



Dairy Cattle Veterinarians Branch of the NZVA

Standard Operating Procedure for Nasopharyngeal Swab Technique for Cattle

October 2017

Nasopharyngeal swabs are a viable alternative to trans-tracheal wash or bronchial–alveolar lavage and are particularly useful when testing for *Mycoplasma bovis*.

This method uses a guarded mare uterine swab that travels through the bottom of the nose and samples the back of the throat in the pharyngeal tonsillar region. One swab per animal is recommended. After swabbing, the end of the swab is cut off and put in transport medium for PCR testing.

Swabs placed in the dorsal meatus of the nose cannot advance far enough to obtain a deep pharyngeal sample, and is unlikely to provide a useful sample.

Materials required for the sample collection and submission to the laboratory:

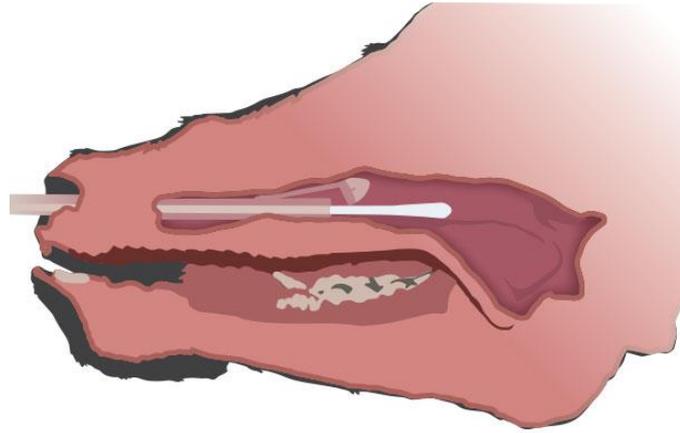
1. Guarded culture swab (e.g. Shoof equine guarded culture swab)
2. Sterile transport tube containing transport medium
3. Scissors and marker pen
4. Lab submission form – select PCR testing for *Mycoplasma bovis* nasopharyngeal swab on the form or write it on the form.

Collection procedure for PCR testing:

Restrain the animal's head as animal head movement may cause the swab to break off in the nose or pharynx.

1. Ensure the safety of personnel and the animal
2. Clean the external nares with a clean, disposable cloth.
3. Measure the distance from the nostril to the medial canthus of the eye. The external tubing of the swab can be used to measure the distance, and the distance marked on the tube.
4. Insert the double-guarded swab into the ventral meatus of the nose and advance to the pre-measured distance (i.e. distance that was measured from the nostril to the medial canthus of the eye).
5. Retract the swab approximately 3-5cm.
6. Push the inner swab sheath approximately 3-5cm through the end of the outer clear tube.
7. Vigorously rotate the swab against the pharyngeal mucosa for 30-45 seconds.
8. Retract the swab back into the swab sheath.
9. Remove the entire double-guarded swab from the animal's nose.
10. Using a clean pair of scissors, cut the tip end of the swab roughly 15cm from the tip. Do not cut the tip too short, as they can be difficult to remove from the transport tube.
11. Place the swab in the sterile transport medium tube.

12. Label the transport tube with the animal's identification and date.



Ref: Wisconsin Veterinary Diagnostic Laboratory. January 2016.

Precautions:

- Ensure that the property has a fully functioning crush facility. Safety for the personnel and the animal is a high priority.
- The head must be kept as still as possible when sampling to avoid any complications, such as damage to the nasal cavity of the animal, or the swab or cap breaking or injury to personnel.
- Sedation may be considered in large cows or bulls or fractious animals.

References:

- Wisconsin Veterinary Diagnostic Laboratory. University of Wisconsin. Use of Deep nasopharyngeal swabs for bovine respiratory disease testing. August 2016.
<http://www.wvdl.wisc.edu/wp-content/uploads/2016/11/Use-of-Deep-Nasopharyngeal-Swabs.pdf>
- Wisconsin Veterinary Diagnostic Laboratory. University of Wisconsin. Nasal-pharyngeal swabs for bovine respiratory disease tests. January 2016.
<https://www.progressivedairy.com/topics/herd-health/nasal-pharyngeal-swabs-for-bovine-respiratory-disease-tests>
- Kansas State Veterinary Diagnostic Laboratory. Deep pharyngeal swab from live cattle. You tube video: <https://www.youtube.com/watch?v=WB3luk1nQjY>

