are no taboos. Clearing the mink holdings seems to be a serious option. Isolating the farms and getting the livestock out can be an alternative

The coronavirus also appears to get into the manure of the mink; samples were taken in which this was demonstrated. Research should show how long the virus survives in the manure. For the time being, the manure must not be removed from the farms. In March and April [2020], before the infection came to light, the companies' manure was still driven out on their own land. However, according to (10)(26) [10) (10)(2e) of the RIVM, this had no impact on public health. Scientists are less afraid of spreading the virus through the manure.

The virus that was identified in corona patients in the vicinity of the mink was not identical with the strain detected in the mink. "If you had found the same type of corona in the area, it would have been very different. That has not been found," says Van Dissel. Also, the amount of virus found in manure is many times less than, for example, in samples from the throat. Van Dissel also points out that a virus is different from, for example, a microorganism such as Q fever, which remains in the manure for a long time due to spore formation [see comment).

How the infection got into the 3rd company is still unclear. Stray

cats may have played their role. The virus has been found in several [unowned] cats that come to the farm. From this it is concluded that the virus of mink has also been transmitted to cats. The role of this species in virus distribution is being investigated. The role is probably not very significant, given the developments worldwide.

However, Stegeman advises corona patients to keep their cat inside. "Obviously, we have a lot of experience with animal disease control in production animals, but not in pets," said Stegeman.

An extensive research on corona in cats is being set up. In addition, rabbit farms are also screened on corona. None of the rabbit farms have, at present, symptoms of COVID-19. The risk of spread through rats and mice is small. These species have very different receptors than the receptors to which coronaviruses attach.

The Netherlands is the 1st country where the coronavirus has been detected in production animals [minks] and where the transmission of virus from animals to humans has been demonstrated. The question of whether the problem is restricted to the Netherlands cannot be answered by scientists. "There was limited testing capacity for humans, so no animals have been tested," Stegeman explains.

At the mink company in Deurne, the infection has been found to be more severe than at the other 2 affected companies. The cause is not clear. According to Stegeman, the moment of introduction of the virus and the phase of the minks' pregnancy could play a role. The virus at this company was not found to be more pathogenic than the virus at the other companies.

The way in which the virus entered the farm is also unclear. It's possible that stray cats have played a role here. The veterinarians are also concerned because no air measurements have been made around the company for the virus. Stegeman acknowledges this. According to him, the investigations at the other companies, which are many times larger and have many more infected animals, make it sufficiently clear that no further research into the air in the area is necessary.

After the 1st results of the study become known, expected Fri 29 May [2020], the "Outbreak Management Team Zoonosen" is due to prepare an opinion. The government will decide next week on any suggested additional measures.

Communicated by:
Sabine Zentis
Castleview English Longhorns
Gut Laach, Nideggen, Germany
<htp://www.cvlonghorns.de>
<htp://www.cvlonghorns.de>
<htp://www.cvlonghorns.de>

[Comparing the manure contamination by SARS-CoV-2 to manure contamination by Q fever is not incidental. North Brabant's population underwent a serious Q fever epidemic during the years 2006-2009, regarded the largest ever anywhere in the world. During the epidemic, which was related to manure from infected goat farms, thousands of people were infected, many of them hospitalized, including mortalities and long-term complications (see http://promedmail.org/post/20100930.3546).

Researchers of the Faculty of Veterinary Medicine in the Utrecht University have recently undertaken an investigation addressing the infection rate among cats owned by COVID-19 health workers in the province of Utrecht. Results are anticipated with interest.

An additional case in a cat has recently been reported from Spain (Ref 1). Russia's 1st case in a cat has been reported by Russia to the OIE (http://promedmail.org/post/20200526.7379578). - Mod.AS

HealthMap/ProMED-mail map: North Brabant, Netherlands: http://healthmap.org/promed/p/1250

References

1. Ignacio Ruiz-Arrondo, Aranzazu Portillo, Ana M. Palomar, Sonia Santibanez, Paula Santibanez, Cristina Cervera, Jose A. Oteo. Detection of SARS-CoV-2 in pets living with COVID-19 owners diagnosed during the COVID-19 lockdown in Spain: A case of an asymptomatic cat with SARS-CoV-2 in Europe, Preprint. medRxiv 2020.05.14.20101444; doi: https://doi.org/10.1101/2020.05.14.20101444.

[See Also

COVID-19 update (212); Russia (Moskva) animal, cat, OIE http://promedmail.org/post/20200526.7379578 COVID-19 update (209); Netherlands (NB) farmed mink, animal-to-human, cat, epid http://promedmail.org/post/20200525.7375359 COVID-19 update (198): Netherlands (NB) farmed mink, animal-to-human infect susp http://promedmail.org/post/20200520.7359976 COVID-19 update (189): Netherlands (NB) animal, farmed mink, research, cat, dog http://promedmail.org/post/20200517.7344274 COVID-19 update (183): Japan/USA, animals, research, cat, experimental infection http://promedmail.org/post/20200514.7337185 COVID-19 update (181): Germany (BY), France (AC), cat, OIE animal case definition http://promedmail.org/post/20200513.7332909 COVID-19 update (177): Netherlands (NB) animal, farmed mink, Spain (CT) cat susp http://promedmail.org/post/20200512.732858 COVID-19 update (174): Netherlands (NB) animal, farmed mink, comment http://promedmail.org/post/20200511.7323845
COVID-19 update (169): Netherlands (NB) animal, farmed mink, comment http://promedmail.org/post/20200511.7323845
COVID-19 update (169): Netherlands (NB) animal, farmed mink, spread, rabbit susp http://promedmail.org/post/20200509.7316646
COVID-19 update (154): Netherlands (NB) animal, farmed mink, research http://promedmail.org/post/20200503.7294846 COVID-19 update (146): Netherlands (NB) animal, farmed mink, epidemiology http://promedmail.org/post/20200501.7286113 COVID-19 update (135): Netherlands (NB) animal, farmed mink http://promedmail.org/post/20200427.7272289 COVID-19 update (146): Netherlands (NB) animal, farmed mink, epidemiology http://promedmail.org/post/20200501.7286113 COVID-19 update (143): USA (NY) animal, zoo, tiger, lion, tests http://promedmail.org/post/20200430.7284183 COVID-19 update (141): India, animal, wild tiger, susp, clarification, RFI http://promedmail.org/post/20200430.7281768 COVID-19 update (138): India, animal, wild tiger, fatal http://promedmail.org/post/20200428.7275765 COVID-19 update (135): Netherlands (NB) animal, farmed mink http://promedmail.org/post/20200427.7272289 COVID-19 update (130): USA (NY) animal, zoo, tiger, lion, new cases http://promedmail.org/post/20200425.7266556 COVID-19 update (124): USA (NY) animal, cat, lion, OIE http://promedmail.org/post/20200423.7259119 COVID-19 update (123): USA (NY) animal, cat, conf http://promedmail.org/post/20200422.7256272 COVID-19 update (113): USA (NY) cat, animal, susp, RFI http://promedmail.org/post/20200418.7240811 COVID-19 update (88): Germany, animal, research, pig, chicken, bat, ferret http://promedmail.org/post/20200407.7196506 COVID-19 update (85): USA (NY) animal, tiger, OIE http://promedmail.org/post/20200406.7191480 COVID-19 update (84): USA animal, tiger http://promedmail.org/post/20200406.7191352 COVID-19 update (76): China (HU) animal, cat, owned, stray, seropositive http://promedmail.org/post/20200403.7179946 COVID-19 update (75): China (Hong Kong) animal, cat, OIE COVID-19 update (75): China (Hong Kong) animal, cat, OIE http://promedmail.org/post/20200403.7179945
COVID-19 update (70): China (Hong Kong) animal, cat, pets & stock http://promedmail.org/post/20200402.7173286
COVID-19 update (58): Belgium, animal, cat, clinical case, RFI http://promedmail.org/post/20200327.7151215 COVID-19 update (56): China (Hong Kong) animal, dog, final serology

```
positive http://promedmail.org/post/20200326.7146438
COVID-19 update (50): China (Hong Kong) animal, dog, 2nd case PCR
positive, OIE http://promedmail.org/post/20200323.7129951
COVID-19 update (45): China (Hong Kong) animal, dog, 2nd case PCR positive http://promedmail.org/post/20200319.7112693
COVID-19 update (37): China (Hong Kong) animal, dog, prelim. serology negative http://promedmail.org/post/20200312.7081842
COVID-19 update (30): China (Hong Kong) animal, dog, susp, serology pending http://promedmail.org/post/20200306.7057595
COVID-19 update (25): China (Hong Kong) animal, dog, susp, OIE http://promedmail.org/post/20200302.7040373
COVID-19 update (22): companion animals, dog susp, RFI
http://promedmail.org/post/20200229.7036661
COVID-19 update (17): China, animal reservoir, wildlife trade &
consumption http://promedmail.org/post/20200225.7024245
COVID-19 update (11): animal reservoir, intermediate hosts, pangolin
susp http://promedmail.org/post/20200220.7009213
COVID-19 update (08): companion animals, RFI
http://promedmail.org/post/20200218.7002276
COVID-19 update (06): animal reservoir, intermediate hosts
http://promedmail.org/post/20200217.6997782
Q fever - Netherlands (31): (NB) investigation report
http://promedmail.org/post/20100930.3546]
ProMED-mail makes every effort to verify the reports that
are posted, but the accuracy and completeness of the information, and of any statements or opinions based
thereon, are not guaranteed. The reader assumes all risks in
using information posted or archived by ProMED-mail. ISID
and its associated service providers shall not be held responsible for errors or omissions or held liable for any
damages incurred as a result of use or reliance upon posted
or archived material.
Donate to ProMED-mail. Details available at:
Visit ProMED-mail's web site at <a href="https://www.promedmail.org">https://www.promedmail.org</a> Send all items for posting to: (10)(2a) @promedmail.org (NOT to
an individual moderator). If you do not give your full name
name and affiliation, it may not be posted. You may unsub-
scribe at <a href="https://isid.org/promedmail-subscribe/">https://isid.org/promedmail-subscribe/</a>
For assistance from a human being, send mail to:
< (10)(2e) @promedmail.org>.
```

List-Unsubscribe: https://isid.org/promedmail-subscribe/