MYCOPLASMA

NBA Mycoplasma bovis Fact Sheet – May 2022

2021 CASE COUNT: 21 herds with confirmed cases in 10 states, according to the Mycoplasma Task Force with the Center of Excellence for Bison Studies at South Dakota State University.

Disclaimer: *The National Bison Association assumes no responsibility for the below content, provided for informational purposes only. This content is based solely on anecdotal information from volunteers in the bison industry who have experienced losses due to Mycoplasma bovis as the science of M. bovis in bison advances.*

CONDITIONS THAT MAY CAUSE INCIDENTS OF M. BOVIS

- Drought, poor pasture and water conditions.
- Crowded, dusty, high-stress environments.
- Excessive wildfire smoke.
- Any type of stress — environmental, nutritional, behavioral, etc.
- Parasite loads or other causes for a depressed immune system.

SIGNS AND SYMPTOMS

Symptoms may depend on the primary type of infection. The two most common areas of infection will occur in the throat (upper respiratory) or lungs (lower respiratory). The animal can be infected in both places, but the early symptoms appear different depending on the primary infection site, but usually include coughing, sneezing, or runny nose. In some cases, the primary site is localized to leg joints, uterine tissue, mammary system, eyes, and other places, but these outbreaks seem less common. Symptoms may also be systemic and appear widespread in the animal's systems upon necropsy.

Bison infected with M. bovis can deteriorate very quickly. These photos are of the same bull. The one of the left was taken on July 3. On July 26, the bull began showing signs of illness. The photo on the right was taken 17 days later, on August 4.

- Animals will tend to separate themselves from the herd.
- General lethargy.
- Poor posture — animals will appear uncomfortable and "humped up".
- Dull eyes — "40-yard stare". Animals may appear introspective and have no interest in surroundings or other animals.
- The throat area may appear swollen, and animals may extend their neck to help increase air intake. Difficulty breathing may be apparent.
- Animals don't move willingly. If they move, you may observe a jerky gate or "short stepping" in the front legs, a possible result of lungs adhering to the ribcage, so the animal doesn't want to take big steps with front legs. Joints may appear swollen, thus making moving painful and difficult. Additionally, animals are slow to move, limping and guarding extremities, usually from severe arthritic pain.
- Noticeable swelling and weeping around eyes/orbital sockets.
- Thick pus may be observed in the corner of the eyes.
- Pacing, or walking by moving the feet on the same side instead of the normal four-beat alternating gait.

Thick pus in the corner of the eyes.

Primary infection site is unusual to be on the face.

Primary infection site on the mammary system.

MANAGEMENT SUGGESTIONS

- Use caution when bringing in new animals, especially if the new arrivals are from an open herd. If possible, isolate new animals for a quarantine period (e.g., 30-days) before introducing them into the herd.
- After identifying suspect symptoms, separate infected animals from the herd as quickly as possible. Try to maintain a 100-yard minimum distance from healthy animals, ideally downwind.
- Keep animals out of dusty or wet conditions whenever possible.
- Limit stress on the animals. Keep hay and water within reach and consider providing ample free choice or lick-block minerals.
- Slaughter is a reasonable option — rapid euthanasia can help prevent the spread to other animals. If this choice is made, the earlier it's done, the better, and if harvesting for meat, the sooner, the better to increase salvage value.

ACTION PLANS

- Autogenous vaccines are available, but strain mutation, outbreaks in vaccinated herds, and poor etiology understanding have raised vaccine efficacy questions. While vaccination with an autogenous Mycoplasma vaccine won't harm animals, understand that it may or may not be effective.
- Consult with your veterinarian as needed to perform a necropsy on deceased animals and collect samples to send in for analysis so the strain of M. bovis can be identified and documented. The requirement of high quality samples for laboratory submission to confirm diagnosis may necessitate the euthanizing of an affected animal or multiple animals for necropsy and tissue collection.
- Document all cases in your herd through photographs, dates, weather and management conditions, and necropsy results.
- Contribute to ongoing research by completing the Mycoplasma Anecdotal Interview (available on bisoncentral.com) and return it to Karen@bisoncentral.com.
- Affected producers may be eligible for financial assistance for animals lost to M. bovis. Visit the Livestock Indemnification Program to learn more: https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/livestock-indemnity/index or Farmers.gov recovery resources: https://www.farmers.gov/protection-recovery.

Hardening of the lung and adhesion to the rib.

Lesions on the lungs.

Lesions present on the roof of the mouth.

Lesions in the throat area.

Swollen joints that accompany Mycoplasma.

Infection in the joint.