Extract from the Risk Management Proposal relevant to *Mycoplasma bovis*

Options for management of risk presented in the 2009 import risk analysis for bovine germplasm:

The import risk analysis states that the risk for exotic Mollicutes is non-negligible and hence risk management measures are justified. This was based on studies which have shown that *Mycoplasma bovis* may be isolated from germplasm (Eder-Rohm 1996\(^1\); Irons et al 2004\(^2\)). It had also been demonstrated that *Mycoplasma* species readily attach to the zona pellucida and are not efficiently removed by washing (Bielanski et al 2000\(^3\)). In addition there had been concerns that the antibiotics currently used in semen extenders and embryo wash solutions are not always effective (Bielanski et al 1989\(^4\)).

On the basis of this, options for the management of risk were presented.

- Monitor literature to see whether resistance to various antibiotics is reported, and revise the requirements for the antibiotics to be used in semen extender and embryo wash solutions as necessary.
- Culture of germplasm prior to addition of antibiotics. This option would preclude import of product not specifically prepared for New Zealand, i.e. ‘on shelf’ product.
- Culture of germplasm after addition of antibiotics. This option would be less rigorous than the last but would allow the importation of frozen germplasm that has already been processed and is available “on shelf”.

Other risk management considerations:

After concerns relating to the virulence and effect of *Mycoplasma bovis* and since New Zealand's dairy sector is demonstrably free of *M bovis*, additional risk management measures were initially included in the IHS. These measures are additional to those currently in place and that have been in place for at least the past eight years. The current measures require that antibiotics be added to germplasm.

Investigations subsequent to submissions received on the draft and provisional IHS have however shown that:

- Although studies have shown *M bovis* can be isolated from germplasm and that germplasm treatments are not always deemed to be effective, published data demonstrating the transmission *M bovis* via insemination of commercially collected germplasm is lacking.
- The current IETS manual states that there have been no substantiated reports anywhere in the world of disease transmission to uninfected recipients by commercial transfer of in-vivo derived embryos.

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Despite *M. bovis* being present in Canadian cattle, over a six year period from 1979 to 1984 a total of 2951 samples of unprocessed semen samples from AI centres in Canada was tested for *M. bovis* with no positive results (Garcia et al, 19865).

Over the past 10 years more than 1.5 million doses of germplasm have been imported into New Zealand and implanted into cattle. This has not resulted in a discernable introduction of disease attributable to *M. bovis*.

In addition there are potential implications for trade if these additional risk management measures are implemented. These are:

- Potential detrimental impact of additional *M. bovis* measures on germplasm imports. Owing to a lack of *M. bovis* testing capability abroad and the resistance to implementation of the proposed measures by overseas authorities, the inclusion of *M. bovis* measures may lead to a restriction of New Zealand eligible semen and hence a smaller range of genetics available to the New Zealand industry.
- Negative effect on New Zealand trade. The proposed measures are not the least trade-restrictive option and hence are not in keeping with New Zealand’s international obligations.

Based on these factors MAF has now decided that these additional measures for *M. bovis* will not be included in the IHS.

Nevertheless despite no additional measures for *M. bovis* being included in the IHS, the putative risk remains. Hence MAF will undertake further studies on the need for measures and reserves the right to reinstate additional measures. This further assessment may include surveys of imported germplasm, a risk/impact assessment dedicated to *M. bovis* and/or further *M. bovis* microbiological surveys of New Zealand’s livestock, including the beef sector.

**IHS Recommended options:**

Require preparation of germplasm in accordance with the recommendations of the OIE Code chapter on collection and processing of bovine semen, and the OIE Code chapter on collection of embryos of livestock, including the use of suitable antibiotics in semen diluents and embryo washing media.

The IHS will state:
Donors have never recorded a positive test for *M. bovis*.

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