



Risk Management Proposal: Cats and Dogs

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Purpose

The purpose of this document is to:

- present the risks associated with cats and dogs,
- outline potential options considered for managing those risks,
- show how the options have been assessed, and,
- provide recommendations for import requirements.

We are looking for stakeholder feedback on the assessment of these management options.

The import health standard is developed under Section 22 of the Biosecurity Act.

For a detailed analysis of potential hazards and their risks refer to the *Import Risk Analysis: Cats, dogs and canine semen*, 2 November 2009, which contains the relevant risk assessments and analysis of potential management options against the identified biosecurity risks:

<http://www.biosecurity.govt.nz/files/regs/imports/risk/cats-dogs-canine-semen-ra.pdf>

Background

Cats and dogs are high risk commodities because they are known to be capable of transmitting some important exotic viral, bacterial, and parasitic diseases, as well as canine transmissible venereal tumour, which could become established in New Zealand. New Zealand has a history of importation of cats and dogs from approved countries, and continues to import under existing import health standards.

In November 2009, MAFBNZ issued an import risk analysis for cats, dogs and canine semen. The draft *Import Health Standard for Cats and Dogs* reflects the risks and risk management options identified by this risk analysis, as well as practical considerations. In accordance with new MAF processes, all requirements to manage biosecurity risks associated with cats and dogs are included in one import health standard.

A guidance document outlining which risk management measures apply to specific countries and model veterinary (zoosanitary) certification for cats and dogs from approved countries will be issued along with the import health standard.

The 2009 import risk analysis identified the disease-causing organisms likely to be associated with imported cats and dogs. Risk assessment processes then identified the organisms classified as hazards and requiring risk management measures.

The risk analysis concludes that the following agents pose non-negligible risks in imported cats and dogs, and that sanitary measures can be justified for them:

Bacterial diseases

Canine brucellosis
Leptospirosis
Plague (*Yersinia pestis*)
Q fever (*Coxiella burnetii*)
Salmonellosis (*Salmonella* spp.)

Blood parasites

Babesiosis
Filariasis (*Dirofilaria immitis*)
Leishmaniosis
Surra (*Trypanosoma evansi*)

External parasites

Fleas
Leeches
Lice
Mites
Myiasis
Ticks

Internal parasites

Nematodes and Acanthocephalans
Trematodes
Cestodes

Viral diseases

Rabies

Other infectious diseases

Canine transmissible venereal tumour

Objective

The objective is to effectively manage all biosecurity risks associated with the importation of cats and dogs in a way that is consistent with New Zealand's domestic legislation and international obligations.

Under Article 3.1 of the World Trade Organisation (WTO) Agreement on Sanitary and Phytosanitary Measures (the SPS Agreement), the measures adopted in an import health standard are to be based on international

standards, guidelines and recommendations where these exist, except as otherwise provided for under Article 3.3 (where measures providing a higher level of protection than international standards can be applied if there is scientific justification, or if there is a level of protection that the member country considers is more appropriate following a risk assessment).

The recommended options for risk management in the draft import health standard were developed through a process of internal and external consultation, following a public consultation on the import risk analysis. Considerations in this process also included alignment with international standards, acceptable levels of risk and practical applications.

Internal consultation among MAF staff from the directorates of International Coordination, Policy and Risk, and Border Standards resulted in the formulation of a set of preliminary options for mitigation of risks.

Canine brucellosis (*Brucella canis*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Within the 7 days prior to shipment, dogs could be serologically tested. The rapid slide agglutination test is highly sensitive but lacks specificity since reactions to other infecting bacterial organisms such as *Pseudomonas* may occur. It could be used as a screening test. A positive result could be followed by either a tube agglutination test or agar gel immunodiffusion test. Any titre of 1:50 or greater in the tube agglutination test could be followed by a cytoplasmic agar gel immunodiffusion test which is highly specific. A negative result means the dog is probably not infected or is recently infected and not enough time has elapsed for an immune response to be detectable (Greene & Carmichael 2006). A positive result could disqualify the dog from importation.

Option 2

If more stringent conditions are required, a genus specific PCR blood test could be added to the serology testing or alternatively the screening serology regime could be repeated after 30 days. This is because serologic test results are often negative during the first 3-4 weeks post-infection despite the presence of a bacteraemia within 2 weeks of infection. This option would more reliably detect dogs that have been recently infected compared to Option 1.

Alternatively if less stringent measures are considered appropriate, then haemoculture or PCR without serology could be utilised. However, bacteraemia, although sustained, can be absent or intermittent in chronically infected animals and in those treated with antibiotics (Greene & Carmichael 2006).

Analysis

The tests in Option 1 are similar to the requirements in the current IHS, which have provided an adequate level of protection. Minor changes have been made based on test availability and timing.

The timing requirement was changed from the risk analysis recommendation of 7 days to 14 days to allow adequate time for getting test results. This documents the dog's *Brucella* status closer to shipment time than the "within 30 days" currently required.

A statement of the long-standing policy that positive dogs are not eligible for import has been added to the IHS, as treated dogs can still be carriers and potentially infect other dogs.

Proposal

1. The dog has been subjected to a rapid slide agglutination test (RSAT) for *Brucella canis* with a negative result within 14 days of shipment;

OR

2. The dog had a positive or inconclusive RSAT result and has been subjected to a tube agglutination test (TAT) for *Brucella canis* with a negative result within 14 days of shipment;

OR

3. The dog had a positive or inconclusive RSAT or TAT result and has been subjected to a cytoplasmic agar gel immunodiffusion test (CPAg-AGID) for *Brucella canis* with a negative result within 14 days of shipment;

OR

4. The dog had a suspicious TAT result and the test was repeated in 30 to 42 days with a negative result.

NOTE: Dogs diagnosed with *Brucella canis* are not eligible for import, regardless of treatment.

Leptospirosis (*Leptospira interrogans* serovar *canicola*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

The OIE *Terrestrial Animal Health Standards Commission* considers that international trade does not increase the risks to human or animal health in regards leptospirosis (OIE 2007).

Diseased animals shed more organisms and are more important sources of infection than chronic carriers (Horsh 1989). The diseased dog would not be eligible for travel since they would not be certifiable as clinically healthy and free from infectious diseases.

It could be appropriate to consider leptospirosis in clinically healthy dogs to be of negligible risk to human or animal health and trade without restriction could be permitted.

Option 2

The microscopic agglutination test (MAT) is the standard serological test for diagnosing leptospirosis. It is a serogroup specific assay and does not identify organisms at the serovar level. Screening with multiple antigens helps identify all serogroups that may be present dependent on serovars known to be present in the exporting country that are able to infect dogs (Torten & Marshall 1994; Greene et al 2006).

Cross-reactivity between serovars confounds serovar-specific serological diagnosis. Nonetheless, negative serology probably provides a strong assurance that the dog is not currently infected and therefore provides a useful pre-export measure. A negative test (50 % agglutination) at a 1:200 titre in the MAT provides the most appropriate interpretation (Greene et al 2006).

Previous infection or vaccination is usually associated with an MAT titre of less than 1:400. Higher vaccination titres are possible but they generally do not persist for longer than 3 months (Greene et al 2006).

Negative serology to a panel of antigens representing a wide range of serogroups could be justified, even though this measure may mean dogs infected with serovars endemic to New Zealand would be excluded on the basis of serology as well as dogs with a recent vaccination history. For this reason, serologically positive dogs could still be eligible for importation after completing a treatment option for eliminating potential carriers of the organism.

Another serological test that could be applied as a pre-export screening test is the macroscopic slide agglutination test that has been developed for human diagnosis. This test is available as a commercial screening kit that uses a

broadly reactive leptospiral antigen. It has been used to detect recent or active infections in people and dogs without modification (Levett & Whittington 1998).

Option 3

The carrier state in dogs can be treated with appropriate antibiotics, which are highly effective in preventing urinary shedding. Aminoglycosides and doxycycline are considered highly effective at clearing the renal carrier state (Greene et al 2006). Imported dogs could be treated with doxycycline or another effective antibiotic before being shipped.

Analysis

Dogs are known to be a maintenance host of *L. canicola* and this serovar is not present in New Zealand.

A MAF review of leptospirosis measures in Import Health Standards, June 2009, recommended antibiotic treatment as the option of choice for all species. However, Option 2 states that negative serology probably provides strong assurance that the dog is not currently infected and therefore provides a useful pre-export measure. The options of treatment or testing have been included to allow veterinary discretion regarding an animal's vaccination history, drug sensitivity, etc. These measures are consistent with the level of protection in the current Import Health Standard.

Proposal

1. The dog has been treated with an approved course of treatment (see Guidance Document) within 30 days of shipment;
- OR
2. The dog has been subjected to a microscopic agglutination test (MAT) for *L. canicola* with a negative result within 30 days of shipment;
- OR
3. The dog had a positive MAT of 1:400 or less for *L. canicola* within 30 days of shipment and has been subjected to a second MAT for *L. canicola* at least 14 days after the first test and showed no increase in titre.

Plague (*Yersinia pestis*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Cats and dogs for export could be:

- 1) subjected to flea control as outlined in Section 26.3 (from the Risk Analysis, copied below); *and*
- 2) clinically examined and found to be healthy on the day of shipment

Option 2

Cats and dogs for export could be:

- 1) certified by a veterinarian as having been treated with an effective acaricide twice at 2 week intervals during the 4 week period prior to export; *and*
- 2) been found to be free from fleas and clinically healthy at each treatment.

Option 3

Cats and dogs for export could be:

- 1) held in vermin-proof pre-export quarantine facility for 28 days with effective flea control.

Option 4

Cats and dogs for export could be:

- 1) held in vermin-proof pre-export quarantine for 28 days with effective flea control; *and*
- 2) subjected to a serological test for *Y. pestis* with negative results; *and*
- 3) in the case of a positive result, subjected to a second serological test 10-14 days later. A rising titre could disqualify the animal from entry while a stable or declining titre could indicate that the animal could be imported.

Option 5

Cats and dogs for export could be:

- 1) resident continuously for the 28 days prior to shipment in a country or zone that is free from plague; *and*
- 2) subjected to the flea control option selected for excluding fleas in Section 26.3.

Section 26.3 (Risk Analysis, page 104)

Option 1

Within the 3 days prior to travel, animals for export are to be treated with an effective insecticide.

Option 2

Treatment as in option 1 *and* inspection, with certification that the animal is free from fleas within 3 days of travel.

Option 3

Treatment as in option 1 *and* be inspected and found to be free of fleas at the point of departure.

Option 4

Treatment as in option 1 *and* be inspected and found to be free of fleas at the port of entry before being given biosecurity clearance.

Option 5

Treatment as in option 1 *and* be inspected and found to be free of fleas at the point of departure *and* be inspected and found to be free of fleas at the port of entry before being given biosecurity clearance.

Analysis

Dogs are resistant to plague and clinically healthy dogs pose a negligible risk. Cats are susceptible, however they are likely to be severely affected or die in a matter of days if infected. It is very unlikely that a clinically healthy cat would be incubating the disease at the time of import since the incubation period is only 1-3 days. Therefore, pre-export certification that cats and dogs are clinically healthy on the day of travel is an important option. There are no testing requirements for plague in the current Import Health Standard.

Plague is primarily transmitted by fleas; therefore it is important that imported animals are not introducing potentially infected fleas. Fleas have been found on imported animals, therefore more stringent ectoparasite requirements than those in the current Import Health Standard are recommended. Both the Risk Analysis and a review of surveillance systems relating to vectors and vector-borne diseases recommend multiple ectoparasite treatments applied by a veterinarian prior to export.

Specific ectoparasite products will not be included in the IHS. This will accommodate a wider range of treatment options, variations in product availability, and potential changes in product effectiveness over time.

Proposal (for external parasites)

1. The cat or dog was treated by a veterinarian TWICE with a topical product registered for the control of ticks and fleas at the manufacturer's recommended dose and certified as free from ectoparasites at each treatment. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment;

AND

2. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

3. The cat or dog was inspected and certified as free of external parasites post-arrival, prior to receiving biosecurity clearance.

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Q Fever (*Coxiella burnetii*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Suitable measures could be implemented to prevent the importation of ticks on the commodity.

NB. Option 1 does not provide protection against the importation of *C. burnetii* except for the prevention of the importation of infected tick vectors.

Option 2

Unspayed females could be tested by an ELISA, with negative results, within 10 days of shipment and be subjected to the measures required to effectively manage the introduction of ticks.

Analysis

Q fever mainly affects cattle, sheep, goats and humans. Cats and dogs are very rarely reported to be shedders, therefore it is considered unnecessary to impose restrictions on the importation of cats and dogs. There are no requirements for Q fever testing in the current Import Health Standards for cats and dogs.

Tick control measures are justified, as ticks can be infected and may transmit the disease.

Proposals (for external parasites)

1. The cat or dog was treated by a veterinarian TWICE with a topical product registered for the control of ticks and fleas at the manufacturer's recommended dose and certified as free from ectoparasites at each treatment. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment;

AND

2. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

3. The cat or dog was inspected and certified as free of external parasites post-arrival, prior to receiving biosecurity clearance.

Salmonellosis (*Salmonella* spp.)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Since many *Salmonella* serovars occur in New Zealand and cats and dogs are not regarded as important in the epidemiology of salmonellosis (mainly from food contamination from infected production animals), importation of clinically healthy dogs and cats could be allowed without restrictions.

Option 2

Feeding of raw meat could be prohibited during the 6 weeks immediately prior to shipment.

Option 3

Faecal samples could be collected twice within the 6 weeks before shipment with an interval of 3 weeks between sample collections. The samples could be cultured and any *Salmonella* isolated could be fully identified to serovar and in the case of *S. Enteritidis* and *S. Typhimurium* to phage type.

Analysis

Many common *Salmonella* serovars already occur in New Zealand. The pathway of introduction of new *Salmonella* serovars by healthy dogs and cats is likely to be insignificant when compared to other pathways, such as human travellers.

Dogs have not been implicated as playing an important role in the transmission of *Salmonella* to humans, unlike contaminated animal products for human consumption.

Dogs and cats can be carriers of infection, but shedding of organisms is likely to be intermittent. There are currently no measures for *Salmonella* for imported dogs and cats.

Proposal

The importation of clinically healthy dogs and cats that meet the commodity definition should be allowed without restrictions.

Babesiosis (*Babesia* spp.)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Dogs to be imported could be:

- 1) certified by a veterinarian as having been treated with an effective acaricide twice at 2 week intervals during the 4 week period prior to export, and been found to be free from ticks and clinically healthy at each treatment; *and*
- 2) show no clinical signs of babesiosis on the day of export; *and*
- 3) be subjected to measures for effective management of ticks; *and*
- 4) if ticks are detected on arrival in New Zealand the animal should be directed to a transitional facility and may require further testing and treatment for *Babesia* spp. and should be treated to eliminate ticks.

NB. Option 1 does not provide meaningful protection against the importation of *B. gibsoni* or *B. canis* except for the prevention of the importation of tick vectors.

Option 2

Dogs to be imported could be:

- 1) subjected to the measures for tick control in Option 1; *and*
- 2) subjected to a serological test (IFAT or ELISA) for the *Babesia* spp. that occur in the country of origin and/or a *Babesia* genus or species specific PCR within 10 days of shipment; *and*
 - a) test negative dogs could be imported; *and*
 - b) *B. canis* test positive dogs that are negative for *B. gibsoni* could be treated with a single IM dose of 7.5 mg/kg imidocarb dipropionate no more than 28 days and no less than 21 days before shipment; *and*
 - c) be subjected to the option selected for ticks to prevent their importation;
 - d) *B. gibsoni* test positive dogs could be disqualified; *and*
 - e) serologically positive but PCR negative dogs should be retested with PCR after 30 days.

Analysis

Tick Control

Babesia can be transmitted by ticks, so animals should be subjected to measures proposed for external parasites. See section XV.

Testing

For practical reasons the timing requirement has been extended to within 14 days of shipment, as many importers have reported that the current 10 day requirement is extremely difficult to meet. The blood smear, one of the current requirements, has been eliminated due to lack of sensitivity. PCR has

been offered as an alternative to the IFAT or ELISA, but two negative PCR tests on samples collected one month apart will be required as the organism is not always found in the blood of chronically infected dogs.

Treatment

Effective treatment is available for *B. canis*, so dogs imported from countries where *B. canis* is endemic could be subjected to treatment. However, dogs treated for *B. gibsoni* infection may still carry the organism. Therefore treatment for *B. gibsoni* is not an adequate risk management option, and dogs with any history of infection are not eligible for import.

These recommendations are consistent with the current requirements with some modification for practicality (timing, testing options) and current treatment recommendations.

Proposal

Babesia gibsoni

1. The dog has been inspected and found to be free of ticks and healthy prior to each of the two treatments required for external parasites;

AND EITHER

2. the dog has been subjected to an indirect fluorescent antibody (IFA) or ELISA test for *Babesia gibsoni* with a negative result within 14 days of shipment;

OR

3. if the IFA or ELISA test result was inconclusive, or if these tests were not available, the dog has been subjected to two PCR tests for *Babesia spp.* or *Babesia gibsoni* with negative results on samples collected 30-37 days apart, with the second sample collected within 14 days of shipment.

NOTE: Dogs diagnosed with *Babesia gibsoni* are not eligible for import, regardless of treatment.

Babesia canis

4. The dog has been inspected and found to be free of ticks and healthy prior to each of the two treatments required for external parasites;

AND EITHER

5. the dog has been given an approved treatment (see Guidance Document) between 21 and 28 days prior to shipment;

OR

6. the dog has been subjected to an IFA or ELISA test for *Babesia canis* within 14 days of shipment with a negative result;

OR

7. if the IFA or ELISA test result was inconclusive, or these tests were not available, the dog has been subjected to two negative PCR tests for *Babesia spp.* or *Babesia canis* with negative results on samples collected 30-37days apart, with the second sample collected within 14 days of shipment.

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Filariasis (Canine heartworm, *Dirofilaria immitis*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Dogs could be certified as showing no clinical signs of heartworm on the day of shipment.

Option 2

Dogs older than five months of age (earliest time post-infestation that heartworm antigen can be detected) on the scheduled date of export, could be subjected to an antigen ELISA with negative results within 1 month of travel; *and*

Within 48 hours of departure all dogs could be treated with:

- Either: ivermectin at 6 mcg/kg
- Or; milbemycin at 0.5 mg/kg
- Or; moxidectin at 2-4 mcg/kg
- Or; injectable sustained release formulation moxidectin at the recommended dose rate
- Or, selamectin at 6 mg/kg

Analysis

Dogs with adult heartworm infections are highly likely to be infectious to intermediate hosts (mosquitoes). Dogs with positive test results may be treated and are eligible for import once the antigen test results are negative.

Antigen testing identifies adult female worms and does not identify immature worms. Therefore heartworm prevention should be used as a pre-export treatment to eliminate early infections.

Option 2 is similar to the current requirements. The timing of the treatment recommendation has been modified slightly for practical reasons, and evidence of a current sustained-release injection will be accepted. Treatments options will be listed in the Guidance Document, which can be updated easily.

Proposal

1. If six months of age or older on the date of shipment, the dog has been subjected to a heartworm antigen ELISA (enzyme-linked immunosorbent assay) test with a negative result within 30 days of shipment;

AND

2. ALL DOGS (regardless of age) have been treated with a product registered for heartworm prevention (see Guidance Document) at the manufacturer's recommended dose within 4 days of shipment, or have veterinary medical records documenting a current sustained-release injection.

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Leishmaniosis

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Dogs could be certified as showing no clinical signs of leishmaniosis on the day of shipment.

Option 2

Dogs could:

- 1) be subjected to a serological test with negative results within 10 days of travel; *and*
- 2) be subjected to the measures required to effectively manage the introduction of ticks.

Analysis

Leishmania is primarily transmitted by sand flies, and possibly transmitted by ticks, but not the types that occur in New Zealand. Therefore the likelihood of establishment is considered to be negligible since these vectors are not present in New Zealand. The disease has not established in countries that do not have competent vectors, such as the UK, Sweden or Switzerland, despite importing infected animals. There are currently no measures required for *Leishmania*.

Proposal

Dogs must be certified as free from clinical signs of infectious disease and external parasites on the day of shipment, and meet all treatment and inspection requirements for external parasites.

Surra (*Trypanosoma evansi*)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Cats and dogs could be found to be clinically healthy on the day of export, showing no clinical signs of *T. evansi* infection.

Option 2

Within 2 days of departure, dogs and cats could undergo direct examination of the blood by a concentration method recommended by the OIE, with no parasites observed.

Option 3

Dogs and cats could be tested for antibody by an OIE described method and a direct examination of the blood by a concentration method with negative results within the 10 days prior to departure.

Option 4

Cats and dogs could be eligible for importation only from countries that are free from surra.

Analysis

Surra is a tropical disease principally vectored by *Tabanus* spp. flies. The organism is unlikely to establish in New Zealand because the main vectors are not present. *T. evansi* has never spread to temperate climate countries. There are currently no measures required for surra for imported dogs and cats.

Proposal

Cats and dogs must be certified as free from clinical signs of infectious disease and external parasites on the day of shipment.

Fleas

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Within the 3 days prior to travel, animals for export are to be treated with an effective insecticide.

Option 2

Treatment as in option 1 *and* inspection, with certification that the animal is free from fleas within 3 days of travel.

Option 3

Treatment as in option 1 *and* be inspected and found to be free of fleas at the point of departure.

Option 4

Treatment as in option 1 *and* be inspected and found to be free of fleas at the port of entry before being given biosecurity clearance.

Option 5

Treatment as in option 1 *and* be inspected and found to be free of fleas at the point of departure *and* be inspected and found to be free of fleas at the port of entry before being given biosecurity clearance.

Analysis

Fleas can transmit infectious diseases, including some diseases that can infect humans. Safe and effective insecticides and insect growth regulators can be used to provide flea control.

More stringent external parasite measures than those required in the current IHS are justified as fleas have been found on post-arrival inspections. An additional pre-export treatment and inspection have been added to the certification.

Proposal

1. The cat or dog was treated by a veterinarian TWICE with a topical product registered for the control of ticks and fleas at the manufacturer's recommended dose and certified as free from external parasites at each treatment. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment;

AND

2. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

3. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

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Leeches

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Animals could be clinically examined prior to export to provide assurances of freedom from leeches due to their gross visibility.

Option 2

Further to option 1, point of entry inspection could also be adopted as for ticks and myiasis. If any are found, treatment by applying ivermectin solution, topical anaesthetics or insecticides to paralyse leeches thereby facilitating removal could be performed.

Analysis

Leeches are generally grossly visible and should be easily identified on inspection. There are currently no specific measures for leeches.

Proposal

1. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

2. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

Lice

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Within the 3 days prior to travel, animals for export are to be treated with an effective insecticide.

Option 2

Veterinary certification that the animal has undergone pre-export treatment with an effective insecticide within 3 days of travel, and been inspected and found to be free of lice.

Option 3

Veterinary certification that the animal has undergone pre-export treatment with an effective insecticide within 3 days of travel, and been inspected and found to be free of lice at the point of departure.

Option 4

Undergo option 3, *and*, be found to be free of lice upon inspection at the port of entry before being given biosecurity clearance.

Option 5

Treat with an effective insecticide at the port of entry before being given biosecurity clearance.

Analysis

The consequences of lice entering New Zealand are minor, since there are no impacts for humans or the environment and only minor impacts on the animals themselves. Since there are a large number of effective, convenient insecticide treatments available to eliminate lice infestations, imported animals could be treated in conjunction with other treatments for external parasites. The current IHS requires ectoparasite treatment “capable of killing ticks, lice and fleas.” This creates some confusion as most products used for tick and flea control in cats and dogs are not labelled for lice, even though they may be effective against lice.

Lice are active and can be observed moving through the hair. Therefore, pre-arrival inspection within 24 hours of departure should ensure freedom from lice, and post-arrival ectoparasite inspection should increase the level of assurance.

Proposal

1. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

2. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

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Mites

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Certification that the animal has undergone pre-export treatment with an effective acaricide within 3 days of travel, and been inspected and found to be free of mites.

Option 2

Certification that the animal has undergone pre-export treatment with an effective acaricide within 3 days of travel, *and* been inspected and found to be free of mites on the day of departure.

Option 3

Certification that the animal has undergone pre-export treatment with an effective acaricide within 3 days of travel, *and*, been inspected and found to be free of mites upon inspection at the port of entry.

Option 4

For countries where nasal mites are endemic, restrictions could be as for option 3, but additionally the animal could be examined by nasal endoscopy or treated by subcutaneous administration of ivermectin at 200 mcg/kg.

Analysis

There are a large number of effective acaricidal products available, and two acaricidal treatments are proposed for tick control. Currently there are no specific requirements in the IHS for mites.

Veterinary inspections are required along with two pre-export treatments for external parasites, as well as inspection when the animal arrives in New Zealand.

Proposal

1. The cat or dog was treated by a veterinarian TWICE with a topical product registered for the control of ticks and fleas at the manufacturer's recommended dose and certified as free from external parasites at each treatment. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment;

AND

2. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

3. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

DRAFT

Myiasis (fly larvae infestation)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

When importing cats and dogs from countries considered infested with any of the following: New World or Old World screwworm, *Dermatobia hominis*, *Lucilia* spp, *Cordylobia anthropophaga*, *Cuterebra* or *Wohlfahrtia* species:

Animals for export could be subjected to a close inspection of the skin for wounds with egg masses or larvae immediately prior to shipment. Only animals that are free from infestation and that have a dry, unsoiled and unmatted hair coat would be eligible for shipment.

Option 2

As for option 1 *and* in addition, the inspection could be repeated at the arrival point in New Zealand. This inspection could identify any infestation acquired en route and be integrated with tick inspections.

Option 3

As for option 2 *and* in addition, post-arrival quarantine with daily inspections for 30 days.

Analysis

All cats and dogs introduced from countries that are infested with screwworm could be subjected to the measures in Option 2, the recommendations of the OIE Code. These recommendations would also mitigate the risks from other larval infestations that invade tissues or open cavities such as the nose, ears, or mouth. The current HIS has no specific requirements for myiasis.

Proposal

1. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

2. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

Ticks

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Treatment of dogs and cats to be exported with fipronil or other effective acaricides, within the 7 days immediately prior to export.

Option 2

As for option 1 but in addition, inspection by a trained MAFBNZ inspector at the point of entry. The inspection could be carried out to ensure that animals are well groomed and free from ticks; *and* the contents of the container in which the animal arrived is free from ticks.

Animals found to be infested with ticks could be transferred to a transitional facility and treated with a different acaricide from that used previously. It could be held for 48 hours following treatment so as to allow the active ingredient to kill any undetected ticks. At the facility the container could be thoroughly steam cleaned to remove any remaining ticks. The container and bedding could then be destroyed or treated with an acaricide. All ticks found could be sent to a laboratory for identification.

A biosecurity clearance could be given 48 hours after treatment when the inspector is satisfied that the animal and container are tick-free.

Fractionous, unmanageable and dangerous dogs or cats could be directed to a transitional facility for inspection by a veterinarian in the presence of the owner, after having been tranquillized if necessary. If ticks were to be found, the animal could be held in the transitional facility and treated and inspected as described above.

Option 3

As for option 2 but the pre-export treatment of cats and dogs could be the same as an option in the babesiosis chapter for excluding ticks, the animal to be certified by a veterinarian as having been treated with an effective acaricide twice at 2 week intervals during the 4 week period prior to export, and been found to be free from ticks at each treatment.

Option 4

Post-arrival quarantine

A quarantine period of a sufficient duration to allow the free-living stages to detach and be captured would ensure that no ticks were introduced on imported dogs and cats (Heath 2002). This option may be regarded as excessively restrictive on trade between Australia and New Zealand. It would also require specialised facilities to ensure that ticks are captured and destroyed.

Analysis

Exotic species of ticks capable of transmitting exotic diseases have been found on post-arrival inspection, so it is warranted to increase the measures currently in effect. No acaricidal products are consistently 100% effective for all ticks for any time period. Ticks may be resistant to some acaricides, or the product may not be effective over the entire body. Specific products will not be listed in the IHS, as product availability and efficacy may change.

Tick inspections are an important adjunct to treatment. Tick inspections and treatments are also important risk management measures for exotic diseases transmitted by ticks, such as *Babesia gibsoni*. As part of the review of risk management measures for cats and dogs it was decided that veterinarians should examine all live animal imports. All imported cats and dogs will now be inspected by a veterinarian, either in post-arrival quarantine or at the border.

Procedures are in place to ensure that animals found to be infested with ticks or fleas will be transferred to a transitional (quarantine) facility. They are then retreated for ticks and fleas and must remain at the facility until any further testing is satisfactorily completed and they are free of parasites. Procedures are also in place for handling bedding and crates. All ticks found are sent to a laboratory for identification so appropriate recommendations can be made. Unmanageable dogs or cats must be directed to a transitional facility for inspection under tranquillisation if necessary.

Ticks can be very small before feeding on the animal and are difficult to find on long-haired or dark-coloured coats. Post-arrival quarantine provides a controlled and calm environment for conducting thorough inspections and allows for multiple inspections over time.

Proposal

1. The cat or dog was treated by a veterinarian TWICE with a topical product registered for the control of ticks and fleas at the manufacturer's recommended dose and certified as free from external parasites at each treatment. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment;

AND

2. The cat or dog was inspected and certified as free of external parasites within 24 hours prior to shipment;

AND

3. The cat or dog was inspected and found to be free of external parasites post-arrival, prior to receiving biosecurity clearance.

AND

4. A post-arrival quarantine period may be required to allow detection of ticks. If ticks or fleas are found, the animal will not be given biosecurity clearance until all further treatment and/or testing requirements have been fulfilled.

DRAFT

Nematodes and Acanthocephalans

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Treatment with an anthelmintic as recommended by the manufacturer that is efficacious against nematodes (such as ivermectin, fenbendazole, levamisole or pyrantel pamoate) within 7 days of shipment.

Option 2

Examination of faecal samples, followed by treatment with an efficacious anthelmintic and re-examination of faeces, 7-10 days after treatment, to confirm that parasites have been eliminated. If parasites have not been eliminated, the treatment could be repeated using a different anthelmintic and faeces could be re-examined. The procedure could be repeated as necessary until all parasites have been eliminated. Shipment could be within 7 days of a final negative faeces examination; *or*

Option 3

As for Option 2 but an additional treatment with anthelmintic 3 days before shipment; *or*

Option 4

As for options 2 or 3 but both faeces and urine could be tested for parasites and the eyes subjected to a physical examination for *Thelazia* spp.

Option 5

Animals could be held in quarantine while carrying out the procedures in Options 2, 3 or 4.

Analysis

The parasites considered in this section are generally not important pathogens. They are likely to be less pathogenic than parasites already established in New Zealand, therefore the consequences for cat and dog health are likely to be minimal. However, new parasites could be introduced and become established. These parasites could cause rare cases of *larva migrans* in humans.

Effective treatments (anthelmintics) are available for all the relevant parasites. Treatment recommendations for many products include two treatments (or courses of treatment), so Option 1 has been modified as follows.

Proposal for internal parasites

1. The animal has been treated TWICE with a product (or combination of products) registered for the control of nematodes and cestodes at the manufacturer's recommended dose. The first treatment was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment was given within 4 days of shipment.

DRAFT

Trematodes

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Since the parasites are unlikely to establish or cause serious diseases, cats and dogs could be imported without restrictions.

Option 2

Since praziquantel is an effective agent for the treatment of trematode infestations, all cats and dogs to be imported could be treated with an effective regime of praziquantel treatment.

Option 3

- i) cats and dogs could be treated with an effective dose of praziquantel, 3 weeks before shipment; and
- ii) 1 week after treatment a faecal sample could be examined by both sedimentation and floatation methods by a laboratory approved by the veterinary authority of the exporting country, with negative results. Should trematode eggs be found, treatment could be repeated until a negative result is obtained.

Option 4

Dogs for export could be held in quarantine while the recommendations of Option 3 are carried out.

Analysis

The parasites considered in this section are generally not important pathogens. The life-cycles for many trematodes are complex and it is unlikely that the parasites would become established as a viable self-sustaining population when single or small numbers of cats or dogs are imported.

The dose of praziquantel for eliminating trematodes is higher than that required for control of most tapeworms, including *Echinococcus*, and requires a longer course or treatment. Based on these considerations, the recommendation is to follow the OIE Code recommendations for the control of echinococcosis/hydatidosis, and not require a higher dose and/or longer course of treatment for trematodes, i.e., Option 1.

Proposal for internal parasites

1. The animal has been treated TWICE with a product (or combination or products) registered for the control of nematodes and cestodes at the

manufacturer's recommended dose. The first treatment (or course of treatment) was given within 30 days of shipment and at least 2 weeks before the second treatment, and the second treatment (or course of treatment) was given within 4 days of shipment.

DRAFT

Cestodes

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Treatment with an effective dose of praziquantel within the 7 days prior to shipment.

Option 2

Examination of faeces within the 14 days prior to shipment by a laboratory approved by the veterinary authority of the exporting country using both sedimentation and floatation methods and examination of faeces for tapeworm segments, with negative results.

Option 3

Cats and dogs could be treated with an effective dose of praziquantel 3 weeks before shipment; and

One week after treatment a faecal sample could be examined by both sedimentation and floatation methods, and examination of faeces for tapeworm segments, by a laboratory approved by the veterinary authority of the exporting country, with negative results. Should evidence of cestode infestation be found, treatment could be repeated until a negative test result is obtained. During the pre-export period of treatment and testing dogs should not be fed ruminant offal.

Analysis

Cestodes all have similar complex life cycles. The consequences for cats and dogs are likely to be minor since infestation with adult tapeworms is generally of minimal clinical significance. However, since several of the parasites may accidentally infest humans or other species of animals, the consequences could be severe.

Praziquantel at the standard dose administered for deworming cats and dogs does not control all species of tapeworm, but is effective against many including *Echinococcus*, the species of greatest biosecurity concern. The proposed measure requires an additional treatment to Option 1, and is similar to the current requirements for endoparasite treatment.

Proposal for internal parasites

1. The animal has been treated TWICE with a product (or combination of products) registered for the control of nematodes and cestodes at the manufacturer's recommended dose. The first treatment (or course of treatment) was given within 30 days of shipment and at least 2 weeks

before the second treatment, and the second treatment (or course of treatment) was given within 4 days of shipment.

DRAFT

Rabies

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

Animals from a rabies free country (as defined in the *Code*) could be imported without restrictions.

Option 2

Animals from rabies infected countries could be imported provided that:

1. they are free from clinical signs of rabies; and
2. they have been vaccinated against rabies with an inactivated virus vaccine or with a recombinant vaccine expressing the rabies virus glycoprotein
 - a. not less than 6 months and not more than one year prior to shipment in the case of a primary vaccination, which should have been carried out when the animals were at least 3 months old; or
 - b. not more than one year prior to shipment in the case of a booster vaccination; and
3. were subjected not less than 3 months and not more than 24 months prior to shipment to an antibody test as prescribed in the *Terrestrial Manual* with a positive result equivalent to at least 0.5 IU/ml.

NB. This option reflects the *Code* recommendations for the safe trade in cats and dogs.

Option 3

If a higher level of protection than that achieved by application of international standards is considered necessary, post-arrival quarantine may be considered appropriate. The period of PAQ could be as short as 1 month or up to 6 months.

Analysis

Rabies has a long incubation period, during which time animals show no signs of infection. There are no reliable tests for infection with rabies that can be done on a living animal during this incubation period.

Vaccination has been proven to be highly effective for protecting animals against rabies infection. In comparison to the number of animals receiving vaccination, an extremely small number of individual vaccine failures have been reported. Serological tests (titre tests) are available that reliably demonstrate if vaccination has been effective.

The OIE *Code* chapter on rabies makes recommendations relating to the safe importation of dogs and cats. These recommendations differ from the current requirements in that they do not include quarantine, and specify a different

timeframe for the rabies titre test. These internationally recognised recommendations have been used to effectively control rabies in several rabies-free countries and territories for many years.

A short quarantine period could still be required to ensure that all animals are compliant with the pre-export testing and treatment requirements as well as the post-arrival inspection requirements.

Proposal

1. The animal has been resident in a rabies-free country (as defined in the *OIE Code*) since birth or for the six months prior to shipment;

AND

2. the animal shows no clinical signs of rabies on the day of shipment.

OR

3. The animal has been vaccinated against rabies with a government approved inactivated virus vaccine or recombinant vaccine expressing the rabies virus glycoprotein;
 - a. in the case of a primary vaccination, the vaccine was given not less than six months and not more than one year prior to shipment, when the animal was at least three months old;

OR

- b. if a booster vaccination, the vaccine was given not more than one year prior to shipment;

AND

4. the animal has been subjected to a rabies antibody test (as prescribed in the *OIE Terrestrial Manual*) on a sample collected not less than three months and not more than 24 months prior to shipment, with a result of at least 0.5 IU/ml;

AND

5. the animal shows no clinical signs of rabies on the day of shipment.

Canine Transmissible Venereal Tumour (CTVT)

Options for management of risk presented in the 2009 Import Risk Analysis: cats, dogs and canine semen

Option 1

General veterinary examination of the dog pre-export could be performed by a veterinarian within one week of travel; with the dog certified to have no lesions suggestive of CTVT.

Option 2

Specific veterinary examination of genitalia of bitches by vaginal speculum in females and examination of the penis and prepuce in males could be done to ensure dogs are free of CTVT within 3 days of travel. Dogs showing evidence of CTVT could be disqualified from travel.

Option 3

Dogs to be imported could be desexed animals or entire adults that are certified as not having been mated in the 8 months prior to export or for their entire lives.

Option 4

Dogs for import could be held in quarantine for 6 months immediately before shipment.

Analysis

The risk estimate for the entry, exposure and consequences of CTVT in entire male and female dogs is non-negligible. The tumour is therefore classified as a hazard.

Diagnosis of CTVT is strongly suspected on the basis of the physical appearance of the tumour, which is almost always found on the external genitalia. It is confirmed by microscopic examination of cells from the tumour.

Since infection is clinically obvious based on physical appearance of the tumour on the external genitalia, veterinary examination of entire animals prior to travel could markedly decrease the likelihood that CTVT is introduced.

The current IHS has no measures for CTVT. Dogs have been imported with CTVT, so specific measures are justified.

Proposal

1. If this is an entire male or female dog, it has been subjected to an examination of the external genitalia within 4 days of shipment and found to have no lesions suggestive of canine transmissible venereal tumour;

AND

2. If this is an entire male or female dog, it has been subjected to an examination of the external genitalia post arrival and found to have no lesions suggestive of canine transmissible venereal tumour prior to getting biosecurity clearance.

DRAFT

Biosecurity Clearance

Approved countries will be grouped as follows based on risk management measures required:

Australia

Countries & territories recognised as free of rabies

Specified countries & territories where rabies is absent or well-controlled

Pacific island countries & territories

A range of options for biosecurity clearance were considered and reviewed with MAF Verification Agency veterinarians, transitional (quarantine) facility operators, and Inspectors. It was agreed that it is a high priority to have official veterinarians undertake all physical inspections. This is a significant shift from current practice, where cats and dogs that do not require post-arrival quarantine are cleared at the border by inspectors, and animals in quarantine are cleared by official veterinarians.

Animals arriving from all countries except Australia will be sent to post-arrival quarantine for a minimum of 10 days. This will allow time for a thorough inspection of the animal by an official veterinarian in a calm environment, time for engorgement of any ticks still present, a thorough documentation check, and confirmation of clinical health.

Regarding ticks, a previous import risk analysis on *Babesia* proposed pre-export quarantine as ideal, but this was not practical. A 10 day post-arrival quarantine should allow adequate time for any ticks present to feed and be found or fall off the animal.

Cats and dogs from Australia have fewer risk mitigation measures required due to Australia's health status. The documentation check and physical inspection for cats and dogs from Australia will be conducted at the border. Any animal that is not compliant with the requirements, or is found to have fleas or ticks, will be sent to post-arrival quarantine. Fractious cats or dogs, and those arriving outside of the scheduled time for veterinary inspections, will be sent to post-arrival quarantine until all measures have been met.