



MPI RESPONSES TO KEY TAG RECOMMENDATION

TAG RECOMMENDATION	MPI RESPONSE
<p>Undertake progressive real-time PCR evaluation of bulk tank milk and discarded milk from all dairy herds, commencing in the lower half of the South Island. If all herds in this region other than known IPs are found to be negative, expand testing throughout the country until all herds have been tested nationwide.</p>	<p>A national milk sampling programme is underway in conjunction with dairy companies and Dairy NZ. The initial testing of bulk milk from all New Zealand dairy herds is at least 98 percent complete, and the second and third rounds of testing reject milk are progressing well.</p>
<p>If any herds test positive in this real-time PCR evaluation, investigate urgently, in order to facilitate a decision on whether to proceed with eradication.</p>	<p>Any farms that are found to be positive immediately have controls placed upon them while an investigation is undertaken to determine whether the farm is linked to other infected places.</p>
<p>Refine the ELISA test, if possible, and determine whether it can replace or supplement the real-time PCR assay in some parts of the testing program, without loss of diagnostic accuracy. (ELISA – Enzyme-Linked Immunosorbent Assay – a test used to screen cattle blood for antibodies to <i>M. bovis</i>)</p>	<p>The Intel and Diagnostics teams are working to refine the finer points of the ELISA testing, including assessing cut-off values used to define positive animals. For some groups of animals the real-time PCR will continue to be our front-line test (e.g. bulk milk surveillance) however, as the response has progressed, our confidence in the ELISA testing has grown and in some places we have been able to replace or supersede real-time PCR testing.</p>
<p>Investigate IP10 (first infected farm detected in Southland) to identify likely sources of infection, and whether it is epidemiologically linked to the South Canterbury group of herds. Give top priority to isolating <i>M. bovis</i> from this herd, and use Multi-Locus Sequence Typing and whole genome sequencing to determine whether the same strain is present on both South Canterbury and Southland herd complexes.</p>	<p>Since the TAG first met in December 2017, MPI has progressed tracing on and off of IP10, and has confirmed multiple movements of stock, either directly or indirectly, going both directions, between the South Canterbury and Southland herd complexes. The route and timing of <i>M. bovis</i> movement between these groups of farms is still being explored by using tracing timeline data, NAIT data, and epidemiology on-farm interviews to confirm movements.</p> <p>Very preliminary results from whole genome sequencing suggest samples from different New Zealand sites appear to be the same, suggesting a single introduction. Much more work is needed to confirm these initial findings.</p>
<p>Investigate possible entry mechanisms for the incursion in greater depth, especially the alternative hypotheses put forward by the TAG as a result of information gathered during the TAG meeting.</p>	<p>MPI Compliance has taken on this task – however until it is determined which farm group was the original entry point this issue is difficult to address.</p>
<p>Prepare a policy assessment by the end of February 2018, evaluating the relative epidemiological and economic merits of eradication versus alternative control strategies outlined in this report, and any other strategies that appear appropriate in the light of findings emerging from the investigations in the above recommendations.</p>	<p>Policy assessments of the control options for this disease are being developed by MPI in collaboration with industry representatives, epidemiologists and economic analysts. Key pieces of information that are still being gathered include the full extent of the known network of infected properties and the results of the national milk survey.</p> <p>MPI is modelling economic impacts and possible response costs under different scenarios.</p>

TAG RECOMMENDATION	MPI RESPONSE
<p>Resolve major deficiencies in the practical operation of the National Animal Identification and Tracing system (NAIT) and in information systems available to the Ministry for Primary Industries for managing incursions and control activities.</p>	<p>This issue is one the <i>M. bovis</i> response has highlighted, and the issues experienced will feed into a review of NAIT that is already underway. Improving NAIT lies outside scope of the response, and will likely not occur without changes to farmer usability and enforcement measures.</p> <p>MPI is imposing checks to ensure animals being moved northward across Cook Strait are NAIT-compliant.</p>
<p>Aim to complete eradication by mid-May 2018, if that is the chosen strategy.</p>	<p>The decision about whether to attempt eradication or not will be made before mid-May. The scale of the network of infection has increased considerably since the TAG met in December 2017 and it has taken time to identify and test the large number of farms that had received animals from infected Southland farms. All properties that are identified as infected or suspected to be infected are placed under control notices in order to prevent disease from spreading off the property, which helps to ensure that eradication remains as viable an option as possible.</p>
<p>Maintain national surveillance for 3 to 5 years after completion of eradication, to detect any emergent foci of infection, which are most likely to arise from animals infected during the rearing phase, before first lactation.</p>	<p>This continues to be a Response expectation, and will be necessary to prevent recurrence from “silent carrier” animals that may escape detection in the initial response. This timeframe is included in the Operational Specifications of the Response.</p>
<p>As part of this surveillance, ensure that the risk of infection being maintained in animals born in infected herds but not yet lactating is given adequate attention within the post-eradication surveillance program, including the possibility that they may infect animals with which they are comingled during rearing.</p>	<p>This is an issue that is being seriously addressed, and the improvement of ELISA and DNA testing (which is ongoing as the response progresses) will help inform how best to detect “silent carrier” animals in the event that eradication occurs and we move to a “post-eradication” surveillance scenario.</p>