Review of the Australian Johne's Disease Market Assurance Program for cattle (CattleMAP)

An assessment of the performance of CattleMAP, examination of attitudes, beliefs and desires of stakeholders and exploration of options and alternatives ways to assess risk for presence of Johne's disease in cattle

Herd Health Pty Ltd

2016

65 Beet Road Maffra VIC 3860 Australia
Ph: +61 3 5147 0307 Mob: +61 418 515 498
info@herdhealth.com.au www.herdhealth.com.au

Executive Summary

CattleMAP physical performance was assessed using computer simulation modelling and from analysis of breakdown herds. This demonstrated that CattleMAP was technically meeting the primary objective of providing suitably low risk cattle to the market.

Conclusion 1: CattleMAP is meeting the stated goal of providing low-risk cattle to the market. The program therefore facilitates the movement of low-risk cattle between regions and provides a reliable mechanism for demonstrating the low risk status of accredited herds.

There is an ongoing exodus of producers from CattleMAP. Membership is now below 500 herds and declining. CattleMAP is now having an immaterial impact on the control of disease or the movement of low-risk cattle. This is unsustainable and the trend will need to be reversed or a replacement approach identified and implemented. Producer beliefs about CattleMAP do not support continuation of the program. Too few members reported realising their desired benefits of accessing restricted markets and identifying low-risk herds for purchasing stock.

Conclusion 2: The most important drivers for members to remain in CattleMAP were the (realised) benefits of access to otherwise restricted markets and for identifying low-risk herds for purchase of cattle.

Individual drivers for members to leave CattleMAP varied but were consistent to a theme of insufficient benefit from membership. Whilst most producers wanted greater access to otherwise closed markets and to achieve better prices for their livestock few reported consistently receiving these benefits. Most producers believe the current impact of a detection to be far greater than the real impact of (undetected) infection in a commercial herd. The value proposition of ongoing membership (with inherent risk of a detection) became insufficient for them to continue. Many producers who experienced a 'false positive' said they would rather leave and have no status than go through that stressful experience again. Non-member cattle producers also expressed ambivalence about Johne's disease. Most do not worry about infection and do not seek accredited herds from which to buy replacement animals.

Conclusion 3: The main drivers for members to leave CattleMAP were the lack of real or perceived benefits of improved market access and price advantage. This was variably expressed as limited client demand for accreditation through to concerns about regulatory impact in infected herds. Many respondents believe the regulatory impact of disease detection would outweigh the real cost of disease should they become infected – making removing themselves from a regular testing program to be a more rational decision. Members with 'false positive' reactors report the stress of the process to regain status far outweighed the benefit received. Most reported that they would never submit themselves to such stress again.

The low membership of CattleMAP means the program does not make a material difference to Johne's disease management at the state or national level. Cattle producers report that there is insufficient benefit arising from CattleMAP accreditation to encourage ongoing participation. CattleMAP veterinarians also do not see value being returned to their clients. Most state coordinators did not see that the ongoing involvement of their government was a useful spend of government resources. No stakeholder sees long-term benefit from the current manifestation of CattleMAP.

Conclusion 4: CattleMAP should not continue in the current format. The reduced number of members, the overwhelming dissatisfaction of current and ex-members with the process, the ambivalent support of veterinarians and the general lack of demand by commercial producers for accredited stock prevents the continuation of CattleMAP.

The patchy distribution of infection and disease around Australia implies that there will be a requirement and demand by some jurisdictions and producers for a system that can identify low-risk cattle and herds. The movement towards a property-based risk assessment program that underpins the marketing of livestock is recommended and this PIC-based system should combine the known risks associated with the consignment. These risks are the intrinsic (i.e. enterprise and region) risk, the evidence of infection (i.e. the clinical disease history and/or the animal testing evidence) and the risk of current or recent infection (i.e. the biosecurity practices of the property). It is important that herds known to be currently infected have opportunity through biosecurity, culling and other control measures to be able to return to at least the status of non-assessed herds at reasonable cost. The shift in emphasis towards clinical disease and away from serological sampling is recommended. The role of vaccination in any accreditation process must be acknowledged. Vaccination is a recognized and encouraged control component for infected sheep flocks and local field data suggests that vaccination can reduce the prevalence and incidence of infection and disease in infected dairy herds. The recognition of the role of vaccination as a prevalence knockdown tool and to ensure consistency between the different species is recommended.

Conclusion 5: CattleMAP – or the replacement program – should apply a risk-based approach to disease management. Risk is best assessed as a semi-quantitative combination of herd type and location, disease and testing history, herd management and biosecurity practices. Vaccination must be recognised as a disease control strategy with capacity to reduce infection prevalence in infected herds. As such it must be recognised within any risk-based animal trading framework.

Johne's disease presents a series of unique characteristics that have required the herd-level accreditation of risk for presence of disease. This is primarily due to the low prevalence in infected herds, long lag until clinical disease, very low sensitivity of individual animal tests – especially in the early phases of disease, and the long lag time for investigation of potential false positive tests. The 17 major endemic diseases of cattle discussed in the *Priority list of endemic diseases for the red meat industries* (Meat & Livestock Australia project B.AHE.0010) were assessed against criteria that would necessitate the use of herd-level assurance to accredit individual animals and against the distribution of disease, the economic impact of disease and the key epidemiological features of the disease that make sale cattle the

primary vector for spread (and control) of disease. No disease met the criteria for inclusion into an expanded CattleMAP.

Conclusion 6: Expansion of CattleMAP to other diseases is not supported. All other major endemic cattle diseases possess either suitably sensitive and specific individual animal diagnostic tests; involve non-cattle vectors in spread; have effective controls/treatments; or have an incompletely mapped epidemiology.

We recommend the closure of CattleMAP but only by replacing with a risk-based trading system. The replacement system should allow producers to purchase cattle of known risk for infection with disease. It is important that the replacement system does not discourage the control of Johne's disease in herds. In the absence of effective individual animal tests the replacement program must provide an achievable pathway out of the infected status for herds. A system based on biosecurity and the presence of clinical disease and/or herd-level tests for the presence of the bacteria are recommended. The replacement program must recognise – if not encourage – the use of vaccination in endemically infected herds and regions. Large-scale vaccination will likely provide a reduction in regional prevalence and this offers consumer protection. Vaccination uptake will be dependent upon fair recognition by the trading program and demonstrable cost-benefit from use in Johne's disease control in commercial herds.

Conclusion 7: Recognition of the role of vaccination in reducing disease and infection in endemic herds should be supported by any replacement program for CattleMAP.