

## **SARS-COV-2 VIRUS IN ANIMALS:** *Testing strategies and reporting expectations*

**Background:** Since spring 2020, there have been multiple cases of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) detected in animals in the United States. The Animal and Plant Health Inspection Services (APHIS) National Veterinary Services Laboratories (NVSL) has conducted confirmatory testing for all cases of SARS-CoV-2 in the U.S. in animals. Other laboratories perform initial SARS-CoV-2 testing including National Animal Health Laboratory Network (NAHLN) and private laboratories. Infection with SARS-CoV-2 in any animal species meets the World Organisation for Animal Health (OIE) definition of “emerging disease”; therefore, the OIE is expecting member countries, including the U.S. to report confirmed positive infections with SARS-CoV-2 in any animal species.

**Testing Strategies:** APHIS continues to be very engaged with our public health partners in supporting the SARS-CoV-2 response activities. NVSL and NAHLN laboratories collaborate very closely on animal and human testing, genetic sequencing and sharing information, and activities at the human/animal interface.

Similar to our approach with other zoonotic diseases such as highly pathogenic avian influenza, we rely on the expertise of and collaborate with our veterinary diagnostic laboratories to quickly and confidently perform testing, report results and partner with to use our collective resources most efficiently.

Beginning March 15, 2021 the testing plan for SARS-CoV-2 in animals will change to accommodate the knowledge and experience gained by NVSL and the veterinary diagnostic laboratories.

- NVSL will continue to perform confirmatory SARS-CoV-2 testing on all animals **except** household domestic cats and dogs from states, territories or tribal nations that have previously had a confirmed case in cats and dogs.
  - NAHLN and other private and research laboratories will continue to perform testing and will be responsible for forwarding cases for appropriate confirmatory testing as described above, and for routinely reporting total test numbers and presumptive positives to APHIS.
  - Depending on the epidemiological situation, additional samples from the same species may need to be confirmed at NVSL, if requested. We encourage State Animal Health Officials and diagnostic laboratories to contact NVSL for additional guidance in unusual situations.
- NVSL will continue to perform confirmatory SARS-CoV-2 testing on all index cases of mink on mink farms.
  - We recommend ongoing testing to monitor virus which can continue to be conducted at NAHLN laboratories. Any samples with a cycle threshold value (Ct) below 30 by PCR, and samples from unexpected mortalities or morbidity should be forwarded to NVSL for whole genome sequencing.

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While NVSL confirmation of previously confirmed companion animal species (household cats and dogs) from states that have already had a confirmed case will no longer be required, NVSL stands ready to support states and laboratories for confirmatory testing as needed. After conducting confirmatory testing and investigation of over 130 confirmed cases, we know the vast majority of household/companion animal cases are associated with confirmed COVID-19 positive human(s).

Monitoring the virus in animal populations for changes and variants of concern will remain a priority. All laboratories are encouraged to submit samples for whole genome sequencing to NVSL if the cycle threshold value (Ct) is below 30 by PCR, and where unexpected mortalities or morbidity occurs.

NAHLN and other private and research laboratories will continue to perform testing and will be responsible for forwarding cases for appropriate confirmatory testing as described above, and for routinely reporting total test numbers and presumptive positives to APHIS. All testing at NAHLN and other laboratories will be completed at the cost of the submitter unless otherwise agreed upon at the state and federal levels.

As the situation evolves and the demand for testing continues, additional laboratories may be authorized by USDA APHIS to perform confirmatory testing for SARS-CoV-2 in animals in the U.S.

### **Reporting Expectations:**

#### *Reporting to OIE*

To meet our OIE reporting requirements (OIE Terrestrial Code, Chapter 1.1, Article 1.1.2 and 1.1.3<sup>1</sup>), APHIS completed the initial notification to OIE of a confirmed case in a tiger (*Panthera tigris*) on April 6, 2020 and has subsequently submitted updated reports of the evolution of the event.

The first confirmation of a natural SARS-CoV-2 infection in any new animal species or new state, territory, or tribal nation (in either domestic or wild animals) requires immediate reporting to OIE. APHIS will continue to report all additional confirmed positive cases by NVSL (as defined in APHIS' [Case Definition document](#)) to include: confirmed cases in animal species not previously reported and/or new states, territories, or tribal nations with the first confirmed positive case regardless of species. Presumptive positive cases conducted at other laboratories will not be reported to OIE.

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<sup>1</sup> [https://www.oie.int/fileadmin/Home/eng/Health\\_standards/tahc/current/chapitre\\_notification.pdf](https://www.oie.int/fileadmin/Home/eng/Health_standards/tahc/current/chapitre_notification.pdf)

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APHIS will continue to submit reports to the OIE for confirmed cases until there is a change to current OIE reporting requirements; submission of a Final Report will be determined as appropriate at a later date.

### *Public Reporting Resources*

The USDA will continue to collate and provide the numbers of animals tested and presumptive positives (as available from other laboratories, including private laboratories) and confirmed positive animal cases from NVSL on the [USDA SARS-CoV-2 webpage](#).