

**Draft Risk Management
Proposal: Horses**

April 2011

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Purpose

The purpose of this document is to:

- Show how options for the management of risk organisms have been assessed; and
- Provide recommendations for import requirements.

The Import Health Standard (IHS) for horses has been developed under Section 22 of the Biosecurity Act. The Ministry of Agriculture and Forestry (MAF) is seeking stakeholder feedback on the risk management options proposed in the standard.

Background

In January 2000, MAF completed the *Import Risk Analysis: horses and horse semen* and this import risk analysis (IRA) forms the basis of the risk management measures in current horse IHSs which allow the importation of horses from Australia, Canada, United States, Japan, European Union member states and Hong Kong.

In January of 2010 work began on a review of the current horse import health standards. Since the IRA was published in 2000 technical advances over the last eleven years and changes to the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code (Code) meant that current recommendations required revision.

A comparison of risk management measures from the IRA and the 2010 OIE Code was carried out to help determine New Zealand's acceptable level of protection for the new generic standard.

In accordance with new MAF processes, the IHS will contain generic import requirements. These requirements are the rules to manage the biosecurity risk of importing horses from any potential approved country and in doing so, achieve New Zealand's acceptable level of protection.

The generic standard will serve as the basis for country-to-country (bilateral) negotiations. MAF and the Veterinary Authority of the exporting country will negotiate the content of the veterinary certificate which must meet the conditions of the IHS.

With the generic standard, a guidance document will be issued by MAF. This document will provide information regarding approved countries, quarantine facilities, approved tests and treatments.

A model veterinary certificate is also located in the guidance document and the bilaterally-agreed format for veterinary certification for trade in horses will be added as they become available. Approved veterinary certificates will be used to import consignments of horses from approved countries.

Objective

The objective is to manage to an acceptable level all biosecurity risks posed by the import of horses. This is consistent with New Zealand's domestic legislation and international obligations.

Recommendations for identified risk organisms

The biosecurity risks associated with the importation of horses have been examined in the document *Import Risk Analysis: Horses and horse semen* published in January 2000. Of the potential hazards, the IRA concluded that risk management measures were justified for 29 hazards in imported horses.

Risk management measures for seven diseases identified in the IRA are no longer justified:

- equine granulocytic anaplasmosis and Potomac horse fever (formally known as equine ehrlichiosis)
- Getah
- leptospirosis

West Nile fever (WNF) was not identified as a hazard in the IRA, but is an emerging disease and risk management measures are proposed in the generic IHS which include either country freedom or premise freedom and vaccination.

Prescribed diagnostic tests recommended by the OIE Code for international trade and described in the Terrestrial Manual must be used as the test of choice for all specified risk organisms in the IHS. Where there is no OIE prescribed test for a certain risk organism or the exporting country proposes to use an alternative test, MAF Investigation and Diagnostic Centre (IDC) laboratory experts must assess the test as valid for diagnostic purposes in horses, and appropriate for screening for the risk organism and equivalent to the IHS requirement.

African horses sickness (AHS)

Discussion

The biosecurity threat posed by AHS is considered to be negligible. This is because even if viraemic horses were imported, the disease is not contagious and the vector (*Culicoides* biting midges) is not present in New Zealand (NZ) and therefore AHS could not establish.

The OIE Code recommends a number of different measures dependent on a particular exporting countries circumstance. The OIE Code makes it clear that an AHS-free country must import horses as described in the OIE Code and further states that free countries would not lose their status through the importation of vaccinated or seropositive horses provided that the imports have met the OIE Code recommendations.

When importing from infected countries or zones, the infective period is considered to be 40 days. Therefore, the pre-export isolation (PEI) recommended in the OIE Code is 40 days. This is a change from IRA recommendation which was 28 days. The OIE Code also provides the option of agent identification (antigen) testing as well as serological testing for antibody, which is additional to current NZ recommendations.

Recommendation

For NZ to be recognised as a free country and to retain that status, horses should be imported as described in the OIE Code recommendations.

Anthrax

Discussion

Anthrax is a multiple species OIE listed disease and the OIE Code recommends premise freedom for 20 days prior to export or vaccination and that anthrax is notifiable in the exporting country.

Current NZ IHSs require horses to be certified as having been resident for 20 days immediately prior to export on premises where clinical cases of anthrax have not occurred.

NZ IHSs do not currently include the vaccination option that is recommended in the OIE Code.

The anthrax vaccine can be less effective if there has been concurrent antibiotic administration. The vaccine can also stimulate a variable immune response in individuals, the duration of immunity in horses can be slow to develop, requiring some manufacturer's (but not all) to recommend more frequent boosters. Given the potential issues regarding the vaccine the guidance document associated with the IHS will expand on these vaccination considerations.

Recommendation

The OIE Code recommendations should be adopted in the generic IHS allowing for premise freedom and vaccination. For anthrax, the OIE Code recommends vaccination not less than 20 days and not more than 6 months prior to export. MAF proposes vaccination for anthrax not less than 35 days and not more than 6 months prior to export to allow for adequate immunity to establish prior to the horses entering the pre-export isolation facility.

Borna disease

Discussion

Borna disease is not an OIE listed disease. Horses are affected sporadically in a confined part of Europe only. There is no evidence that horses transmit infection to other animals or humans. Current MAF IHSs require certification that horses have been resident for 3 months on premises with no cases reported during the previous 12 months.

Recommendation

Premise freedom as contained in current IHSs should be maintained and would not be trade restrictive.

Contagious equine metritis (CEM)

Discussion

CEM is an OIE listed disease and the OIE Code makes recommendations for the safe importation of stallions and mares. The OIE Code refers to the clinical syndrome (CEM) without mentioning the causative agent. The Terrestrial Manual states that the causative agent for CEM is *Taylorella equigenitalis*, for which the prescribed test is culture. The Terrestrial Manual also mentions that culture cannot distinguish between *T. equigenitalis* and *T. asinigenitalis* and that this requires a specialised PCR which is available only in a few laboratories. The OIE Code recommendations are therefore aimed at excluding both *T. equigenitalis* and *T. asinigenitalis* and separate measures for these two organisms are not recommended for the generic IHS.

A number of minor updates are required for the generic IHS to align with the OIE Code:

- The Terrestrial Manual recommends the timing of the swabs for CEM samples to be at least 7 days apart. The Terrestrial Manual specifies that freedom from CEM shall be based on the Code of Practice for CEM made by the UK Horserace Betting Levy Board.
- The OIE Code does not require swabbing of the urethra in mares, whereas NZ currently does.

- The testing period before export is 60 days for current NZ IHSs whereas the OIE Code recommends 30 days.

Recommendation

It is recommended that NZ updates the CEM requirements in the generic IHS to align with the OIE Code and Terrestrial Manual.

In current MAF IHSs pregnant mares that have not had cervical or endometrial swabs taken prior to mating will be directed to an approved CEM transitional facility. In the event of a positive test result after foaling current MAF IHSs state that the mare and any foal are re-shipped or destroyed. In the generic IHS MAF proposes two potential options: MAF may approve an effective treatment and re-test schedule to declare the mare and her foal free from CEM; or if no such treatment and re-test schedule is approved by MAF the mare and foal will be re-shipped/destroyed.

Dourine

Discussion

Dourine is the only trypanosome not transmitted by an insect (invertebrate) vector and is transmitted directly from animal to animal via sexual contact. It can also be transmitted from a pregnant mare to her foal during delivery. Horses are the reservoir host for Dourine. The incubation period, severity and duration of disease vary considerably; it is often fatal, but spontaneous recoveries may occur and latent carriers exist. Further, subclinical infections also occur.

There is no treatment or vaccine for Dourine.

The complement fixation test is prescribed for international trade since antibodies are always present even if clinical signs of disease are not evident.

The recommendations made in the IRA are based on the OIE Code recommendations that were made at that time.

Recommendation

The OIE Code should be adopted in the IHS recommending either country freedom or premise freedom and testing.

Ectoparasites

Discussion

Current IHSs, except horses imported from Australia, require two treatments for ectoparasites. The first, 48 hours prior to entry into PEI and the second, 48 hours prior to export. Inspection for ticks is required in the 48 hours prior to export.

Recommendation

Current standard practice should be maintained, except it is proposed the final tick inspection/veterinary inspection prior to export be completed in the 24 hours prior to export.

Endoparasites

Recommendation

Current standard practice should be maintained which requires treatment 48 hours prior to entry into PEI and again 48 hours prior to export.

Epizootic lymphangitis

Discussion

The OIE Code Chapter has recently been deleted since it does not meet the criteria for listing.

Current NZ IHSs recommend premise freedom and absence of clinical signs on the day of export.

Recommendation

Premise freedom as contained in current IHSs should be maintained and would not be trade restrictive.

Equine encephalomyelitis (Eastern and Western)

Discussion

Since horses are 'dead-end' hosts for the Eastern and Western equine encephalomyelitis (EEE/WEE) viruses and the vectors are not present in NZ, there is no possibility of an imported case leading to establishment or any further cases.

Although there is no biosecurity threat, the IRA recommended measures because exports of horses and their semen could be stopped until a definitive diagnosis was established if a horse developed clinical signs suggestive of EEE/WEE.

Further, EEE and WEE are zoonoses. There would not be a public health threat per se (since vectors are not present), but those investigating imported cases and carrying out post-mortems or working with samples in the laboratory, would need to take the necessary precautions to prevent infection.

Recommendation

Although not a biosecurity risk to NZ, there are trade implications and human health impacts to consider.

The OIE Code should be adopted in the generic IHS. This includes: clinical freedom from disease and premise freedom; or pre-export isolation (PEI) with insect vector protection; or vaccination prior to export. The option of vector protection is the only addition to the measures in current NZ IHS's.

Equine encephalosis

Discussion

The disease is not an OIE listed disease or notifiable in NZ. The disease would not establish in NZ since it is not contagious and the vectors (*Culicoides* midges) are not present. Some current NZ IHS's require horses to be resident for 28 days in a country (or zone where appropriate) where no clinical cases have been reported.

The IRA states: 'The vast majority of infections are subclinical. Clinical syndromes associated with EE include acute death, an AHS-like syndrome, abortion and depression, and an inappetance, fever and jaundice complex. The incubation period is 2-6 days. The mortality rate is less than 5 %. While no information has been found regarding the infectious period, knowledge of other orbiviruses such as AHS and bluetongue suggest the infectious period is probably no longer than 28 days, and the immune response clears the viraemia'.

Note that the infectious period for AHS, a similar orbivirus, is considered to be 40 days for the purposes of international trade recommendations.

The IRA also considers that 'the indirect consequences associated with stopping exports of horses and semen until a diagnosis was established could occur and that measures to ensure infected horses are not imported are warranted'.

This scenario is probably unlikely since the vast majority of infections are subclinical or clinical signs if observed, are very mild. However, for consistency with other infections that could potentially result in neurological signs, measures can be justified.

Recommendation

The IRA measures of either country freedom, or premise freedom, testing and PEI with vector protection should be applied. However, the residency period should be increased from 28 days to 40 days for consistency with the closely related AHS measures. Equine encephalosis is not present in any country approved to export horses to New Zealand.

Serological tests for antibody detection were recommended in the IRA. Serology is historical, and since infections are subclinical, testing that would detect active infection (antigen) is recommended for the generic IHS.

Equine granulocytic anaplasmosis and Potomac horse fever

(both formerly referred to as equine ehrlichiosis)

Discussion

Potomac horse fever and equine granulocytic anaplasmosis do not meet the OIE criteria for listing.

Today, more is known about Potomac horse fever and equine granulocytic anaplasmosis, horses are dead-end hosts and the tick vector is not present in New Zealand (*Ixodes* spp.).

Current NZ IHSs require premise freedom certification. The rationale was partly based on an assumption that imported cases might lead to some measures being imposed by Australia. However, since Australia does not require measures for these diseases, this consequence no longer applies.

Recommendation

It is recommended that no measures are imposed in the generic IHS.

Equine infectious anaemia (EIA)

Discussion

Once infected with EIA, horses remain infectious for life. Transmission occurs by transfer of blood; mechanically by insects (*Stomoxys calcitrans* is an important vector that is present in NZ); transfer from mare to foal in utero; or spread iatrogenically.

Recently there have been several outbreaks of EIA reported in Europe (UK, Germany, France, Netherlands and Belgium) some with direct links to imported horses from Romania.

Current NZ IHSs require post-arrival quarantine (PAQ) and testing. However, for NZ horses travelling for short visits to Australia, they may return to NZ without testing or PAQ. The rationale for this from the IRA is that the serological test would not be reliable and that a premise freedom declaration is sufficient.

Recommendation

NZ currently requires PAQ and further testing for imports of horses from countries where EIA is highly prevalent; this is beyond the OIE Code, although this is not applied to Australian horses.

For the generic IHS it is proposed that current measures be maintained, where serological testing required by the OIE Code is carried out closer to the actual day of export to allow maximum time for antibody development and thus maximise test sensitivity.

In regards to returning NZ horses that visit Australia for up to 21 days, a PCR assay described in the Terrestrial Manual may be of practical value. The PCR could be used to detect early infected horses, before serum antibodies have developed. It is proposed that the generic IHS should require NZ horses making visits to Australia be subjected to PCR testing prior to their return. Alternative testing may be proposed by exporting countries during bilateral negotiations.

Equine influenza (EI)

Discussion

Since 2007, the quick and sensitive nasal swab PCR test has been included in pre- and post-arrival quarantine in NZ IHS's. The PAQ testing is considered an important measure for New Zealand, since one of the key concerns with importing horses from an EI infected country is subclinical infections that may occur in vaccinated horses.

Recommendation

Specification of the strains included in the vaccination should be removed from current IHSs. Vaccines should contain OIE recommended strains, which are reviewed annually by the OIE expert working group for EI.

Further, it is proposed that the OIE Code recommendations are adopted where appropriate. For example, current IHSs' require 3 months premise freedom (the OIE Code is 21 days) and vaccination timing should be aligned with the current OIE Code, or at least with the recommendations made in the recent Australian import risk analysis.

Two tests in PEI are proposed and this meets the OIE Code requirement for countries opting for additional security. Also, post-arrival quarantine (PAQ) and repeat nasopharyngeal swabs will still be a requirement for horses entering NZ from an EI infected country; this is considered an important risk mitigating measure due to the potential for sub-clinical shedding of the virus.

Equine piroplasmiasis

Discussion

Equine piroplasmiasis is an OIE listed disease caused by the tick-borne protozoa *Theileria equi* and *B. caballi*. Ticks are considered the reservoir of infection. Piroplasmiasis is also transmitted iatrogenically.

B. caballi is transmitted by the tick species within the genera *Rhipicephalus*, *Dermacentor* and *Hyalomma*. *T. equi* is transmitted by the tick species within the genera *Rhipicephalus*, *Dermacentor*, *Hyalomma* and *Boophilus*.

No *Haemaphysalis* sp. is known to act as a vector. Since this is the only genera of tick infesting livestock in NZ, infection is unlikely to establish and spread naturally

under NZ conditions. If an infectious horse were imported iatrogenic spread would be a possibility. However, iatrogenic routes may be less important than in the past.

The IRA states that 'Allowing seropositive horses to be imported into NZ would probably result in measures being imposed on horses exported to Australia and perhaps other countries also. There is also the potential for the presence of seropositive horses in NZ to adversely affect the export trade in equine serum products'.

NZ and Australia are free from equine piroplasmiasis. Both countries exceed OIE Code recommendations. The measures to be recommended should consider that NZ is free of vector tick species and that iatrogenic spread is unlikely to lead to long-term, widespread establishment. For these reasons, import measures should, in the first instance, consider the appropriate level of protection for NZ.

Recommendation

The OIE Code and Terrestrial Manual recommendations should be adopted, except there should be no allowance for the import of seropositive horses. The measures recommended are either country freedom with no imports of seropositive horses or premise freedom and during that time kept tick free and tested.

Equine herpesvirus – 1 (EHV-1)

Discussion

The OIE Code provides recommendations for EHV-1 (abortigenic and paralytic forms) only.

Outbreaks of neurological disease in horses caused by EHV-1 have been reported with increasing frequency in the USA in recent years, caused by an emerging mutant strain of EHV-1. This strain is considered to be exotic to NZ. This is despite free trans-Tasman trade where the abortigenic and paralytic form is present in Australia.

Recommendation

The OIE Code recommendations would not prevent introduction of the organism because latently infected animals are the main reservoir of infection and can reappear at times of stress. However, they would safeguard against importing horses in the acute phase of infection.

The OIE Code measures would help prevent international spread from an active outbreak since the incubation period ranges from 2 days to 2 weeks. This would mean a reduction in the premise freedom/residency requirement in current IHS's of 3 months to 21 days. This will reduce the risk of importing animals that have been recently exposed.

Equine viral arteritis (EVA)

Discussion

EVA is an OIE listed disease and the OIE Code makes recommendations for the safe importation of equines and semen.

NZ requirements are pre-export premise freedom and specific measures with options for entire male horses, castrated and female horses.

There are significant *differences* in current NZ measures and the OIE Code:

- Certification period that animals showed no clinical signs of EVA prior to export (NZ 3 months, whereas the OIE Code is 28 days).

- NZ has an option that allows stallions, mares/fillies and geldings to be tested whilst not in PEI which is below the OIE Code. Potentially, horses could become infected before entering quarantine and *after* their blood test had been taken. A false-negative result from the blood test would mean subclinically infected animals could potentially enter the PEI facility.
- NZ requires certification that GnRH has not been administered to seropositive males which the OIE Code has not recommended. The intent of this is to reduce the risk of fraudulent behaviour.
- NZ's vaccination and testing requirement does not include pre- and post- isolation of horses whilst completing testing and vaccination. The OIE Code recommends this.

Recommendation

NZ aims to eradicate EVA and is close to this goal; however current IHS measures are less stringent than the OIE Code. The OIE Code should be adopted for the generic IHS.

Getah virus

Discussion

Most infections of horses with Getah virus are subclinical, self-limiting and of little consequence to the horse.

The virus is principally transmitted by *Aedes vexans nipponi* and *Culex tritaeniorynchus*. Both of these vectors are not present in NZ and there is no evidence that horses are able to infect vectors. Horses are not a biosecurity risk for this virus and it is considered that they are dead-end hosts with no evidence of natural transmission from horses.

The IRA states 'measures are warranted to ensure horses clinically infected with GV are not imported', however most cases of Getah are subclinical.

Recommendation

Based on lack of evidence of natural transmission from horses to potential mosquito vectors or directly to horses and other vertebrates it is recommended that NZ imposes no measures.

Glanders

Discussion

Glanders is contagious and often fatal disease of horses and it is zoonotic with a very high fatality rate in humans. Humans are occupationally exposed. The distribution of disease is now limited and it has disappeared from many countries.

Transmission is by direct contact and the incubation period is days to months, with death in a week, or chronic glanders may progress over years. The disease is an extremely serious health threat to humans and animals.

Recommendation

The OIE Code recommendations and the international tests prescribed in the Terrestrial Manual should be adopted.

Hendra and Nipah virus

Discussion

Hendra virus is a rare sporadic infection of horses and humans that occurs in a geographically restricted part of the world (Queensland, Australia). The disease has resulted in a number of fatalities of both humans and horses in Australia.

Nipah virus outbreaks have occurred in the tropics, Singapore, India, Bangladesh and Malaysia, but these are rare and sporadic. Malaysia has remained free since eradication 10 years ago. For Nipah virus, the likelihood of importing infected horses is extremely low and the likelihood of establishment is considered remote.

For Hendra virus, the unrestricted risk of introduction is probably higher than for Nipah virus. However, despite this, the IRA recommends testing for Nipah virus, but not for Hendra virus.

At that time the IRA was written, the scientific evidence available was insufficient and a precautionary approach for Nipah virus had been taken. An OIE publication reports that serological surveillance carried out in Malaysia in 1999 and 2000 found the entire horse population was free from Nipah virus infection. Further, 500 horses in Singapore were tested and found to be seronegative for Nipah virus.

In the unlikely event of serological evidence, previous exposure is all that could be attributed to a horse returning a positive result. Possibly this occurs as a result of spill-over from close contact with infected pigs. It is noteworthy that a serologically positive horse is an extremely rare event, even in horses located within an outbreak zone.

Recommendation

No serological testing for Nipah or Hendra viruses is recommended in the generic IHS. Country freedom or premise freedom is proposed for both Hendra and Nipah.

Horse Pox

Discussion

Poxviruses are unimportant as causes of viral disease in equines. The only exception is Uasin Gishu disease, an infection described in horses in Kenya. Infected horses show typical pox lesions which may appear and disappear intermittently for years.

In Europe, before vaccination campaigns against smallpox (vaccinia) were discontinued, horses were quite frequently accidentally infected with vaccinia virus from recently vaccinated humans. Horse pox and vaccinia may be caused by the same virus. Since smallpox vaccination has stopped, the condition in horses has become rare.

The OIE Code Chapter on horse pox was deleted in 2010 and the disease does not meet the criteria for listing.

Recommendation

Premise freedom as contained in current IHSs should be maintained and would not be trade restrictive.

Japanese encephalitis virus

Discussion

Japanese encephalitis (JE) is an insect-borne viral disease. Horses do not develop viraemia of sufficient titre to infect mosquitoes, and are considered dead-end hosts. Direct transmission does not occur so there is no risk that importation of an infected horse would lead to further cases in other livestock or humans. While *Culex* sp. mosquitoes exist in NZ, none of those species involved in JE transmission cycles in Asia occur here. There is very little risk of endemic cycles establishing in NZ.

The biosecurity threat posed by JE is considered to be negligible. Nevertheless, measures have been recommended in the IRA to protect from the indirect consequences associated with disruption of trade over the short period until the disease investigation established a diagnosis. The measures from the IRA are beyond the OIE Code which does not require PEI if the animal has been vaccinated.

The risk analysis team investigated vaccine efficacy in 2005/06. It was concluded that vaccination is very efficacious. This was based on there being only two cases of clinical JEV in vaccinated horses in Hong Kong documented. One case occurred in 1981 and the other in 2000. Japan had not reported any clinical cases since 1986 up to 2005/06. The possibility of a vaccinated horse developing clinical signs within pre- or post- export isolation is extremely low.

Recommendation

NZ's import measures are based on preventing sick animals in post-arrival quarantine (although an unlikely event), thus safeguarding against negative effects on trade, rather than any actual biosecurity risk.

The likelihood of horses becoming clinically affected and disrupting trade is considered to be adequately managed by the international standard. It is recommended that the OIE Code be adopted in the generic IHS. This would allow either vector protection in PEI or vaccination. Vaccination will be allowed 35 days to 12 months prior to export, unlike the OIE Code's 7 days to 12 months, to allow for immunity to develop prior to entering PEI.

Leptospirosis

Discussion

Measures in NZ IHSs are not scientifically justifiable since horses are not considered to be maintenance hosts for any serovar. Also, antibiotic treatments have not been properly evaluated in horses, and diagnostic testing is not suitable as an import condition. The OIE Code Chapter on leptospirosis has been deleted with the disease not meeting the criteria for listing.

In addition, a literature review has been carried out; this review provides additional evidence to warrant the removal of requirements for leptospirosis.

Recommendation

No measures for Leptospirosis should be imposed in NZ's generic IHS for horses.

Melioidosis

Discussion

This bacterial organism causes a disease of humans and animals that is geographically confined to the tropics of Asia and northern Australia. Zoonotic

transmission to humans is extremely rare and the disease has not established in temperate climates, being restricted to latitudes within 20° North or South of the equator.

Melioidosis in horses normally manifests as an acute metastatic pneumonia with a fever. Infection causes a usually fatal septicaemia with the course of disease typically short, although horses may survive for several months.

It appears to be an opportunistic pathogen with infection acquired from the environment. The likelihood of clinically healthy horses introducing the organism is considered very low. Further, the likelihood that imported infected horses could lead to establishment of the organism here is concluded to be remote.

Recommendation

No measures for Melioidosis should be imposed in NZ's generic IHS for horses.

New World and Old World screwworm

Discussion

Cochlioma homnivorax (New World) and *Chrysomya bezziana* (Old World) are multiple species OIE listed diseases. The Code recommendations when importing from infested countries include examination for infested wounds and prophylactic treatment of animals pre-export. Post-importation inspection is also recommended.

In the event of an introduction of screwworm leading to an outbreak during the summer months, significant adverse direct and indirect impacts could affect many livestock industries. There would also be public health issues.

Establishment, however, is probably a remote likelihood since ground temperatures are too cold to allow screwworm pupae to survive over winter.

NZ currently requires country freedom certification that horses have been resident for 21 days prior to export in a country or zone that has not reported cases of screwworm during the previous year. This is because all countries NZ currently imports from are considered free from screwworm.

Recommendation

For the generic standard, the OIE Code should be adopted which recommends country or premise freedom, wound prophylaxis, inspection and treatment.

Rabies

Discussion

Horses imported from endemic areas could be incubating the disease. The consequences of an imported case would probably be confined to persons exposed to imported animals. Some consequences associated with the disease investigation could also be expected. Measures during importation of horses are warranted.

The recommendations made in the IRA are based on the OIE Code at that time, and these recommendations remain similar to those made today.

Recommendation

The IHSs require minor up-dating to reflect the current OIE Code which includes a requirement for separation of the horses for export from wild and feral animals.

Equine salmonellosis (*Salmonella abortus equi*)

Discussion

This organism is rarely encountered in developed countries. An exception is a particular region in Japan where there is a control program in place. Vaccination has contributed to the virtual eradication of this disease in many countries.

The IRA states 'The consequences of *S. abortus equi* introduction would be confined to the equine industries. They would include the initial disease effects, such as abortion storms and high foal mortality rates, as well as the costs of investigation and control. Overseas experience suggests that the disease could be controlled and eradicated. Measures against horses and semen exports would probably be imposed by trading partners'.

Recommendation

For NZ's generic IHS for horses, it is proposed that the recommendations made in the IRA of premise freedom are applied.

Currently Australia has no requirements for equine salmonellosis for horses imported from any of its trading partners. Horses that enter Australia and travel on to NZ are classified as 'Australian' horses and are entering without measures being imposed. Since Australian horses may pose an introduction pathway that is currently not managed it is proposed that Australian horses be subjected to the IRA recommendation of premise freedom.

Surra

Discussion

Surra is an OIE listed disease of multiple species; however there are no OIE Code recommendations.

NZ IHSs require a residency period of 2 months prior to export on premises where clinical cases of surra have not occurred. NZ does not currently import horses from where the disease is endemic.

The horse IRA states 'The geographic distribution of surra indicates that, while tropical and sub-tropical climates are more favourable, infection may also establish and persist in temperate climates such as NZ's. *Stomoxys calcitrans*, a competent mechanical vector of surra, is widely distributed in NZ. Susceptible host species, particularly horses, cattle and deer, are widely distributed here. These factors combine to suggest that transmission of *T. evansi* could occur in NZ. The possibility that endemic infection may establish here cannot be excluded. Indirect consequences resulting from trading partners imposing measures during exports of live animals are also likely'.

Recommendation

The measures as they are currently should be maintained and the recommended tests from the IRA should be revised to reflect the Terrestrial Manual.

Taylorella asinigenitalis

Discussion

The OIE and Australia do not consider *T. asinigenitalis* to be an important disease when trading horses. *T. asinigenitalis* does not cause disease, however interferes with testing for CEM.

The testing for CEM recommended in the Terrestrial Manual excludes both *T. asinigenitalis* and *T. equigenitalis*.

Recommendation

NZ should delete measures for *T. asinigenitalis* and adopt the Terrestrial Manual testing requirements for CEM which are discussed in the CEM section of this document.

Venezuelan equine encephalomyelitis

Discussion

Horses are considered amplifying hosts for epizootic VEE. With regards to enzootic variants these are considered non-pathogenic to horses and cycle between rodents and mosquitoes. Horses infected with endemic VEE do not appear to play a significant role in the epidemiology of endemic VEE.

The infective period is short and viraemia ends with the production of neutralising antibodies around 1-2 weeks after infection. Vaccination of horses in endemic areas and in areas at risk of epizootics reduces the risk of importing viraemic horses.

The potential for NZ insect species to act as vectors of VEE has not been tested, but *Culex* spp. with proven arbovirus vector competence do occur here and VEE viruses are able to infect a wide-range of insect species. Endemic VEE cycles are however unlikely to establish in NZ since cycles have never established outside of the non-temperate areas of the Americas.

The OIE Code makes recommendations for the importation of equines from VEE free countries. This requires certification that during the past 6 months horses have not been in any country in which VEE has occurred in the last 2 years; that horses have not been vaccinated against VEE within 60 days of export; and show no clinical signs on the day of export.

MAF's current country freedom certification refers to an out-dated OIE Code Article (horses have been resident for the previous 21 days immediately prior to export in a country free of VEE).

Recommendation

The IHSs should be up-dated to reflect the OIE Code recommendations.

Vesicular stomatitis

Discussion

VS is of regulatory importance because it is clinically indistinguishable from foot and mouth disease in FMD susceptible species (horses are resistant to FMD). VS commonly infects humans in endemic areas causing mild, flu-like symptoms.

Although VS is unlikely to establish endemic cycles in NZ, horses infected with VS virus could be imported from endemic areas during periods of virus transmission, and some transmission to other animals in NZ could occur. An imported case could lead to a loss of NZ's health status as a VS-free country, with the potential for trade consequences for important agricultural export sectors. Measures to ensure infected horses are not imported are warranted.

Recommendation

The OIE Code measures do not allow serologically positive horses to be eligible for importation.

However, NZ should allow the importation of certain serologically positive horses i.e. allowing negative, stable or declining antibody titres. It is recommended that the current risk management requirements are maintained, but modified accordingly to align with the OIE Code's recommendations where applicable.

In particular, the addition that animals are protected from insect vectors during not only quarantine, but also transportation to the place of export is recommended.

Warble fly myiasis

Discussion

Warble fly has not been detected for at least twenty five years in any country currently approved to export horses to NZ.

Recommendation

Current standard practice as presented in the IRA should be maintained which includes country freedom or treatment in the 48 hours prior to export.

West Nile fever (WNF)

Discussion

West Nile fever had not been assessed in the IRA, because at that time the virus was newly emerging and was not recognised as a significant disease of horses.

Until 1999, West Nile virus was confined to the Eastern Hemisphere. The virus spread to North America in 1999. An increased incidence of neurological disease and a higher case fatality rate was associated with these viruses. Consequently, West Nile fever has emerged as a significant human and veterinary health concern, particularly in the Americas and Europe.

The disease is OIE listed although the horse is a 'dead-end' host and the OIE Code makes recommendations for other susceptible species and specifically *excludes* horses. The OIE Code also states that a free country or zone will not lose its free status through the importation of seropositive animals (whether from natural infection, or vaccination induced).

If NZ is prepared to accept the probably extremely rare occasion of a horse developing clinical signs (including death) in PAQ then no recommendations at all are required for WN fever. Obviously it is prudent to vaccinate and safeguard against clinical signs and resulting trade restrictions imposed as a result of a positive case. This is a familiar approach taken in the IRA and should be maintained here for consistency.

The OIE Code recommends vaccination as an option for JE and equine encephalomyelitis but not for West Nile fever and horses are dead-end hosts for all of these diseases. Registered vaccination is available for WNF and would prevent clinical signs in quarantine. The vaccine claims 94% efficacy, combined with 90% of infected horses not exhibiting clinical signs, therefore vaccination is all that would be required.

Recommendation

The recommended animal health safeguards for horses coming directly to NZ from countries where WNF is endemic should be vaccination not less than 35 days before export and not more than 6 months before export. The horse must be administered either a final dose of the primary course or a booster WNF vaccination, using an approved inactivated vaccination for West Nile fever.