NZVA
New Zealand Veterinary Association

Position statement: Commercial testing for *Mycoplasma bovis*

The New Zealand Veterinary Association (NZVA) does not support the use of commercial testing (in this context, meaning the polymerase chain reaction (PCR) and the enzyme-linked immunosorbent assay (ELISA)) for detection of *Mycoplasma bovis* (*M. bovis*) in individual animals.

The NZVA has a number of concerns relating to use and interpretation of the current tests, and considers that the limitations of commercial testing for *Mycoplasma bovis* are not sufficiently understood by potential end-users. The concerns of the NZVA include:

- A single test used on an individual animal cannot reliably determine infection status in that animal (and therefore herd) because of known pathogen behaviour – that is, *M. bovis* is known to be shed intermittently, can be shed from a number of different sites, and exhibits variable lag-time between initial infection and detectable shedding/seroconversion.
- Any test may result in false positive results – that is, a positive test result from an animal that is not infected. The ELISA tests are particularly prone to false positive results due to cross-reactivity with other *Mycoplasma* species.
- Any test may result in false negative results – that is, a negative test result from an animal which is infected. The ELISA tests are particularly prone to false negative results due to delay in seroconversion after initial infection. Appropriate sample storage and handling is also essential to prevent false negative results.
- Interpretation of ELISA test results is further complicated by a lack of understanding regarding when seroconversion occurs, particularly across a herd (where individual animals will be at different stages of seroconversion). There is also a lack of understanding regarding antibody persistence, which makes interpretation of 'marginal' titres difficult.
- All positive or suspect positive test results are automatically referred to the Ministry for Primary Industries (MPI). However, MPI gives no assurance that positive tests will be followed up by the Eradication Programme, meaning a farm may be left "positive" with no facility to understand that status any further.
- There is a need for farmers to better understand the effects of positive PCR tests on compensation (individual animals identified as positive are compensated at meat – not market – value).

It is the view of the NZVA that access to commercial testing should be limited to herd-level testing where there is reasonable benefit, such as:

- based on herd risk assessment where high-risk activities have been identified; and/or
- when undertaking large transactions (for example, herd sales; ascertaining herd of origin status before buying service bulls).

It is critical that if commercial testing regimes are made available, they are appropriate to allow results to be accurately interpreted by end-users. This includes consideration of the number and class of

animals tested, sampling sites, test type, sampling timeline (including repeat testing), sampling technique and handling, and any other relevant details.

This is essential to ensure any results obtained are an accurate reflection of herd infection status, and importantly, avoid erroneous results (such as, false positive and false negative results) that could impact the MPI Eradication Programme.