



Domestic and wild sheep and goats, and risk of *Mycoplasma ovipneumoniae*

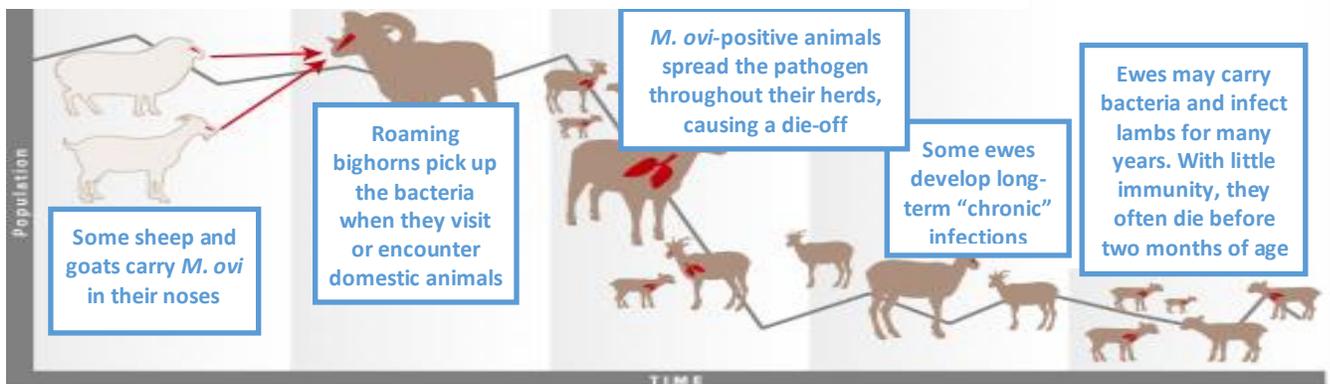
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What is *Mycoplasma ovipneumoniae*?

- *Mycoplasma ovipneumoniae* (*M. ovi*) is a bacterial species that is commonly found in the nasal cavity and sinuses of apparently healthy domestic sheep and goats.
- It is transmitted to wild sheep and goat populations via nose-to-nose contact and, less commonly, aerosol/droplet transmission. In wild sheep, infection often causes large all-age die-offs followed by years of poor lamb recruitment, resulting in large population declines.
- In experimental studies, *M. ovi* has been shown to slightly halt weight gains in domestic sheep and may predispose animals to more serious bacterial pneumonia.
- Thinhorn sheep in British Columbia have had little exposure to domestic animal pathogens and are considered more at risk than Bighorn sheep. Exposure to these pathogens is expected to result in significant and widespread losses from either domestic goat or sheep *M. ovi* strains.



What happens during a *M. ovi* outbreak in wild sheep:



Sources:

1. Cassirer, E. F. et al. (2018). "Pneumonia in bighorn sheep: Risk and Resilience." *Journal of Wildlife Management*, 82(1): 32-45.
2. Manlove, K. R. et al. (2019). "Risk factors and productivity losses associated with *Mycoplasma ovipneumoniae* infections in United States domestic sheep operations." *Preventive Veterinary Medicine* 168: 30-38.
3. Plowright, R. K. et al. (2017). "Age-specific infectious period shapes dynamics of pneumonia in bighorn sheep." *Ecology Letters* 20(10): 1325-1336.



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How do I know if my sheep or goats are carrying *M. ovi*?

If you are interested in assessing for *M. ovi* in your domestic sheep flock or goat herd, learning more about it is the first step. You may then wish to test your animals. It is strongly advised to discuss your concerns with your local veterinarian. Please contact the Animal Health Centre for more information about obtaining and handling samples, as well as for advice on testing strategies tailored to your flock/herd.

Testing must be accompanied by recognized farm biosecurity measures such as pre-testing and quarantine of new arrivals. Secure fencing is crucial to maintain separation from wild sheep and goats.

Polymerase Chain Reaction (PCR) tests

- The best test for an individual animal is PCR on a nasal swab. This test looks for the genetic material (DNA) of *M. ovi* on the sample tested.
- Animals can shed this organism from their noses intermittently or in low numbers, so repeated testing is often needed to confirm that an individual animal is not infected.
- Seek advice from the Animal Health Centre and work with your veterinarian for interpretation of testing and if repeated testing is needed.

Can I remove *M. ovi* from my flock or herd?

There are currently no known, easy ways to eliminate *M. ovi* from an infected flock/herd. Early weaning and/or test and cull have shown some success but can be challenging due to the intermittent shedding of the bacteria and may involve culling a large percentage of the herd/flock.

If you have clinical symptoms of respiratory disease in your flock/herd, consult your veterinarian to determine the best diagnostic, and treatment approach.

Animal Health Centre

The *M. ovi* PCR test is available at the [Plant and Animal Health Branch](#) of the Ministry of Agriculture.

Additional Diagnostic Testing & Services

A full range of fee-for-service diagnostic testing, including Bacteriology, Histopathology, Molecular Diagnostics, Necropsy, Serology and Virology are accepted from veterinarians, livestock producers, the general public and other government agencies.

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Abbotsford, B.C. V3G 2M3
Phone: 604-556-3003
Toll free: 1-800-661-9903
Fax: 604-556-3010

E-mail: PAHB@gov.bc.ca

Sources:

1. Cassirer, E. F. et al. (2018). "Pneumonia in bighorn sheep: Risk and Resilience. *Journal of Wildlife Management*. 82(1): 32-45.
2. Manlove, K. R. et al. (2019). "Risk factors and productivity losses associated with *Mycoplasma ovipneumoniae* infections in United States domestic sheep operations." *Preventive Veterinary Medicine* 168: 30-38.
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Currently there are no antibiotics proven to eliminate *M. ovi* carriage and shed in domestic sheep and goat flocks. Antibiotic treatment of a flock or herd to try to clear *M. ovi* that is not currently experiencing clinical signs of respiratory disease is not recommended by the Province of BC at this time. Please contact the Animal Health Centre if you have any concerns or questions.



Because *M. ovi* is so difficult to get rid of once a flock/herd is infected, if your flock or herd is *M. ovi* negative having good biosecurity practices, limiting and/or pre-testing and quarantine of all new arrivals (consult your veterinarian and/or the Animal Health Centre for testing recommendations) is strongly recommended.

What can I do to help protect wild sheep and goats from *M. ovi* carried by my flock/herd?

- Avoid housing or grazing domestic sheep and goats where there is risk of contact with wild sheep/goats. An interactive map of Bighorn and Thinhorn sheep ranges can be found here: <https://catalogue.data.gov.bc.ca/dataset/bc-wild-mountain-sheep-registry-distribution>.
- Make sure domestic sheep/goats are confined to well-fenced areas. Ideally with a double fence, at least one of which is 2.6m high, with a space in-between to prevent nose-to-nose contact with wild sheep/goats.
- Test your flock/herd for *M. ovi* and if your flock/herd is negative practice good biosecurity to keep it that way.
- Have guardian animals to minimize the risk of contact with wild sheep/goats.
- If you do see wild sheep mingling with your flock/herd contact RAPP at 1 877 952 7277 as soon as possible. Depending on the circumstances, that wild sheep may need to be culled to ensure it does not carry *M. ovi* back to its herd.

Wildlife Contact Information

If you see a wild sheep or mountain goat mingling with or near your domestic animals, Call RAPP at **1 877 952-7277** or #7277 on the TELUS Mobility Network or report online <https://forms.gov.bc.ca/environment/rapp/>

All other wildlife health inquiries can be directed to the **B.C. Wildlife Health Program:** <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-health>

Sources:

1. Cassirer, E. F et al. (2018). "Pneumonia in bighorn sheep: Risk and Resilience. *Journal of Wildlife Management*. 82(1): 32-45.
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