Mycoplasma bovis: Managing the bull risk

Infected bulls or bulls that have been in contact with infected cows are a major risk factor for the spread of Mycoplasma bovis.

At the present time testing for Mycoplasma bovis is commercially available, but because of the way Mycoplasma interacts with the host animal false positive and false negative results to these tests are possible. This makes introducing any new animal to an uninfected farm a risk.

It is this risk that is the most important thing to manage.

Bull Risk Management

Bulls being purchased for use as breeding bulls should be:

1. Sourced from properties where bulls have been maintained in a closed herd. Ideally bulls will have been born on the property, they will have been kept isolated from neighbouring stock and not co-mingled with bulls introduced from other properties. The NAIT history will be complete.
2. Sourced ONLY from currently uninfected (as far as is possible to ascertain) properties i.e. properties that have not allowed co-mingling with any animals that have NAIT trace-back or other link to any known infected, or MPI- controlled property.
3. Transported in isolation in clean trucks. Bulls from different farms should be transported in separate trucks.
4. Maiden bulls. Ensure they have not been used in heifers or carryovers previously.
5. On farm at least 7 days before being joined with other animals.

Testing Bulls for Mycoplasma

The accuracy of Mycoplasma testing relies on the animal shedding the bacteria at the time of testing. Shedding means the bacteria is alive and replicating.

Infected animals that are not shedding at the time of testing or showing clinical disease can be difficult to identify. Test results are ONLY reported as either positive or not detected.

If bulls meet any one of the below criteria

- Have at any stage been in contact with known Mycoplasma infected animals
- Have NAIT trace-back or any other link to known potentially infected (restricted place notice (RPN) or notice of direction (NOD) properties.
- Have had contact with neighbouring stock that may be on NOD or RPN properties or that have had ANY contact with possibly infected animals.

We recommend testing these bulls BEFORE purchase AND movement to your property.
Which Test?

1. Currently the most accurate test is the polymerase chain reaction test (PCR) that detects bacterial DNA.
2. The two sites for testing are the tonsillar (throat) area which is recommended in R1 bulls or the prepuce (penis sheath) which is recommended in R2 animals.
3. Good restraint facilities are required for these tests.
4. Blood tests are not reliable and are not currently available. This is currently being reviewed by MPI.
5. A positive PCR test should always be interpreted as positive and ALL bulls in the testing cohort should be rejected. Repeat tests are not necessary and all positive results will be reported to MPI.
6. Results that state “not detected” only state that Mycoplasma bovis was not detectable in that animal at the time of testing. It does not mean the animal is negative. Repeat tests will be necessary.
7. A repeat test interval should be a minimum of three weeks.
8. Taking the swabs is a skilled procedure, is dangerous and should ONLY be done by a veterinarian.
9. Please talk to your vet clinic regarding the cost of the testing.
10. The turnaround time for a result from the commercial laboratories is currently around 1 week.

Isolate Bulls First

When the bulls arrive on farm they should be held separately from the main herd for at least 7 days to enable daily assessment of their health status. If you have any concerns about the health of the bulls during this period please contact your veterinarian before mixing the bulls with any other stock.

On Line Resources


Because of the difficulty of performing the tests, the lack of accuracy and the costs, we recommend a thorough risk assessment be done on all bull purchases.
Risk Assessment

Where are your bulls coming from?

a. Closed herd - no incoming bull or other cattle movements
b. Open herd - incoming bull and other cattle movements and co-mingled with others

If bulls are coming from a closed herd which meets ALL the following criteria:

- No known history of M. bovis on that property
- No clinical sign of disease
- No infected neighbouring stock
- No high risk stock movements
- Secure property boundaries
- Good historic farm biosecurity
- NAIT compliant

➤ LOW RISK – these bulls may be purchased and used without testing

If bulls are coming from a closed herd BUT

- There is possibly some risk of infection through neighbours etc. (NOD/RPN)
- There has been introduction of other bulls or cattle from unknown status properties in the past 12 months
- There has been disease characteristic of M.bovis (unresolvable pneumonia, joint infections, ear infections, mastitis).
- NAIT compliance is unknown
- Boundary security may have been breached
- Biosecurity measures have only recently implemented

Test the bulls you intend to purchase.

If test results on all bulls are reported as NEGATIVE and there have been no clinical signs of M.bovis – use these bulls at your own risk.

If test results on any bull are POSITIVE, reject all bulls.

Maintain bulls in isolation while testing
If bulls are coming from an open herd with regular stock movements.

- If ANY bulls have been in contact with or originate from any known Mycoplasma bovis infected property, RSP or NOD property

**Do NOT use these bulls**

- If bulls have ever been co-mingled with other bulls/cattle from other properties with unknown M.bovis infection status

**Test all bulls you intend to use.**

If test results on any bull is **POSITIVE** reject all bulls.

If clinical disease characteristic of M.bovis (joints, ears, lungs) is or has been present, regardless of the test result reject all bulls.

**Maintain bulls in isolation while testing**

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**Managing Mycoplasma risk from bulls**

**We recommend**

1. Perform a detailed risk assessment.
2. Use maiden (virgin) bulls.
3. Use bulls from sources as described above and tested as above.
4. Use maiden bulls for R2 heifers at a higher bull: heifer ratio (1:22 non-pregnant heifers).
5. Avoid using older co-mingled untested bulls as herd chasers. Make sure this group of bulls has been through a thorough risk assessment and has been held in isolation on your farm for 7 days before being used.

**Purchase bulls early**

1. Select bulls and apply risk management strategy early. Test as above if necessary.
2. Blood test for BVD antigen and antibody. Reject BVD antigen positive bulls.
3. Vaccinate bulls for IBR, BVD and Leptospirosis.
4. Transport bulls on clean trucks that have not been recently transporting stock with unknown infection status.
5. Insist on NAIT compliance and correct documentation.
6. Insist on ASD documentation.
7. Once on farm keep your new bulls in isolation for at least 7 days.
8. Allow socialization and monitor for signs of ill health.
9. Any bulls with signs of ill health MUST be examined by a veterinarian.