

Rijksinstituut voor Volksgezondheid  
en Milieu  
*Ministerie van Volksgezondheid,  
Welzijn en Sport*

## SARS-CoV-2 in mink in the Netherlands

5.1.2e

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@rivm.nl

November 13th 2020

## Mink in the Netherlands



- In 2020: 125 locations, on average 5000 female minks (2019: 5 million minks produced)
- Closed settings of these farms
- 1200 fulltime employees, 400 parttime. Seasonal workers
- Mink farming is prohibited since 2013, transition period until 2024.



## Period 1: April - June



- Late April: detection of SARS-CoV-2 in 2 mink farms in Noord-Brabant province
- Hypothesis: introduction by infected farm workers (no lab confirmation)
- No major risk for public health as human-to-human transmission driving force epidemic, but transmission to be contained
- Implemented measures:
  - Transport of minks prohibited
  - 400 meter zone
  - PPE mink farmers in stables
  - Active surveillance mink workers, sequencing
  - Early warning system minks
  - Air and environmental sampling



Period 1 continued – courtesy of  / Erasmus MC

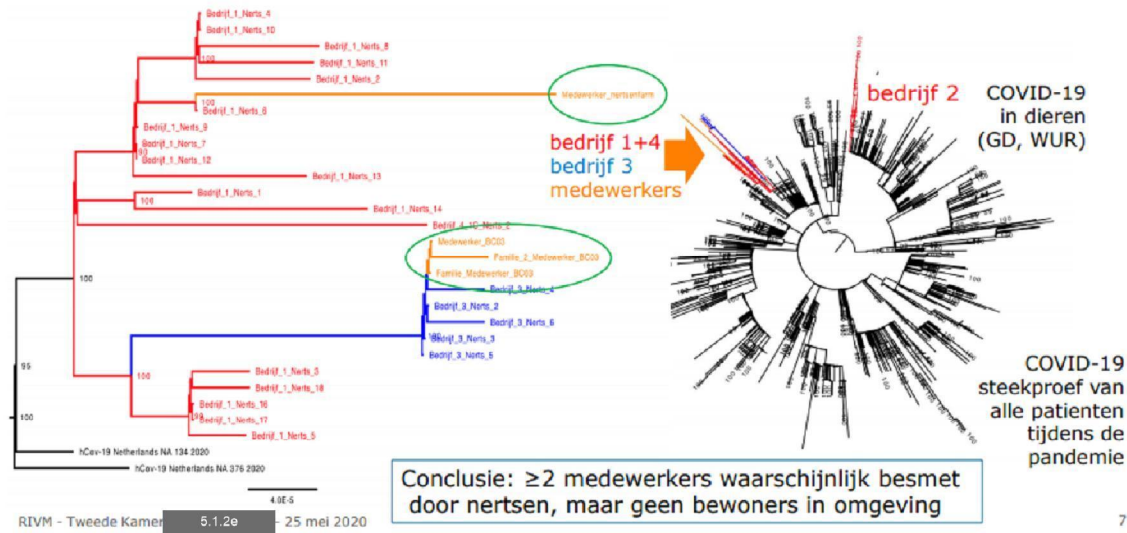
5.1.2e

COVID-19 uitbraak  
hoe stel je overdracht van nerts-op-mens vast?



Viroscience lab  
WHERE SKILLS MEET TO STUDY & PROTECT

Erasmus MC  
*Erasmus*



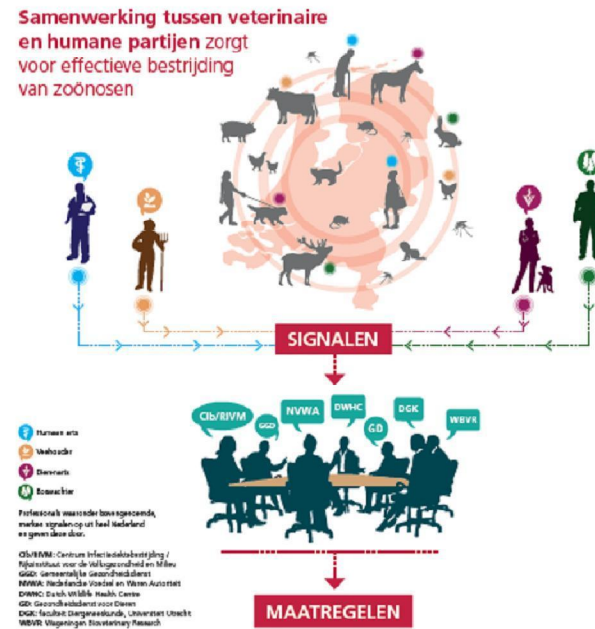
RIVM - Tweede Kamer 5.1.2e 25 mei 2020

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## Period 1 continued



- May: transmission mink -> humans (farm contacts)
- Culling of affected farms
- 400 meter zone lifted
- COVID-19 notifiable disease for minks
- Zoonotic structure initiated, Ministry of Health coordinates decisionmaking process





## Period 2: July - August

- Continuing newly affected farms (mid August: 35 different locations)
- Sequencing analyses of 25 locations: 5 clusters of mink sequences, 3 clusters continuing on newly affected locations
- High percentage positive testing SARS-CoV-2 among minkfarm contacts (43/88 persons)
- Transmission between mink farms:
  - not likely through vehicles, fodder, domestic animals, wildlife, materials, air
  - Most likely via humans, seasonal workers? Despite hygiene protocols, testing, registration
- Outbreak Management Team Zoonosis (OMT-Z):
  - Mink form reservoir for SARS-CoV-2
  - Termination of mink industry advised.
- Ministerial decision: stop mink industry after furring of animals late 2020.



## Cluster 5 Denmark



- Mutations in spike proteins identified, suggesting adaptation of virus to the host -
- Specific combination of Cluster 5 'mutations' not identified in the Netherlands
- OMT-Z: no change of risk assessment public health.
  - Important to stop sector.
  - Minks intensively monitored
  - Sequencing analysis of samples of human population in affected area
- Ministerial decision to adjust legal termination of industry as early as possible.



## acknowledgements

- [redacted] 5.1.2e, [redacted] 5.1.2e, [redacted] 5.1.2e, [redacted] 5.1.2e (RIVM)
- [redacted] 5.1.2e, [redacted] 5.1.2e (UU)
- [redacted] 5.1.2e (WBVR)
- [redacted] 5.1.2e, [redacted] 5.1.2e, [redacted] 5.1.2e (GD)
- [redacted] 5.1.2e, [redacted] 5.1.2e, [redacted] 5.1.2e (EUR)
- [redacted] 5.1.2e (NVWA)
- [redacted] 5.1.2e (MHS Hart voor Brabant)





## Further reading

Rapid communication

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### SARS-CoV-2 infection in farmed minks, the Netherlands, April and May 2020 |

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<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2020.25.23.2001005>

REPORT

### Transmission of SARS-CoV-2 on mink farms between humans and mink and back to humans

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Science, 10 Nov 2020:  
eabe5901  
DOI: 10.1126/science.abe5901

<https://science.sciencemag.org/content/early/2020/11/09/science.abe5901>