

About Bulk Tank Milk (BTM) screening

Why does the *Mycoplasma bovis* Programme do bulk tank milk (BTM) screening?

The routine screening of bulk tank milk samples for indications of *Mycoplasma bovis* (*M. bovis*) infection has contributed significantly to the progress made towards eradicating *M. bovis* from New Zealand.

Bulk tank milk screening has been conducted regularly since July 2019. It provides an opportunity for the *M. bovis* Eradication Programme to identify infected dairies outside the traced network of infected farms.

Background surveillance (BTM screening and National Beef Cattle Surveillance) will continue throughout all phases of the Programme and will be a key component in providing the confidence that *M. bovis* has been eradicated from New Zealand.

How is OSPRI able to test bulk tank milk samples?

Under the Biosecurity (National *Mycoplasma bovis* Pest Management Plan) Order 2024 that came into on 1 January 2025, all transporters of raw milk to dairy processors are required to submit bulk tank milk samples for *M. bovis* testing to an approved laboratory (Rule 10). Suppliers of raw milk for human consumption to others who are not dairy processors are also required to submit bulk tank milk samples for testing (Rule 11).

Why is screening being done year-round?

Many factors influence our ability to detect antibodies produced by infected cows. Factors include the number of infected cows contributing to the milk supply, the stage of infection, average milk production per cow and vat volume.

Ongoing screening is important to identify recent infection. Throughout the milking season there are many opportunities for *M. bovis* to enter a herd, background surveillance including buying in new stock, heifers returning from grazing, introduction of bulls, and break-ins from neighbouring properties. To eradicate *M. bovis* from New Zealand, we need to be constantly scanning for evidence of infection.

Regular screening is conducted throughout the year, with increased frequency during July, August, and September.

An analysis of BTM screening data has shown that the ability of our test to detect infection (sensitivity of the test) is highest in the first 30 days of milking. With heifers entering the milking herd for the first time during these months, there is increased opportunity for us to detect infected animals quickly when we test on a fortnightly basis.

It is important that dairies are screened at different stages of the lactation cycle to give us the best chance of detecting infected dairies.

How does BTM screening work?

The initial screening test used is an ELISA (enzyme-linked immunosorbent assay). The ELISA looks for antibodies that the cow has made to fight off *M. bovis*. Antibodies produced by the cow will end up in milk. The ELISA test has been designed to be highly targeted to detect *M. bovis* antibodies.

If a bulk tank milk sample is reported with a 'detect' result, this means that there is an indication that antibodies are present. This is not confirmation of infection. A detect result indicates that further on-farm investigation by the Programme is required to determine the disease status of the milking herd.

How reliable is the test?

Over 99.6% of all dairies screened with the ELISA have non-detect results. This is due to a low number of infected dairies throughout the country and the high specificity of the test.

Less than 0.4% of all dairies screened give a detect result.

A highly specific test gives an extremely low rate of false-positive test results. There is no evidence that antibodies to other bacteria found in New Zealand cause detect results on the ELISA test. Antibodies to other pathogens such as those that cause leptospirosis and tuberculosis are also unlikely to result in a false positive ELISA test result.

We don't know exactly what causes false-positive results on the bulk tank milk screen. However, we do know that farms with a detect result are at a higher risk of being infected than farms with a non-detect result. This is why we need to investigate all detect results. It is essential that bulk tank milk screening continues to help find any remaining infected farms.

Do I need to take any extra milk samples for bulk tank milk surveillance?

No, the screening is performed on samples routinely collected and submitted for composition and component testing. The *M. bovis* testing does not interfere with the testing needed for milk payments or other food safety requirements.

What determines a detect result?

A herd is considered to have an ELISA 'detect' result if a single sample has an ELISA sample-to-positive (S/P) ratio of 30% or more, or two consecutive samples with an S/P ratio of 20% or more.

We regularly review detect thresholds using BTM screening data to ensure follow-up investigations are only undertaken when necessary and farming operations are not disrupted without good reason.

What happens if my farm has a detect result?

Blood sampling and testing of the milking herd is required to determine the herd's true *M. bovis* infection status.

Following the Programme's shift to the Confidence of Absence phase in December 2025, which reflects the low likelihood of undetected infection remaining in New Zealand, BTM detect results are considered low-risk and are managed under Active Surveillance. While the likelihood of infection is now very low, continued surveillance is essential to maintain confidence in the Programme's eradication outcome and to ensure any remaining infection is detected promptly.

This means that farms can continue operating as usual, with no movement restrictions routinely applied. We appreciate that sampling can still be disruptive, particularly during busy periods such as calving. We assign a designated Case Manager, who will be the primary point of contact.

We work with farmers to get the blood sampling done as quickly as possible, and at a time that fits alongside normal farm operations.

Most herds require only one round of blood testing to confirm they are not infected. If test results indicate that *M. bovis* may be present, at least one additional round of blood sampling will be required. It takes two positive rounds of on-farm sampling for a herd to be confirmed as infected.

Although movement restrictions are not routinely applied following a BTM detect result, the Programme may still impose restrictions where there are additional reasons to suspect infection or where there is an increased risk of disease transmission. Any restrictions would remain in place until testing and investigation confirm that the herd is not infected.

Which cows are you going to sample?

The sampling criteria are specific to each farm and determined by the makeup of the different animal management groups on the farm, and which animals were supplying into the bulk tank within the same milking season that the sample was taken. Because each farm's sampling is different, the sampling team

that takes the samples and your Case Manager will talk to you about which animals are required to provide samples.

The sampling is designed to determine if the management group is infected, rather than individual animals, which is why not all animals may need to be tested. All cattle in the sick mob will be tested.

Can a farm have multiple detect results?

The risk of *M. bovis* to farms can change over time as new cattle are introduced. Animals may have been co-grazing, bulls introduced for mating or there have been breakouts or break-ins with neighbouring stock. This is why the BTM screening occurs throughout the season - to continuously monitor for new incursions into milking herds. A further detect result may signal new infection within the herd. All detect results need to be considered, even if the farm has previously tested negative.

Bulk tank milk ELISA screening has been operating regularly since 2019. As dairies are repeatedly screened, there is a small chance that a farm may have more than one detect result over time. The number of detect results reported are extremely low and the number of dairies with more than one detect result are even fewer.

We consider every bulk tank milk detect result on a case-by-case basis. A prior negative on-farm result does not rule out the need for us to come back on-farm and test for a subsequent detect result, particularly if there has been any opportunity for the introduction of infection since the last investigation.

The decision to return to a farm for further testing is not made lightly. A number of factors are considered, including the time elapsed since the last investigation and any associations the farm has had with previously infected farms.

Is there compensation for losses?

Farmers may be eligible for compensation for certain losses incurred while under a movement restriction. Information about compensation can be found on the OSPRI website: www.ospri.co.nz.

Your Case Manager will be able to provide guidance, but compensation queries should be directed to the MPI Compensation Coordinator:

Phone 0800 008 333

Email compensationcoordinator@mpi.govt.nz

For more information

If you have any questions, please contact the OSPRI Customer Support Centre:

Phone 0800 482 463

Email info@ospri.co.nz

For more information on the *M. bovis* Eradication Programme, please visit: www.ospri.co.nz