# *Import risk analysis: Babesia gibsoni* in dogs (*Canis familiaris*) and dog semen

**REVIEW OF SUBMISSIONS**

**Biosecurity Authority**
**Ministry of Agriculture and Forestry**
**Wellington**
**New Zealand**


**1 October 2003**

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Animal Biosecurity
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## Review of submissions

1 October 2003

Approved for general release

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Biosecurity Authority

LIST OF ABBREVIATIONS

| | |
|---|---|
| AFFA | Agriculture, fisheries and forestry-Australia |
| AQIS | Australian Quarantine and Inspection Service |
| CAS | Companion Animal Society, New Zealand Veterinary Association |
| DoC | Department of Conservation |
| GDASANT | Guide Dogs Association of South Australia & Northern Territory Inc. |
| IFAT | Indirect Fluorescent antibody Test |
| MoH | Ministry of Health |
| NZKC | New Zealand Kennel Club |
| NZFSA | New Zealand Food Safety Authority |
| NZGRA | New Zealand Greyhound Racing Association Inc. |
| RGB | Royal Guide Dogs for the Blind Association of Tasmania |
| RNZFB | Royal New Zealand Foundation for the Blind |
| SPCA | The Royal New Zealand Society for the Prevention of Cruelty to Animals Inc. |

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# EXECUTIVE SUMMARY

This document is a review of submissions on a MAF risk analysis on the blood parasite *Babesia gibsoni* in dogs, which was carried out by MAF in 2002.

*Babesia gibsoni* has been identified as a potential hazard in the generic cat and dog import risk analysis that is currently being undertaken by MAF, and since approximately 70% of dogs imported into New Zealand come from Australia, the recent occurrence of clinical cases of *B. gibsoni* in Australia lead to a need for a separate risk analysis to determine whether safeguards were required immediately.

The risk analysis recommended sanitary measures to minimise the likelihood that dogs would be carrying *B. gibsoni* when given a biosecurity clearance in New Zealand. Semen was also considered and was determined not to require safeguards.

The risk analysis was released for public consultation in March 2003, and MAF received 29 submissions.

As several early submissions raised uncertainty over the likelihood that the New Zealand cattle tick, *Haemaphysalis longicornis,* would be a competent vector for *B. gibsoni,* MAF commissioned a review of literature on this subject during the public consultation period. The review, which concludes that *Haemaphysalis longicornis* is indeed a competent vector for *B. gibsoni,* is attached as Appendix 1 of this document.

Concern was expressed in a number of submissions regarding the underlying assumption in the risk analysis that *B. gibsoni* was widespread in Australia. It is possible that the distribution of the parasite in Australia is limited, but in the absence of surveillance information MAF cannot make any conclusion about its regional distribution, which means that the whole country has to be treated as infected.

Although many submissions expressed concerns, for a variety of reasons, regarding the proposed quarantine and testing measures, this review of submissions concludes that, given the risk management objective stated in the risk analysis, the recommendations presented in the risk analysis are appropriate. Thus, the recommended safeguards could form the basis for the development of a new import health standard for dogs that aims to deliver the level of protection signalled in the risk analysis. However, if the risk management objective were to be changed to reflect a higher level of acceptable risk, then a different set of safeguards, selected to deliver a lower level of protection, might be considered appropriate.

# INTRODUCTION

The completion of the *Babesia gibsoni* in dogs (*Canis familiaris*) and dog semen risk analysis was notified in the MAF publication *Biosecurity* issue 42, 15 March 2003. The deadline for submissions was initially set at 30 April 2003, but this was extended to allow a submission from Federated Farmers who were inadvertently not included in the initial stakeholder list.

Submissions were received from the following:

Overseas Countries

1. Agriculture, Fisheries and Forestry, Australia (AFFA), 12 May 2003. Facsimile transmission signed by David Banks, 4 pages.

2. Royal Guide Dogs for the Blind Association of Tasmania and Guide Dogs Association of SA &NT Inc., 16 April 2003. Covering letter signed by Dan English and submission signed by Dan English and Tracey White, 3 pages.

New Zealand

3. New Zealand Kennel Club, 4 May 2003. Covering letter signed by Martin Hewitt, Executive Councillor, submission, 4 pages, and report from Dr. Paul Mason, 5 pages, as an appendix.

4. Ministry of Health, 9 April 2003. Submission signed by Sally Gilbert, Chief Technical Officer (Health), 4 pages.

5. Department of Conservation, 1 May 2003. Email from Joanne Perry, New Organisms Officer, with attached submission, 2 pages.

6. The Royal New Zealand Society for the Prevention of Cruelty to Animals Inc., 5 May 2003. Submission signed by Peter Mason, President, 3 pages.

7. Companion Animal Society, New Zealand Veterinary Association,2 May 2003. Email from Steve Marchant with attached submission, 1 page.

8. New Zealand Food Safety Authority,13 March 2003. Email from Stuart C MacDiarmid, 1 page.

9. Dr. W.E. Pomroy, Senior Lecturer in Veterinary Parasitology, Institute of Veterinary, Animal and Biomedical Sciences, Massey University, 22 April 2003. Email with attached submission, 1 page.

10. Ann Coulson, Kaiapoi, 30 April, 2003. Email and attached submission, 2 pages.

11. Federated Farmers of New Zealand Inc. 28 August 2003. Email from Kerryn Young, Policy analyst, with attached submission, 3 pages and covering page.

12. Andrea Wilson, Raumati Veterinary Centre, 4 April 2003. Email, 1 page.

13. Errol Harvey, Harvey Animal Health Centre, 4 April 2003. Facsimile transmission, 1 page.

14. Horowhenua Kennel Association, 8, April 2003, Letter signed by David Bridgeman, 1 page.

15. South Taranaki District Council, 21 March 2003. Letter signed by Joanne Adlam-Veldthuis, Animal Control Manager, 1 page.

16. J Goode, Rangiora, 23 March 2003. Signed letter, 2 pages.

17. Hobergay Dandie Dinmonts, 30 April 2003.

18. WARSOP Staffordshire Bull Terriers, 30 April 2003. Email and attached submission, 2 pages.

19. Ladies Kennel Association Inc., 29 April 2003. Letter signed by Rosemary Hubrich, Secretary, 1 page.

20. Kumeu Kennel Association Inc., 29 April 2003. Letter signed by Lynley Bray, Honorary Secretary, 2 pages.

21. Poverty Bay Kennel Club Inc., 30 April 2003. Email from Cheryl Clarke, Secretary, 2 pages.

22. Dominion Bull Mastiff Club Inc., 30 April 2003. Email from Cheryl Clarke, President, 2 pages.

23. Carol Hayes, New Zealand, 7 May 2003. Email, 1 paragraph.

24. Nicole Mackie, New Zealand, 30 March 2003. Email, 1 page.

25. Margaret Sayles, Shannon, 29 April 2003. Email, 2 pages.

26. Mark Clinning, New Zealand, 8 April 2003. Email 1 page.

27. New Zealand Police Dog Section, 30 April 2003. Email and attached submission signed by Inspector Brendon Gibson, National Co-ordinator: Police Dogs, 2 pages.

28. Royal New Zealand Foundation for the Blind, 30 April 2003. Email with attached letter from Mr Ian Cox, General Manager and Miss Nicky Cadogan, Kennel Services and Veterinary care Manager, unsigned, 4 pages.

29. New Zealand Greyhound Racing Association Inc., 29 April 2003. Email with attached submission signed by Jeff Lenz, Chief Executive.

# REVIEW OF SUBMISSIONS

## 1. AGRICULTURE, FISHERIES AND FORESTRY AUSTRALIA.

1.1 Agriculture, Fisheries and Forestry Australia (AFFA) comments that Biosecurity Australia recognises the right of New Zealand to impose measures to minimise the introduction of *B. gibsoni*, but strongly opposes the quarantine as unnecessarily trade restrictive. AFFA also comments that, regardless of quarantine, trans-Tasman movement of bitches or stud dogs for mating would also be disrupted due to the need to start acaricide treatment 40 days prior to testing.

> *MAF response:* The risk management objective expressed in this risk analysis is to "minimise", which is specifically noted to mean "to reduce the likelihood of introduction to the lowest level possible using the technologies currently available". MAF recognises that the achievement of that objective would inevitably impact on trade.

1.2 AFFA states "The Australian Quarantine and Inspection Service (AQIS) has advised Biosecurity Australia that they will be unable to provide certification "that the quarantine facility prevented any tick infestations during the period of quarantine". Even in kennel environments, with concrete runs, it is difficult to be certain that animals have not been in contact with ticks during the period of quarantine."

> *MAF response:* Section 5.2.2.4 of the risk analysis states "Quarantine would have to minimise the likelihood of exposure to ticks, for example by use of concrete runs."

1.3 AFFA questions the use of a 1: 40 cut-off for the Indirect Fluorescent Antibody Test (IFAT) as overly sensitive. The use of a 1:80 cut-off is recommended for serodiagnosis.

> *MAF response:* The recommendations are proposed with the objective of maximising sensitivity as stated in section 5.2.2.3. MAF refers AFFA to the objective of the proposed sanitary measures, section 5.2.1 of the risk analysis, "to reduce the likelihood of introduction to the lowest level possible using the technologies currently available." MAF will consider these comments further during the development of the IHS.

1.4 AFFA states "It should be noted that the requirement that the IFAT be carried out using antigens appropriate for the strains of *Babesia gibsoni* likely to be present in the country where the dog has been resident may be difficult to meet. This may be the case for dogs that have been imported into Australia from the USA or parts of Europe at some time prior to export to New Zealand. In Australia the antigen used in the IFAT is the Asian strain of *Babesia gibsoni*. Generally it is accepted that the IFAT cross-reacts with other *Babesia* spp. although it is acknowledged that the sensitivity of the test may be reduced for other strains. Biosecurity Australia asks whether testing using the IFAT (Asian strain antigen) is acceptable for dogs imported into Australia from USA and Europe.

*MAF response:* The recommendation is for dogs to be tested with an IFAT using antigens appropriate for the strains of *B. gibsoni* likely to be present in the country in which the dog has been resident. This means that dogs that have been resident in Europe or USA will require testing using the Spanish and Californian strains in addition to the Asian strain. A list of approved tests and laboratories will be available on request from MAF.

1.5 AFFA states "On the matter of false positive test results, the IFAT for *Babesia gibsoni* is known to cross-react with other species of *Babesia* such as *Babesia canis vogeli*, which is present in parts of Australia. Will further testing of seropositive dogs such as by running parallel antigens (for *Babesia gibsoni* and *Babesia canis)* for differentiation be acceptable to New Zealand? If not, is there another method that is acceptable?

*MAF response:* The risk analysis recommended using the IFAT with a cutoff of 1:40 in order to maximise sensitivity. MAF recognises that, as with any test that is not absolutely specific, there will be some false positive results when sensitivity is maximised in this way. Further information regarding alternate testing strategies has come to the attention of MAF since completing the risk analysis, and this is currently being studied carefully to determine whether alternative testing regimes, with or without quarantine, might be able to deliver the level of protection that MAF requires for *B. gibsoni*. Other species of *Babesia* in dogs will be considered in detail in the context of MAF's ongoing risk analysis on dogs and cats, and it is possible that safeguards for these may change in the future.

1.6 AFFA questions the need to test Australian dogs transiting in New Zealand on the way to a third country.

*MAF response:* It is MAF policy that transiting dogs are required to meet all New Zealand import requirements. MAF understands that the same policy applies in Australia. This policy enables management of these animals should their connecting flight be delayed or cancelled. Any requirement for *B. gibsoni* will be managed according to this policy.

1.7 AFFA maintains that the terms used to describe the likelihood of release, exposure and consequence should be defined to avoid ambiguity and to increase transparency.

*MAF response:* MAF uses the terms high, low and negligible in the context of their 'normal', or dictionary meanings.

1.8 AFFA states "..the mechanism for combining the release, exposure and consequence assessments to provide the risk estimate requires explanation. It is unclear in the document as to whether we are considering the unrestricted risk of *Babesia gibsoni* with the importation of one dog or is the risk estimate based on the importation of 2500 dogs in one year.""

*MAF response:* The risk estimation step is defined in section 2.2.2 of the risk analysis, and can be considered an integration of the results from the release assessment, exposure assessment and consequence assessment to produce

summary measures of the risks associated with the identified hazards. If the risk were expressed per 2500 dogs, this would beg the question as to how many dogs could be safely imported. Clearly the risk for any one dog is considered to be non-negligible, which means that sanitary measures are appropriate for each and every dog imported.

1.9 AFFA suggests that there is an extremely low incidence of the parasite in Australia, and it is confined to Pit Bull Terrier type dogs. As New Zealand has recently banned the importation of pit bull terriers and crosses, the likelihood of the agent being introduced with dogs from Australia and elsewhere is likely to be reduced.

*MAF response:* While MAF understands the concerns of AFFA in this regard, without surveillance information to demonstrate otherwise, MAF has no choice but to assume that the organism is widespread in Australia. Therefore, until adequate surveillance is done to convince MAF otherwise, this assumption will stand. Since this submission MAF is aware of at least one positive IFAT from a dog that was to be imported.

1.10 AFFA states that there is no evidence to confirm a tick vector for the cases in Australia. Transmission during fighting is proposed as a possible route of infection.

*MAF response:* MAF is aware of the discussion relating to the possible transmission of *B. gibsoni* by dog fighting. It is interesting but as yet unsubstantiated, and does not alter MAF's desire to prevent *B. gibsoni* from entering New Zealand. *B. gibsoni* has been described in other breeds and MAF believes that the statement "infection has been confined to pit bull terrier type breeds" should read "infection has only been seen in pit bull terrier breeds." If fighting is indeed a transmission route, other dog breeds fight, including with bull breeds. However, the association with these breeds may be due to other factors such as husbandry and transplacental infection.

1.11 AFFA states "page 5 under 3.3.1.1, third paragraph there is a statement that' In Australia, both *H. longicornis* and *R. sanguineus* are believed to be vectors (Leggoe, 1998), .As there is no evidence that *Babesia gibsoni* was present in Australia at this time and even today there is no evidence of tick involvement the statement should be quoted as per the paper of Leggoe (1998), In Australia, both *R. sanguineus* and *H. longicornis* should be considered as potential vectors for the parasite'."

*MAF response:* MAF accepts this statement.

1.12 AFFA states "Page 5, in the last paragraph some information is provided on the hosts of *Haemaphysalis longicornis* in New Zealand. It would be useful if data could be presented on the number of isolations of *Haemaphysalis longicornis* on dogs. It would appear from the scientific literature that this tick is rarely isolated from dogs in New Zealand, although as not all isolations may be published NZ MAP may have additional data. This information is important in the consideration of the likelihood of exposure and the likelihood of spread within the dog population, which may be extremely low via this mechanism."

*MAF response:* *H. longicornis* is a common endemic species, and as such its presence on animals is not reported. Appendix 1 of this document contains a review of *H. longicornis* in New Zealand and its potential as a vector of *B. gibsoni*.

1.13 AFFA states “Page 6, under 3.3.2 the pre-patent period is given as between 2 and 40 days. It should be noted that in these papers transmission of *Babesia gibsoni* is either via subcutaneous or intravenous injection not via ticks. In addition in the case of the paper by Meinkoth *et al* (2002) only one of the dogs had a prepatent period of up to 35 days. Yamane, Conrad and Gardner (1993) in reviewing studies where the parasite was transmitted via ticks reported a considerably shorter pre-patent period than 40 days (one study reported 7 to 11 days, another study 12 to 22 days).”

*MAF response:* Considering the relative lack of published material on this matter, MAF prefers to rake a precautionary approach with regard to prepatent period. In addition, not all transmission routes of *B. gibsoni* are known. If the proposed blood to blood transmission in fighting dogs does in fact occur, this must surely resemble intravenous inoculation rather than tick-to-dog transmission.

1.14 AFFA states “Page 7, under 3.6, the last sentence states 'Nevertheless, serologic testing of people who were considered to have had possible exposure to ticks indicated a seroprevalence rate of 16% (8 of 51 persons) (Persing *et al*, 1995).' This statement could be misleading as it could be read as if there was a 16% seroprevalence rate for *Babesia gibsoni* in people. However, the paper quotes results where they used an antigen called W Al as well as *B. gibsoni* and *B. microti* in the seroprevalence studies. The authors also stated that the serologic results must be interpreted with caution because of the uncertainty about the specificity of the methods used.”

*MAF response:* MAF accepts this statement.

1.15 AFFA states “Page 9, 4.2 (Exposure assessment). It is concluded that there is a high likelihood of *Babesia gibsoni* being exposed to susceptible species. However, it is unclear how this likelihood is obtained based on the information provided in the IRA. Under 4.2.1 it states that *Haemaphysalis longicornis,* a potential tick vector, has a limited distribution in New Zealand and previously it was acknowledged that dogs are not the preferred hosts for this tick. AFFA further comments that on Page 10 of the MAF risk analysis, under 4.3.1 second paragraph, it is stated that "If *B. gibsoni* became established in New Zealand, eradication would be unlikely to be successful as the tick vector is widespread." This statement contradicts that on page 9 where it is stated that with reference to *H. longicornis* "this tick has a limited distribution in New Zealand".”

*MAF response:* Wherever *H. longicornis* is present, MAF assumes likelihood of transmission would be high. The meaning of “limited” in terms of distribution of ticks is that of “confined” i.e. having boundaries, rather than “narrow”. MAF refers AFFA to p.7 of Appendix 1 for further discussion of *H. longicornis*.

1.16 AFFA maintains that, in regard to the establishment of exotic ticks, it is unlikely that a tick would become endemic in New Zealand if it only established inside houses.

*MAF response:* With regard to the establishment of exotic ticks, MAF is concerned even if the likelihood is low.

1.17 AFFA states “Page 12, Table 2 and 4.3.2. It is unclear how this table or the conclusion for the consequence assessment is derived nor how the release and exposure assessments are combined with the likely consequences to provide the risk estimate. It would be helpful to have a section in the document explaining how this is undertaken by NZ MAF. As NZ MAF have rated the direct consequences of *Babesia gibsoni* as severe, Biosecurity Australia wonders what rating MAF would give to diseases such as FMD or surra that affect multiple species or a disease that is a significant zoonosis.”

*MAF response:* MAF have rated the **direct** biological consequences for dogs as severe.

1.18 AFFA states “Page 12 and page 13. Under section 4.4 it is concluded "that the risk estimate for *B. gibsoni* is non- negligible" but under 5.1 it states that "the risk estimate for *B. gibsoni* is high".”

*MAF response:* 5.1 should read “ since the risk estimate for *B. gibsoni* is non negligible.”

1.19 AFFA states “Page 15, under 5.2.2.4. The first sentence states that "Yamane, Conrad and Gardner (1993) have suggested that quarantine is necessary to prevent the spread of *B. gibsoni* to countries free of the organism' .The authors actually suggested "that quarantine and serologic testing of imported dogs may be justified...”

*MAF response:* MAF accepts this comment. However, the risk analysis has concluded that quarantine would be one recommended measure.

## 2. NEW ZEALAND KENNEL CLUB

2.1 The New Zealand Kennel Club (NZKC) recognises the need for regulation for biosecurity, and states "If the measures that are being proposed are proven to be necessary and that there are no alternatives then we will provide our full support. However as an advocate for our members we must ensure that any measures are both fair and equitable to them and balanced against the real risks involved." NZKC further states that "there have been insufficient cases of *B. gibsoni* reported in Australia to prove that the disease is endemic to that country."

> *MAF response:* MAF's implicit assumption in this risk analysis is that the organism is widespread in Australia. Until further surveillance is done to convince MAF otherwise, this assumption will stand. Since this submission MAF is aware at least one positive IFAT form a dog to be imported.

2.2 NZKC states that "there is doubt about the likelihood that *H. longicornis* is an effective transmitter of the disease, on the basis of the Japanese research. As this is shown as the major pathway in Figure 1, we consider that there is enough doubt that further research needs to be undertaken."

> *MAF response:* A review of literature regarding *H. longicornis* and its potential as a vector for *B. gibsoni* was commissioned from Dr. A.G.C. Heath, Senior Scientist, AgResearch, Wallaceville, who summarised the situation as follows: "*After perusal of four publications concerning the vector relationship between Babesia gibsoni and the tick Haemaphysalis longicornis and another concerned with H. bispinosa, it can be concluded that H. longicornis is a competent vector of B. gibsoni."*
> As far as *B. gibsoni* establishing in NZ is concerned, there appears to be no impediment to this, presuming that the appropriate mix of infected dog(s), tick endemic area (Waikato and further north mainly, and rural), timing of contact (September to March principally), and the most infective stage (larva) are in alignment." The report is included as Appendix 1 of this document.

2.3 NZKC states "The fact that other carriers may be introduced is no reason to impose such a drastic regime at this time."

> *MAF response:* MAF refers NZKC to section 4.4 p12 of the risk analysis. The risk estimation of non-negligible is not reliant on the introduction of other carriers. Nevertheless, the introduction of carrier dogs and carrier infected ticks are obviously both of concern.

2.4 NZKC states "The evidence does not support the view that the risk estimate for *B. gibsoni* is non-negligible."

> *MAF response:* MAF does not agree with this view. The reasons are clearly laid out in the risk analysis.

2.5 NZKC outlines the effects of the recommended sanitary measures on its members, highlighting the economic and trade effects of the proposed measures. The strain on bitches and puppies is also mentioned.

> *MAF response:* The risk management objective of the recommended sanitary measures, as stated in section 5.2.1 of the risk analysis, "*… is to minimise the likelihood that dogs will be carrying B. gibsoni when given a biosecurity clearance in New Zealand.*"
> MAF emphasises that "minimise" in this context means to reduce the likelihood of introduction to the lowest level possible using the technologies currently available. These recommendations will be reviewed as new information or technology is available. In reaching this conclusion, MAF recognises that the proposed measures will have impacts on various groups of dog owners. However, MAF considers that the risk analysis is consistent with its obligations under section 22(5) of the Biosecurity Act 1993. The issues related to the measures rather than the organism will be taken into account in formulating the precise measures in the Import Health Standard.

2.6 NZKC states "The NZKC are concerned about the late communication to us and other interested stakeholders on this matter. We understand that this has been under investigation since early in 2002 and yet the first we heard about this was the letter dated 10th March 2003.We would recommend that in future if an issue relating to possible changes to Biosecurity issues for dogs should arise that MAF consult with the stakeholders at the earliest possible convenience."

> *MAF response:* The document was completed in early 2003 and was released for public consultation on 10 March 2003. MAF's standard consultation period for risk analyses is 6 weeks, and the consultation period for this risk analysis was longer than that standard, as explained in the introduction to this document.

## 3. MINISTRY OF HEALTH

3.1 The Ministry of Health (MoH) states that it does not necessarily disagree with the precaution of imposing measures to manage the risk of *B. gibsoni* entering New Zealand via importation of dogs, but Health officials considered that the IRA needed more rigorous argument to support the measures. In particular, the MoH submission stated : "The Ministry of Health views the hazard Identification stage of a risk analysis as the opportunity to describe a potential hazard in isolation, without reference to time place, exposure etc. The IRA has included discussion of possibility of the introduction of *B. gibsoni* into New Zealand in this section and as a result there is confusion about the nature of the actual hazard."

> *MAF response:* MAF considers that the hazard identification section of this risk analysis conforms to the standard set out in MAF's risk analysis handbook.[1] That is, the section is "a reasoned, logical and referenced discussion of its relevant epidemiology including an assessment of its likely presence in the exporting country", in which "a conclusion is … reached as to whether the commodity under consideration is a potential vehicle for the introduction of the organism into New Zealand."

3.2 MoH states "It should be made clear that the different strains of *B. gibsoni* have not been considered separately in the IRA, as the risk is assessed as being generic." Concern was expressed that it is not always clear which strain is being discussed and why in both the hazard identification and risk assessment sections. As an example MoH asks, "Why was the *B. gibsoni* (Asia) antigen alone used when testing the New Zealand dogs if they were from California?"

> *MAF response:* MAF accepts the importance of clarity. The strains are considered generically unless differences are known when the appropriate strain is indicated. With regard to the survey, there is, as outlined in section 5.2.2.3, considerable serologic cross reactivity among *Babesia* species. In section 3.2 it is stated that American Pit Bull Terriers have been introduced from the USA generally, not California. Tt is the Asia strain of *B. gibsoni* that is associated with fighting breeds in the USA, as stated in section 3.3 of the risk analysis. In addition it is the strain present in Australia, whence the majority of imported dogs originate. Further, section 3.3 of the risk analysis explains that the California isolate is relatively localised in its distribution, and does not seem to be especially associated with fighting dogs.

3.3 MoH states "The increased prevalence of disease in the so-called 'fighting' breeds is presumably because of the increase in transmission possibilities due to fighting, therefore prevalence is linked to behaviour not the breed; it is unlikely that the animals tested in New Zealand were being used for fighting."

> *MAF response:* Relatively little work has been carried out to clarify the apparent association with fighting breeds, and MAF does not know whether it is real or an artifact. Certainly there is no consensus on the reasons for this association. It may

[1] Murray N (2002) Import Risk Analysis: animals and animal products. p 38. MAF Biosecurity, Wellington.

be breed predisposition, husbandry, behaviour or other factors. Dog fighting is illegal in this country, but there are anecdotal accounts of it occurring in some parts of the country.

3.4 MoH states "3.3.1.1 Tick transmission: It is not clear in the IRA whether *Haemaphysalis longicornis* is a competent vector of *B. gibsoni* (California). Also is it to be concluded from the IRA that although capable hosts of *H. longicornis* include sheep, cattle, deer and birds, only dogs are adversely affected by *B. gibsoni* (Asia) infection, or is it that these hosts of the tick are not infected at all by the organism? This information effects the consequence assessment.

*MAF response:* MAF is assuming, in the absence of evidence to the contrary, that all strains of *B. gibsoni* will be transmissible by *H. longicornis*. *Babesia* species are considered host specific, and *B. gibsoni* is considered to be a parasite of canids, while humans are thought to be rare spillover hosts.

3.5 MoH states "3.3.1.2 Direct transmission: It should be clarified whether there are guidelines to prevent veterinary cross infection by surgical instruments and needles in New Zealand."

*MAF response:* Sharing of needles or surgical instruments would be considered bad veterinary practice in New Zealand. The reference was to these practices in the USA, not necessarily by veterinarians. Ear cropping is illegal in New Zealand. Tail docking and vaccination, if they are to be carried out, should be done by veterinarians.

3.6 MoH states "3.3.1.3 Other routes of transmission: It does not appear that the possibility of transplacental transmission been taken into account in the recommended measures."

*MAF response:* MAF does not agree. Transplacental transmission would require a bitch to be infected, and any dog that is to be imported would be tested and quarantined. The risk of transplacental transmission is therefore covered.

3.7 MoH states "3.6 Zoonotic potential: There is no comment on the zoonotic potential (or lack of) of B gibsoni (Asia)."

*MAF response:* As stated in the risk analysis, the zoonotic potential is uncertain. Both reports of zoonotic infections with the California strain of *B. gibsoni* are described. There are no reports of *B. gibsoni* (Asia) causing disease in humans.

3.8 MoH states "The Ministry of Health notes that we have been importing dogs from countries with *B. gibsoni* for some time and yet we believe we do not have (at least) *B. gibsoni* (Asia) in New Zealand despite the assessment's conclusion that the introduction of *B. gibsoni* is "non-negligible" (4.1.3 Release assessment conclusion)."

*MAF response:* The survey was undertaken to provide some information as to New Zealand's status. The main reason for carrying out the risk analysis is that the presence of the organism in Australia was only recently reported, and the vast majority of our imported dogs originate from that country.

3.9 MoH states "It appears that the reports of *B. gibsoni* in Australia relate to three dogs in a single premise in Victoria. Given that a single finding has prompted the assessment it would be helpful to have more in-depth discussion on the assumption that this finding indicates that *B. gibsoni* is endemic in Australia."

> *MAF response:* This point is raised in several other submissions. It is likely that the spread of disease would be insidious due in part to the similarity of the clinical syndrome to autoimmune disease and the very real possibility that cases would not be presented to a veterinarian or undergo diagnostic testing. Without surveillance information to demonstrate otherwise, MAF has no choice but to assume that the organism is widespread in Australia. Therefore, until adequate surveillance is done to convince MAF otherwise, this assumption will stand. Since this submission MAF is aware of at least one positive IFAT from a dog that was to be imported.

3.10 MoH feels that there should be more discussion of the consequences in working dogs.

> *MAF response:* MAF agrees with this point, which was raised in another submission. Clearly, since *B. gibsoni* can cause a severe illness with high mortality in dogs, all dogs that are exposed to the parasite are at risk of developing the clinical syndrome. MAF considered that since treatment does not eliminate the parasite from infected dogs, infection can have direct consequences emotionally, financially, in terms of lost productivity and loss of highly trained individual animals. MAF Detector dogs, farm working dogs, police dogs, customs dogs, seeing-eye dogs, search and rescue dogs as well as breeding animals and racing dogs would be considered in this category. Farm dogs, due to the increased risk of tick exposure, are likely to be at particular risk.

3.11 MoH states "As Fipronil is a common flea treatment we question any financial burden on dog owners relating to regular tick treatment."

> *MAF response:* There is a difference between treating dogs for flea infestations and tick infestations. As stated in section 5.2.2.3 fipronil may need to be applied every 2 weeks during the main risk period. For flea control application every 2 months is generally recommended.

3.12 MoH states. "The discussion provided in the IRA and the lack of clarity around strains does not lead the Ministry of Health to support the statement "there is a potential for serious disease in splenectomised or immune-compromised humans".

> *MAF response:* The references cited describe serious illness in these groups, and although the likelihood of this may be low, it is a possibility.

3.13 MoH states "Figure 1: There seems to be a missing link between "Dog bites other dogs" and "Possible spread to other dogs". The table needs adjusting to make some of the box text complete: "Dog bitten by …", "Tick bites other …" etc."

*MAF response:* MAF apologises for the errors in this figure. However, the information that was used to construct it is found in the text of the document, so it is not critical to this risk analysis.

3.14 MoH states "Table 2: It is unclear which strain of *B. gibsoni* is referred to in this table therefore it is possible that "possibly severe" for human impact is questionable. Also the likelihood of spread to other animals is probably high, but the significance is low (if alternative tick hosts are infected but not affected, see comment under 3.3.1.1 above)."

*MAF response:* These issues have been addressed under sections 2.4, 2.12, and 2.2 respectively.

3.15 MoH states "More discussion is required to justify an environmental significance of "moderate to severe" and similar statements in the 4.3.2 Consequence assessment conclusion text."

*MAF response:* The Department of conservation also requested further discussion of environmental effects. It should be noted at the outset that the definition of "Environment" under the Biosecurity Act 1993 is broad, as it includes:

a) ecosystems and their constituent parts, including people and their communities;
b) all natural and physical resources;
c) amenity values;
d) the aesthetic, cultural, economic, and social conditions that affect or are affected by any matter referred to in (a) to (c) of this definition.

*Babesia* species are generally host-specific, and with the exception of the rare cases when man is an accidental host, *B. gibsoni* parasitaemia or disease has only been reported in canine animals. As there are no wild canids in New Zealand, the effect on native animal populations is considered to be negligible. The moderate to severe environmental consequence is due to the financial and emotional effects on dog owners "freely enjoying their dogs and their environment" (see risk analysis section 4.3.1).

3.16 MoH states "5. Risk management: Shouldn't the Objective(s) (5.2.1) also be to minimise the likelihood of establishment of further capable vectors? The risk assessment covers the risks of establishment of exotic ticks therefore measures to mitigate against the establishment of exotic ticks should be part of the recommended risk mitigation measures. It is unclear whether tick inspection of imported dogs is the only measure currently in place to minimise the risk of new tick species establishing in New Zealand, or whether there are other pre-border measures.

*MAF response:* This point is also raised by DoC. In section 5.2.3 of the risk analysis it is stated that the focus of the document is *B. gibsoni*, not exotic ticks. Thus, the measures recommended are to manage the risk of *B. gibsoni*. The important issue of exotic ticks is outside the scope of this risk analysis, but is being considered separately by MAF.

3.17 MoH states "5.2.2.3 Diagnostic tests b) serology: the advice to test for the strains endemic in the countries the imported dogs have resided in strengthens the

requirement for more clarity around the hazards posed by the various strains of *B. gibsoni*."

> *MAF response:* This advice is given in order to increase the test accuracy for each dog. The objective of the recommended sanitary measures as stated in section 5.2.1 of the risk analysis is "to minimise the likelihood that dogs will be carrying *B. gibsoni* when given a biosecurity clearance in New Zealand." In the absence of evidence to the contrary, the effects of different strains are assumed to be similar. Note that "minimise" in this context means to reduce the likelihood of introduction to the lowest level possible using the technologies currently available. "*B. gibsoni* " refers to any strain of this parasite.

3.18 MoH states "5.2.3 Recommended sanitary measures: Shouldn't there be a timeframe in the first measure? Also what would a country have to do for New Zealand to be sure that the country of exports is *B. gibsoni* free?"

> *MAF response:* MAF agrees that *i)* should be altered to read "to have resided in a free country/countries since birth." Freedom from the disease would be judged on evidence provided by each individual country. Proving country freedom would be difficult, but would include surveillance and freedom from clinical disease. The precise details would be considered if any country made an application to MAF to be considered free.

3.19 MoH states "The second measure could involve dogs being quarantine for 80 days; surely there is a sequence of measures that would avoid this duplication. Also who would decide whether the dogs would be re-shipped or destroyed?"

> *MAF response:* MAF again refers to the risk management objective in section 5.2.2.1. Currently there is not an alternative sequence. This may change with new testing procedures or treatments. The decision regarding whether to reship or destroy the dog would be between MAF and the dog's owner(s).

## 4. DEPARTMENT OF CONSERVATION

4.1 The Department of Conservation (DoC) states "Overall the mitigation measures proposed to ensure that this parasite does not enter the country via imported dogs seem adequate. The Department notes however that there may be other pathways by which this parasite enters the country that are not analysed here."

*MAF response:* DoC did not suggest what other pathways they considered to be possible routes of introduction for *B. gibsoni.* However, since this parasite is specific to dogs (apart from the rare case in immunocompromised humans) MAF considers that possible pathways could only be ticks or dogs. However the risk analysis is concerned with the risks associated with dogs and dog semen, as is outlined in the introduction in section 2.

4.2 DoC states "A discussion on the potential for this parasite to transfer across species should be included."

*MAF response:* *Babesia* species are considered host specific, *B. gibsoni* is a parasite of canids and the tick vector, with humans being a rare accidental host. There is no account of *B. gibsoni* infection in any other species. This information is included in section 3.3 of the risk analysis.

4.3 DoC states, with regard to section 4.2.1 of the risk analysis "This section indicates that many mammals and birds act as hosts for *B. gibsoni*. The summary of the assessment provided in Section 4.2.3 Exposure assessment states that *"There is a high likelihood of B. gibosoni being exposed to susceptible species in New Zealand.* A detailed list of the susceptible species and the parasites host species should be added to this assessment.

*MAF response:* Section 4.2.1 of the risk analysis states that "many mammals and birds act as hosts for *H. longicornis*." — not *B. gibsoni*. Canids (and ticks) are the only host species. Infections in splenectomised humans have been demonstrated rarely.

4.4 DoC states "Further details of how the assessment of affects on wildlife and the environment (social and cultural) should be included in the assessment as at present little or no detail of this has been included."

*MAF response:* This point was covered in response 3.15. The moderate to severe environmental consequence is due to the financial and emotional effects on dog owners "freely enjoying their dogs and their environment". There is no evidence of any effect on wildlife. See section 4.3.1 of the risk analysis.

4.5 DoC expresses concern that as country freedom was hard to prove, and that all countries would need to be free there would be a high likelihood that this measure alone will not reduce the risk of a carrier dog remaining undetected.

*MAF response:* Provided all countries in which a particular dog has resided can provide adequate information that would allow MAF to consider them to be free, the risk of a carrier dog entering New Zealand from such countries would be negligible.

## 5. SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS

5.1 The Royal New Zealand Society for the Prevention of Cruelty to Animals Inc. (SPCA) submission states "Given the nature of *Babesia gibsoni* and its potential impact on the dog population and dog owners should it become established in New Zealand, the SPCA fully supports the recommended sanitary measures in section 5.2.3 of the report that, in summary, imported dogs must either:

- Have resided in countries which can demonstrate freedom from *Babesia gibsoni*; or
- undergo a 40-day period of pre-export treatment and quarantine in the country from which they are being exported, and then only be exported on the return of acceptable test results at the end of that period; and be inspected for ticks on arrival in New Zealand and, if ticks are found, be subjected to a 40-day period of treatment and quarantine.

While the SPCA recognises that there are likely to be increased costs associated with importing dogs into New Zealand, the Society believes these must be balanced against the potential cost to all dog owners in New Zealand should *Babesia gibsoni* become established here."

*MAF response:* MAF acknowledges these views of the SPCA

## 6. COMPANION ANIMAL SOCIETY

6.1 The Companion Animal Society (CAS) of the New Zealand Veterinary Association states "Taking the above main points into consideration, it would seem prudent to introduce safeguards to protect the NZ dog population.
However, as these safeguards are likely to involve pre-export quarantine for almost 2 months to all dogs, the effects will be far reaching, especially in dogs that are exported for short periods. Exporting owners will have to be made aware of this via their Vet or the NZKC.
Likely problems will be dogs travelling overseas for matings, as a pregnant dog will not be safely imported again at 7-8 weeks pregnant.
Dogs leaving the country for short terms also include shows, owners holidays etc. hence,
CAS recommends that the NZKC be consulted re this proposal.
As semen appears to be safe, this form of breeding may become the preferred option when looking at Australia in particular.
In summary, CAS supports the planned safeguards but requests that there is considerable promotion/explanation instigated to the pet owning public."

*MAF response:* The public consultation of this RA has included the NZKC and veterinarians. MAF agrees that the use of semen would provide an option for genetic exchange.

## 7. NEW ZEALAND FOOD SAFETY AUTHORITY

7.1 The submission of the New Zealand Food Safety Authority (NZFSA) expressed concern regarding the use of "Control costs would be high for pet owners." in the consequence assessment conclusion [section 4.3.2. page 12]. While accepting that it may be a term used to cover all classes of dog and dog ownership, the submission made it clear that consideration was given to working dogs. NZFSA also wished to ensure that consultation included the working dog sector.
NZFSA suggested that while the owners of pets and show dogs would probably be happy with minimum restrictions to their movement of dogs to and fro across the Tasman, the owners of some working dogs may want a higher level of protection.

*MAF response:* The term “pet owners” was indeed intended to cover all classes of dog owners. MoH raised the issue of working dogs, and this was discussed in response 3.10 of this document. The parties mentioned have been consulted, and their submissions considered.

## 8. W POMROY

8.1 This submission questioned the likelihood of *H. longicornis* being a competent vector for *B. gibsoni*, especially since there appears to be little published in the international literature on this topic. In particular, the submitter requested a review of the Otsuka (1974) paper.

> *MAF response:* In view of the uncertainty surrounding this issue, during the period of public consultation MAF contracted AgResearch Senior Scientist Allen Heath to review all available literature on the subject of the vector capability of the New Zealand cattle tick, *H. longicornis*. Dr. Heath concluded that this species of tick should in fact be considered as a competent vector of *B. gibsoni*. Dr Heath's review is attached as Appendix 1 of this document.

## 9. A COULSON

9.1 This submission states “The discussion document fails to make a case for the existence of a biosecurity risk in the import of dogs."
The submission considered that that "the recommended safeguards are excessive for the management of such a low risk of the introduction of the parasite *B gibsoni*", as there are "no economic or trade implications for New Zealand in the unlikely event that the parasite is introduced into the country".

> *MAF response:* This opinion is not substantiated. Although not explicitly covered in the risk analysis the economic cost to individuals, and in particular the farming community, could be significant should the disease become established.

9.2 This submission notes that imported dogs tend to be domestic pets, greyhounds and breeding stock, owned and cared for by responsible people. She continues “In nearly all cases there is little or no commercial value in the importation. It can be assumed that in nearly all cases the importer of the dog will have an emotional interest in ensuring the dog’s good health."
The submission suggests that "Increasing awareness of the potential harm of the presence of ticks on dogs should be sufficient to reduce the risk even further.”

> *MAF response:* It is the need to ensure the health of New Zealand’s dog population that has lead to the need for the risk analysis and the recommendations therein. Dog owners in countries where *B. gibsoni* is endemic are unable to protect their animals from infection by their awareness of the potential harm of ticks.

9.3 This submission states “The steps proposed in the risk analysis are extreme, given that there are no suitable testing facilities in either Australia or New Zealand, and the time frame for using African laboratories negates the purpose of the test.”

> *MAF response:* The testing is now carried out in Australia. Tests are available in the USA and are being developed elsewhere.

9.4 This submission states “Tick treatment prior to import, and physical examination on arrival is adequate precautions at this stage of risk estimation.”

> *MAF response:* MAF disagrees with this statement. The risk analysis provides a reasoned, referenced argument that justifies the safeguards in order to meet the risk management objective.

9.5 This submission suggests that, given the nature of the New Zealand cattle tick (limited distribution, host preference and need to feed for 2-3 days) it is unlikely that *H. longicornis* will be able transmit *B. gibsoni*. It is suggested that “The risk of the *B. gibsoni* parasite becoming endemic depends on ticks becoming infected and subsequently infecting other dogs”.

> *MAF response:* MAF disagrees with these views. Ticks commonly bite dogs in endemic areas. The word “limited”, as it is used in the risk analysis to describe the

distribution of ticks, is meant as 'confined to certain areas'. As discussed in relation to response 8.1, Appendix 1 contains further discussion of *H. Longicornis* including its distribution and likelihood of it transmitting *B. gibsoni*.

## 10. SUBMISSIONS SUPPORTING THE RECOMMENDED MEASURES

MAF received six submissions that simply stated their support for the measures recommended in the risk analysis.

### 10.1 Federated Farmers of New Zealand Inc.

Federated Farmers of New Zealand Inc. stated that the potential impact of the disease and associated costs of preventative measures would outweigh the additional costs of the recommended sanitary measures.

"Federated Farmers support the introduction of a sanitary measure that helps reduce the chance of *B. gibsoni* becoming established in New Zealand, given the risk involved in the absence of a safeguard.

We support the MAF recommendation that all dogs coming to New Zealand from countries that are not considered by MAF to be free of *B. gibsoni* must undergo a period of quarantine prior to export."

### 10.2 Five short submissions

Five short submissions were received, each of which stating support for the recommended measures.

i. A Wilson, Raumati Veterinary Centre.
ii. E Harvey, Harvey Animal Health Centre.
iii. Horowhenua Kennel Association.
iv. South Taranaki District Council.
v. J Goode

In addition, J. Goode commented that greyhounds travel widely in Australia, they are kennelled in large numbers at tracks, and are vulnerable to disease. It is also mentioned that there is the opportunity for direct transmission at the "catch".

*MAF response:* MAF notes these points.

## 11. SUBMISSIONS OBJECTING TO QUARANTINE

The following ten submissions primarily objected to the proposed quarantine measures, but also offered specific comments on the risk analysis.

### 11.1 WARSOP Staffordshire Bull Terriers

This submission contended that there is insufficient evidence that *B. gibsoni.* is a problem warranting such extreme measures. There were also concerns expressed regarding which breeds are included as bull breeds.

*MAF response:* The issue raised in this submission regarding evidence is covered under in responses to submissions 1 and 2. As stated in section 3.3 of the risk analysis, many of the positive dogs have been American Pit Bull Terriers, American Staffordshire terriers or their crosses. The reason for this is not known. All canids are susceptible to *B. gibsoni.*

### 11.2 Ladies Kennel Association Inc

This submission suggests that dogs should be examined for ticks on arrival in New Zealand. In addition the submission expresses concerns regarding the number of cases in Australia and the ability of *H. longicornis* to act as a vector.

*MAF response:* In section 5.2.3 b) of the risk analysis it *is* recommended that dogs should be examined for ticks on arrival in New Zealand. However, this measure would not detect dogs carrying *B. gibsoni*.
The issue of the presence of the organism in Australia has been discussed in responses to submissions 1 and 2.
As the review included in Appendix 1 shows, the New Zealand cattle tick, *H. longicornis*, is considered to be a capable vector for *B. gibsoni.*

### 11.3 Kumeu Kennel Association Inc

The submission includes the comment that "NZ appears to have remained free of *B. gibsoni.* despite high levels of imports of dogs from Australia".

*MAF response:* The risk analysis concludes that this that this is likely not to remain the case unless measures are taken quite urgently. It appears that both America and (from the AFFA submission) Australia are likely to have imported the disease by importing apparently healthy animals. In addition, the disease has only recently been reported in Australia and spread is likely to be insidious. Further to this, the diagnosed dogs in Victoria are, to MAF's knowledge, still alive. As infected animals are able to carry the parasite for life despite treatment to control clinical signs, these animals are a reservoir for the infection.

## 11.4 M Clinning

This submission advises that the risk of babesiosis is far higher in dogs from Africa. Concern is expressed regarding the small number of cases reported in Australia, and the relatively low tick numbers seen here. It is suggested that managing cases that might occur here is possible, as there are effective treatments.

*MAF response:* An outline of the number of dogs imported in 2001 is included in section 4.1 of the risk analysis. 63 dogs from South Africa were imported in that year. These animals are tested as they are quarantined in Australia. Measures regarding *B.canis* are being considered, although the situation is different, as New Zealand does not have a tick vector for this parasite. There are no completely effective treatments for *B. gibsoni*.

## 11.5 Six submissions generally objecting to quarantine

The following submissions did not comment specifically on the risk analysis, but simply objected to quarantine.

i. Hobergay Dandie Dinmonts.
ii. Poverty Bay Kennel Club Inc.
iii. Dominion Bullmastiff Club Inc.
iv. C Hayes.
v. N Mackie.
vi. M Sayles.

The issues raised by the submissions objecting to quarantine were:

- socialisation and bonding of puppies
- problems relating to the quarantine of pregnant bitches
- the trauma of quarantine (to the dog and owner)
- costs involved in quarantine
- problems related to delays in importation of dogs
- the effect on the gene pool.

*MAF response:* MAF has discussed similar concerns in response 2.5. The risk management objective of the recommended sanitary measures as stated in section 5.2.1 of the risk analysis. "… *is to minimise the likelihood that dogs will be carrying B. gibsoni when given a biosecurity clearance in New Zealand.*" It was clearly stated in the risk analysis that "minimise" in this context means to reduce the likelihood of introduction to the lowest level possible using the technologies currently available.

These recommendations will be reviewed as new information or technology is available.

These objections will be considered in the development of the Import Health Standard.

## 12. SUBMISSIONS WITH REQUESTS REGARDING QUARANTINE

The following four submissions opposed to quarantine raised very similar issues. In this section the issues raised by each submissions are summarised, and at the end of the section is a combined MAF response to the issues.

### 12.1 Australian Guide Dog Associations

Submissions from Royal Guide Dogs for the Blind Association of Tasmania (RGD) and from Guide Dogs Association of South Australia & Northern Territory Inc. (GDASANT) expressed the desire to address various issues "whilst maintaining the integrity of biosecurity measures implemented by New Zealand to prevent the introduction of *B. gibsoni.*"

RGD and GDASANT express concern that "this issue could have disastrous impacts on the Guide dog programs in both Tasmania and South Australia. " The concerns expressed are related to the direct cost of compliance as well as the indirect cost in terms of disruption to training and increased complexity of travel arrangements.

RGD and GDASANT suggest:

- That specific exemptions regarding quarantine be put in place for guide dog stock.
- That the testing interval be extended from 10 to a minimum of 25 days.
- That effort is made to synchronise testing procedures relating to *B. gibsoni* with those pre-export requirements already in place.

### 12.2 New Zealand Foundation for the Blind

The Royal New Zealand Foundation for the Blind (RNZFB) states "The impact of those measures already implemented and, in particular, some of the measures recommended for implementation in the risk analysis, have the potential to cripple the Guide Dog Programs of RNZFB Guide Dog Services, Royal Guide Dog Association of Tasmania and Guide Dogs Association of SA & NT Inc (see their separate submission).
It is our sincere desire that a solution to the issues detailed in our submission can be addressed, whilst maintaining the integrity of bio-security measures implemented by New Zealand to prevent the introduction of *Babesia gibsoni*."

RNZFB emphasises its charity status, philosophy, and the relationship with Australian counterparts as outlined under the submission from RGD and GDASANT.

The expected impacts of the measures and recommendations were stated, in similar terms to submissions from RGD and GDASANT.

There was an additional request: "On the basis that all services provided are free of charge and charity funded by all three organisations, MAF and AQIS consider making all guide dog/service dog stock exempt from the costs associated with import and export, including the newly imposed requirements for Babesia Gibsoni."

## 12.3 New Zealand Greyhound Racing Association Inc

New Zealand Greyhound Racing Association Inc (NZGRA) advises of the current success of the industry, and states "I wish to make it clear that NZGRA fully supports MAF in whatever steps it deems necessary to ensure that *B. gibsoni* is not introduced into the New Zealand canine population.

Given the impact of the recommended option of a 40- day pre export quarantine for all imported dogs, the NZGRA wished to draw attention to the potentially adverse affect such a lengthy quarantine period would have on the greyhound racing scene in New Zealand.

Particular concerns regarding quarantine were stated as follows:

- Dogs from Australia would no longer be able to race immediately, reducing dog numbers for races.
- The breeding industry in New Zealand would take 5-10 years to supply sufficient dogs of high standard to fulfil racing requirements in New Zealand.
- The need to import well-bred sires and bitches.
- Fewer Australian entrants would reduce marketability of races.

## 12.4 New Zealand Police

The submission from the police dog section supports the need for robust biosecurity, but questions whether the biosecurity risk warrants the recommended sanitary measures, although no specific reasoning is given.

The effects of the measures on future programs are outlined, these being cost, supply of dogs and behavioural issues.

The submission states " ..the risk posed by managed dog populations in the enforcement and service dog industry is significantly less than the general dog population" and recommends MAF to implement controls relevant to the risk posed by that specific dog population group and controlling organisation.

> *MAF response:* MAF does not accept that police dogs are less likely to be exposed to *B. gibsoni* than other dogs. To MAF's knowledge police dogs are equally likely to encounter habitats in which infected ticks may be found.
>
> There are a number of fundamental issues associated with these submissions that will require careful consideration during the development of the IHS. However, at this point MAF reiterates that the risk management measures in this risk analysis were recommended in order to meet the specific risk management objective of this risk analysis, which was *'to minimise the likelihood that dogs will be carrying B. gibsoni when given a biosecurity clearance in New Zealand.'* The risk analysis further stated that 'minimise' in this context meant '*to reduce the likelihood of introduction to the lowest level possible using the technologies currently available.'*

This risk management objective is very similar to a statement of acceptable risk for New Zealand. In other words, MAF is saying that this parasite is not wanted in New Zealand because if it were introduced here, it could establish wherever our New Zealand cattle tick is present, and because of its life cycle it would be impossible to eradicate it once it were here. Further, MAF is saying that this parasite can be expected to cause significant negative effects for all groups of dogs in this country, not only those that move between Australia and New Zealand. Finally, MAF considers that it is its responsibility to put measures in place that reduce the likelihood of its entry to the lowest level possible, but without completely stopping the movement of dogs across the Tasman. MAF recognises that there are a range of measures that could be applied, but as a result of the risk analysis MAF considers that many of these would have little effect other than delaying the introduction of this organism.

It is recognised that, in the absence of surveillance information to show otherwise, MAF is forced to make a key assumption about the distribution of *B. gibsoni* in Australia. That is, MAF must assume that until evidence to the contrary is available, the parasite is widespread in Australia.

The effect of this assumption is that the risk of infection for dogs in Australia can be assumed to be constant, and this is the primary reason that MAF does not believe that a lower risk can be objectively demonstrated for different groups of dogs, which would be one of only two justifications for granting exemptions to different groups of dog owners.

The other reason for granting such an exemption would be if a decision is made that the interests of one group of dog owners carries sufficient weight that the benefits to that group of free movement across the Tasman outweigh the risks that those dogs present to all New Zealand dogs in terms of the likelihood that they will introduce *B. gibsoni* as a result of one of their trips abroad — that is, if such a decision were made, the benefits of easier dog travel for one group would be implicitly valued higher than the costs of the resulting biosecurity risks imposed on other groups of dog owners.

Considering the time period between testing and export from Australia, it must be understood that the longer the period, the greater the opportunity for a test-negative dog to become infected in between testing and export. Thus, the greater this time period, the greater the risk that an infected dog will slip through despite the measures imposed.

# APPENDIX 1

Review of publications concerning transmission of *Babesia gibsoni* and its relationship with *Haemaphysalis Longicornis.*

A.C.G. Heath

EXECUTIVE SUMMARY

After perusal of 4 publications concerning the vector relationship between *Babesia gibsoni* and the tick *Haemaphysalis longicornis* and another concerned with *H. bispinosa*, it can be concluded that *H. longicornis* is a competent vector of *B. gibsoni*.

As far as *B. gibsoni* establishing in NZ is concerned, there appears to be no impediment to this, presuming that the appropriate mix of infected dog(s), tick endemic area (Waikato and further north mainly, and rural), timing of contact (September to March principally), and the most infective stage (larva) are in alignment.

INTRODUCTION

A risk analysis has been produced (Beban, H. 2003. Import Risk Analysis: *Babesia gibsoni* in dogs (*Canis familiaris*) and dog semen, MAF Biosecurity Authority) on the likelihood of *Babesia gibsoni* establishing in NZ in the presence of *Haemaphysalis longicornis,* the only tick species in this country with any putative vector potential, because it feeds on dogs and a wide range of other vertebrate hosts.

A small number of studies have been done in Japan on the relationship between *B.gibsoni* and *H. longicornis* (Otsuka 1974; Higuchi *et al.* 1991a, b; Higuchi 1993) and the results support *H. longicornis* as a vector, but that only transovarial transmission seems to occur (Otsuka 1974).

Questions arose as to the standard of research that supported these findings, especially as the key paper (Otsuka 1974) was in Japanese and initially only an abstract had been available from which to draw conclusions.

Dr Howard Pharo, MAF Biosecurity asked for some assessment of the published research on the *H. longicornis/B. gibsoni* relationship and to determine from that research the likelihood that *H. longicornis* would be a competent vector for *B. gibsoni* in NZ.

An English translation of Otsuka's (1974) paper was supplied, as well as publications (in English) by Higuchi as cited above, and also work on *H. bispinosa* and *B. gibsoni* by Swaminath (1937). Sonenshine, D.E. (1993; *Biology of Ticks, Volume 2,* New York, Oxford University Press) was used as a standard reference text on tick-borne disease.

PUBLICATIONS FOR ASSESSMENT

**Paper No. 1**: Swaminath, C.S. 1937. The arthropod vector of *Babesia gibsoni*. *Indian Journal of Medical Research, 25*, 499-503.

Pages 500-501 were missing from the photocopy reviewed, but it seems that essential information was available in the remainder. This paper actually deals with *Haemaphysalis bispinosa* as the vector, a tick species that does not occur in NZ, but with which *H. longicornis* was confused until the taxonomic uncertainties were dispelled by Hoogstraal *et al.* (1968, Review of *Haemaphysalis (Kaiseriana) longicornis* Neumann (resurrected) of Australia, New Zealand, Japan, China, Korea and U.S.S.R., misidentified as *H. bispinosa* Neumann and *H. neumanni* Donitz and its parthenogenetic and bisexual populations (Ixodoidea, Ixodidae). *Journal of Parasitology, 54,* 1197-1213). The work reported by Swaminath (1937) is, however, useful for comparative purposes as it shows the variable results that seem consistent with studies on disease and vector relationships.

MATERIALS AND METHODS

Ticks were fed on *Babesia*-infected dogs and jackals. With some of the paper missing I was unable to determine the origin of the ticks and can only assume the adult ticks used were females, although *H. bispinosa* is bisexual.

RESULTS

| Stage fed | No. of experiments | Stage for transmission | No. of dogs positive | Incubation period (days) |
|---|---|---|---|---|
| Larva | 3 | Nymphs | 0 | ND |
| Nymphs | 2 | Adults | 1 | 13 |
| Adults | 9 | Larvae | 6 | 12-19 (mean 15.5) |
| Adults | 1 | Nymphs | 1 | 22 |
| Total | 15 | | 8 | |

DISCUSSION

The table summarises Swaminath's (1937) findings. The 67% success rate (6/9) with adults passing infectivity to larvae demonstrates transovarial (hereditary is the term used in the paper) transmission. All of the other experiments demonstrate attempts at transstadial or stage to stage transmission. For example, infected nymphs maintain the piroplasms within them, following their moult to females, although the larvae fed on an infected dog did not maintain the piroplasms within them consequent upon their moult to nymphs. However, adults fed on an infected dog produced eggs and larvae, the latter being fed on an uninfected dog, and the resulting nymphs were shown to be capable of infecting another previously disease free dog.

This latter result is interesting in that the larvae retained the piroplasms passed on transovarially, despite an intermediate blood meal on an uninfected dog, but appeared unable to obtain sufficient piroplasms to pass onto nymphs when fed by themselves on an infected dog. This is presumably a function of the small blood meal that larvae are capable of imbibing, whereas the larger volume taken up by females would result in a larger dose of piroplasms and provide a reservoir that could survive 2 moults and an intermediate, piroplasm-free, blood meal. These results also suggest that *H. bispinosa* is incapable of vertical transmission of *B. gibsoni*. Vertical transmission is the ability of a tick (population) to sustain infectivity over several generations without blood meals from infected hosts (Sonenshine 1993).

**Paper No. 2**: Otsuka, H. 1974. Studies on transmission of *Babesia gibsoni* Patton (1910) by *Haemaphysalis longicornis* Neumann (1901). *Bulletin of the Faculty of Agriculture, Miyazaki University, 21,* 359-367.

MATERIALS AND METHODS

Ticks were obtained from cattle and horses in the field. These ticks were maintained in the laboratory until they yielded eggs from which larvae were obtained. All experiments were carried out with ticks subsequently fed on dogs, with engorged larvae yielding nymphs that were used in experiments requiring nymphs, and adults resulting from the moult of these nymphs being used in experiments requiring adults. The ticks were from the bisexual strain of *H. longicornis* which is sympatric with a parthenogenetic strain of the same species. It is the latter strain that also occurs in NZ. Otsuka (1974) used only females when testing for vector potential, except for Experiment I-6, where male and females were used.

The dogs used to produce infected ticks were themselves infected by hypodermic (?*i.v.*) injection of piroplasms.

RESULTS

(a) **Evidence for transovarial transmission**
Adult ticks fed on dogs infected by injection produced eggs, and then larvae which, when fed on healthy dogs produced infections in 5 dogs, but not in 5 others. Infections were detected by changes in body temperature, red blood cell (rbc) volume and percentage parasitaemia.

Nymphs resulting from larvae that had infected dogs caused infection in 3 otherwise healthy dogs, but no infection in 1 other.

Adults resulting from engorged nymphs, themselves from engorged larvae (and both stages having previously infected dogs) did not infect 2 otherwise healthy dogs.

The incubation period for parasitaemia of 1 in 10 000 rbc in dogs was 7-11 days (mean 9.6).

(b) **Lack of evidence for stage to stage (transstadial) transmission**
Larvae and nymphs fed on infected dogs produced respectively nymphs and adults which were fed on 7 healthy dogs in 5 experiments and there was no evidence of transmission.

DISCUSSION

Otsuka (1974) stated that adults of *H. longicornis* rarely parasitise dogs and from this asserted that the possibility of transovarial transmission from an adult through to an adult of the next generation was low. This may be so, but only 2 experiments were carried out and in one case only 7 female ticks were used, although there were also 10 males. Male ticks of some species imbibe blood, but because their scutum is of a size that makes cuticular expansion impossible, they take in a lot less blood than do females (Balashov, Y.S. 1968. *Bloodsucking Ticks (Ixodoidea)-Vectors of Diseases of Man and Animals*. Leningrad, Nauka Publishers, 1967. [Translation 500, Medical Zoology Department, US Navy Medical Research Unit 3, Cairo, Egypt]. In NZ, adult female ticks are found on dogs (Myers, J.G., 1924. The cattle tick (*Haemaphysalis bispinosa*), investigations during 1923-24. *NZ Department of Agriculture, Bulletin* No. 116), although the frequency is not known.

The blood source for ticks has to have certain level of parasitaemia if the ticks are to imbibe sufficient parasites to ensure infection and transmission. In addition, many parasites do not survive in the rbc ingested by ticks (Sonenshine 1993) and it can be assumed that there is a normally distributed variability in this. This may partially explain erratic results for transovarial transmission. Also when the correspondingly small volume of blood taken in by larvae and nymphs, compared with the volume imbibed by adult females is considered, there is a partial explanation for why stage to stage transmission was unsuccessful in this study.

Collectively these results demonstrate that *H. longicornis* is capable of transmitting *B. gibsoni*. The numbers of larvae used in the experiments may appear large, perhaps more than could generally be experienced by dogs in the field in NZ, and could give the impression that infection of a dog relies on large numbers of ticks. However, it must be remembered that they are the progeny of female ticks, which alone were the original infection source, and one female tick can produce around 2000 eggs, each of which could potentially produce an infected larva if the mother was infected, so small numbers of larvae would be just as likely to induce babesiosis.

**Paper No. 3:** Higuchi *et al.* 1991a. Development of *Babesia gibsoni* in the gut epithelium of the tick, *Haemaphysalis longicornis. Journal of Veterinary Medical Science, 53,* 129-131. (Page 130 of this publication was missing in my photocopy.)

INTRODUCTION

This study examined the invasion of the tick gut epithelium by piroplasms. Once a tick has fed on an infected host, gametocyte-forming cells, the residue of many that degenerate after tick feeding, form gamonts within a few hours after ingestion. The gametes fuse in the gut lumen and then the fused bodies (zygotes) penetrate into the gut epithelium where further division occurs.

MATERIALS AND METHODS

A parthenogenetic strain of *H. longicornis* collected from a cow was the basis of the tick colony used in the study, and all subsequent feeding was on rabbits. For experiments, ticks were infected by feeding on a dog that had been naturally infected with *B. gibsoni* in the field.

Infected adults were fed on a splenectomized dog and the engorged ticks collected. Nymphs were used in subsequent experiments but it is not stated how blood was supplied to larval ticks arising from the eggs laid by the infected females, nor to the unfed nymphs arising from the moult of the larvae. Possibly the same splenectomized dog was used to increase the chance of obtaining infected ticks, but this is not easily inferred from the paper, unless it is in the page missing from my copy.

RESULTS

A ‘round form’ considered a zygote, was seen in the gut epithelia cells 8 days after the nymphs had become replete. Control ticks (not specified how these were fed and maintained) did not have piroplasms in their gut epithelium.

DISCUSSION

*Babesia gibsoni* appears to develop successfully in the gut of *H. longicornis* as if it were an appropriate host.

**Paper No. 4:** Higuchi *et al.*1991b. Development of *Babesia gibsoni* in the hemolymph of the vector tick, *Haemaphysalis longicornis. Journal of Veterinary Medical Science 53*,491-493.

INTRODUCTION

When the fused gametes (zygotes) of piroplasms penetrate the gut epithelium they undergo division into kinetes. These eventually leave the midgut cells and go into the tick haemolymph. From there the kinetes migrate to other tick tissues such as the ovary. In that tissue the oocytes are infected, leading to transovarial transmission. Larval ticks become infected when their salivary gland tissues are invaded.

MATERIALS AND METHODS

A parthenogenetic strain of ticks taken from a cow in the field was used and maintained on rabbits. These were presumably different individuals from those used to maintain ticks in the earlier study (Higuchi *et al.* 1991a). The strain of piroplasm was the same as in the earlier study. The adult ticks were fed on splenectomized, infected dogs.

RESULTS

Kinetes were seen in the haemolymph of adult ticks on day 10 post-engorgement. Kinete numbers in the haemolymph increased with time to a maximum on day 12 after engorgement, and declined to day 30 when no kinetes were found. None were found at any time in control ticks

DISCUSSION

One can only assume that the adult ticks fed on infected dogs and provided eggs and then larvae which were fed on an unspecified host. These larvae then moulted to nymphs and again fed on an unspecified host and were examined as unfed adults. If they were examined as engorged adults 10 days post-engorgement as stated, they would have been laying eggs. This paper is rather muddled in the description of its methods, omitting the handling of larvae and nymphs, and yet these are obviously used in the study. The authors mention a moulting time of 14 days at 25ºC, but do not say which stage (larva or nymph) is referred to.

**Paper No. 5:** Higuchi, S. 1993. Developmental stages of protozoan *Piroplasma* species endemic in Japan. *Journal of Protozoological Research, 3,* 2-13. (pages 3, 5, 7, 9 and 11 missing from review photocopy of paper).

INTRODUCTION

Although it is not explicitly stated anywhere, this is only a review paper, but strangely enough does not refer to Otsuka (1974) and, with some of the references missing, it is impossible to tell the origin of the data for *B. gibsoni* provided in Table 3.

RESULTS

It appears from the tabulated data as if penetration of the gut epithelium by *B. gibsoni* takes place 4-5 days post-repletion in *H. longicornis,* because this is when the zygote is seen.

CONCLUSIONS AFTER REVIEWING ALL LITERATURE PROVIDED

Collectively, and despite missing pages, the papers cited here provide a compelling body of evidence that *H. longicornis* can become infected with and transmit *B. gibsoni* in Japan, and that the usual *Babesia* life cycle stages occur in the ticks. Whether this also indicates that there is a likelihood that the same tick/piroplasm mix would result in canine babesiosis in NZ needs now to be examined.

CANINE BABESIOSIS AND THE LIKELIHOOD OF ITS OCCURRENCE IN NZ

The presence of infected dogs, their level of parasitaemia, and the likelihood that they will encounter *H. longicornis* ticks, especially larvae, from infected female ticks, will be the main factors determining whether canine babesiosis caused by *B. gibsoni* would establish in NZ.

## Presence of infected dogs

Taking the findings of Otsuka (1974) it seems that dogs can remain infected with *B. gibsoni* for up to 20 months, but that infections with a duration of <10 months are more likely to result in a parasitaemia that will ensure that ticks will become infected and pass on babesias transovarially. However, dogs can present with a parasitaemia threshold (detectable piroplasms and a likelihood of infecting further ticks) 7 to 11 (mean 9.6) days after ticks have parasitised them.

## Level of parasitaemia

A parasitaemia >0.2% (20 babesias to every 10 000 rbc) is most likely to lead to a successful infection of ticks that can be passed onto uninfected dogs, although 0.01% (1 babesia to every 10 000 rbc) is considered the threshold (Otsuka 1974). In other words, the higher the parasitaemia, the better the likelihood that ticks will receive a transmissible dose of piroplasms. Dogs used by Otsuka (1974) showed parasitaemias, following injection of piroplasms, ranging from 2% in a dog infected 2 months previously, down to 0.01 and 0.02 % in dogs infected respectively 10 and 20 months before. Higuchi *et al.* (1991 a & b) had dogs that showed naturally-acquired parasitaemias of 17 to 43 % at the time when ticks detached (*ca* 7 days of feeding).

Otsuka (1974) found 'round forms' (zygotes) in the gut epithelium on the 8$^{th}$ day after the tick had fully engorged. Higuchi *et al.* (1991b) found kinetes in the haemolymph of adult ticks on the 10$^{th}$ day following their repletion.

## Dogs encountering ticks

The NZ cattle tick, *H. longicornis,* occurs predominantly in the North Island (NI), except the central plateau and the more elevated portions of the southern NI. The tick is common around Takaka in NW Nelson, and there may be scattered populations on parts of the West Coast, South Island, and possibly around Christchurch, although evidence is not strong for these

latter two records. Ticks have been found on two properties in Southland but it is not known whether a tick population has established there.

With the NI having the largest geographical extent of ticks, dogs there are more likely to become parasitised, but mainly in rural areas, because the greatest concentration of ticks is on farms where tick populations are supported by deer and feral goats, with cattle and sheep also frequently infested. Any rural property north of Hamilton is likely to be a tick endemic area, with only coastal areas further south in the NI in that category.
The number of ticks that a dog will acquire is a function of the locality it resides in, the frequency with which it goes into rural areas, and the time it spends on properties where ticks occur. The time of year is also relevant because tick activity is seasonal.

The number of ticks that a dog can acquire is not accurately known, but anecdotal evidence would suggest that tens of ticks rather than hundreds is more likely to be the case. Furthermore, with larvae from an infected female tick's eggs being the high risk infective stage for a dog, then the months of January through to March represent the high risk period, because this is when larvae are most prevalent, although small numbers can occur in other months.

Larvae tend to clump in large numbers on vegetation around where the eggs from which they hatched were deposited. This means that many can be acquired by a host with only one contact, ie as it brushes past. A host lying in long grass can acquire large numbers of ticks too, but more as a function of the duration of time spent in their vicinity. Larvae are small and difficult to see, especially on hosts with a dark coat, which could lead to an underestimation of their numbers.

Adult ticks are most prevalent around November and December, but smaller numbers are active at other times of the year. Adult ticks that have fed on an infected dog can produce larvae and nymphs that are infective to babesia-free dogs, but adults subsequently originating from the same lineage (ie from the engorged nymphs) are unlikely to be infective according to Otsuka's (1974) study.

Nymphs, which on the basis of Otsuka's (1974) study, are less likely to pose a threat than are larvae, are most active in July through to September or October, but as with other stages of the tick, also occur at other times of the year.

## CONCLUSIONS CONCERNING BABESIOSIS IN NZ

With the scenario that a dog enters NZ, having been infected with *B. gibsoni* no more than 10 months previously, and is taken to a rural NI area and is exercised regularly over farmland that has tick-infested stock, especially during the months of September to March, and other dogs within the same area are also exercised over the same farmland at about the same time, or no more than a month or two later (allowing for larval ticks to feed, and moult to nymphs), then canine babesiosis could establish in this country.

26 May 2003.

# APPENDIX 2 COPIES OF SUBMISSIONS

## 1. David Banks, Department of Agriculture, Fisheries & Forestry - Australia

Facsimile transmission to 0015-64 4474 4227 Page 1 of 4
12 May 2003
Dr Derek Belton
Director Animal Biosecurity
Ministry of Agriculture and Forestry PO Box 2526 Wellington
NEW ZEALAND

Dear Derek

Thank you for the copy of the completed import risk analysis (IRA) for *Babesia gibsoni* in dogs and the opportunity for comment on the proposed quarantine of dogs prior to export.

Biosecurity Australia is strongly opposed to the requirement that dogs undergo a period of quarantine prior to export. This requirement will seriously disrupt trade, which is of importance to people in both countries. Biosecurity Australia recognises New Zealand's right to impose measures to minimise the introduction of *Babesia gibsoni* with imported dogs, however, the proposed quarantine requirement is unnecessarily tradc restrictive. Acaricide treatment at intervals as recommended by the manufacturer, testing of dogs prior to export and tick inspection on arrival in New Zealand provide a high level of protection to prevent the introduction of *Babesia gibsoni* to New Zealand from Australia. Nevertheless, it should be noted that even without the proposed quarantine, trans-tasman movement of bitches or stud dogs for mating or dog shows will also be severely disrupted due to acaricide treatment needing to start at least 40 days prior to testing and export. It is possible that much of this trade will cease.

The Australian Quarantine and Inspection Service (AQIS) has advised Biosecurity Australia that they will be unable to provide certification '"that the quarantine facility prevented any tick infestations during the period of quarantine". Even in kennel environments, with concrete runs, it is difficult to be certain that animals have not been in contact with ticks during the period of quarantine.

With regard to the testing requirements, New Zealand is proposing that all dogs be tested by thin blood smear and indirect fluorescent antibody test (IFAT) before export. The cut-off recommended for the IFAT is 1:40 reportedly based on two scientific studies. Interesting1y one of the papers quoted, Yamane *et al* (1993)[1] considered that due to cross reactivity at titres $\preceq$160 to other parasites, a cut-off titre of 320 was appropriate for serodiagnosis. The other paper Farwell *et at* (1982)[2] found titres of 1:320 and 1:10,240 by IFA for dogs infected with either *Babesia gibsoni* or *Babesia canis.* Although these authors considered a titre of 1:40 or greater minimal for evidence of infection with either species of Babesia,

this was based on testing 88 healthy military dogs on a rigid tick control program where 15 were found to have titres greater than 1:40. N o mention is made of the specificity of the test and there is no evidence to indicate that these military dogs were infected with either species of Babesia. The laboratory in Ondesterpoort, South Africa uses a cut-off of 1:80 for *Babesia gibsoni,* which apparently New Zealand accepted as proof that dogs tested in New Zealand's small serosurvey were not infected. Biosecurity Australia requests that New Zealand reconsider the cut-off for the IFAT and recommends that a cut-off titre of 1:80 be considered as appropriate for serodiagnosis. It should be noted that this value may need to be re-examined in light of the specificity of the test here in Australia"

It should be noted that the requirement that the IFAT be carried out using antigens appropriate for the strains of *Babesia gibsoni* likely to be present in the country where the dog has been resident may be difficult to meet. This may be the case for dogs that have been imported into Australia from the USA or parts of Europe at some time prior to export to New Zealand. In Australia the antigen used in the IFAT is the Asian strain of *Babesia gibsoni.* Generally it is accepted that the IFAT cross reacts with other Babesia spp although it is acknowledged that the sensitivity of the test may be reduced for other strains. Biosecurity Australia would appreciate NZ MAF's advice as to whether testing using the IF AT (Asian strain antigen) is acceptable for dogs imported into Australia from USA and Europe. If this is not acceptable we would appreciate a list of laboratories that NZ MAF approves that are capable of testing for the Californian and Spanish strains.

On the matter of false positive test results, the IFAT for *Babesia gibsoni* is known to (Toss-react with other species of Babesia such as *Babesia canis vogeli,* which is present in parts of Australia.. Will further testing of seropositive dogs such as by running parallel antigens (for *Babesia gibsoni* and *Babesia canis)* for differentiation be acceptable to New Zealand? If not, is there another method that is acceptable?

I understand that dogs transiting New Zealand such as to South America will also need to be tested for *Babesia gibsoni.* This requirement is quite unjustified. Even if the dog were infected, a tick (in the extremely unlikely event that one is present at the airport in New Zealand or quarantine kennel) would need to attach to the dog and feed for 2 to 3 days. So unless the dog was delayed for several days during transit a local New Zealand tick is not going to have the opportunity to become infected and detach from the dog. Acaricide treatment prior to export will minimise the likelihood of an infected tick being imported on a dog transiting New Zealand, which together with inspection on arrival should provide an adequate safeguard. If the dog remains in New Zealand for some reason. it could be quarantined and tested before release.

With regard to the import risk analysis, nowhere in the document are the qualitative terms used to describe the likelihood of release and exposure, nor the terms for the consequence assessment defined. As such the document is not transparent and could be interpreted quite differently; for example 'low' may mean quite different things as can the term 'moderate to severe". To avoid ambiguity, it might be advisable to define the terms used. Similarly the mechanism for combining the release, exposure and consequence assessments to provide the risk

estimate requires explanation. Moreover statements describing the same output use different terms. For example on page 12 the risk estimate *for Babesia gibsoni* is 'non-negligible' whereas on the following page it states that the risk estimate for *Babesia gibsoni* is 'high'. It is unclear in the document as to whether we are considering the unrestricted risk of *Babesia gibsoni* with the importation of one dog or is the risk estimate based on the importation of 2500 dogs in one year.

I would also make the following specific comments on the IRA and have included any typographical errors that were noted for completeness.

On page 5, second paragraph, in reference to the *Babesia gibsoni* cases detected in Australia it states 'No direct link with imported dogs was found, suggesting that the agent is endemic'. It should be noted that further investigation has shown that the sire of one of the original three dogs infected and belonging to the same household was imported from the USA. The sire had been exported back to the USA prior to the disease incident. Australia has now tested about 65 dogs from several States, including dogs for export. Only the initial three dogs (pit bull terriers) in one household and one other associated dog (pit bull terrier) have tested positive. Of those only two dogs were positive at follow up testing. In all cases exposure to ticks has not been described. In addition Australian veterinarians have been advised to be on the look out for this disease, but to date there have been no further cases. Presently it would appear that there is an extremely low incidence of the parasite in Australia, and infection has been confined to pit bull terrier type dogs. There is no evidence to confirm a tick vector for the cases in Australia. This is consistent with the finding of Macintire and co workers[3] in the USA. Transmission by direct contact during fighting has been considered possible (Irizarry- Rovira *et a/* 2000)[4]. The prevalence of the parasite in pit bull terriers and crosses, and in groups of dogs in both Asia and the USA where tick infestation is not regarded as a problem and tick control is aggressive, support this method of transmission.

Moreover as New Zealand has recently banned the importation of pit bull terriers and crosses the likelihood of this disease agent being introduced with dogs from Australia and elsewhere is likely to be reduced even further.

Page 5 under 3.3.1.1 , third paragraph there is a statement that 'In Australia, both *H. longicornis* and *R. sanguineus* are believed to be vectors {Leggoe, 1998)'. As there is no evidence that *Babesia gibsoni* was present in Australia at this time and even today there is no evidence of tick involvement the statement should be quoted as per the paper of Leggoe {1998) 'In Australia, both *R. sanguineus and H. longicornis* should be considered as potential vectors for the parasite'.

Page 5, in last paragraph some information is provided on the hosts of *Haemaphysalis longicornis* in New Zealand. It would be useful if data could be presented on the number of isolations of *Haemaphysalis longicornis* on dogs. It would appear from the scientific literature that this tick is rarely isolated from dogs in New Zealand, although as not all isolations may be published NZ MAF may have additional data. This information is important in the consideration of the

likelihood of exposure and the likelihood of spread within the dog population, which may be extremely low via this mechanism.

Page 6. under 3.3.2 the pre-patent period is given as between 2 and 40 days. It should be noted that in these papers transmission of *Babesia gibsoni* is either vja subcutaneous or intravenous injection not via ticks. In addition in the case of the paper by Meinkoth *et al* (2002)[5] only one of the dogs bad a prepatent period of up to 35 days. Yamane, Conrad and Gardner (1993)[6] in reviewing studies where the parasite was transmitted via ticks reported a considerably shorter pre-patent period than 40 days (one study reported 7 to 11 days, another study 12 to 22 days).

Page 7, under 3.6, the last sentence states 'Nevertheless, serologic testing of people who were considered to have had possible exposure to ticks indicated a seroprevalence rate of 16% (8 of 51 persons) (persing *et at, 1995)*[7]. This statement could be misleading as it could be read as if there was a 16% seroprevalence rate for *Babesia gibsoni* in people. However, the paper quotes results where they used an antigen called WA1 as well as *B.gibsoni* mid *B. microti* in the seroprevalence studies. The authors also stated that the serologic results must be interpreted with caution because of the uncertainty about the specificity of the methods used.

Page 9, 4.2 (Exposure assessment). It is concluded that there is a high likelihood of *Babesia gibsoni* being exposed to susceptible species. However, it is unclear how this likelihood is obtained based on the infom1ation provided in the IRA. Under 4.2.1 it states that *Haemaphysalis longicornis,* a potential tick vector, has a limited distribution in New Zealand and previously it was acknowledged that dogs are not the preferred hosts for this tick. As to the establishment of exotic ticks (infected with *Babesia gibsoni),* it is indicated that they would have a limited distribution or establish inside houses. It seems highly unlikely that a tick would become endemic in New Zealand if it only established inside houses. Although 'high' is not defined in the document, Biosecurity Australia considers that assigning a high likelihood to the exposure assessment is an overestimation.

Page 10, under 4.3,1, second paragraph states that "If *B. gibsoni* became established in New Zealand, eradication would be unlikely to be successful as the tick vector is widespread." This statement contradicts that on page 9 where it is stated that with reference to *H.longicornis* "this tick has a limited distribution in New Zealand".

Page 12, Table 2 and 4.3.2. It is unclear how this table or the conclusion for the consequence assessment is derived nor how the release and exposure assessments are combined with the likely consequences to provide the risk estimate. It would be helpful to have a section in the document explaining how this is undertaken by NZ *MAF.* As NZ MAF have rated the direct consequences of *Babesia gibsoni* as severe, Biosecurity Australia wonders what rating MAF would give to diseases such as FMD or surra that affect multiple species or a disease that is a significant zoonosis.

Page 12 and page 13. Under section 4.4 it is concluded "that the risk estimate *for B. gibsoni* is non- negligible" but under 5.1 it states that "the risk estimate for *B. gibsoni* is high".

Page 15, under 5.2.2.4. The first sentence states that "Yamane, Conrad and Gardner (1993)[8] have suggested that quarantine is necessary to prevent the spread of *B. gibsoni* to countries free of the organism'. The authors actua1ly 5uggested "'that quarantine and serologic testing of imported dogs may be justified..."

I trust that you will be able to give serious consideration to these comments. Please contact either myself or Robyn Martin (+61-2-62723973) should you require further clarification of the issues raised. 1 hope that the risk management measures put in place, whilst minimising the introduction of *Babesia gibsoni* to New Zealand, will continue to facilitate tran-tasman movement of dogs for the benefit of both countries.

Yours sincerely

David Banks
General Manager
Animal Biosccurity

1 .A.m J Vet Res (1993) 54; 1579-1584
2. JAVMA(1982) 180: 507.511
3 JAVMA(2002) 220: 325-329
4 Vet Clin Path (2001) 30; 180-188
5 JAVMA (2002) 220: JR5a189
6 J Protozool Res (1993) 3: 111-125
7 New Eng J Med (1995) 332: 298-303
8 J Protozool Rcs (1993) 3: 111-125

## 2. Royal Guide Dogs For The Blind Association of Tasmania and Guide Dogs Association of SA & NT.

16 April 2003

Mr Martin Van Ginkel

Technical Adviser -Risk Analysis

MAF Biosecurity Authority

Ministry of Agriculture and Forestry

PO Box 2526 Wellington

New Zealand

Dear Mr Van Ginkel,

RE: MAF Import Risk Analysis: *Babesia gibsoni in dogs (Canis familiaris)* and dog semen Dated February 2003

Attached is a submission to the New Zealand Ministry of Agriculture and Forestry in relation to the recent measures imposed and the potential measures to be imposed on the importation of canines from Australia to New Zealand, in light of the recent risk analysis relating to *Babesia gibsoni* conducted by Helen Beban.

The impact of those measures already implemented and, in particular, some of the measures recommended for implementation in the risk analysis, have the potential to cripple the Guide Dog Programs of Royal Guide Dog Association of Tasmania and Guide Dogs Association of SA & NT Inc.

It is our sincere desire that a solution to the issues detailed in our submission can be addressed, whilst maintaining the integrity of bio-security measures implemented by New Zealand to prevent the introduction of *Babesia gibsoni*

Should you have any queries regarding the content of the attached submission please contact the following:

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Kind Regards,

Dan English
Manager -Guide Dog Services
Royal Guide Dogs Tasmania

Submission by Royal Guide Dog Association of Tasmania and Guide Dogs Association of SA & NT Inc. re: MAF Import Risk Analysis: *Babesia gibsoni* in dogs (Canis familiaris) and dog semen Dated February 2003

**Background**

In early March 2003, Royal Guide Dog Association of Tasmania (RGD) was advised by our local AQIS veterinarian that issues had arisen relating to the international transfer of canines from Tasmania to New Zealand. Our local AQIS veterinarian contacted RGD immediately, due to his familiarity with our regular transfer of guide dog stock to and 8 from New Zealand.

Upon learning the full extent of the situation surrounding the *Babesia gibsoni* parasite, it was immediately apparent that this issue could have disastrous impacts on the Guide Dog Programs in both Tasmania and South Australia.

**Guide Dog Production**

The relationship between RGD and Royal New Zealand Foundation for the Blind - Guide Dog Services (GDS-NZ) commenced in earnest in approximately 1998, when RGD contracted GDS-NZ to assist in the provision of guide dogs and guide dog related services to blind and vision impaired people in Tasmania. In early 1999, this relationship developed further with the provision of six puppies to be raised in Tasmania and subsequently returned to New Zealand for training as Guide Dogs.

In 2000, this relationship evolved into a mutually beneficial partnership based on the regular supply of puppies for rearing and training in Tasmania, followed by the exchange of fully trained guide dog stock to ensure optimum results for the selection of the most appropriate guide dog for every blind or vision impaired individual in either Tasmania or New Zealand. Puppies that have been reared and trained in Tasmania are included in the guide dog matching processes in New Zealand twice per year, thus allowing both organizations to benefit from an expanded pool of available guide dog stock. During the following years, Guide Dog stock has regularly been transferred to and from New Zealand, providing greater depth of stock and many mutual benefits for both Tasmania and New Zealand.

In 2002, the strength and value of this relationship was recognised as other Australian organizations investigated the viability of entering into the partnership arrangements - pioneered by RGD and GDS-NZ. Guide Dogs Association of SA & NT Inc . (GDASANT) entered into a cooperative partnership with GDS-NZ during the course of 2002, and now also regularly exchange stock to and from New Zealand.

**Impacts of proposed import control standards**

The current measures, in the process of being implemented and which come into force on 12 May 2003, will add expense to an already costly exercise in the trans-shipping of stock to New Zealand. Further it will add complexity to the pre-export schedules of testing and presentation to a veterinarian. These measures would, despite the additional costs in time, resources and money, ensure the current processes for mutual exchange of guide dog stock between Tasmania / South Australia and New Zealand remained viable.

It is, however, the potential threat of a lengthy pre-export quarantine that presents significant concern. Any move to implement a pre-export process of quarantine, prior to departure of stock departing Australia, would in all likelihood destroy the current - exchange program between RGD / GDASANT and GDS-NZ. -

The current schedules for testing in relation to heartworm, allows blood samples to be taken 30 days prior to departure. This allows sufficient time to present each dog for testing, obtain the necessary results, organise appropriate transfers (recognising that the vast majority of our stock are transferred in the aircraft cabin, accompanied by qualified staff) and finalise pre-export processes.

The proposed quarantine process would place the dog in a secure facility, where no further guide dog training could be effected, for a minimum of 40 days, after which testing could be conducted. Testing must be turned around in 10 days in order to meet the export standards, yet this leaves insufficient time to arrange any but the most expensive flights, or else leave charitable organizations open to a situation where they may have to forfeit significant travel costs should a test return a positive result.

Whilst the transfer of canines as cargo may not be significantly impeded by these measures; if implemented, these measures would render the transfer of guide dog stock virtually impossible, thus terminating an arrangement of significant social and financial benefit to benevolent organizations on both sides of the Tasman.

**Recommendations**

RGD and GDASANT would be most appreciative if MAF would look favourably on the following suggestions:

1. That specific exemptions regarding quarantine be put in place for guide dog stock, thus recognising the significant efforts that are invested in the health, well being and parasite control of guide dog stock.

2. That the testing interval be extended from ten days to a minimum of 25 days to allow turn around of test results and still allow individuals and organizations dealing with guide dog stock to access appropriate travel arrangements.

3. That every effort be made to synchronize testing procedures relating to *Babesia gibsoni* with those pre-export requirements already in place in order to minimise the attendant costs for both individuals and charitable organizations.

Your assistance in this matter is greatly appreciated. The difficulties associated with accommodating the needs of specific groups or individuals with the necessary biosecurity measures to protect New Zealand from .*Babes/o gibsoni* are recognised and acknowledged. Any concessions or consideration of the issues affecting our organizations that will allow us to maintain our relationship with Royal New Zealand Foundation for the Blind- Guide Dog Services, would be of significant benefit to our organizations and the blind and vision impaired people we represent.

Dan English
Manager- Guide Dog Services
Royal Guide Dog Association of Tasmania

Tracey White
Guide Dog Services -Unit Manager
Guide Dog Association of SA & NT

## 3. New Zealand Kennel Club

Director/Secretary, New Zealand Kennel Club, Private Bag 50903, Porirua, Wellington 6220

4 May 2003

Martin Van Ginkel
Technical Adviser
Risk Analysis
MAF
PO Box 2526
Wellington

Dear Mr Van Ginkel

**Subject: Submission on the MAF import risk analysis – *Babesia gibsoni***

The New Zealand Kennel Club represents over 8,000 dog owners and breeders throughout New Zealand who will be drastically affected if the Recommended Sanitary Measures as outlined in your risk analysis were to proceed.

We recognise the need for New Zealand to take every measure possible to protect against any import risk and will support those measures should they be shown to be necessary. However we must also be mindful of the needs of our members and to ensure that any measures that are put into place are fair and equitable to them.

We trust that the attached document provides sufficient detail for you to consider our submission and we look forward to further discussion in due course.

Yours sincerely
NEW ZEALAND KENNEL CLUB

Martin Hewitt
Executive Councillor

# Submission on Import Risk Analysis - *Babesia gibsoni*

from

**NEW ZEALAND KENNEL CLUB INC.**

**Executive Summary**

The New Zealand Kennel Club (NZKC) is the authoritative body for canine affairs in New Zealand.

That there have been insufficient cases of *B. gibsoni* reported in Australia to prove that the disease is endemic to that country.

That there is doubt about the likelihood that *H. longicornis* is an effective transmitter of the disease, on the basis of the Japanese research. As this is shown as the major pathway in Figure 1 we consider that there is enough doubt that further research needs to be undertaken.

We submit that there is insufficient evidence to impose the proposed sanitary measures on New Zealand dog owners.

That further discussions be held with interested parties.

## 1. Introduction

The New Zealand Kennel Club (NZKC) is the authoratative body for canine affairs in New Zealand. It provides registry and advocacy services for its members via the full-time office in Porirua.

- Recognised Canine Control Body for NZ
    - NZ Government
    - International Authorities
- National Controlling Body for Canine Sports and Activities
- Keeper of the Canine Register
- Organiser of the National Dog Show

The NZKC runs and administers many events for it's member societies including:

- Conformation Shows
- Obedience
- Agility
- Gundog Trials
- Working Trials

- Sled Dog Racing
- Hound Racing and Coursing
- Hunting

The NZKC administers a large organisation that consists of:

- Members 8,553
- Member Societies 329
- Turnover in excess of $ 1 Million
- Permanent staff of 12
- Fixed Assets in excess of $ 2 Million
- Freehold Properties in Auckland and Wellington

## 2. Introduction

The NZKC is a responsible body that recognises the need for regulation affecting New Zealand's Biosecurity. If the measures that are being proposed are proven to be necessary and that there are no alternatives then we will provide our full support.

However as an advocate for our members we must ensure that any measures are both fair and equitable to them and balanced against the real risks involved.

Our submissions are based on these factors and expert advice that we have received.

## 3. The effects of the recommended sanitary measures on NZKC members

Many of our members import and export dogs, some on a regular basis. In general our sport is an amateur one however included in our ranks are those who derive all or part of their living from breeding, grooming, boarding or transporting dogs.

In addition to this a number of our members have shared breeding programs between New Zealand and Australia in particular.

Therefore any proposal to add additional costs and delays to the importation of dogs is viewed very seriously by our members and the NZKC as a whole.

There are three main ways in which the proposed sanitary measures will have a major affect on our members, these are:

a. The importing of dogs from overseas for the improvement for show, breeding or companion purposes by our members.

   This is common practice to improve the bloodlines in this country, especially in rare breeds. In many cases breeds are not common in this country and to ensure that the diversity of breeds is maintained then this must continue

b. The temporary import and export of dogs for breeding or mating purposes.

*Again this is common practice for New Zealand breeders and in most cases this is done in conjunction with Australia with many Australian breeders also taking the same opportunity.*

c. The temporary import and export of dogs for showing or competition.

*This is also two way traffic and again mainly affecting the movement of dogs between Australia and New Zealand.*

The New Zealand Kennel Clubs registers the importing and exporting of purebred dogs by the issue of Certified Export pedigrees so our statistics on numbers and countries involved are very reliable. Our statistics very closely parallel those shown in Table 1, with the vast majority of movements being between New Zealand and Australia.

Given the numbers shown in Table 1 it is clear that our members will be the ones who are most directly affected as a group by these proposals and this is why we view them so seriously.

These proposals will also have an economic effect, as the there is considerable costs already involved much of which goes back into the New Zealand economy.

If the proposals are to proceed then it will decimate the trade between New Zealand and Australia in particular.

Dogs will still be imported but the cost of doing this will conservatively triple due to the 40-day quarantine and the blood testing. This means that the numbers being imported will drop right away.

It will be almost impossible for bitches to be sent to Australia for mating. It is normal practice to mate the bitch and then wait for approximately 28 days before shipping her back again to ensure that she is in whelp. If following this 28 day period a further 40 day period of quarantine is to be imposed then she would be too close to whelping to send and would therefore have to whelp in quarantine. The mother and puppies would then have to stay in quarantine until they were old enough to travel which would effectively extend the 40 day period a further 50 to 60 days. This is far too much strain on a dog and will impose a massive cost which will render it almost impossible to carry out.
Dogs that are sent in either direction for the purposes of showing or competing will suffer the same fate and again this will prove to be to be impractical from a timing point of view and also cost.

## 4. Submission

That the proposed sanitary measures are not proceeded with at this time.

We base this submission on the attached report from Dr. Paul Mason (Attachment 1). The main points being:

- That there have been insufficient cases of *B. gibsoni* reported in Australia to prove that the disease is endemic to that country.

- That there is doubt about the likelihood that *H. longicornis* is an effective transmitter of the disease, on the basis of the Japanese research. As this is shown as the major pathway in Figure 1 we consider that there is enough doubt that further research needs to be undertaken.

- The fact that other carriers may be introduced is no reason to impose such a drastic regime at this time.

- The evidence does not support the view that the risk estimate for *B. gibsoni* is non-negligible

- If following all other submissions it is still decided to proceed with a management regime then the NZKC and other interested parties be invited to discuss the exact details of such a regime. This would be done with a view to adopting a regime that has as little impact as possible on our members.

## 5. Recommendations

The NZKC are concerned about the late communication to us and other interested stakeholders on this matter. We understand that this has been under investigation since early in 2002 and yet the first we heard about this was the latter dated 10th March 2003.

We would recommend that in future if an issue relating to possible changes to Biosecurity issues for dogs should arise that MAF consult with the stakeholders at the earliest possible convenience.

We would further recommend that a meeting be set-up between all interested groups on this issue to see if there are areas of common ground which we can agree on.

## 6. Conclusion

The combination of the points raised in our submission does not warrant the imposition of such a draconian management regime on New Zealand dog owners.

These submissions have not been taken lightly and there are serious concerns that the NZKC has with the measures being suggested, we look forward to further discussions with MAF on this subject in due course.

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# APPENDIX 1

29 April, 2003

**To:** **Martin Hewitt and Executive of the NZKC**

**Subject:** **MAF Biosecurity Document:**
**"*Import risk analysis*: *Babesia gibsoni* in dogs (*Canis familiaris*) and dog semen." Hereafter known as the "Document".**

**Summary**: This is a well researched and well written analysis.

*It clearly identifies:*

- *Babesia gibsoni* as an undesirable pathogen of dogs that should be kept out of New Zealand, and
- sets out a quarantine procedure for achieving this.

But it has some weaknesses:

- the suitability of *Haemaphysalis longicornis* as an intermediate host depends on only one study, which suggests it is not an efficient transmitter of *B. gibsoni*; and
- there is only one record of positive dogs in Australia.

*I believe there are other control options available apart from those stated in the Document, such as:*

- *quarantine in New Zealand, and*
- *continuous treatment of dogs visiting Australia for a short time, with fipronyl.*

*The statements in the summary are expanded in the discussion that follows.*

**Discussion**

Assumptions

I certainly agree that we should protect New Zealand from the introduction of *Babesia gibsoni*, which is a pathogen for dogs (*Canis familiaris*).

Looking at the Document as a dog breeder, the proposed control measures are draconian, particularly for dogs coming from Australia. Dog movements between New Zealand and Australia are common. Apart from dogs moving either way with their owners into permanent residence, there are dogs travelling both ways for a short time for showing, and bitches travelling both ways for mating. Import regulations will not allow pregnant bitches to imported from Australia if they are more than 42 days pregnant.

## TRANSMISSION OF *BABESIA GIBSONI*

1. There is only one mammalian tick endemic in New Zealand. This is the cattle tick *Haemaphysalis longicornis*. This tick is widespread in the North Island, but is seldom found south of the Nelson area in the South Island. So, in effect this tick is absent from most of the South Island.

2. The Document assumes that *Haemaphysalis longicornis* is an effective transmitter of *Babesia gibsoni*. This assumption is based on work carried out in Japan and reported in 1974 by H Otsuka. [Helen Beban kindly sent me a copy of the paper.]

3. The English in the paper is poor, and the experimental procedure is difficult to follow, but I think I have worked out what it says. Several things emerge from this paper:

    3.1. This work was carried out in Japan in 1974 or earlier

    3.2. Transmission of *Babesia gibsoni* by *Haemaphysalis longicornis* has not been investigated elsewhere. Looking at Table 1 in the Otsuka paper

    3.3. Infection of dogs only occurred after transovarian transmission of *H. longicornis*. To expand, the only dogs that became infected were those that were infected by bites of tick larvae or nymphs whose mother had fed on an infected dog.

    3.4. Infection of dogs only occurred when they were exposed to very large numbers of infected ticks, greater than 653 per dog.

    3.5. Dogs did not become infected when exposed to ticks that had been infected with *Babesia* in the same tick generation.

    3.6. This all indicates that *Haemaphysalis longicornis* in Japan is a very poor transmitter of *Babesia gibsoni*.

4. On the basis of this evidence, transmission in New Zealand presupposes that a dog is attacked by greater than 600 ticks whose mother(s) has been infected with *Babesia gibsoni*, somewhat of a long card in my estimation.

5. There is some evidence that New Zealand acquired *Haemaphysalis longicornis* along with cattle imported from Japan more than 100 years ago. Over that sort of period of time considerable changes in genome can occur through genetic drift alone in a different environment, let alone through unconscious selection.

6. The work reported by Otsuka appears to be the only evidence that *Haemaphysalis longicornis* will transmit *Babesia gibsoni*.

7. The validity or applicability of Otsuka's work can be questioned. This is an area where more research is needed. As this work would have to be done overseas however, it would be expensive.

## WHAT IS THE PREVALENCE AND DISTRIBUTION OF *BABESIA GIBSONI* IN AUSTRALIA?

1. New Zealand dog owners would be most concerned at obstacles put in the way of easy movement of dogs to and from Australia. Moving dogs from most other countries to New Zealand has always been an involved process. Consequently, the finding of *Babesia gibsoni* in Australia is of special interest to dog owners in New Zealand.

2. A 40 day pre-embarkation quarantine for dogs moving from Australia to New Zealand would be a substantial obstacle to dog movements.

3. According to the Document, there has been one report of dogs in Australia infected with *Babesia gibsoni* (Hood, 2002). The only report of *Babesia gibsoni* in Australia is by Jeni Hood, a journalist with The Veterinarian. Reportedly, *B. gibsoni* was found in 3 related American pit bull terriers in Victoria. Although The Veterinarian is not a peer reviewed journal, there is no reason to doubt the diagnosis.

4. It is not known how many other dogs in Australia are infected with *B. gibsoni*. It is not known how widely *B. gibsoni* is distributed in Australia.

5. Despite 1730 dogs moving from Australia to New Zealand in 2001, and presumably similar numbers in other recent years, Beban (2003) found no evidence that *B. gibsoni* is in New Zealand. This suggests that either the prevalence of *B. gibsoni* in Australia is low, or the dogs moving to New Zealand have come from parts of Australia where *B. gibsoni* does not occur, or *B. gibsoni* is an emerging disease in Australia. Crying wolf over one identification of *B. gibsoni* in Australia may be an over reaction.

## PRE-EMBARKATION QUARANTINE – ARE THERE ANY ALTERNATIVES?

If the recommendations of the Document are adopted, are there any ways they can be made more user-friendly?

1. Dogs moving between Australia and New Zealand can be broadly classified into three groups that will be affected by pre-embarkation quarantine:
   a) Dogs resident in Australia moving permanently to New Zealand.
   b) Dogs normally resident in Australia moving to New Zealand for a brief time for showing or mating.
   c) Dogs normally resident in New Zealand moving to Australia for a brief time for showing or mating.

2. The latter two categories will be most severely affected by a 40+ day pre-embarkation quarantine.

3. My suggestions:

   a) For dogs moving permanently to New Zealand, instead of having to undergo 40+ days pre-embarkation quarantine, there is the option of going through 40+ days post-arrival quarantine in a part of New Zealand where the tick *H. longicornis* is not present (e.g. Canterbury). The understanding of course would be that if the dog tested positive for *B. gibsoni*, it would either be returned to Australia, or destroyed. This would have the following advantages:
      - Quarantine would be under New Zealand control
      - Owners could visit their pets
      - Quarantine fees would make a positive contribution to the New Zealand economy

   **b)** For dogs moving between New Zealand and Australia for a short time for showing or mating. Introduce a "pet passport system" and use fipronil to protect the dog from ticks.

      Treat with fipronil a week before moving country, and re-treat at 2 weekly intervals. Treatment to be administered by a veterinarian and recorded on the pet passport. Allow a margin of plus or minus one(?) day for retreatments. If "dog" failed to comply with the treatment regime then if would fall back to the quarantine approach.

***References***

All references used here have been cited in the Discussion Document.

## 4. Ministry of Health

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P.O. Box 5013
Wellington
New Zealand
Phone (04) 496 2000
Fax (04) 496 2340

9 April 2003

Martin Van Ginkel
Technical Adviser
Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
WELLINGTON

Dear Martin

Thank you for your letter to Dr Karen Poutasi of 10 March seeking Ministry of Health comment on the Import Risk Analysis for *Babesia gibsoni* in dogs *(Canis familiaris)* and dog semen (February 2003) (the IRA). (Please note there is a typo on cover: "Cani familiaris").

The Ministry of Health has the following comments:

**1.** 3. Hazard identification:
The Ministry of Health views the hazard Identification stage of a risk analysis as the opportunity to describe a potential hazard in isolation, without reference to time place, exposure etc. The IRA has included discussion of possibility of the introduction of *B. gibsoni* into New Zealand in this section and as a result there is confusion about the nature of the actual hazard.

**2.** It should be made clear that the different strains of *B. gibsoni* have not been considered separately in the IRA, as the risk is assessed as being generic. If this is not the case the different strains of *B. gibsoni* and their impact need to be described in the hazard section separate from discussion about prevalence etc. And it needs to be made clearer which strains are being discussed in various parts of the document and why. For example 3.2 New Zealand's status: Why was the *B. gibsoni* (Asia) antigen alone used when testing the New Zealand dogs if they were from California? *B.*

*gibsoni* (California) appears to be a potential threat to other species including humans, and is described as causing a more severe form of disease in canines. Also infection of the Spanish strain is described as causing severe symptoms and we were importing dogs from the UK at the time. If the *B. gibsoni* (Asia) antigen detects the other strains this should be stated.

**3.** The increased prevalence of disease in the so-called 'fighting' breeds is presumably because of the increase in transmission possibilities due to fighting, therefore prevalence is linked to behaviour not the breed; it is unlikely that the animals tested in New Zealand were being used for fighting.

**4.** 3.3.1.1 Tick transmission: It is not clear in the IRA whether *Haemaphysalis longicornis* is a competent vector of *B. gibsoni* (California). Also is it to be concluded from the IRA that although capable hosts of *H. longicornis* include sheep, cattle, deer and birds, only dogs are adversely affected by *B. gibsoni* (Asia) infection, or is it that these hosts of the tick are not infected at all by the organism? This information effects the consequence assessment.

**5.** 3.3.1.2 Direct transmission: It should be clarified whether there are guidelines to prevent veterinary cross infection by surgical instruments and needles in New Zealand.

**6.** 3.3.1.3 Other routes of transmission: It does not appear that the possibility of transplacental transmission been taken into account in the recommended measures.

**7.** 3.6 Zoonotic potential: There is no comment on the zoonotic potential (or lack of) of *B gibsoni* (Asia).

**8.** 4. Risk assessment: The lack of clarity over the relative hazard status and risks of the three strains of *B. gibsoni* is continued through the risk assessment section.

**9.** The Ministry of Health notes that we have been importing dogs from countries with *B. gibsoni* for some time and yet we believe we do not have (at least) *B. gibsoni* (Asia) in New Zealand despite the assessment's conclusion that the introduction of *B. gibsoni* is "non-negligible" (4.1.3 Release assessment conclusion). This requires some discussion.

**10.** MAF seems to be assessing the risk of *B. gibsoni* "so that safeguards may be put in place as soon as possible" (2.1 Background) because *'[Babesia gibsom]* has recently been reported from Australia' (3.3 Epidemiology), and the bulk of dogs imported to New Zealand are from Australia. It appears that the reports of *B. gibsoni* in Australia relate to three dogs in a single premise in Victoria. Given that a single finding has prompted the assessment it would be helpful to have more in-depth discussion on the assumption that this finding indicates that *B. gibsoni* is endemic in Australia.

**11.** 4.1.2 Dogs harbouring infected fleas: Fipronil is spelt incorrectly.

**12.** 4.3.1 Direct and indirect of consequences: There is no discussion of the consequences of infection in working dogs, only of the financial and emotional burden on dog owners were their dogs to become infected.

**13.** As Fipronil is a common flea treatment we question any financial burden on dog owners relating to regular tick treatment.

**14.** The discussion provided in the IRA and the lack of clarity around strains does not lead the Ministry of Health to support the statement "there is a potential for serious disease in splenectomised or immune-compromised humans".

**15.** Figure 1: There seems to be a missing link between "Dog bites other dogs" and "Possible spread to other dogs". The table needs adjusting to make some of the box text complete: "Dog bitten by. ..", "Tick bites other. .." etc.

**16.** Table 2: It is unclear which strain of *B. gibsoni* is referred to in this table therefore it is possible that "possibly severe" for human impact is questionable. Also the likelihood of spread to other animals is probably high, but the significance is low (if alternative tick hosts are infected but not affected, see comment under 3.3.1.1 above).

**17.** More discussion is required to justify an environmental significance of "moderate to severe" and similar statements in the 4.3.2 Consequence assessment conclusion text.

**18.** 5. Risk management:

Shouldn't the Objective(s) (5.2.1) also be to minimise the likelihood of establishment of further capable vectors? The risk assessment covers the risks of establishment of exotic ticks therefore measures to mitigate against the establishment of exotic ticks should be part of the recommended risk mitigation measures. It is unclear whether tick inspection of imported dogs is the only measure currently in place to minimise the risk of new tick species establishing in New Zealand, or whether there are other pre-border measures.

**19.** 5.2.2.3 Diagnostic tests b) *serology* the advice to test for the strains endemic in the countries the imported dogs have resided in strengthens the requirement for more clarity around the hazards posed by the various strains of B.*gibsoni.*

**20.** 5.2.3 Recommended sanitary measures: Shouldn't there be a timeframe in the first measure? Also what would a country have to do for New Zealand to be sure that the country of exports is a. *gibsoni* free?

**21.** The second measure could involve dogs being quarantines for 80 days; surely there is a sequence of measures that would avoid this duplication.

Also who would decide whether the dogs would be re-shipped or destroyed?

**22.** There is no discussion of measures to mitigate the risk of transplacental transmission of *B. gibsoni* being the mode of entry into New Zealand.

The Ministry of Health does not necessarily disagree with the precaution of imposing measures to manage the risk of *B.gibsoni* entering New Zealand via importation of dogs, but Health officials think that the IRA needs more rigorous argument to support such measures.

Thank You again for the opportunity to comment.

Yours sincerely

Sally Gilbert

Chief Technical Officer (Health)
*Public Health Directorate*

## 5. Department of Conservation

# Import Risk Analysis; *Babesia gibsoni* in dogs (*Cani familiaris*) and dog semen

Thank you for the opportunity to comment on this Import Risk Analysis. The Department of Conservation would like to make the following comments.

**General Comment**

This risk analysis looks at the biosecurity risk posed by *B. gibsoni* in Dogs only. The background information indicates that this parasite is considered a potential hazard in the cat and dog import risk analysis being undertaken by MAF. A link to this assessment would be useful.

Overall the document is lacking in detail in the assessment of effects on the environment and it is difficult to ascertain whether or not the assessment was adequate.

Overall the mitigation measures proposed to ensure that this parasite does not enter the country via imported dogs seem adequate. The Department notes however that there may be other pathways by which this parasite enters the country that are not analysed here.

**Section 3.3 Epidemiology**.

The report indicates that *B. gibsoni* is endemic in California and is closely related to isolates from wildlife and humans from the western United States. The report also states that the zoonotic potential of this organism is uncertain; however other *Babesia* species are known to result in serious illness in humans. This indicates that there is the potential for this parasite to move across species barriers ie other *Babesia* species have moved from rodent or ruminant to human. The report indicates that the host tick species *H. longicornis* will attach to virtually all mammals as well as some birds, however there has been no discussion of the potential of this parasite to infect these host species. A discussion on the potential for this parasite to transfer across species should be included.

**Section 4.2 Exposure assessment**

This section indicates that many mammals and birds act as hosts for *B. gibsoni*.
The summary of the assessment provided in Section 4.2.3 Exposure assessment states that *"There is a high likelihood of B. gibosoni being exposed to susceptible species in New Zealand.* A detailed list of the susceptible species and the parasites host species should be added to this assessment.

**Section 4.3 Consequence Assessment**

This section states that as New Zealand does not have ay indigenous canine species that the effect on native animal populations would be negligible. As indicated earlier, the assessment has not provided adequate evidence to rule out that parasite would not cross species barriers and not affect indigenous wildlife. Note that in Table 2, the consequence assessment on the environment indicates that the significance is moderate to severe and the likelihood high. If

this assessment relates solely to the social and cultural affects of the parasite i.e. in dog owners well being etc, this should be made more implicit. Further details of how the assessment of affects on wildlife and the environment (social and cultural) should be included in the assessment as at present little or no detail of this has been included.

**Section 5.2.3 Recommended sanitary measures**

One of the measures proposed is that imported dogs must have resided in countries which can demonstrate freedom from *B. gibsoni.* This seems incongruous to the comment in section 5.2.2.1 country freedom which indicates that proving freedom from the parasite would be difficult and that adequate surveillance would be needed. The assessment also indicates that it would be necessary to show that all countries in which the dog resided was free. Given all the variables associated with this measure, there seems to be a high likelihood that this measure alone will not reduce the risk of a carrier dog remaining undetected.

**6. The Royal New Zealand Society for the Prevention of Cruelty to Animals**

# SUBMISSION

BY THE

## Royal New Zealand Society for the Prevention of Cruelty to Animals Inc

ON THE

## Import Risk Analysis: *Babesia gibsoni* in dogs (*Cani familiaris*) and dog semen

MAF Biosecurity Authority, February 2003

5 MAY 2003

## INTRODUCTION

The Royal New Zealand Society for the Prevention of Cruelty to Animals Inc (the SPCA) is a not-for-profit organisation with the goal of advancing the welfare of all animals in New Zealand, whether those animals are farmed for the table, are wild or are kept as companions. The SPCA has been recognised as an approved organisation under the Animal Welfare Act 1999, and currently has over 130 appointed inspectors and auxiliary officers working in the field. The SPCA represents a wide cross-section of the community and has over 100,000 members and supporters nationwide. The SPCA welcomes the opportunity to make this submission.

## BACKGROUND

The SPCA notes the following points from the import risk analysis conducted by MAF Biosecurity on *Babesia gibsoni* in dogs and dog semen:

- *Babesia gibsoni* is a tick-transmitted blood-borne parasite of wild and domestic dogs.
- The New Zealand cattle tick is known to be capable of transmitting the disease.
- The disease has two clinical forms. In its acute form it is characterised by fever, lethargy, haemolytic anaemia and marked thrombocytopenia. In its chronic from it is characterised by intermittent fever, lethargy and weight loss, and may persist for years.
- The clinical signs of *Babesia gibsoni* infection are variable. In some cases the disease is fulminative with multiple organ failure and death, while other cases have been documented as being mild and, in some cases, unapparent disease.
- No drugs have proven to be effective for the elimination of *Babesia gibsoni* from infected dogs. Some antibabesial drugs can reduce the severity of clinical signs and the mortality associated with the disease. Recovered dogs commonly become chronic carriers, thereby posing a source of infection for other dogs and ticks.
- Dogs that are incubating the infection, or are in the acute or chronic phase of the disease, can potentially transmit *Babesia gibsoni*. Of particular importance are dogs that are in the premunition phase (are clinically normal but harbour the organisms and may develop parasitaemia).
- No vaccines for *Babesia gibsoni* are available.
- There is no evidence that semen poses a risk of introduction of *Babesia gibsoni* in imported dogs.
- *Babesia gibsoni* has never been reported in New Zealand and is notifiable.
- *Babesia gibsoni* is recognised as being widely distributed in Asia, Africa, Europe, Middle East, Brazil and North America, and has recently been reported from Australia.
- Imported dogs from these areas could potentially introduce *Babesia gibsoni* either by carrying the organism at the time of importation or harbouring infected ticks.
- The direct consequences of infection with *Babesia gibsoni* in New Zealand would be severe, it is likely to become widespread and eradication would be impossible.
- Control costs would be high for dog owners. Frequent tick treatment would be necessary to prevent exposure to the disease.

## SPCA'S POSITION

Given the nature of *Babesia gibsoni* and its potential impact on the dog population and dog owners should it become established in New Zealand, the SPCA fully supports the recommended sanitary measures in section 5.2.3 of the report that, in summary, imported dogs must either:

(1) have resided in countries which can demonstrate freedom from *Babesia gibsoni*; or

(2) (a) undergo a 40-day period of pre-export treatment and quarantine in the country from which they are being exported, and then only be exported on the return of acceptable test results at the end of that period; and

(b) be inspected for ticks on arrival in New Zealand and, if ticks are found, be subjected to a 40-day period of treatment and quarantine.

While the SPCA recognises that there are likely to be increased costs associated with importing dogs into New Zealand, the Society believes these must be balanced against the potential cost to all dog owners in New Zealand should *Babesia gibsoni* become established here.

## SUMMARY

The SPCA thanks MAF Biosecurity for the opportunity to make a submission on the import risk analysis of *Babesia gibsoni* into New Zealand. The SPCA fully supports the proposed recommended sanitary measures in section 5.2.3 of the report.

**Peter Mason**

President
Royal New Zealand Society for the Prevention of Cruelty to Animals

5 May 2003

## 7. Companion Animal Society, New Zealand Veterinary Association

CAS response to the proposed Import Risk Analysis for Bebesia Gibsoni in Dogs

- The tick borne disease Babesia Gibsoni can cause serious disease in dogs, possibly be zoonotic, can be spread directly via dog to dog contact if established, has suitable hosts [NZ cattle tick] in this country, and can result in a long term carrier state in affected dogs.
- The disease is endemic in countries that NZ commonly imports dogs from, and with similar climates to NZ where our Cattle Tick is found [ mainly North Island ], eg Japan and Victoria/Australia.
- Testing for the disease is not 100% reliable in dogs that are in the early stages of infection [ <40 days], and no insecticide is 100% effective in killing ticks.
- Once endemic, it is unlikely that the disease could be eradicated.
- Recent surveys do not show any history of infection in NZ, yet.

Taking the above main points into consideration, it would seem prudent to introduce safeguards to protect the NZ dog population.

However, as these safeguards are likely to involve pre-export quarantine for almost 2 months to all dogs, the effects will be far reaching, especially in dogs that are exported for short periods. Exporting owners will have to be made aware of this via their Vet or the NZKC. Likely problems will be dogs travelling overseas for matings, as a pregnant dog will not be safely imported again at 7-8 weeks pregnant.
Dogs leaving the country for short terms also include shows, owners holidays etc. hence, CAS recommends that the NZKC be consulted re this proposal.
As semen appears to be safe, this form of breeding may become the preferred option when looking at Australia in particular.

In summary, CAS supports the planned safeguards but requests that there is considerable promotion/explanation instigated to the pet owning public.

Steve Merchant
CAS
NZVA

## 8. New Zealand Food Safety Authority

**From:** Stuart MacDiarmid
**To:** van Ginkel, Martin
**Date:** 13/03/2003 15:22:55
**Subject:** Import risk analysis: Babesia gibsoni in dogs

Martin,

thank you for the opportunity to comment on this risk analysis.

As there are no food safety issues involved here, I will not be offering an in depth commentary.

I make the observation, however, that the consequence assessment conclusion [section 4.3.2. page 12] considers only consequences to pet dogs; "Control costs would be high for pet owners."

I think this is an unfortunate oversight, given the importance of working dogs to New Zealand's livestock industries, Customs service, Police, MAF Quarantine Service etc. There is also the threat to guide dogs for the blind to be considered.

I accept that the current wording may merely be a "shorthand" to cover all classes of dog and dog ownership. However, given that a number of risk management options are offered, and the acceptability of these to some categories of dog owner will be different, I hope that Biosecurity's consultation on this document included the dog-owning sectors mentioned above. I venture to suggest that owners of pets and show dogs would probably be happy with minimum restrictions to their movement of dogs to and fro across the Tasman. However, the owners of some working dogs may want a higher level of protection.

Sincerely,

Stuart C MacDiarmid
Principal Adviser, Zoonoses and Animal Health,
Programme Development Group,
and Adjunct Professor in Veterinary Biosecurity (Massey University)

New Zealand Food Safety Authority
PO Box 2835
South Tower, 86 Jervois Quay
Wellington
New Zealand

Phone: +64-4-463 2500
DDI: +64-4-463 2648
Fax: +64-4-463 2530
Mobile: 021 443 501

**CC:** Pharo, Howard

## 8. Dr W.E. Pomroy, Massey University

**Submission on "Import Risk Analysis: *Babesia gibsoni* in dogs and dog semen"**

W. E. Pomroy, Institute of Veterinary, Animal and Biomedical Sciences, Massey University

I certainly agree that we do not want this parasite to establish in New Zealand. However, I would like to comment on this document from one particular perspective. A considerable weight of opinion about the ability of *Haemaphysalis* longicornis to transmit this parasite seems to rest on the publication by Otsuka, Bulletin, Faculty of Agriculture Miyazaki University 21(2), 1974. The copy I have been able to peruse only has an English summary and the Figures and a Table are also in English. As a consequence there may be detail in the text that I am anaware of.

In this study the researchers transmitted *Babesia gibsoni* by feeding *H. longicornis* on infected dogs and then allowed the subsequent life cycle stages or progeny to feed on other dogs and then monitored infection, apparently by detecting parasitaemia. It would appear that no control dogs were kept and the origin of the experimental dogs used is not clear. It would seem important that these dogs were not previously infected but the detail is presumably within the Japanese text about the procedure followed to make this assessment? The prevalence of *B gibsoni* in Japan in 1974 is also unclear but would seem to be relatively common and if pound dogs or non-experimental colony dogs were used it may be possible for them to have been naturally infected before the experiment commenced.

For the experimental dogs in the report by Otsuka, infection was only transmitted in an erratic fashion despite large numbers of ticks being applied to them – this would suggest that *H. longicormis* is not a very successful host for this parasite. *H. longicornis* is an unusual tick in that it is parthogenetic, at least in New Zealand and no males exist. In this paper it is clearly indicated in Fig 1. that both males and female adult ticks were present. For example Dog 115 had 16 female ticks and 12 male ticks fed on it. This would appear to question the provenance of the ticks used, at least in relation to the provenance of *H longicornis* in New Zealand.

In summary, I would suggest the value of this particular report needs to be questioned, given its somewhat pivotal role in this Risk Assessment.

W Pomroy
29/09/2003

**10. Ann Coulson**

# Submission to: Biosecurity Authority

**Ministry of Agriculture and Forestry**
**P.O. Box 2526**
**Wellington**

**Re:** ***Import risk analysis: Babesia gibsoni in dogs (Canis familiaris) and dog semen.***

**BY: ANN COULSON**
**71 Adderley Terrace**
**R.D.1 KAIAPOI**
**Email*:*** acoulson@xtra.co.nz
**Phone: 03-343-7201**

**Date: 30 April 2003**

My interest in the discussion document to manage the risk of introduction of *B. gibsoni* in imported dogs is as a dog breeder.

I have read the risk analysis.

My submission is that:

1. The discussion document fails to make a case for the existence of a biosecurity risk in the import of dogs.

2. The recommended safeguards are excessive for the management of such a low risk of the introduction of the parasite *B gibsoni.*

3. There are no economic or trade implications for New Zealand in the unlikely event that the parasite is introduced into the country.

My submission is based on the following:

*1* *From my 20 years experience in the air freight forwarding industry, handling many tonnes of dogs and cats per month, I noted that imported dogs tend to be domestic pets, and are owned and cared for by responsible people who spend a lot of money to import the animals.*

Most will be household pets changing residence with their owners.

Some will be greyhounds travelling to and from races in Australia.

Some will be pure bred females travelling mainly to and from Australia (and sometimes to and from the UK) to be mated, and some will be pure bred dogs sold to New Zealand residents to enhance the breeding stock already here.

In nearly all cases there is little or no commercial value in the importation. It can be assumed that in nearly all cases the importer of the dog will have an emotional interest in ensuring the dog's good health.

Increasing awareness of the potential harm of the presence of ticks on dogs should be sufficient to reduce the risk even further.

2. The steps proposed in the risk analysis are extreme, given that there are no suitable testing facilities in either Australia or New Zealand, and the time frame for using African laboratories negates the purpose of the test. Tick treatment prior to import, and physical examination on arrival is adequate precautions at this stage of risk estimation.

3. From figure 1, I note the following :

   a) If an imported dog does have the *B. gibsoni* parasite on import, it will either die or become a chronic carrier.
   b) If it dies in a non-tick area there will be no spread of the disease.
   c) If it dies in a tick-infested area without being bitten by a tick, there will be no spread of the disease.
   d) Similarly if a chronic carrier resides in a non-tick area and does not bite another dog there will be no spread of the parasite.

   The discussion paper concerns itself with the possibility that a parasite infested dog will be bitten by a New Zealand tick *Haemaphysalis longicornus*, for which the main host is **not** the dog. The tick needs to feed on an infected dog for 2 – 3 days before transmission of *B. gibsoni* can occur.

   The paper states that *H. longicornus* has a limited distribution in New Zealand, but does not state what that distribution is. By deduction, the major part of New Zealand must be free of *H. longicornus.*

   The risk of the *B. gibsoni* parasite becoming endemic depends on ticks becoming infected and subsequently infecting other dogs.

4. Only dogs are affected.

   Zoonotic transmission to humans is rare and occurs only when the human health has been significantly compromised.

5. There are no economic or trade implications to New Zealand.

**11. Federated Farmers of New Zealand**

# SUBMISSION TO

## Ministry of Agriculture and Forestry
## Biosecurity Authority

## On the

Import Risk Analysis: Babesia Gibsoni in Dogs (Canis Familiaris) and Dog Semen

## By

## FEDERATED FARMERS OF NEW ZEALAND (INC)

28 August 2003

**Contact:** Kerryn Young
Policy Analyst
PO Box 715
Wellington
Ph: (04) 494 9191

# 1. INTRODUCTION

A. Federated Farmers of New Zealand (Inc) is a primary sector organisation that represents approximately 18,000 farmers and various other rural businesses. Federated Farmers has a long history of representing the needs and interests of New Zealand's farming communities, primary producers and agricultural exporters.

B. The Federation aims to add value to its members' farming business. Our key strategic outcomes include the need for New Zealand to provide an economic and social environment within which:

- Our members may operate their business in a fair and flexible commercial environment;
- Our member's families and their staff have access to services essential to the needs of the rural community; and
- Our members adopt responsible management and environmental practices.

C. The total agricultural sector is even more important to the economy than it was fifteen years ago. Its contribution to the New Zealand economy has risen from 14.2 percent of GDP in 1986-87 to around 17 percent in 2001/02 (including downstream processing).

D. Many of our members are responsible owners of working and "pet" dogs.

***Federated Farmers Consultation***

1.5 This submission is derived from consultation with members. For this submission our provincial network was consulted via our well-established "national circular".

# 2. KEY ISSUES

## 2.1 Introduction of B. gibsoni into New Zealand

Federated Farmers support the introduction of a sanitary measure that helps reduce the chance of B. gibsoni becoming established in New Zealand, given the risk involved in the absence of a safeguard.

We believe, given that B. gibsoni is present in a number of countries, and has recently been reported in Australia, that without a safeguard sooner or later the organism would be introduced into New Zealand in Imported Dogs.

## 2.2 Spread of B. gibsoni

Federated Farmers believes that there is enough evidence to suggest that B. gibsoni would become widespread if it was introduced to New Zealand because the New Zealand cattle tick (which is widespread throughout New

Zealand) is known to be capable of transmitting the disease. There are no drugs proven to be effective for the elimination of B. gibsoni from infected dogs; there are no treatments that are 100% effective in eliminating the New Zealand cattle tick; the recommended acaricid (Fiproil Fontline, Merial) is considered to be about 90% effective after 48 hours; and there are no vaccines for B. gibsoni available.

## 2.3 Impact on Dogs

We believe that given the outcomes of the spread of this disease, (which include in severe cases multiple organ failure, immune response and in the worst case scenario death), the impact is significant enough to warrant a stringent sanitary measure be implemented.

## 2.4 Recommended sanitary measure

Given the nature of B. gibsoni and its potential impact, Federated Farmers supports the following recommended sanitary measures, which are stated in section 5.2.3 of the MAF Biosecurity Import risk analysis document.

*In order to achieve the stated risk management objective, imported dogs must either:*

*i) have resided in countries which can demonstrate freedom from B. gibsoni*

*or*

*ii) a) undergo a period of pre-export quarantine in the country from which they are being exported. The dog would be treated with appropriate acaricides upon entry into quarantine and again 14 days later, and the quarantine facility must be able to prevent any new tick infestations occurring during the period of quarantine, which will be long enough to allow testing at the end of the maximum prepatent period for B. gibsoni. After 40 days in quarantine, the dog will be tested by thin blood smear and IFAT (samples to be taken on the same day), and will remain in quarantine until negative results to both tests are received, at which time it will be eligible for export direct from quarantine. A positive result to either test will disqualify the dog for export to New Zealand.*

*and*

*b) be inspected for ticks on arrival in New Zealand. If ticks are found, the dog will be subjected to a period of post-arrival quarantine. Following 40 days in quarantine, the dog will be tested by blood smear and IFAT (samples to be taken on the same day), and will remain in quarantine until negative results are received from the overseas laboratory doing the testing. In the case of a positive result from either test, the dog will be re-shipped or destroyed.*

### 2.5 Cost to Dog Owners

Although the recommended sanitary measures in section 5.2.3 would impose higher costs on the small number of dog importers, we believe that this cost is outweighed by the benefits of preventing the disease from being introduced. If B. gibsoni did establish itself in New Zealand preventative measures such as frequent tick treatment, which would be required to control the spread and prevent exposure to the harbouring infected ticks, would impose high costs on all dog owners.

## 3 SUMMARY

3.1 Federated Farmers support the introduction of a sanitary measure that helps reduce the chance of B. gibsoni becoming established in New Zealand, given the risk involved in the absence of a safeguard.

3.2 We support the MAF recommendation that all dogs coming to New Zealand from countries that are not considered by MAF to be free of B. gibsoni must undergo a period of quarantine prior to export.

## 12. Andrea Wilson

>>> "Andrea Wilson" <rauvet@xtra.co.nz> 04/04/2003 11:28:22 >>>
Dear Martin

Thank you for the fax received yesterday re Babesia gibsoni.

I think that all dogs coming into New Zealand should be tested for B gibsoni after the necessary period of quarantine in the exporting country if Babesia is present in that country. This is the only sensible option to protect dogs in New Zealand if the vector for transmission is present in New Zealand.

DO I need to make a formal submission?

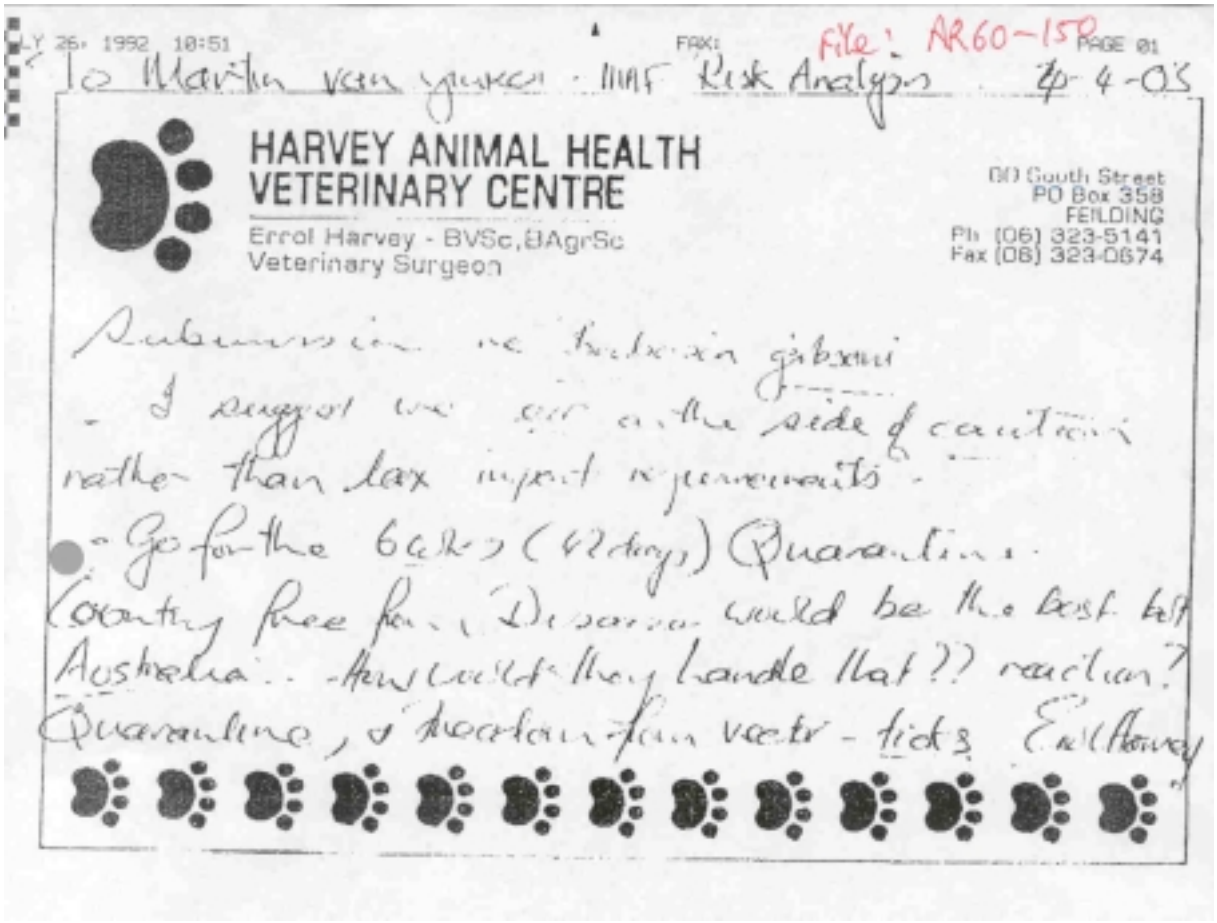
I have placed the public notice up in the clinic.

With thanks
yours sincerely

Andrea

Andrea Wilson
Principal
Raumati Veterinary Centre

## 13. Errol Harvey



Y 26 1992 10:51 FAX: File: AR60-15 PAGE 01

To Martin van Yzerkeel - MAF Risk Analysis 4-05

HARVEY ANIMAL HEALTH
VETERINARY CENTRE

Errol Harvey - BVSc, BAgrSc
Veterinary Surgeon

60 South Street
PO Box 358
FEILDING
Ph (06) 323-5141
Fax (06) 323-0674

Submission re Babesia gibsoni

- I support we err on the side of caution rather than lax import requirements.

- Go for the 6wks (42 days) Quarantine.

Country free for (Disease would be the best bet Australia.. How could they handle that?? reaction? Quarantine, & boarder from vector - ticks Errol Harvey

## 14. Horowhenua Kennel Association

AR60-150

# HOROWHENUA KENNEL ASSOCIATION

**The President**
Mr G Carlton

The Secretary
P.O.Box 140
**OTAKI RAILWAY**

Date: 8 April 2003

Ref: AR60-150

Martin van Ginkel
Technical Advisor
Risk Analysis
Ministry of Agriculture and Forestry
P.O.Box 2526
WELLINGTON

**Submissions on Quarantine for all imported dogs.**

Dear Sir,

In response to your letter dated 10th March calling for comments for changes to the import requirements for dogs to minimise the risk of the importation of the blood parasite ***Babesia gibsoni***. The committee of the Horowhenua Kennel Association discussed the options as listed in your letter at our last committee meeting.
Following a discussion covering all the options the committee agreed that it would support the option for a pre-export quarantine.

If I can be of any further assistance please contact me.

Yours faithfully

David Bridgeman
Secretary

The Secretary Phone: 06 364 7303 Fax: 06 364 5403 Email: nzcal@.co.nz

## 15. South Taranaki District Council

South Taranaki District Council

Private Bag 902
Hawera

P: 06 278 0555
P: 0800 111 323
F: 06 278 8757
E: contact@stdc.govt.nz
W: www.stdc.co.nz

553/01
030312014

21 March 2003

Ministry of Agriculture & Forestry
P O Box 2526
**WELLINGTON**

Dear Sir or Madam

**SUBMISSION ON BABESIA GIBSONI IN DOGS AND DOG SEMEN**

On behalf of the Animal Control Officers for South Taranaki District Council we wish to make the following submission:

The officers support the recommendation that

- Imported dogs must undergo a period of pre-export quarantine in the country from which they are being exported. The dog would be treated with appropriate acaricides upon entry into quarantine and again 14 days later, and the quarantine facility must be able to prevent any new tick infestations occurring during the period of quarantine, which will be long enough to allow testing at the end of the maximum prepatent period for B.gibsoni. After 40 days in quarantine, the dog will be tested by thin blood smear (as per import risk analysis report) and IFAT (as per import risk analysis report) (samples to be taken on the same day), and will remain in quarantine until negative results to both tests are received, at which time it will be eligible for export direct from quarantine. A positive result to either test will disqualify the dog for export to New Zealand.
- And imported dogs must be inspected for ticks on arrival in New Zealand. If ticks are found, the dog will be subjected to a period of post-arrival quarantine. Following 40 days in quarantine, the dog will be tested by blood smear and IFAT (samples to be taken on the same day)m and will remain in quarantine until negative results are received from the overseas laboratory doing the testing. In the case of a positive result from either test, the dog will be re-shipped or destroyed.

The Animal Control Officers would also like to add that any host animal, e.g. horses, capable of hosting the ticks need to be treated with appropriate acaricides prior to entry into New Zealand

Yours faithfully

Joanne Adlam-Veldthuis
**ANIMAL CONTROL MANAGER**

## 16. J Goode

AR60-150

Subject: Parasite Babesia Gibsoni

J Goode
P.O. Box 43,
Rangiora.
23/3/003.
Ph 033128636
Fax 033128658

To whom it may concern

Dear Sir,

As a breeder, trainer, of NZ bred Greyhounds I would like to make comment on the new requirement as of April 1st 2003 that testing be done for the above parasite on all dogs imported from Australia.

Before I go on I would also point out that my views may be viewed as biased as it could be said that Australian imported dogs are a threat to my own operation in racing Greyhounds, this is true but it doesn't alter the facts that I will outline in my submission.

In my view Greyhounds would be the most mobile of the canine breed going inter state in Australia and being kennelled at race tracks in large numbers thereby rapidly spreading any parasite. You only have to see how Kennell cough spreads throughout the Industry every year.

Greyhounds I would submit are more prone to catching parasites and viruses

by the mere fact they are highly trained to a level of fitness that affords them little protection compared to the robustness of other breeds.

Recently a close ~~mate~~ friend of mine living in Oxford imported a Greyhound from Australia and found on arrival it was infested with fleas, worms, and had open sore spots on the body, they were suprised this dog passed the Agriculture requirements of M.A.F. I can supply the name and adress of this person if required.

Furthermore I would expect the NZ breeding industry would rapidly fill the gap if the importation of Australian Greyhounds become harder. Speaking with my breeders hat on I have almost stopped having litters because of the flood of imports but would soon start serving my bitches if there was a gap in the market.

I agree with the tightening at our boarders and just hope its not to late.

Yours Faithfully J Goode.

P.S. When Greyhounds catch the lure or hare at the end of a race there is a high degree of probability that the transfer of blood and fluids are passed from one to the other. Many dogs bleed from the gums by catching there teeth on there muzzle leaving it on the lure which is fluffy. Some dogs attack one another at the lure hence the reason they race with a muzzle on. I advise you to look at the end of a Greyhound race on T.V.

**17. Hobergay Dandie Dinmonts**

30April 2003
8 Earl Street
LEVIN 5500

Martin Van Ginkel
Technical Advisor
Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
Wellington

Dear Mr Van Ginkel,

Re Babesia Gibsoni – Proposed Quarantine of Dogs from Australia to New Zealand

I wish to place on record my objections to the suggested forty days quarantine for dogs being imported from Australia.

I understand that Babesia Gibsoni has been reported in three dogs from the same kennels over 12 months ago, and that there have been no reported cases since then. I find it hard to believe that this is sufficient evidence to necessitate such draconian measures without further research.

I breed in conjunction with an Australian breeder, a very rare type of old Scottish Terrier. We depend on each other for exchange of bloodlines. Our stock is now sought after world wide to help save the breed.

The costs to import are already considerable and breeders must be very dedicated to meet the increasing costs of freight, import permits, veterinary, MAF, registration, microchipping, GST and airport tax.

Yours faithfully

Josie Whittall
New Zealand Kennel Club Breeder
Memb No 008778

**18. WARSOP Staffordshire Bull Terriers**

# WARSOP Staffordshire Bull Terriers

42 Mangahao Rd
R D 4
Palmerston North

Phone: 06 362-7707
Email: hardingm@ihug.co.nz
URL: www.geocities.com/warsopnz

Martin Van Ginkel
Technical Adviser
Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
Wellington

April 30, 2003

Dear Mr Van Ginkel,

## SUBMISSION

**RE: BABESIA GIBSONI - SUGGESTED QUARANTINE OF DOGS FROM AUSTRALIA TO NEW ZEALAND.**

I wish to object to the suggested 40-day quarantine for dogs being exported from Australia to New Zealand on the following grounds,

1. There is insufficient scientific evidence to conclude that Babesia Gibsoni is a problem that warrants such extreme measures. It is understood that there have only been three cases reported in one kennel more than one year ago.

2. There appears to be some muddled thinking that Bull breeds may possibly be more prone to Babesia Gibsoni than other breeds. What constitutes "Bull Breeds"? I do hope the research into that has been carried out scientifically? Bull breeds can cover a multitude starting with Bulldogs, Bull Mastiffs, Boston Terriers, Boxers, and Bull Terriers. What genetic proof is there to link these as being possibly more prone?

3. Quarantine of a young puppy for a period of 40 days, or more, as has been suggested, would be extremely detrimental to the puppy. We know that it is very important for puppies to bond with their new owners as early in life as possible and the best age is said to be around the 7-12 week stage.

Socialisation with other dogs and people is also imperative in a young puppy, in order for it to grow into a well-adjusted adult. Puppies are sent from Australia after they have reached 12 weeks of age. To have a 12 week puppy sitting in a quarantine kennel for 40 days or more from 12 weeks of age, before going on to its new home, will undoubtedly make for puppies with personality and behavioural problems.

Socialisation is one of the most important factors in ensuring that dogs do not grow up to be fear biters. We are told we have a dangerous dog situation in New Zealand. Let us please not make it a larger one by having imported puppies with behavioural problems because they spent 40 plus days in quarantine kennels from the time they were 12 weeks of age.

4. New Zealand breeders send bitches across to Australia to be mated and return to NZ in whelp. It is advised that they should not fly 42 days or more from mating date. The 40 day (plus) quarantine period would prohibit this practice in future, as it would not be safe for an in-whelp bitch. That would be a great loss to New Zealand breeders, as the exchange of valuable bloodlines in this manner, ensuring that the best stock is being used for breeding, would cease.

5. For any dog to have to stay in quarantine kennels would be a traumatic experience. On top of that it would involve an enormous cost to the owner of the dog, on top of the already high freight, vetting, microchipping, registration, MAF, airport taxes and GST costs of importation.

May I please suggest that more research is needed before MAF considers passing this regulation.

Yours sincerely

Marion Harding (Mrs)
New Zealand Kennel Club Breeder

## 19. Ladies Kennel Association

Mrs D Rogers

Mrs R Hubrich

PO Box 452, Kumen 1250
Tel 09 420-8575
Fax 09 525-5892
E-mail: alquist@ihug.co.nz

29 April 2003

Martin Van Ginkel

Technical Adviser, Risk Analysis
MAF Biosecurity Authority
PO Box 2526, Wellington
Fax: 04 474-4133

vanginkelm@maf.govt.nx

Dear Mr Van Ginkel

Quarantine for Imported Dogs

Thank you for the opportunity to make submissions regarding proposed changes to import requirements for dogs.

Further quarantine restriction, especially between New Zealand and Australia, would be a very Draconian measure for the breeders of pedigree dogs - drastically reducing our small gene-pool.

We doubt that such a measure is necessary. We would suggest that in the first instance MAF should earn the fees applied to imported dogs and actually have dogs examined on arrival for ticks etc.

We believe there is little evidence to supports a quarantine regime for Babesia Gibsoni, because:-

The proof that Babesia Gibsoni is endemic in Australia is based on one test of three dogs on one property.
The proof that the cattle tick in New Zealand mentioned in the report is a potential carrier, is based on work done in Japan 30 years ago and only the summary of the report has been translated.

Yours faithfully

Secretary

## 20. Kumeu Kennel Association

KUMEU KENNEL ASSOCIA TION (INC.)

PRESIDENT:
Miss K. Harrison
14 Waitakere Road,
WAITAKERE.

SECRETARY: Mrs L. Bray,
69 Mercer Street,
RD1 DRURY.

26 Apri12003.

Mr Martin Van Ginkel,
Technical Risk Advisor, MAF,
PO Box 2526,
WELLINGTON.

Dear Mr Van Ginkel

Kumeu Kennel Association Submission on Quarantine of all Imported Dogs To minimise risk of importing blood parasite *Babesia ibsoni*

Kumeu kennel Association is one of the six main All Breed Dog Clubs in the Auckland area. Our membership consists mainly of breeders and exhibitors of pedigree dogs. 8 Within the structure of the New Zealand Kennel Club, the All breeds Clubs maintain the responsibility of representing not only our members but also breeders and exhibitors who belong to the many of the Specialist Breed Clubs.

Our club wishes to raise the following points:

- Access to a wider range of stud dogs and new breeding stock is essential to avoid genetic faults in many dog breeds. Currently Australia is the only realistic source for many breeders because of distance cost and quarantine requirements for other locations.

- Quarantine in isolation for imported dogs, in particular puppies still in the critical socialisation period, can be extremely detrimental to temperament. It also adds considerable cost what is already a very expensive procedure.

- Bitches sent to be mated in Australia may not be cleared from quarantine prior to whelping.

- Currently show dogs may travel to exhibit between Australia and New Zealand but this would be severely restricted by a quarantine requirement.

- NZ appears to have remained free of *Babesia gibsoni* despite high levels of imports of dogs from Australia.

Our club is aware of the importance of minimising the risk of importing this blood parasite and of the detrimental effect it would have on our primary industries. We would ask that MAF to consider the following:

were free of ticks prior to exportation from Australia.

- No quarantine for dogs imported from Australia. If quarantine were unavoidable then with adequate tick treatment it would be in New Zealand and confined to the owners property.
- A more accurate and faster blood test to determine if a dog is infected. Current numbers of imports from affected countries indicate that this could have financial viability. Detection of the parasite would be disastrous for the breeder but this does not at present seem to be of high risk.

Thank you for the opportunity to have our submission considered. We look forward to your response.

Yours faithfully

Lynley Bray,
Hon. Secretary I
KUMEU KENNEL ASSOCIATION (INC).

## 21. Poverty Bay Kennel Club Inc

>>> Cheryl Clarke <cclarke@clear.net.nz> 30/04/2003 23:33:49 >>>
Martin Van Ginkel, Technical Adviser, Risk Analysis
MAF Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
Wellington
New Zealand

Fax: +64 4 474 4133
Email: vanginkelm@maf.govt.nz <mailto:vanginkelm@maf.govt.nz>

SUBMISSION REGARDING PROPOSED RISK MANAGEMENT IN DOGS – BABESIA GIBSONI

We are concerned about the proposed minimum 40 day quarantine period for dogs to be imported into New Zealand from Australia.

PUPPIES
A large number of the dogs imported from Australia are puppies; generally between the ages of 8 to 16 weeks. This is an important time in a pup's life where learning, socialization and bonding processes are strong.

The isolation of quarantine and lack of stimulation normally provided by the new home could only be detrimental to the development of the puppy.

BITCHES IN WHELP
The original proposal of a 40 day (minimum) quarantine period may well extend beyond that period if the bitch was to whelp in quarantine. The whelps would need to be kept until old enough to travel.

Again, the isolation and need for care normally provided by the new or original owner would not be satisfactory.

COST
The proposed quarantine procedure would add some considerable cost to the already expensive price of an imported dog or puppy. This does not take into account the new blood testing requirements as these are seen as necessary.

STRESS
The added stress to the animal (not to mention the owner) of quarantine would be high.

CONCLUSION
There does not appear to be enough scientific evidence to introduce such a harsh regime without further research.

ALTERNATIVES
Blood testing is presently carried out in South Africa and adds some considerable time onto the waiting period. Testing facilities in Australia and New Zealand could be of some assistance in reducing the time and costs of the tests.

Private quarantine on a breeders/owners property in the country of origin, with treatment certified by a Veterinary Surgeon (fipronil every 14 days) with further certified blood testing upon arrival and for a set period after arrival to the new owner's property.

Research is required into a vaccine to protect against the disease.

Submission on behalf of:

Poverty Bay Kennel Club Inc
P O Box 12
Gisborne
Secretary: Mrs C A Clarke (email: cclarke@clear.net.nz
<mailto:cclarke@clear.net.nz> )

## 22. Dominion Bull Mastiff Club Inc

>>> Cheryl Clarke <cclarke@clear.net.nz> 30/04/2003 23:33:45 >>>
Martin Van Ginkel, Technical Adviser, Risk Analysis
MAF Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
Wellington
New Zealand

Fax: +64 4 474 4133
Email: vanginkelm@maf.govt.nz <mailto:vanginkelm@maf.govt.nz>

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CONCLUSION
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harsh regime without further research.

ALTERNATIVES
Blood testing is presently carried out in South Africa and adds some considerable time onto the waiting period. Testing facilities in Australia and New Zealand could be of some assistance in reducing the time and costs of the tests.

Private quarantine on a breeders/owners property in the country of origin, with treatment certified by a Veterinary Surgeon (fipronil every 14 days) with further certified blood testing upon arrival and for a set period after arrival to the new owner's property.

Research is required into a vaccine to protect against the disease.

Submission on behalf of:

Dominion Bullmastiff Club Inc
c/- President
Mrs C A Clarke
854 Back Ormond Road
R D 1
Gisborne 3821 (email: cclarke@clear.net.nz <mailto:cclarke@clear.net.nz> )

## 23. Carol Hayes

From: Carol
To:mulqueenk@mafgovt.nz
Sent:Wednesday, May 07, 2003 11:23AM
Subject:BABESIA GIBSONI

Hi Kerry

Thank you for explaining to me about the Babesia tick and the problems. I think the blood testing is a good idea, but 40 days quarrantine not a good idea.

Would you please pass this on.

Many thanks,

Carol Hayes

## 24. Nicole Mackie

**From:** <Semadar@ucb.com>
**To:** <mulqueenk@maf.govt.nz>
**Date:** 30/03/2003 03:26:25
**Subject:** Website Enquiry 61194 - RE: http://www.maf.govt.nz/biosecurity/imports/animals/tick-inspection.htm

Name: Nicole Mackie

Hi Maf,
Just want to express my concern about proposed new quarantine laws for cats and dogs possibly being enforced around July.
As a breeder of labrador retrievers and one who imports new Labs from time to time, I am concerned that if this law is braught in it will prevent myself and many other breeder from being able to import dogs from other countries.
Unfortunately our NZ dollar is very weak which already makes it extremely expensive to purchase dog, pay for heavy freight costs and then a large tax bill on arrival into NZ. If we then have to pay very expensive quarantine fees for 40 days, this will make importing dogs way out of reach for most people and leaving only a few rich to import.
There is also the needs of the dog when imported to NZ. 40 days in quarantine for a puppy at his critical learning stages in life can stunt the puppy's emotional and environmental development. It is not humane on any puppy to isolate it without contact of other animals and dogs and with very little human contact or stimulation, which can course many behavioral problems to develop.
I do however thank you for considering the option of having the dog treated for ticks with frontline on arrival into NZ, although they are treated with Frontline before theri flight, it will not harm them to be treated again on arrival.Ivomectin is also another treatment you could consider on arrival.
I hope you will consider what I am saying and consider the later option of treatment ratehr than the harsh extreme of quarantine in which only one person will bennifit from this and thats the quarantine facility.
Regards
Nicole Mackie
(Cert.Aminal Sc. Cert canine psychology)

## 25. Margaret Sayles

>>> "merle sayles" <saylesmerle@hotmail.com> 29/04/2003 23:15:47 >>>

Ms Margaret Sayles.
39 Clapham Street.
Shannon.

29/04/03

Dear MAF.

Re-New Quarantine regulations for the import of dogs.

I have been breeding pug dogs for over 18 years, during this time I have imported pugs from Norway-England and Australia.Helen Beban who now works for MAF was our vet for many years.

With the pug breed, the gene pool here in New Zealand was very small, which resulted in a lot of inbreeding,which in turn resulted in a lot of heredity defects within the breed.With the imports this increased the gene pool that has in fact reduced heredity defects and has improved the quality of the breed in general.

While I agree we need to keep our country as free as possible from diseases,we must also look at how more advanced we are with modern technology, modern medicine, and the wonderful treatments that Massy can now do.

By bringing in quarantine for countries like Australia, will make it harder for breeders like myself [cost wise] to import dogs for imporvement of the breed.Surely there are ways of checking dogs as they come into the country rather than quarantine.At the moment most dogs are tested for various things before they are imported.Why cant MAF have trained vets at airports to double check animals before they are released to thier new owners.

While we must look at reducing the risk of new diseases comming into New ZEaland , we must also look at what affect any new changes are going to have on the dog breeds in general.Are new changes going to reduce the gene pool for most breeds.Are the new changes going to increase the inbreeding and increase medical problems within a breed.Will dogs with heredity problems be used for breeding because the gene pool has been reduced.

Here is an example, many years ago it was discovered a spinal problem called Hemi-vertibra was found in the pug breed, we had known cases in our own lines, with the help of imports and careful breeding and checking stock and puppies, we have now bred down from affected stock and we are now on our 7th generation of being hemi-vertibra clear.Without the imports and incresed gene pool, we wouldnt have been able to do this.

With the help of imports over the years not only have we managed to breed away from Hemi-vertabra but we have also been able to improve the quality of our pugs.

Personally I feel MAF can take alternative steps to stop or reduce the risk of diseases comming into New Zealand rather than putting in place quarantine.

I feel by introducing quarantine is going to result as a major step back for most breeds.Because of a cost factor, it will reduce the gene pool which will then result in close inbreeding being done which in turn may produce all kinds of problems within a breed, it may in turn produce deformed dogs, dogs with major medical problems, to bad temperaments.A lot of good that has been done over the years by breeders importing dogs, all of this can be lost by putting in place quarantine measures when other measures can be taken.

Dog breeds and dogs must be taken into consideration when making a discission.Most importantly the general well being of a breed or dog must be taken into consideration.What affect is this going to have on the dog breeds ?

I look forward to your discussion on this matter.

Yours Sincerely.

Ms margaret Sayles.

## 27. New Zealand Police Dog Section

30 April 03

Martin Van Ginkel, Technical Adviser
Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526, Wellington

Dear Mr Van Ginkel,

Thank you for your risk analysis: Babesia Gibsoni.

Attached is a submission to the New Zealand Ministry of Agriculture and Forestry from the New Zealand Police Dog Section.

Inspector Brendon Gibson
National Co-ordinator: Police Dogs

MAF biosecurity Authority
Ministry of Agriculture and Forestry

Submission by
New Zealand Police Dog Section

MAF Import Risk Analysis: Babesia Gibsoni in dogs and dog semen.

**Background**

The New Zealand Police operate 130 operational dog teams throughout New Zealand and provides training and dog population services for 30 other dog teams from New Zealand Customs Service, Department of Corrections, and 8 Aviation Security Services.

The population of these enforcement dogs is from New Zealand stock originating from our own breeding programme, other service dog organisations and the public.

While the impending control standards and proposed sanitary measures will not impact immediately on our current operation, it will have a significant effect on our planned breeding and population management strategy for the future.

**Impact on Breeding and Populatiol1 Management**

Growth in the enforcement dog industry is significant and will continue for the foreseeable future, particularly in the training and deployment of dogs 1:or border control and national security.

To meet the demands in dog population requirements, we are expanding our 8 capability and capacity in breeding and population management. Significant strategies in achieving that include the importing of breeding stock from international sources, including Australia and the United Kingdom.

In 2002 we developed close strategic relationships with the police dog sections in Western Australia, South Australia, Victoria, New South Wales and Queensland. The purpose of that relationship includes the linking of breeding programmes and the exchange of breeding and working stock, including inter- agency training opportunities.

The testing regime planned for introduction in May 03 will not be fatal to our operation; however, the proposed quarantine process now puts the viability of an essential part of our future business at risk, namely;

- Supply. Refusal of breeders to have their stock in quarantine for the significant length indicated, or to be involved in the pre-export quarantine process at all. Risk moderate to high.

- Prohibitive Cost. The cost of quarantine and associated management will significantly impact on the number of dogs that we would be able to purchase, and could possibly eliminate our ability to purchase internationally. Risk high.

- Behaviour. Quarantine will have a negative impact on the behaviour, training and training potential of individual dogs. Risk moderate to high.

I accept the fact that New Zealand needs to have robust biosecurity processes, however the planned long-term management by quarantinle appears to be an extremely drastic step, and I question whether it is warranted at this time. The advice I have received on the risk analysis is that your recommended sanitary measures far outweigh the biosecurity risk that currently exists for Babesia Gibsoni.

I also believe that the risk posed by managed dog populations in the enforcement and service dog industry is significantly less than the general dog population.
If the decision were made to implement quarantine, I would urge you to consider the risk in terms of population groups, not just in terms of carni familiaris in general. Then to implement controls relevant to the risk posed by that specific dog population group and controlling organisation.

I believe that the negative impact of this proposed quarantine on the service and enforcement dog industry demands careful and specific application of any proposed quarantine process rather than a sweeping application to all dogs.

Inspector Brendon Gibson
National Co-ordinator: Police Dogs

## 28. Royal New Zealand Foundation for the Blind

Royal New Zealand

# Foundation of the Blind

30 April 2003

Dr Martin Van Ginkel
Technical Adviser - Risk Analysis
MAF Biosecurity Authority
Ministry of Agriculture and Forestry
PO Box 2526
WELLINGTON

Dear Dr Van Ginkel,

**RE: MAF Import Risk Analysis: *Babesia Gibsoni* in Dogs (*Canis familiaris*) and Dog Semen, Dated February 2003**

Attached is a submission to the New Zealand Ministry of Agriculture and Forestry in relation to:

a) the recent measures imposed and
b) the potential measures to be imposed

on the importation of canines from Australia to New Zealand, in light of the recent risk analysis relating to *Babesia gibsoni* conducted by Helen Beban.

The impact of those measures already implemented and, in particular, some of the measures recommended for implementation in the risk analysis, have the potential to cripple the Guide Dog Programs of RNZFB Guide Dog Services, Royal Guide Dog Association of Tasmania and Guide Dogs Association of SA & NT Inc (see their separate submission).

It is our sincere desire that a solution to the issues detailed in our submission can be addressed, whilst maintaining the integrity of bio-security measures implemented by New Zealand to prevent the introduction of *Babesia gibsoni*.

Should you have any queries regarding the content of the attached submission please contact the following:

Mr Ian Cox
**General Manager**
**RNZFB Guide Dog Services**
Phones: (09) 269 0400 or DD (09) 269 0401
Mobile: 021 960 981

Miss Nicky Cadogan
**Kennel Services & Veterinary Care Manager**
**RNZFB Guide Dog Services**
Phones: (09) 269 0403
Mobile 025 291 0411

Guide Dog Services
**Street Address:** Guide Dog Centre, 30 McVilly Road, Manurewa
**Postal Address:** Private Bag 94002, South Auckland Mail Service Centre, New Zealand
Telephone 0-9 269 0400. Facsimile 0-9 267 0957
International Telephone +64 9 269 0400. International Facsimile +64 9 267 0957
**Email:** gds@rnzfb.org.nz **Web Site:** www.rnzfb.org.nz

**Submission by**

**RNZFB Guide Dog Services**

**RE: MAF Import Risk Analysis: *Babesia Gibsoni* in Dogs (Canis familiaris) and Dog Semen, Dated February 2003**

# Background

In early March 2003, RNZFB Guide Dog Services were advised that issues had arisen relating to the international transfer of canines from Australia to New Zealand.

Upon learning the full extent of the situation surrounding the *Babesia gibsoni* parasite, it was immediately apparent that this issue could have disastrous impacts on:

a) Guide Dog Users and Owners.

b) the Guide Dog Service in New Zealand due to close affiliations with several Australian Guide Dog schools. ( eg Royal Guide Dog Association of Tasmania and The Guide Dog Association of South Australia and Northern Territory.)

## GUIDE DOG PRODUCTION

Royal New Zealand Foundation of the Blind Guide Dog Services (GDS – NZ) dog colony, by far the largest purpose bred dog colony in NZ, numbers approximately 600.

It is made up of approximately 30 breeding stock, 100 puppies pa, 100 dogs in assessment and training pa, 300 in service as working dogs, with 70 being adopted/rehomed pa.

This number increases annually, and the service is assessed/audited and certified every 5 years by the International Federation of Guide Dog Schools for the Blind (IFGDSB).

GDS – NZ is 100% funded from the charity dollar, ie no government funding is received, and all services to blind people are free of charge.

To ensure "a better match" for blind and sight impaired NZ's, GDS – NZ sponsored a PhD in the matching process, and generated constructive relationships with co-IFGDSB member nearby offshore Guide Dog programmes, to ensure a 40% greater volume of fully trained dogs were available.

The entire programme and philosophy is focussed on delivering a better service to blind and sight impaired people, and is not based on profit generation or financial gain to any organisation or individual.

By way of example, the relationship between (GDS-NZ) and Royal Guide Dog Association of Tasmania (RGD) commenced in 1998 when RGD contracted GDS-NZ to assist in the provision of guide dogs and guide dog related services to blind and vision impaired people in New Zealand and Tasmania. In early 1999, this relationship developed further with the provision of six puppies to be raised in Tasmania and subsequently returned to New Zealand for training as Guide Dogs.

In 2000, this relationship evolved into a mutually beneficial partnership based on the regular supply of puppies for rearing and training in Tasmania, followed by the exchange of fully trained guide dog stock to ensure optimum results for the selection of the most appropriate guide dog for every blind or vision impaired individual in either Tasmania or New Zealand. Puppies that have been reared and trained in Tasmania are included in the guide dog matching processes in New Zealand twice per year, thus allowing both organizations to benefit from an expanded pool of available guide dog stock. During the following years, Guide Dog stock has regularly been transferred to and from New Zealand, providing greater depth of stock and many mutual benefits for both Tasmania and New Zealand.

In 2002, the strength and value of this relationship was recognised as other Australian organizations investigated the viability of entering into the partnership arrangements pioneered by RGD and GDS-NZ. Guide Dogs Association of SA & NT Inc (GDASANT) entered into a cooperative partnership with GDS-NZ during the course of 2002, and now also regularly exchange stock to and from New Zealand.

## IMPACTS OF PROPOSED QUARANTINE IMPORT CONTROL STANDARDS

The current measures which come into force on 12 May 2003, will add considerable expense to an already costly exercise in the trans-shipping of stock to and from New

Zealand for GDS-NZ and also for blind or vision impaired people travelling across the Tasman with their Guide Dogs.

Whilst the transfer of canines as cargo may not be significantly impeded by these measures, if quarantine was implemented, it would render the transfer of guide dog stock virtually impossible.

This, in essence, would lead to the termination of an arrangement of significant social and financial benefit to blind NZ's and the organizations on both sides of the Tasman.

## RECOMMENDATIONS

RGD and GDASANT would be most appreciative if MAF would look favourably on the following suggestions:

1. That specific exemptions regarding quarantine be put in place for guide dog stock, thus recognising the significant efforts that are invested in the health, well being and parasite control of guide dog stock.

2. That the testing interval be extended from ten days to a minimum of 25 days to allow turn around of test results and still allow individuals and organizations dealing with guide dog stock to access appropriate travel arrangements.

3. That every effort be made to synchronize testing procedures relating to *Babesia gibsoni* with those pre-export requirements already in place in order to minimise the attendant costs for both individuals and charitable organizations.

4. On the basis that all services provided are free of charge and charity funded by all 3 organisations, MAF and AQIS consider making all guide dog/service dog stock exempt from the costs associated with import and export, including the newly imposed requirements for Babesia Gibsoni.

Your full consideration and any assistance given in this matter is and will be greatly appreciated. The difficulties associated with accommodating the needs of specific groups or individuals with the necessary biosecurity measures to protect New Zealand from *Babesia gibsoni* are recognised and acknowledged. Any concessions or consideration of the issues affecting our organizations that will allow us to maintain our relationship with RGD and GDASA&NT, would be of significant benefit to our organizations and the blind and vision impaired people we represent.

## 29. New Zealand Greyhound Racing Association Inc

106-110 Jackson Street Petone
PO Box 38899
Wellington Mailing Centre
New Zealand

Telephone: 04 5894900
Fax: 04 589 4907
Email: greyhound@nzgra.org.nz
Web: http:/ /www.nzgra.org.nz

29 April 2003

Martin Van Ginkel
Technical Adviser
Risk Analysis
MAF
PO Box 2526
Wellington

Dear Mr Van Ginkel

Subject: Submission on the MAF import risk analysis -*Babesia gibsoni*

I represent the NZ Greyhound Racing Association ("NZGRA ") which is the statutory administrative body for greyhound racing in New Zealand.

Greyhound racing has experienced remarkable growth over the past ten years. Betting turnover has doubled in that time to over $90 million annually with the number of races conducted approaching $3,000 per year. Greyhound racing has been one of the success stories in the N ew Zealand Racing industry with 13% of the industry profit now generated from this source.

The increase in racing opportunities has been made possible by the importation of racing and breeding greyhounds directly from Australia. Presently around 300 greyhounds are imported annually with the majority of the total being racing dogs.

I wish to make it clear that the NZGRA fully support MAF in whatever steps it deems necessary to ensure that *Babesia gibsoni* is not introduced into the New Zealand canine population.

However, given the impact of the recommended option for the longer term risk management of the infection, namely a 40- day pre-export quarantine for all imported dogs, the NZGRA wishes to draw your attention to the

potentially adverse affect such a lengthy quarantine period would have on the greyhound racing scene in New Zealand.

The quarantine protocol has the potential to seriously affect the trade and transportation of racing and breeding greyhounds between Australia and New Zealand.

The commercial value of racing greyhounds imported from Australia is that they can race almost immediately upon arrival in New Zealand. The advantage would be lost if they are put out of action for a number of weeks in quarantine. A reduction in the number of greyhounds imported would likely result which in turn would adversely affect product supply for race meetings in New Zealand over the next few years.

The breeding industry in this country is still in a fledgling state and it may take five to ten years before it can produce sufficient numbers of greyhounds of the required standard to fulfil the existing racing requirements in New Zealand. Moreover, the production of quality racing stock in New Zealand is precipitated by the importation of well-bred sires and brood-bitches from Australia.

Finally, a lengthy quarantine period would effectively dissuade Australian owners and trainers from bringing over racing dogs to compete in our major races, thus diminishing the marketable value of such races.

I trust that you will give due consideration to this submission, particularly in respect of the exigency of the quarantine period.

Should you require further information on, or clarification of, any aspect of this submission, please do not hesitate to contact the writer .

Yours sincerely

Jeff Lenz
Chief Executive