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Chargé de mission
Science Department

COVID-19 AND ANIMAL HEALTH AND WELFARE: IMPACT, PERCEIVED RISK AND RESPONSE

Global GASL Online Multi-stakeholder Meeting: Europe
From Crisis to Action – Lessons from COVID-19 for Building a Better Future
through Sustainable
15 September 2020

World Organisation for Animal Health (OIE)



“to improve animal health, veterinary public health and animal welfare worldwide”

GASL From Crisis to Action – Lessons from COVID-19 for Building a Better Future through Sustainable Livestock

Objectives

Take-stock of impacts of pandemic on four areas of development and the role of livestock

1. Food and nutrition security
2. Livelihoods and economic growth
3. **Animal health and welfare**
4. Climate and natural resource use

Identify change priorities and pathways to build forward sustainable food systems via livestock.

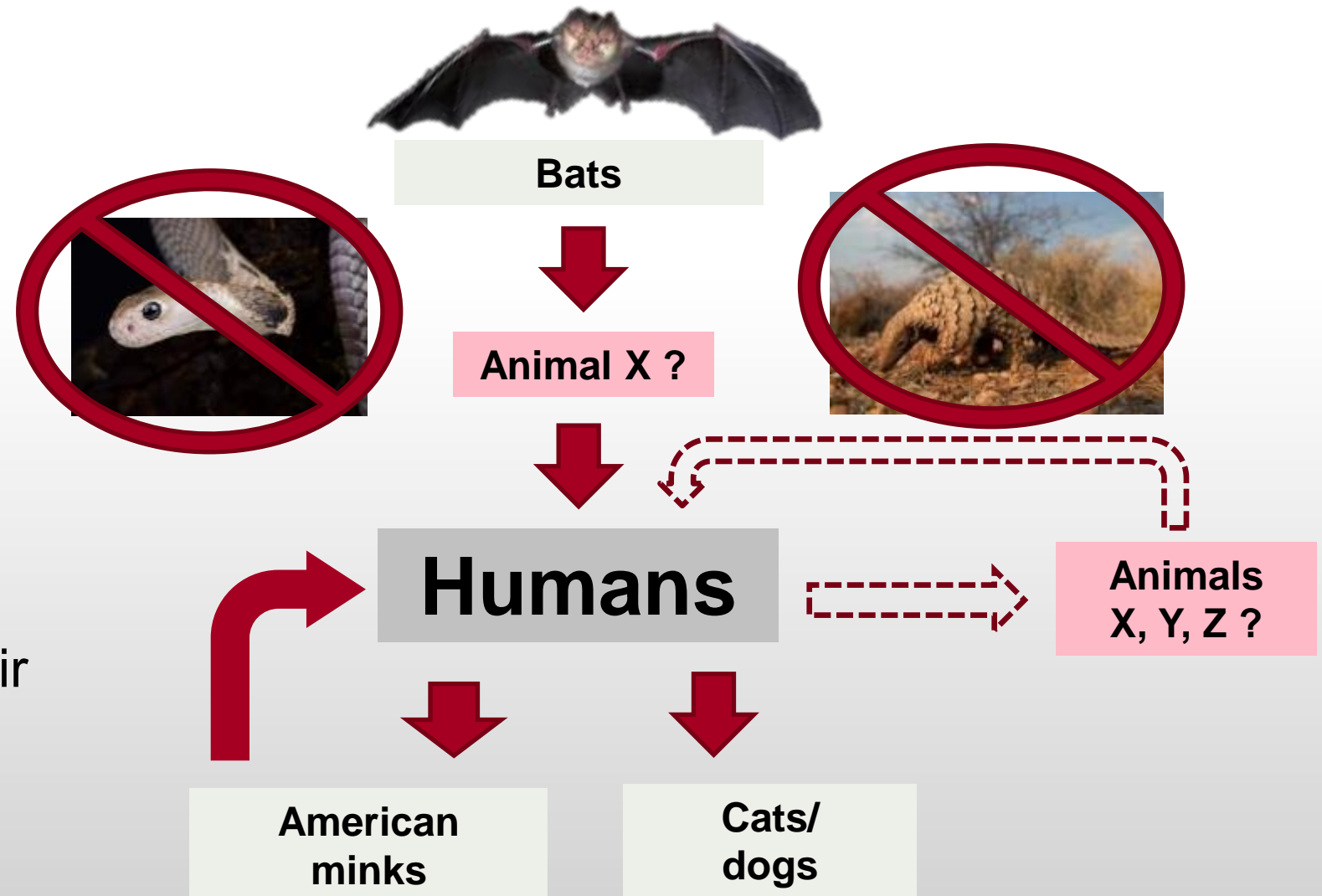
Share current livestock related activities to minimise impacts of COVID-19

Summary

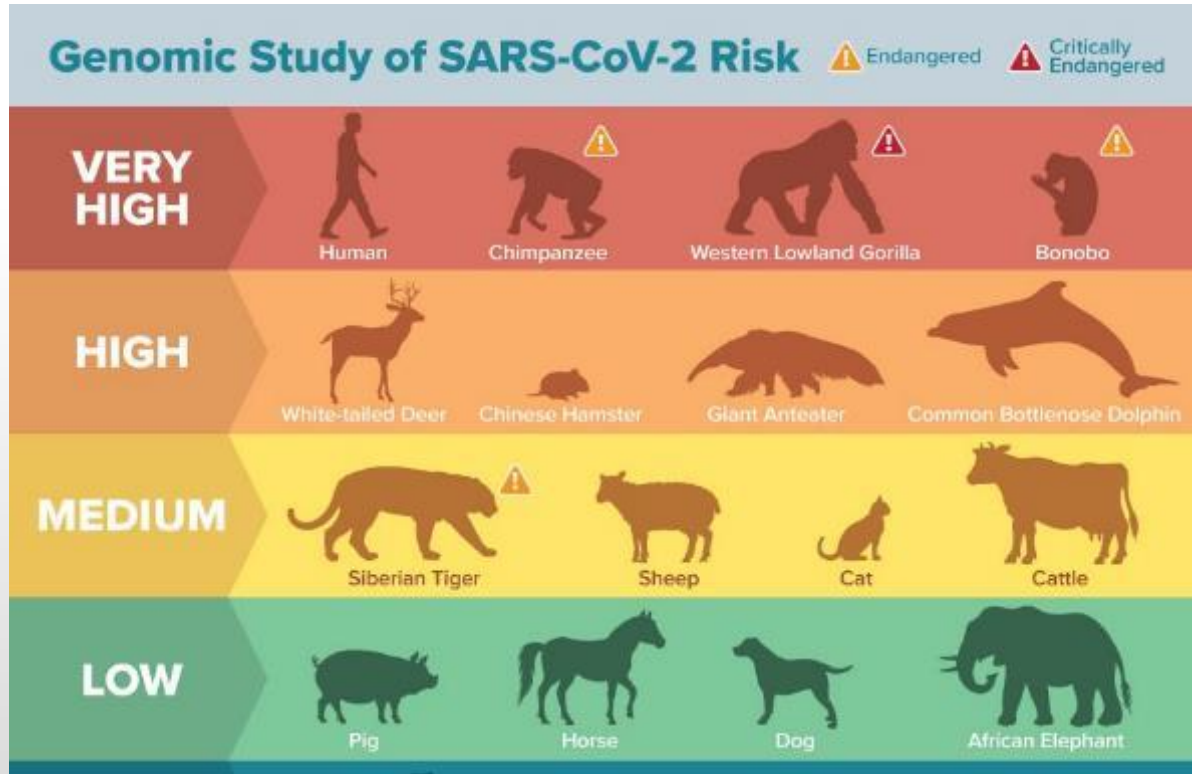
- COVID-19 animal susceptibility
 - What do we know and what we do not know
- COVID-19 impact on livestock health and welfare
 - Direct impact
 - Indirect implications
 - Impact on other animals
- COVID-19 response
 - Implemented actions
 - Opportunities and lessons learnt

Roles of animals in COVID-19

- Natural reservoir
- Intermediate host (?)
- Amplifying host
- Spillback host
- New “unnatural” reservoir



Estimation of host range of SARS-CoV-2 predicted by comparative and structural analysis of ACE2 in vertebrates



Limitations

- Only based on in silico analyses
- Need confirmation by direct experimental data
- Prediction accuracy of the model to be confirmed
- Possibility of infection through other receptors
- Possible lower-affinity interactions with ACE2
- Does not consider immune

Starting point for the selection of animal model and species to be further investigated

Susceptibility of domestic animals

Species	Type of infection	Susceptibility to infection	Clinical signs	Transmission
American mink (Neovison vison)	Natural	Yes	Yes (in some cases)	Yes, between minks and suggested from mink to humans
Cattle (Bos taurus)	Experimental	Low	No	No
Cats (domestic)	Natural and experimental	Yes	Yes (none to very mild in some cases)	Yes, between cats
Dogs	Natural and experimental	Yes	Yes (possible in few cases)	No
Ferrets	Experimental	Yes	Yes (very mild in few cases)	Yes, between ferrets
Pigs	Experimental	No	No	No
Poultry (chicken, ducks, and turkeys)	Experimental	No	No	No
Rabbits (New Zealand White rabbits, Oryctolagus cuniculus)	Experimental	Yes	No	No

COVID-19 impact on livestock health and welfare

- As livestock species are not susceptible to SARS-CoV-2 infection, the disease had **no direct impact** on food producing animals
- Nevertheless, the COVID-19 pandemic had/could have a range of short and medium-long term indirect impacts on the health and welfare of livestock

Short term impact: animal welfare



Changes in food demand and COVID-19 hotspots in slaughterhouses



oie Overstocking/culling of animals

Reintroduction of border checks and disruption of travel routes



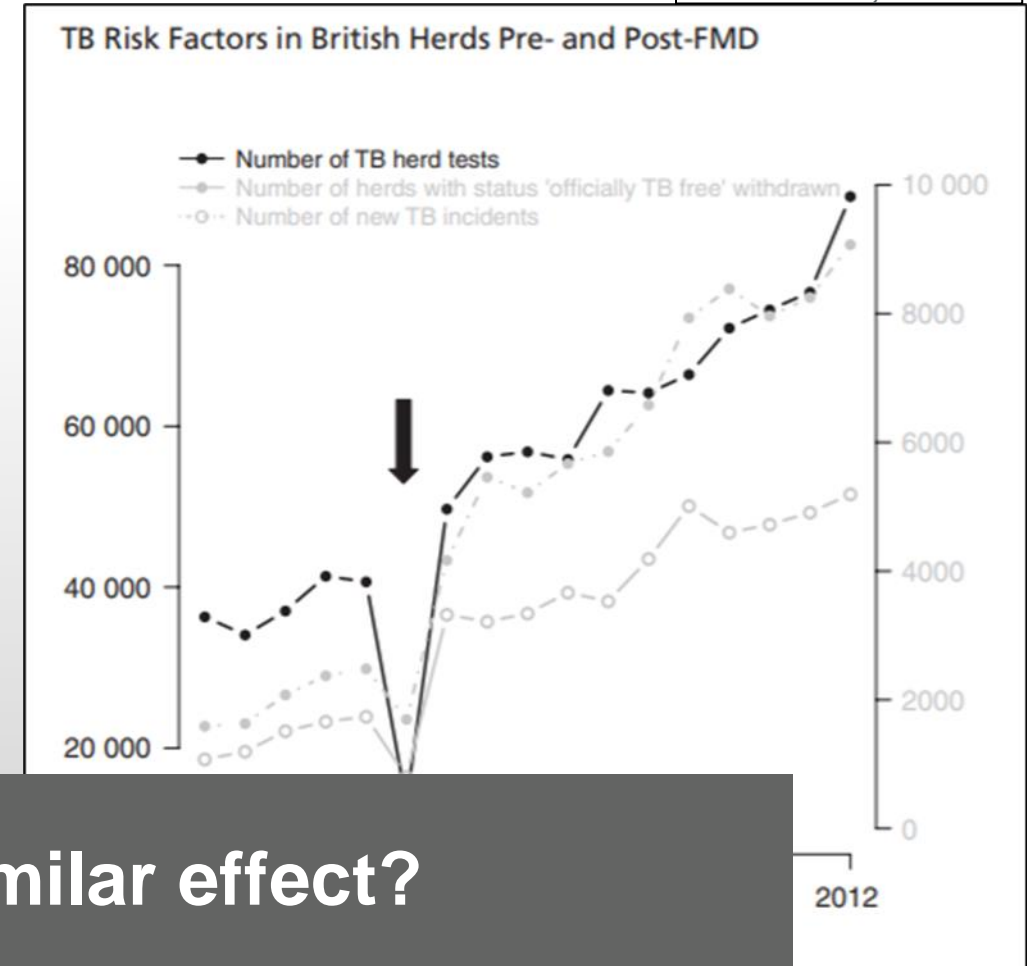
Increase transport stress



Short term potential impacts: control of animal diseases

Vial et al., 2015

- During 2001 foot-and-mouth disease (FMD) epidemic in the UK, veterinary services energies were diverted to FMD control and eradication
- Delays in the implementation of other activities
- Delay in cattle testing for **bovine tuberculosis** (bTB) (1 year)
- Delay in identification/removal of positive animals
- Increase in bTB incidents



Will COVID-19 have a similar effect?

Short term potential impacts: control of animal diseases

- Movement restrictions decreased hunting activity
- Decreased effectiveness of African swine fever (**ASF**) surveillance (active and passive)
- Insufficient wild boar population control



- Veterinary Services' laboratories have been contributing to process human samples for COVID-19
- Decrease in routine activities?

Gortazar & de la Fuente, 2020

Long term impacts: What can be expected?

- Effects will largely depend on the **impact** of the crisis on **farmer livelihoods** and on the **capacities** of the **animal health services**



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Coronavirus: Vets 'may not survive' without financial aid

19 May 2020

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hardest decision farmers will make in their association said of euthanizing herds.

What impact on other dom

- Highly sus
- Can prese
- Proven mi



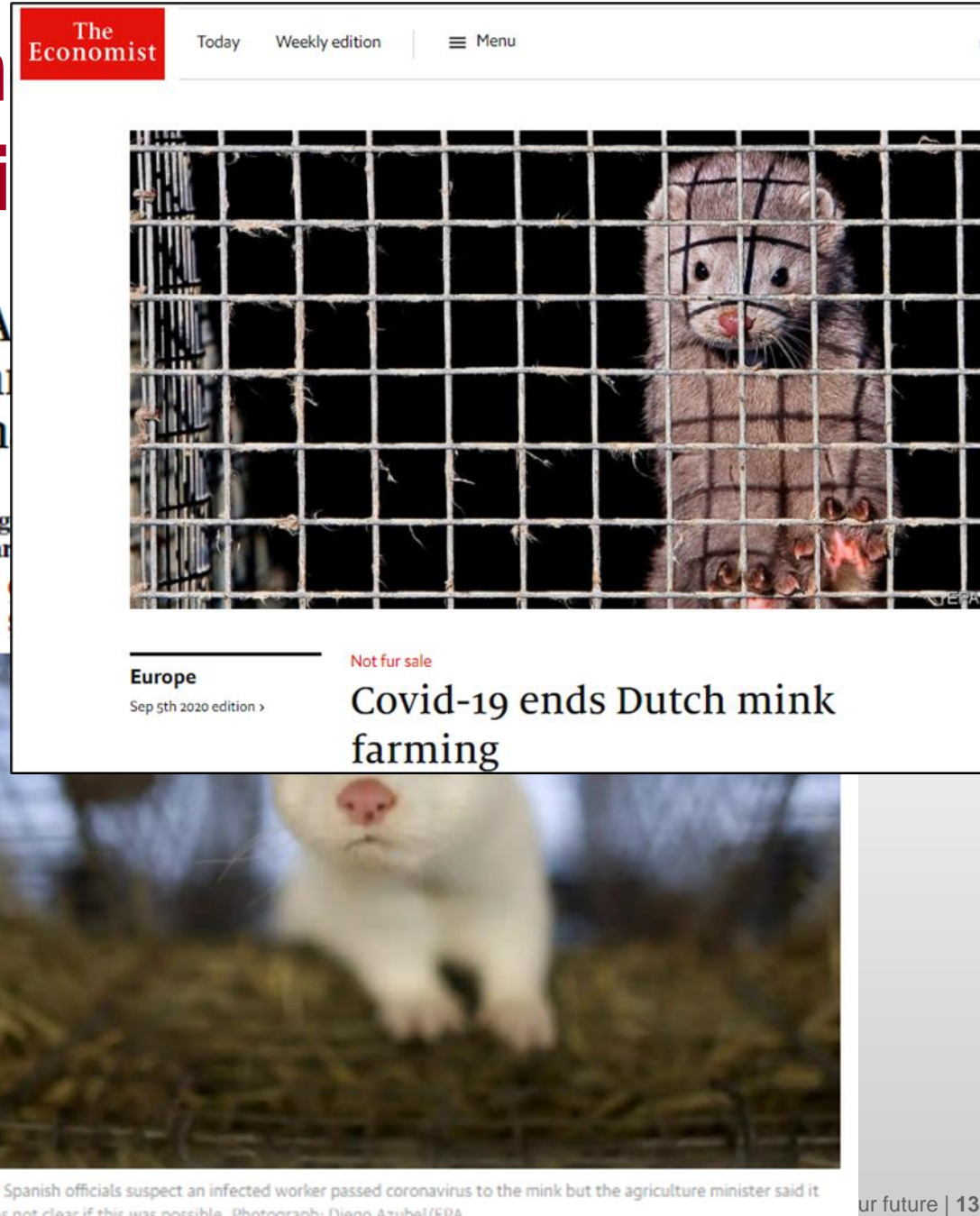
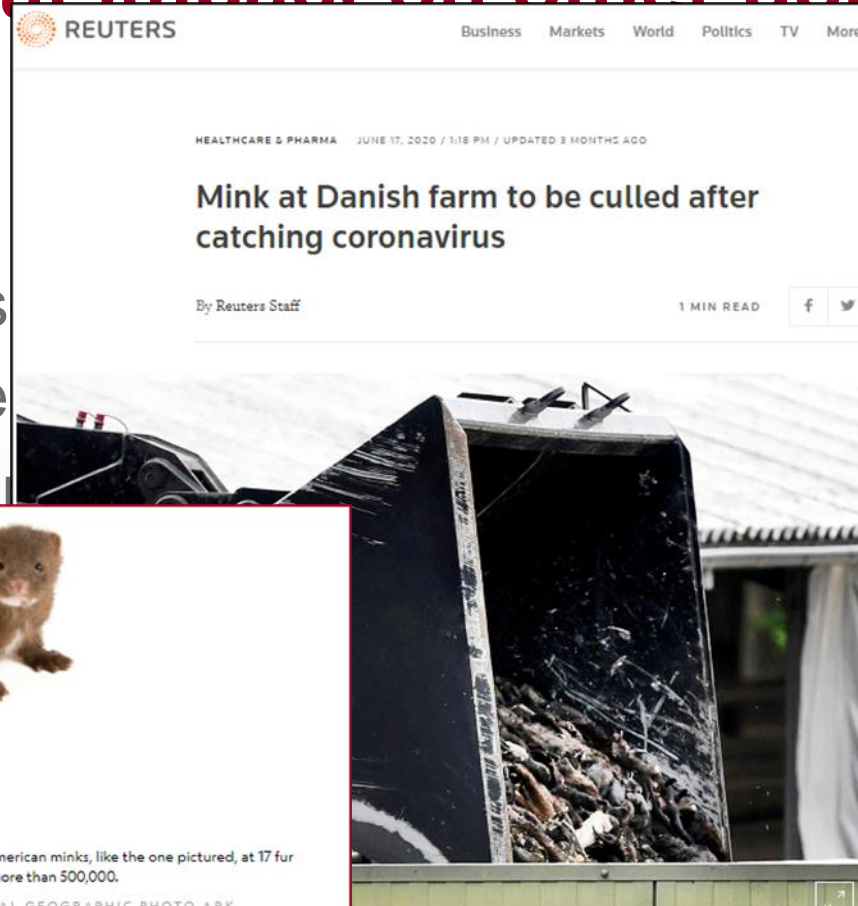
Since April, the coronavirus has been detected in American minks, like the one pictured, at 17 fur farms in the Netherlands, leading to the culling of more than 500,000.

PHOTOGRAPH BY JOEL SARTORE, NATIONAL GEOGRAPHIC PHOTO ARK


ANIMALS | WILDLIFE WATCH

Coronavirus is killing the Dutch mink industry

The Netherlands, a top exporter of mink, has killed more than 500,000 of the animals this month to stop the spread of disease.



COVID-19 impact on animals: risks of misinformation

**World** Africa Americas **Asia** Australia China Europe India Middle East United Kingdom


Cats and dogs abandoned at the start of the coronavirus outbreak are now starving or being killed

By **Allen Kim**, CNN
Updated 1033 GMT (1833 HKT) March 15, 2020

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Cats killed in Egypt in mistaken belief they carry coronavirus

Lack of official transparency leaves Egyptians to rely on rumours about Covid-19


 MONEY | DEAR DEIDRE | TECH | TRAVEL | MOTORS | PUZZLES | SUN BINGO | SUN VOUCHERS | SUN WIN >

VIRUS PANIC Coronavirus – Cats and dogs ‘thrown from tower blocks’ in China after fake news rumours animals are causing spread

GRAPHIC WARNING

CBS NEWS February 15, 2020, 11:30 AM

Scientists worry pangolins' coronavirus link could be a new threat to their dwindling population

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Environment

What consequences if false information was shared about livestock?

experts

ould warn



COVID-19 response

- Ensure continuity of activities



- Build new knowledge



- Enhance coordination



- Provide reliable information



Continued animal health management

- Recognition of workers in the food sector as critical and allowed to reach their occupation during lockdown
- Ensure maintaining efforts to fight animal diseases in times of COVID-19
- Defining essential veterinary activities
- Ensure no unjustified trade barriers are put in place



COVID-19 and veterinary activities designated as essential

OIE/WVA Joint Statement

In the framework of the COVID-19 pandemic, the World Organisation for Animal Health (OIE) and the World Veterinary Association (WVA) jointly draw attention to the roles and responsibilities of the veterinary profession for public health. They highlight the specific veterinary activities which are key to ensure a continuum in food safety, disease prevention and emergency management.



Original: English
April 2020

AD HOC GROUP ON COVID-19 AND SAFE TRADE IN ANIMALS AND ANIMAL PRODUCTS
First meeting, Paris, 9 April 2020

Update: 26 May 2020

OIE CONSIDERATIONS ON THE APPLICATION OF SANITARY
MEASURES FOR INTERNATIONAL TRADE RELATED TO
COVID-19 | 26 May 2020

Improving knowledge of SARS-CoV-2 infection in animals

- The current uncertainty about coronavirus breeds opportunity for **misinformation**
- Scientific knowledge need building in the area of SARS-CoV-2 infection at the human-animal interface

Develop new tools and strategies, raise awareness and support risk assessment

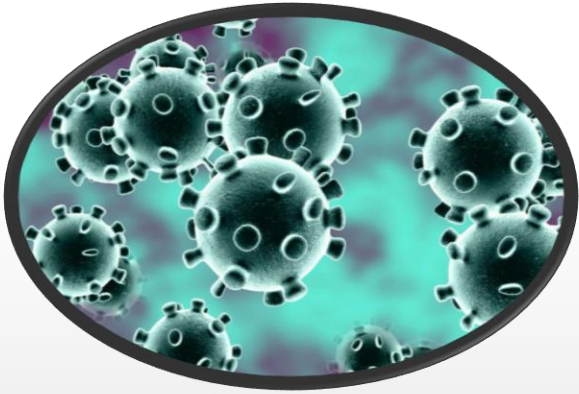


2019 novel Coronavirus

Global research and innovation forum: *towards a research roadmap*



International
Research Consortium
on Animal Health



R&D Blueprint

Powering research
to prevent epidemics



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

OIE *ad hoc* Group on COVID-19
at the animal-human interface

Thematic Area 2:

Animal and environmental research on the virus origin, and management measures at the human-animal interface

<https://www.who.int/blueprint/priority-diseases/key-action/Roadmap-version-FINAL-for-WEB.pdf?ua=1>

Dissemination of reliable information



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR HEALTH AND FOOD SAFETY
Crisis management in food, animals and plants

23/06/2020

COVID-19 and farmed and domestic animals

Questions and Answers

**Check out NOW
the new OIE
COVID-19 Portal**

Discover the new portal now

Food and Agriculture



WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

OIE TECHNICAL FACTSHEET

INFECTION WITH SARS-COV-2 IN ANIMALS

[Aetiology](#) [Epidemiology](#) [Diagnosis](#) [Prevention and Control](#) [References](#)

Last updated on 3 July 2020

SARS-Coronavirus-2 (SARS-CoV-2) is the pathogenic agent that causes the disease COVID-19 and was first reported in December 2019. SARS-CoV-2 is thought to have emerged from an animal source and then spilled-over to the human population. Although genetically closely related viruses have been isolated from *Rhinolophus* bats, the exact source of SARS-CoV-2 and route of introduction into the human population has not been established.

The current pandemic of COVID-19 is being sustained through human to human transmission. Animal infections with SARS-CoV-2 have been reported by several countries. Several animal species have proven to be susceptible (Table 1) to infection with SARS-CoV-2 either naturally or by experimental infection. Important livestock species (pigs and poultry) have been demonstrated not to be susceptible to infection through experimental studies. Further studies are needed to understand if and how different animals could be affected by SARS-CoV-2.

It is important to monitor infections in animals to better understand their epidemiological significance for animal health, biodiversity, and human health. Evidence from risk assessments, epidemiological investigations, and experimental studies do not suggest that live animals or animal products play a role in SARS-CoV-2 infection of



Food and Agriculture Organization
of the United Nations

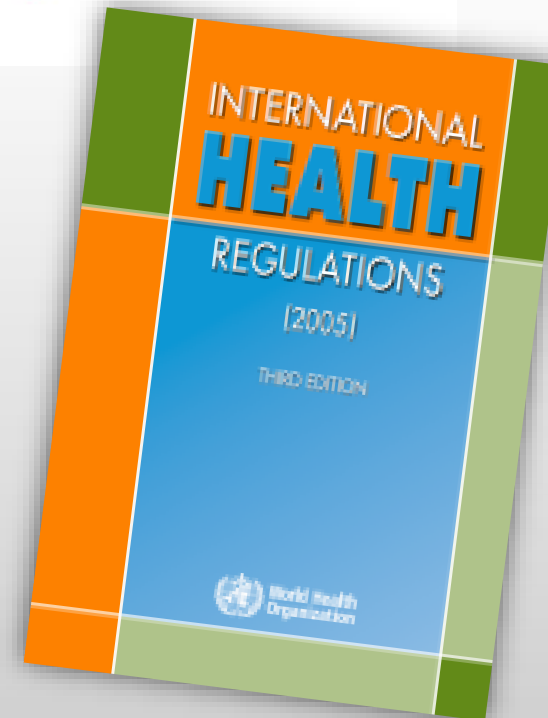
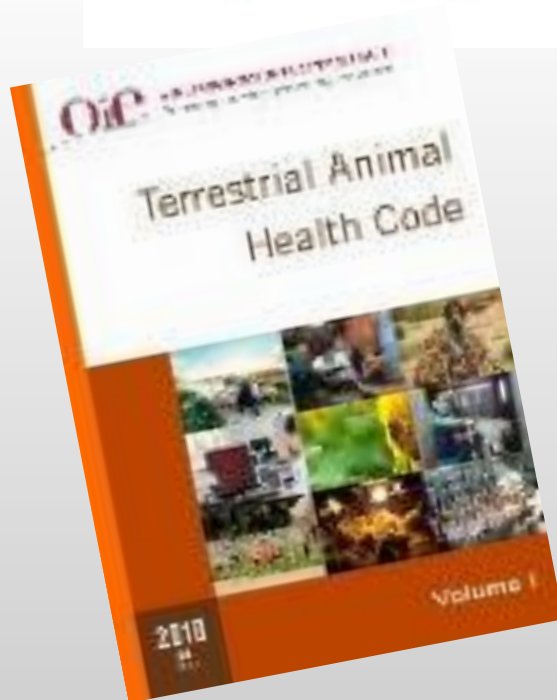
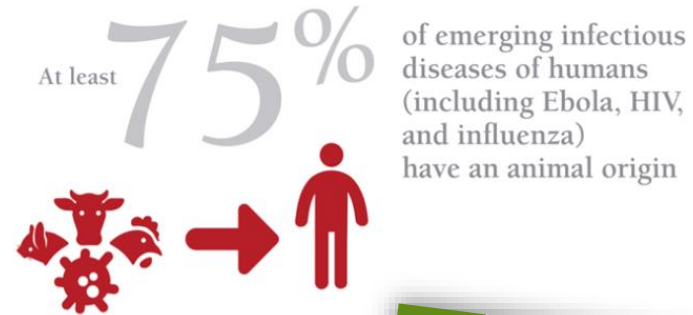
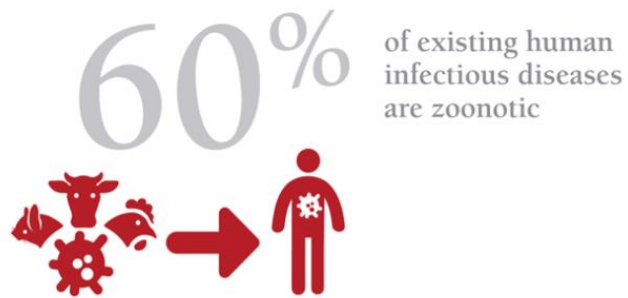


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The importance of coordination



Opportunities: strengthening Veterinary and Health Services



Opportunities

Will COVID-19 push the digital revolution in agriculture?

Lack of physical consultations encourages pet insurers to offer virtual vet appointments amid COVID-19

By GlobalData Financial Services © June 3, 2020



Conclusion

- The food system in Europe is managing the crisis without significant disruption to the food chain → **resilience**
- Veterinary Services had to work managing unusually high level of uncertainty, with good results → **adaptation**
- Unprecedented mobilisation of the research community: science responded faster to risk managers needs → **collaboration**
- Implementation of a response in a One Health framework → **interdisciplinarity**

Are these changes here to stay?

Despite Covid-19, EU agricultural firms want to expand further

By Florence Schulz | EURACTIV.de | translated by Sarah Lawton

📅 17-08-2020

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