

SARS-CoV-2 and White-Tailed Deer Q&A

What is SARS-CoV-2?

SARS-CoV-2 is the virus that causes COVID-19. It was first reported globally in people in late 2019. Within a few months it spread around the world and was reported in domestic and zoo animals shortly thereafter.

Has it been found in white-tailed deer?

Yes. In May 2021, white-tailed deer were found susceptible to SARS-CoV-2 in experiments conducted by United States Department of Agriculture Animal Plant Health Inspection Service Wildlife Services (USDA APHIS WS). The virus was detected in nasal swabs (PCR tests), but the deer showed no signs of disease. In a second study conducted by USDA, archived blood collected pre-pandemic from deer in Michigan, Illinois, New York, and Pennsylvania was analyzed and found to have no evidence of the virus (antibody testing). However, for the samples collected after the pandemic - many were positive. In more recent studies in Ohio and Iowa, multiple spillovers in wild deer were detected.

Why did USDA conduct sampling of white-tailed deer?

USDA supports a One Health approach to animal health and disease and identifying reservoirs of disease is an important step in understanding the transmission. Once the virus was detected in experimental studies, the USDA worked with states to show the importance of surveillance. The aim of the studies was to determine how wide spread it is in deer populations, what the long-term effects are on populations, if deer can transmit the virus to other animals, and if they can be a source of new variants.

How did deer get SARS-CoV-2?

It is unknown how deer initially became infected with the virus. It is possible that deer got the virus from people or other animals. Deer are abundant in the U.S., and millions of people have become infected with SARS-CoV-2. It is possible that spillover from *people to deer* could have happened.

Could deer spread the virus to people?

Based on available information, there is no evidence that animals, including deer, are playing a significant role in the spread of SARS-CoV-2 to people. The risk of animals spreading COVID-19 to people is low.

Is it safe to hunt and prepare deer carcasses?

Yes. There is no evidence that people can contract COVID-19 by preparing or eating meat infected with SARS-CoV-2. However, hunters should always practice good hygiene when processing animals:

- *Minimize contact between wildlife and domestic animals, including pets and hunting dogs.*
- *Do not harvest animals that appear sick or are found dead.*
- *Keep game meat clean, and cool the meat down as soon as possible after harvesting the animal.*

- *Avoid cutting through the backbone and spinal tissues and do not eat the brains of wildlife.*
- *When handling and cleaning game:*
 - Wear rubber or disposable gloves.*
 - Do not eat, drink, or smoke.*
- *When finished handling and cleaning game:*
 - Wash your hands thoroughly with soap and water.*
 - Clean knives, equipment, and surfaces that were in contact with game meat with soap and water and then disinfect them.*
 - Cook all game meat thoroughly (to an internal temperature of 165 °F or higher).*

What is Maryland DNR doing to help?

MD DNR is working with USDA and wildlife disease research scientists to conduct deer surveillance in Maryland. Hunters will be an important partner in this project and may be asked to allow MD DNR and USDA staff to sample harvested deer carcasses.

Are other wildlife species susceptible to SARS-CoV-2?

Yes. It is known that mink, some felines (cats), otters, non-human primates, and several other miscellaneous zoo animals have contracted SARS-CoV-2. Domestic pets including dogs, cats, and ferrets are also susceptible. At this time it is unknown how many different species of wildlife are susceptible.

For more information:

www.aphis.usda.gov/animal_health/one_health/downloads/qa-covid-white-tailed-deer-study.pdf

www.aphis.usda.gov/aphis/newsroom/stakeholder-info/stakeholder-messages/wildlife-damage-news/deer-sars

www.aphis.usda.gov/aphis/newsroom/stakeholder-info/sa_by_date/sa-2021/sa-08/covid-deer

<https://www.psu.edu/news/research/story/deer-may-be-reservoir-sars-cov-2-study-finds/>

www.biorxiv.org/content/10.1101/2021.10.31.466677v2