



» Never Stop Improving

COVID 19 On-Farm Staff Recommendations

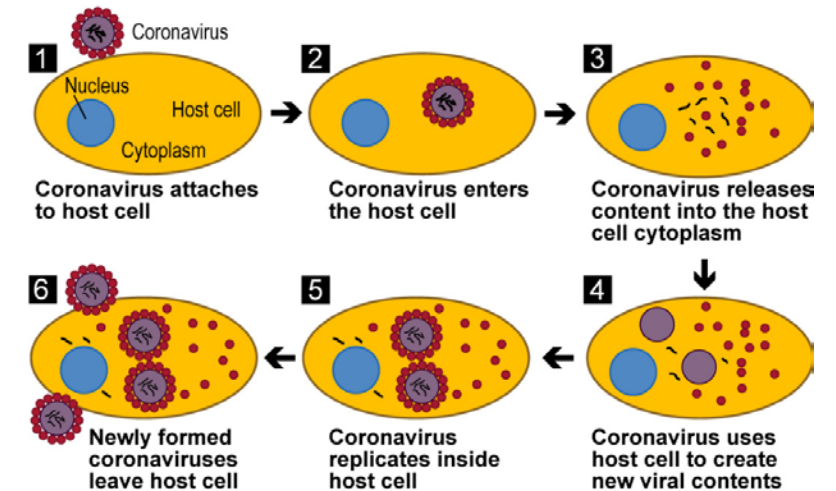
Created by the PIC EU Health Assurance Team
on behalf of PIC EUROPE & RUSSIA

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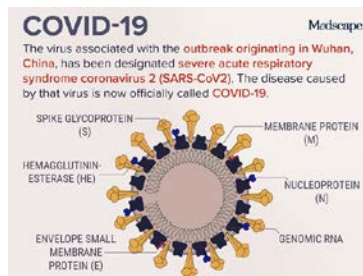
Coronavirus Background Information

- Coronaviruses can effect animals and people
- Like all viruses, they use the cells of hosts to replicate
- Examples of Coronaviruses that infect humans:
 - Common cold – mild disease
 - More severe diseases:
 - SARS – Severe Acute Respiratory Syndrome
 - MERS – Mid East Respiratory Syndrome
 - COVID-19 – Coronavirus Disease 19

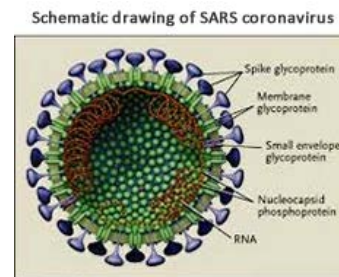
Coronavirus Life Cycle



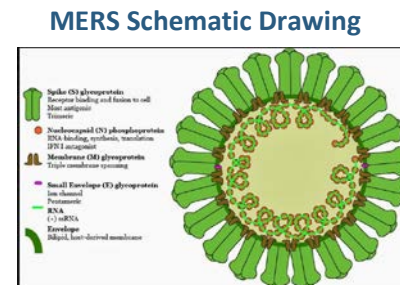
Source: GAO adaptation of Fenner's Veterinary Virology edited by N. James MacLachlan and Edward J. Dubovi. | GAO-20-472SP



[COVID Medscape Web Link](#)



[SARS Sino Biological Link](#)



[MERS ResearchGate Link](#)

COVID-19 Background

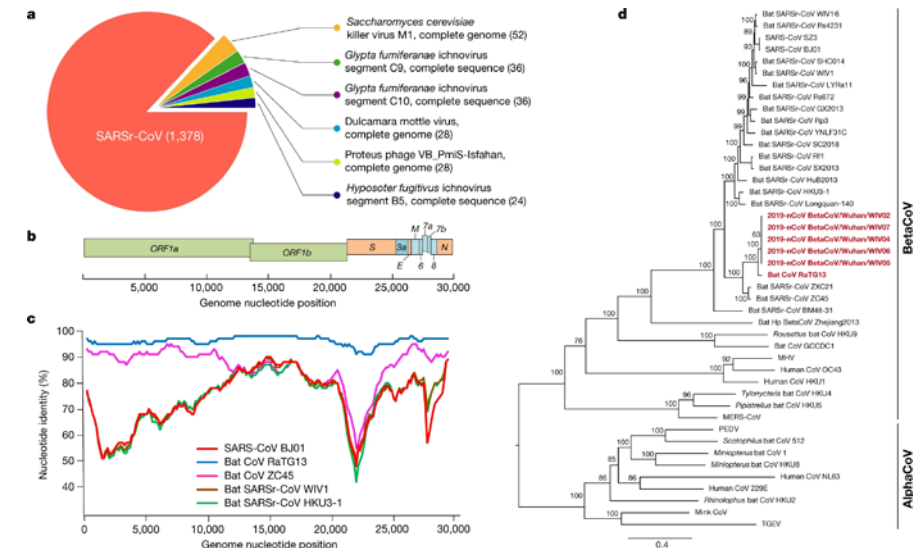
'COronaVIrus Disease 2019' = SARS CoV 2 (official name)

- Identified in Wuhan, China (Late 2019)
- A novel (new) strain of coronavirus not previously known in humans
- Likely originated from bats like the SARS virus of 2002-2003
- COVID-19 is closely related to SARS & has officially been named SARS CoV2.

A pneumonia outbreak associated with a new coronavirus of probable bat origin

Peng Zhou, Xing-Lou Yang, [...] Zheng-Li Shi 

Nature 579, 270–273(2020) | [Cite this article](#)



COVID-19 Transmission

HOW DOES THE VIRUS SPREAD?

([CDC Link](#)) ([uptodate.com Link](#))

PERSON-TO-PERSON (Main transmission route)

- Between people who are in close contact [2 meters (6 feet) or less]
- Respiratory droplets from a cough or a sneeze or when talking
- May be inhaled or settle upon the mucous membranes
(i.e. mouth, nose, and possibly eyes)
- When are people likely to shed the most?
 - When they are the most sick → Fever, Cough/Sneeze, Etc

CONTACT WITH CONTAMINATED SURFACES or OBJECTS

- Touch contaminated surface and then touch mouth, nose, or eyes
- Possible but not likely the main way the virus spreads



COVID-19 Incubation & Clinical Signs

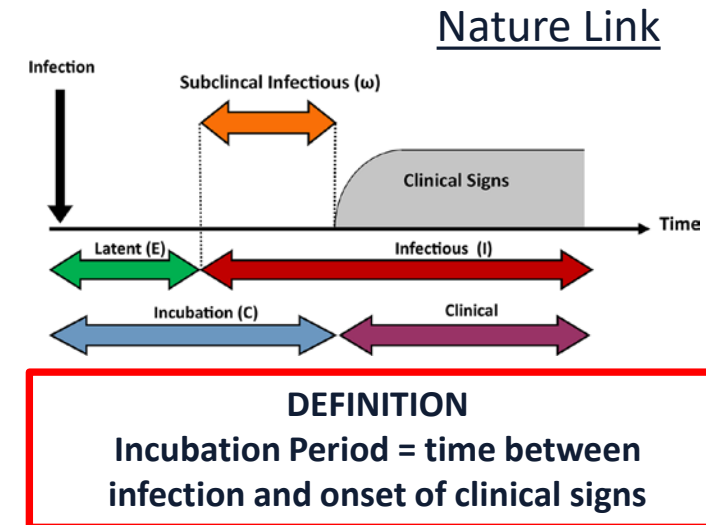
([CDC Link](#)) ([uptodate.com Link](#))

INCUBATION PERIOD (2 to 14 days)

- MINIMUM = 2 days (2.5 % show signs by 2.2 days)
- MAXIMUM = 14 days (97.5% show signs by 11.5 days)
- AVERAGE = 4 to 5 days (mean = 5.1 days)
- OTHER POSSIBILITIES
 - People may shed before the show clinical signs
 - Some infected people show very mild or no clinical signs and may shed (i.e. non clinical shedders)

CLINICAL SIGNS

- FEVER, DRY COUGH, & SHORTNESS OF BREATH
- Other possible signs: Fatigue, Anorexia, & Sore Muscles



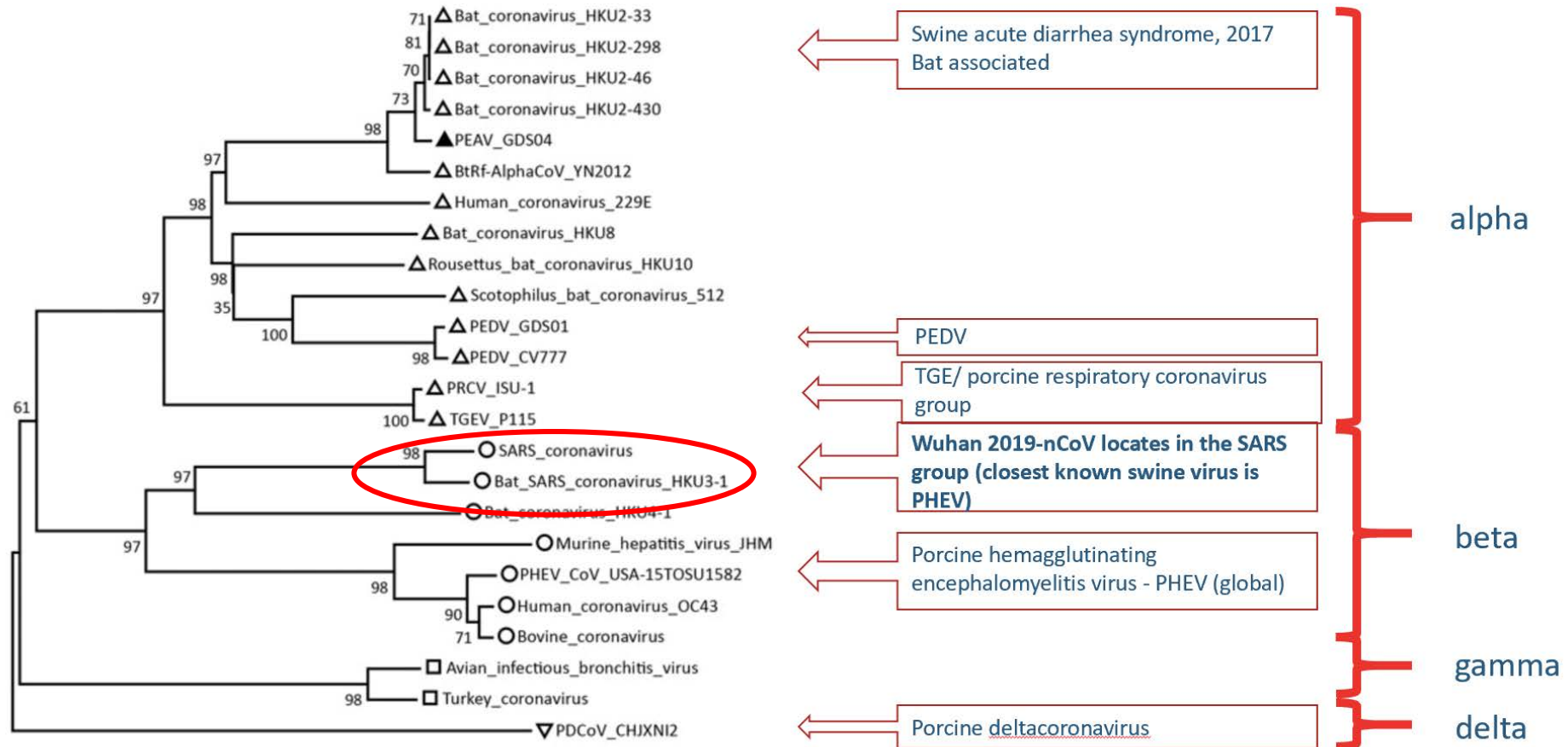
Coronaviruses and Swine

- Coronaviruses are also common in swine
- COVID-19 is not considered to be closely related to swine viruses genetically
- Swine coronavirus examples:
 - PEDV – Porcine Epidemic Diarrhea Virus
 - TGEV – Transmissible Gastroenteritis Virus
 - PRCV – Porcine Respiratory Coronavirus
 - PDCoV – Porcine Delta Coronavirus
 - PHEV – Porcine hemmaglutinating encephalomyelitis virus
 - Vomiting and Wasting Disease



Coronaviruses and Swine

SARS CoV 2 position in relation to known swine-associated coronaviruses



Coronaviruses and Swine

COVID-19:

- Swine have not been implicated in transmission to humans
- No evidence that COVID-19 can infect swine

Recommendations for Swine Farm Employees

Protecting yourself and your team members

- Introduction

- Protecting the health of swine farm workers is our highest priority
- People that work in swine production units are specialized technicians who understand disease transmission
- Keeping our people healthy ensures the care and well-being of the animals we work with everyday

- Recommendations

- The following slides focus on steps that swine farm workers and their employers can make to protect themselves and their team members



Recommendations for Swine Farm Employees

LIMIT EXPOSURE TO VISITORS

MINIMIZE VISITORS TO BUSINESS ESSENTIAL

- When deemed necessary (i.e. during the height of the COVID-19 pandemic), farm visits by people other than those that are directly responsible for the care of the animals should be severely restricted
- The essential nature of visits by technical, genetic, and health assurance personnel will be evaluated on a case by case basis and must receive executive approval.
- PIC Visitor Policy requires visitors who are ill to not enter the facility



Recommendations for Swine Farm Employees

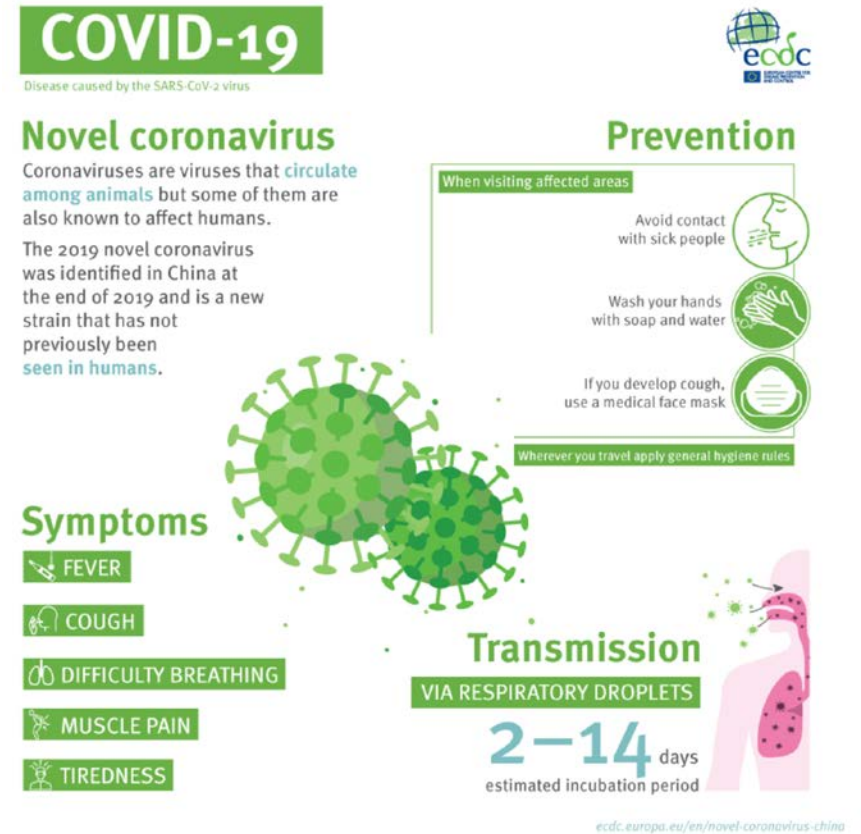
LIMIT EXPOSURE IF YOU MIGHT BE INFECTIOUS

Complete a daily self assessment

Evaluate your risk of infecting others based upon:

1. Your own personal COVID-19 status
2. Your contact history with known COVID-19 positive people
3. The incubation period (2 to 14 days)
4. Your symptoms
 - Evaluate for fever prior to entry (BioShield Standard)
 - Anyone with symptoms of a fever of more then 37.8C (100F) or cough should be sent home for 7 days

ANY EXCEPTIONS MUST RECEIVE
MANAGEMENT APPROVAL



The infographic is titled 'COVID-19' and 'Novel coronavirus'. It provides information on the disease, its symptoms, prevention, and transmission. The ECDC logo is in the top right corner. The text states: 'Disease caused by the SARS-CoV-2 virus'. 'Novel coronavirus' section: 'Coronaviruses are viruses that circulate among animals but some of them are also known to affect humans. The 2019 novel coronavirus was identified in China at the end of 2019 and is a new strain that has not previously been seen in humans.' 'Prevention' section: 'When visiting affected areas' includes 'Avoid contact with sick people', 'Wash your hands with soap and water', and 'If you develop cough, use a medical face mask'. 'Wherever you travel apply general hygiene rules'. 'Symptoms' list: 'FEVER', 'COUGH', 'DIFFICULTY BREATHING', 'MUSCLE PAIN', 'TIREDNESS'. 'Transmission' section: 'VIA RESPIRATORY DROPLETS' and '2-14 days estimated incubation period'. The source is 'ecdc.europa.eu/en/novel-coronavirus-china'.



Recommendations for Swine Farm Employees

PROACTIVELY PREVENT EXPOSURE

Preventing transmission between co-workers

- Mandatory mask usage should be mandatory
 - Not likely to prevent inhalation
 - Will lower dispersing virus from the user
 - Also, prevents contaminated hands touching mouth/nose
- Coughing etiquette (cough into sleeve) when not wearing a mask
- Frequent hand washing and use of gloves
- Limit team contact - Schedule break time and lunch in smaller groups or individually
- Those who prepare food for barn workers must be especially vigilant with food hygiene and follow the same rules



When to wash your hands?

- After blowing nose, coughing/sneezing
- After using restroom
- Before eating or preparing food
- Before and after caring for others

Recommendations for Swine Farm Employees

PROACTIVELY PREVENT EXPOSURE

Preventing environmental exposure in the barn

- Showers → clean and disinfect surfaces regularly
- Towels/Clothing → do not share used materials, wash and dry between usages
- Office/Kitchen/Dining Area/Restroom → clean and disinfect surfaces regularly and thoroughly after each use



Recommendations for Swine Farm Employees

OTHER CONSIDERATIONS - DISINFECTANTS




UNIVERSITY OF MINNESOTA
Swine Disease Eradication Center

June 7, 2013

www.cvm.umn.edu/sdec

PEDV Viral Stability and Disinfectant Use as Compared to TGEV and PRRSV

	PEDv (cell culture adapted historical strain)	TGEv (FS772/70 cloned strain)	PRRSv (ATCC VR 2332)
Family	Coronaviridae	Coronaviridae	Arteriviridae
Temperature	Moderately stable at 50°C, lost infectivity at ≥ 60°C	Stable for 1 hour at 37°C at pH 4.0 and 8.0	Completely inactivated in 45 minutes at 56°C
pH	Stable between pH 5.0 and 9.0 at 4°C and between 6.5 and 7.5 at 37°C	Stable at pH 5.0 to 8.0 at 4°C, pH. 6.5 at 37°C	Stable at pH 5.0 to 7.0
Effective Disinfectants	<i>Phenols</i> : Tek-Trol ; 1Stroke Environ; <i>Peroxygen</i> : Virkon S; <i>Chlorine</i> : Chlorox; <i>Combination product</i> : Synergize ¹	<i>Chlorhexadines</i> : Nolvasan, Nolvasan S; <i>Quaternary Ammonium</i> : Roccal D Plus; <i>Phenols</i> : Biophen, 1 Stroke Environ, Pheno-Tek II, Tek-Trol; <i>Peroxygens</i> : Virkon S	<i>Peroxygens</i> : Vikron S <i>Quaternary Ammonium</i> : Biosentry 904; <i>Combination Product</i> : Synergize; (<i>Others as well</i>)
References	Park SJ, et al. Arch Virol (2013)); Veterinary Microbiology, 20 (1989) 131 – 142; Pospishil A, et al. J Swine Health Prod (2002)10(2) 81-85 ¹ no published studies as of 6/13	Hofmann M. et al., Vet Microbiol (1989) 20, 131-142; Pocock et al. Arch Virol (1975) 49, 239-247.	Benfield et al. J Vet. Diagn. Invest. (1992) 4, 127-133, Van Alstine et al. J Vet. Diagn. Invest. (1993) 5, 621-622; Dee, et al. Can J Vet Res (2005) 69(1)64-70.

 Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

[A-Z Index](#)
Search 

Coronavirus Disease 2019 (COVID-19)

CDC > Coronavirus Disease 2019 (COVID-19) > How to Prepare > Protect Your Home



 Coronavirus Disease 2019 (COVID-19)

Clean & Disinfect

Clean & Disinfect 'high-touch' surfaces daily

- Examples: tables, hardbacked chairs, doorknobs, light switches, remotes, handles, desks, toilets, sinks
- Diluted bleach (20 ml/litre), 70% Alcohol Solutions, and most registered household disinfectants work.

Clothing & towels

- Wear gloves
- Don't shake to minimize dispersion
- Disinfect clothing hampers

[CDC Cleaning and Disinfecting Link](#)

Recommendations for Swine Farm Employees

Protecting yourself and your team members

- Other considerations & questions
 - Can your exposure to swine coronaviruses trigger false positive COVID-19 tests?
 - NO
 - Swine viruses are phylogenetically different
 - Tests based on real-time PCR are very sensitive and specific



Recommendations for Swine Farm Employees

Protecting yourself and your team members

FINAL WORD

We strongly encourage everyone to seek out their own national public health advice service
(examples below)

[European Commission Public Health Link](#)

[United Kingdom Public Health Link](#)

As well, it is important that you seek out the advice of your own physician or human resource personnel if you believe you have underlying health conditions that may make you more susceptible to the serious form of the disease.



A photograph of a young piglet standing on a slatted floor in a farm setting. The piglet is white with a small dark spot on its back. It is looking down and to the right. In the background, other piglets are visible, some resting on a green mat. The lighting is bright and natural.

THANKS AND STAY SAFE!!

PIC EUROPE