

AUSTRALIAN VETERINARY EMERGENCY PLAN

AUSVETPLAN

1999

Enterprise Manual

Animal Quarantine Stations

AUSVETPLAN is a series of technical response plans that describe the proposed Australian approach to an emergency animal disease incursion. The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans.

Agriculture and Resource Management Council of Australia and New Zealand

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This document will be reviewed regularly. Suggestions and recommendations for amendments should be forwarded to the AUSVETPLAN Coordinator (see Preface).

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PREFACE

This **Enterprise Manual for quarantine stations** forms part of the **Australian Veterinary Emergency Plan**, or AUSVETPLAN (Edition 2). AUSVETPLAN is an agreed management plan and set of operational procedures that would be adopted in the event of an emergency animal disease outbreak in Australia. The procedures are briefly outlined in the **Summary Document** and details are given in the individual **Disease Strategies**. The manuals are written with specific reference to certain animal industries where a greater than normal risk of harm could be expected from an emergency disease outbreak.

The manual is directed at providing information, assistance and guidance to all personnel associated with the operations or services provided by quarantine stations. Under some circumstances, it is likely that there would be opportunities to respond to emergency disease outbreaks in animal quarantine stations in a different manner from the AUSVETPLAN strategies dealing with disease in the national flock/herd. This manual details such alternative responses where appropriate for the species/disease concerned.

This manual is being released as a final document following full industry/government consultation and with the approval of the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ).

Detailed instructions for field implementation of the strategies are contained in the AUSVETPLAN **Operational Procedures Manuals** and **Management Manuals**. Cross-references to strategies, manuals and other AUSVETPLAN documents are expressed in the form:

Document Name, Section no.

For example, **Decontamination Manual, Section 3**.

The resource book *Exotic Diseases of Animals: A Field Guide for Australian Veterinarians* by WA Geering, AJ Forman and MJ Nunn, Australian Government Publishing Service, Canberra, 1995 (**Exotic Diseases Field Guide**) has been a source for some of the information about the aetiology, diagnosis and epidemiology of the diseases. It should be used as a field guide for veterinarians and other animal health personnel associated with exotic disease diagnosis and management in livestock enterprises, including quarantine stations.

The manuals will be revised and updated from time to time to ensure that they keep pace with the changing circumstances of the particular industry they cover. Comments and suggestions are welcome and should be addressed to:

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1 NATURE OF ENTERPRISE

Animal quarantine stations are, in most cases, the first points of entry for animals imported into Australia. Animals are quarantined to exclude the possibility of spreading animal disease into Australia. Information on Australian quarantine policies and requirements is available on the Australian Quarantine and Inspection Service (AQIS) Internet site at <http://www.aqis.gov.au/import/index.htm>. Quarantine stations are high risk for the index (first) case of an exotic animal disease. Their response to an exotic animal disease emergency will differ from that in a national flock/herd as the cases are already contained within the station, and in many cases are well separated from susceptible species.

1.1 Australian quarantine stations

The Commonwealth government currently staffs and operates animal quarantine stations at Eastern Creek (Sydney), Spotswood (Melbourne), Torrens Island (Adelaide), Byford (Perth) and the Cocos Islands. A number of private quarantine stations have been approved for hatching eggs, sheep, cattle and alpacas.

The stations are used for quarantine isolation and testing of imported animals from various countries of differing disease status. Their major function is to protect against the entry of animal diseases present in the country of origin that may have not been detected at the time of departure.

Each of the existing stations has both a specific and a general role related to its location. Eastern Creek is the major facility for dogs and cats, a major station for horses and the only bee quarantine facility in Australia. It includes contingency space in the event of an outbreak of rabies in an exporting country or another quarantine station. Spotswood is the major mainland facility for imported cattle, alpaca and live birds, a major facility for horses, and a significant facility for dogs and cats. It is also used from time-to-time for pre-embarkation isolation of cattle and horses before export. Torrens Island is a specialised facility for the import of fertile bird eggs. Byford is a dog and cat facility, with some yards for livestock. Cocos Islands is Australia's high security offshore facility. It is suitable for farm livestock (mammals and some large avian species) and zoo animal species.

Animal import quarantine stations can be broadly categorised as:

- primary quarantine stations
- secondary quarantine stations
- private high and low security stations used for special purposes

Primary quarantine stations are those where observation and testing are needed for a range of diseases, and where imports are from countries that have significant diseases judged to require primary quarantine on arrival. They may include privately owned stations.

Secondary quarantine stations are those for the performance of continued quarantine surveillance and testing, after release from a primary quarantine station, to address residual risks posed by one or more diseases. Examples of this type of station are those established to exclude scrapie from sheep and goats, and tuberculosis from alpacas.

The private stations for special purposes include aquaria, zoos, and scientific institutions.

There are also two privately owned high security quarantine stations in operation, one near Goulburn, NSW is for hatching poultry eggs and the second is on Niue Island in the western Pacific and has been used for the importation of alpacas from South America. Both are constructed and managed to primary quarantine station standards.

For the purposes of this manual the term ‘animal quarantine station’ refers only to those premises proclaimed under Section 13(1)(c), or appointed under Section 13A, of the *Commonwealth Quarantine Act (1908)*. This manual does not apply to premises or other places approved from time to time for the low security isolation of imported animals. Emergency disease occurrences on these latter premises should be handled using the appropriate AUSVETPLAN Disease Strategy.

1.1.1 Existing codes of practice

The normal animal welfare codes that are applicable in the states/territories also apply to government operated and approved private quarantine stations. The animals in the stations are usually of high value and their conditions of welfare are of a high standard.

1.1.2 Existing legislation

Outbreaks of disease within animal quarantine stations would be dealt with under the Quarantine Act and associated regulations and proclamations. Disease occurrence/spread outside a Station may be dealt with under this legislation or the appropriate state stock diseases act (or both) depending upon the circumstances.

1.2 Emergency diseases of concern

As quarantine stations may contain animal species from all classes, all emergency diseases of concern need to be considered. The list of AUSVETPLAN diseases is at Appendix 1. For more information about the listed diseases see the AUSVETPLAN **Disease Strategies** and the **Exotic Diseases Field Guide** (Geering et al 1995).

1.2.1 Major emergency diseases of relevant species

The diseases of most importance to quarantine stations that are currently included in AUSVETPLAN disease strategies are shown below.

African horse sickness

An infectious insect-borne viral disease of horses and mules with other equines only slightly affected. It is frequently fatal in susceptible horses, with clinical signs and lesions resulting from selective increased vascular permeability, resulting in an impairment of the respiratory and circulatory systems. In nature the virus is transmitted by midges (*Culicoides* spp) causing a seasonal incidence in temperate climates. Zebras may be important epidemiologically. Rhinoceros may possibly be infected subclinically but antibody prevalence appears to be low. Dogs may be infected through eating horsemeat.

African swine fever

A highly contagious, generalised virus disease of pigs. No other mammalian hosts occur. It is transmitted by direct contact, inanimate objects and ticks. The virus is very resistant to inactivation. The acute form of the disease is characterised by pronounced haemorrhage of internal organs and a mortality of up to 100% in infected herds. Milder forms of the disease

also occur. ASF occurs as clinical disease in the European wild boar and subclinically in warthogs, bush pigs and giant forest hog.

Aujeszky's disease

Also known as pseudorabies, this disease is caused by a herpesvirus that infects the nervous system and other organs such as the respiratory tract in virtually all mammals except humans and the tailless apes. It is primarily associated with swine, which may remain latently infected following clinical recovery. Sporadic cases have been seen in domestic ruminants, dogs, cats, mink, foxes, raccoons and some rodents.

Virulent avian influenza (fowl plague)

A lethal generalised disease of poultry caused by specific types of avian influenza virus. Disease outbreaks occur most frequently in chickens and turkeys. Many wild bird species, particularly waterbirds, are also susceptible, but infections in these birds are generally subclinical.

Bluetongue

A viral disease of ruminants transmitted only by specific species of biting midges (*Culicoides* spp). Sheep are the most severely infected, the disease being characterised by inflammation of the mucous membranes, widespread haemorrhages and oedema. Naturally occurring disease has not been seen in Australia, although some serotypes of the virus, some pathogenic, have been detected in northern and eastern Australia. Infection in cattle is generally subclinical but may be important subclinically. Buffalo, antelopes and deer are also susceptible to bluetongue. Severe disease can occur in some deer, eg white-tailed deer in the United States. These deer are also susceptible to epizootic haemorrhagic disease (EHD).

Bovine spongiform encephalopathy (BSE)

A fatal neurological disease of adult cattle, characterised by a long incubation period, followed by progressive degeneration. Typical signs are abnormal posture, development of violent behaviour, heightened sensory perception, decreased milk production, weight loss (despite a good appetite), and death.

The disease was first recognised in the United Kingdom in 1986, and probably arose because changed practises in processing meatmeal permitted transmission of the scrapie agent to cattle. An occurrence or outbreak of bovine spongiform encephalopathy in Australian livestock would pose little threat to animals in quarantine stations. Animal-to-animal transmission is unlikely to occur here.

Classical swine fever (hog cholera)

A highly contagious disease capable of spreading rapidly in susceptible pig populations. In the acute form, the disease is characterised by fever, severe depression, multiple haemorrhages, and rapid deaths. Strains of the virus of lower virulence cause subacute and chronic forms of the disease that include complications of pneumonia and diarrhoea. The pig is the only natural host.

Equine influenza

An acute respiratory viral disease, that may cause rapidly spreading outbreaks in congregated horses. It is caused by two members of the genus *Influenzavirus*. Other equines are susceptible, but the disease is seen mainly in horses. Whether other perissodactyls (odd-toed hoofed animals) may carry and spread infection is not known.

Foot-and-mouth disease

An acute, highly contagious viral infection of domestic and wild cloven-hoofed animals. It is characterised by fever and vesicles in the mouth, nose, feet and teats. Serious production

losses can occur, but deaths are unlikely except among young animals. Horses are not affected by FMD but the disease has been recorded in tapirs, elephants, hedgehogs and some rodents. Humans may harbour virus in the nasopharynx for 24 hours or more. The susceptibility of many species to FMD is unknown. It is probably safest to assume most artiodactylids may become infected.

Japanese encephalitis

Is a mosquito-borne viral disease of humans and animals and occurs throughout much of Asia causing encephalitis in humans in some cases. Adult pigs normally show no clinical signs but pregnant sows may abort or produce mummified foetuses, stillborn or weak piglets. In horses the clinical signs may vary from a mild transient fever to high fever, blindness, collapse and deaths ranging from 5% to as high as 30-40%.

The virus does not persist outside of infected animals and mosquitos and it not a problem for the production of pig and game pig meat.

Lumpy skin disease

An acute, generalised viral skin disease of cattle. It is highly infectious and is characterised by fever, ocular and nasal discharges, the eruption of cutaneous nodules, swelling of superficial lymph nodes and oedema of the limbs. It is caused by a strain of the same virus — capripox — that causes sheep and goat pox. Cattle are the only livestock species affected. Giraffe are highly susceptible. Antibodies have been found in African buffalo in Kenya and a low prevalence of serological reactors has been found in some antelope species.

Newcastle disease

A highly contagious lethal viral disease of chickens, turkeys and other birds. Virus strains vary widely in their virulence. Severe strains cause rapid death and are characterised in chickens by respiratory distress and swelling of the head around the eyes. Newcastle disease virus strains are classified as velogenic (highly virulent), mesogenic (moderately virulent) or lentogenic (lowly virulent). Avirulent, lentogenic strains are enzootic in poultry flocks in Australia and present in some wild bird species. Velogenic Newcastle disease has occurred twice in Australia, in 1930 and 1932. Newcastle disease occurs in domestic poultry and a wide range of wild bird species is also susceptible. Occasional human infections, with conjunctivitis, occur.

Peste des petits ruminants (PPR)

PPR in sheep and goats resembles rinderpest of cattle and is caused by a virus closely related to the virus of rinderpest. It is characterised by fever, enteritis, high morbidity and mortality. Other artiodactylids (even-toed hoofed animals) are either not susceptible or are only subclinically infected and apparently play no part in the epidemiology of the disease.

Rabies

An almost invariably fatal viral encephalitis affecting all warm-blooded animals. It has a long and variable incubation and is transmitted by the bite of a rabid animal. The main reservoir species include members of the canids (dogs, foxes, jackals, wolves), mustelids (skunks, martens, weasels, stoats), viverrids (mongooses, meerkats), procyonids (raccoons) and chiroptera (bats).

Rift Valley fever

This is a mosquito-borne disease of cattle, sheep, goats and humans, characterised by high rates of abortions and high rates of mortalities in young animals. Severe disease can occur in people requiring special safety precautions. Camels are also major hosts and monkeys, rodents, dogs and cats are occasionally infected.

Rinderpest

An acute highly contagious disease principally of cattle ('cattle plague'). Characterised by high fever, nasal and ocular discharges, laboured breathing, severe often bloody diarrhoea and death. The virus is related to measles, canine distemper, and peste des petits ruminants. The virus is not stable in the environment. Buffalo are also highly susceptible but it is rare in sheep and goats (does occur in India). The disease is rarely seen in pigs.

Scrapie

Scrapie occurs in sheep and goats. Infection is usually passed from ewe to lamb and can occur between unrelated animals, especially when lambing occurs in confined areas. Scrapie has a prolonged incubation from 1–3 years or longer. Clinical signs of pruritus and incoordination progress to depression, recumbency and death. Animals that never develop clinical signs can still be a source of infection to others.

Screw-worm fly

Myiasis caused by larvae of the screw-worm fly is characterised by larvae feeding on **living** tissues in open wounds of any warm-blooded animal host, resulting in debility and some deaths. The flies prefer warm moist conditions and temperature ranges from 16–30°C. There are two species of screw-worm fly (SWF), the Old World SWF (*Chrysomya bezziana*) and the New World SWF (*Cochliomyia hominivorax*). Both are obligate parasites of warm-blooded animals, and they have very similar life cycles and biological characteristics. All domestic livestock and companion animal species are susceptible and strikes have also been recorded in various wildlife species and occasionally in humans.

Sheep pox and goat pox

Highly contagious skin diseases of small ruminants, characterised by fever, excess salivation, nasal and eye discharges, papules, and pustules on exposed body surfaces, often with a high mortality rate. The virus is very resistant to inactivation in the environment, but the degree of host specificity does vary. Sheep and goat pox are generally host specific for sheep and goats respectively, although a virus strain that affects both species has been found in Kenya. Native African and Middle East breeds of sheep are relatively resistant. Scandinavian strains of goat pox virus infect reindeer.

Swine vesicular disease

Swine vesicular disease is caused by an enterovirus closely related to the human Coxsackie virus B5. It is characterised by fever and lameness due to vesicles and erosions on the feet. It is clinically indistinguishable from foot-and-mouth disease.

Transmissible gastroenteritis

An enteric virus disease of pigs, caused by a coronavirus that results in rapid dehydration, profuse diarrhoea and rapid death in piglets less than three weeks of age. This disease only occurs in pigs, although dogs, cats and foxes may be infected.

Vesicular exanthema

An acute disease characterised by vesicles on the snout, in the mouth and on the feet. The clinical disease is indistinguishable from foot-and-mouth disease. The vesicular exanthema virus is very closely related to viruses isolated from marine animals and has been associated with the feeding of contaminated food scraps containing marine animal product. Caliciviruses of the vesicular exanthema/San Miguel sea lion complex have been isolated from asymptomatic calves and primates, and from a number of marine species including sea lions, fur seals, walruses and whales in which species they may cause flipper vesicles and abortions. Serological evidence of infection has been found in feral pigs and donkeys, buffaloes, sheep and foxes in North America.

Vesicular stomatitis

Vesicular stomatitis is principally a disease of cattle, horses, and pigs. It can cause signs indistinguishable from foot-and-mouth disease, except horses are infected. The disease has only been seen in North, Central and South America. The epidemiology of the disease is still unclear, but transmission cycles between insects and small wild ruminants is known to occur. Many wildlife species are susceptible including deer, raccoons, monkeys, sloths, rodents and bats. Human infections can occur causing an influenza-like disease.

The vesicular diseases (foot-and-mouth disease, vesicular stomatitis, vesicular exanthema and swine vesicular disease) all have similar clinical syndromes. Most affect more than one species. Differential diagnosis is therefore important in determining appropriate responses to occurrences.

1.2.2 Other diseases

Other important diseases that could occur in quarantine stations but are not currently included, or planned for inclusion, in AUSVETPLAN disease strategies include those described below.

Contagious bovine pleuropneumonia

Cattle are the main hosts but the disease has also been recorded in buffalo, yak, bison, reindeer and antelope.

Tuberculosis

Many species including humans are susceptible. Most mammalian infections are due to *Mycobacterium tuberculosis* or *M. bovis*. Mammals are relatively resistant to *M. avium* although exposure to *M. avium* and related mycobacteria may complicate disease testing.

Brucellosis

The brucellae have a wide host range but are not readily transmitted from their preferred host to dissimilar hosts.

- *B. abortus* mainly infects cattle but occasionally infects humans (causing undulant fever), sheep, horses, pigs and dogs.
- *B. melitensis* causes brucellosis mainly in goats and, to a lesser extent, sheep, but is capable of infecting other species of domestic animals, dogs and a number of wild animal species. Zoonotic infection is important.
- *B. suis* causes brucellosis in pigs and is pathogenic for humans. Cattle and horses may occasionally become infected and the organism has been isolated from wild rats and hares.
- *B. canis* causes brucellosis in dogs and may also infect humans.

Trypanosomiasis

The tse-tse borne trypanosomiasis (nagana) include infection by *T. brucei*, *T. congolense* and *T. vivax*. All will infect a range of mammalian species, some of which may be important carriers, but cause disease mainly in cattle. *T. vivax* may be transmitted by other biting flies (*Stomoxys* and tabanids) and is therefore the only one likely to be of concern in Australia. *T. simiae* is also tse-tse transmitted but causes disease mainly in pigs and, to a lesser extent, in sheep.

- Dourine is a venereally transmitted disease of equidae caused by *T. equiperdum*.

- Surra affects many animal species but is most important in camels and horses. It is caused by *T. evansi* and is transmitted by biting flies.
- Chagas' disease, caused by *T. cruzi*, occurs in humans and in most domestic animals, particularly dogs, cats and pigs. *T. cruzi* also infects many wildlife species. Important reservoir species include opossums, armadillos (in South America) and wood rats and raccoons (in North America).

Theileriosis — East Coast fever and Mediterranean theileriosis

East Coast fever is a tick-borne protozoal disease of cattle, African buffalo and water buffalo caused by *Theileria parva* (*T. parva parva*, *T. parva lawrencei* and *T. parva bovis*). Mediterranean theileriosis, caused by *T. annulata* affects mainly cattle.

Heartwater

Cattle, water buffalo, sheep, goats, and many species of wild ruminants, including antelope and African buffalo, are natural hosts to the tick-borne rickettsia *Cowdria ruminantium*.

Equine piroplasmiasis

Equine piroplasmiasis (equine babesiosis) occurs in horses, donkeys and mules. Zebras are also susceptible to *Babesia equi* and act as an important reservoir of infection in Africa.

Equine viral encephalomyelitis — Eastern (EEE), Western (WEE) and Venezuelan (VEE)

From the point of view of clinical disease, horses and humans are the most important natural hosts for each of the viruses. Donkeys and mules are as susceptible as horses. EEE virus has caused mortalities in domestic pheasants in the United States. WEE virus very occasionally causes clinical encephalitis in pigs. Each of the viruses infects a wide range of mammalian, bird and other animal species. Such infections are subclinical but some are of epidemiological significance.

Borna disease

Horses and sheep are the main natural hosts but occasional cases of borna disease occur in cattle, goats and deer.

Glanders

The main hosts are horses, mules and donkeys. Occasional cases occur in humans and small carnivores.

Trichinosis

All mammals are susceptible to trichinosis, but infection is most common in omnivores and carnivores. Of the livestock species, pigs are the main host followed by dogs and cats, although the incidence in horses is increasing. In wild animal species, infestations of bears, walrus, wild pigs, foxes, rats and mice are of epidemiological significance. Humans are quite susceptible.

Other diseases

Miscellaneous Avian diseases - A considerable number of avian diseases (including some concerned with virulent foreign *strains* of endemic disease agents) are listed in the

importation protocol for poultry hatching eggs and live birds. These protocols also detail the action to be taken on detection of a disease in quarantine.

1.2.3 Potential occupational health issues

Rabies and *Rift Valley fever* have major human health implications.

Rabies in particular needs special consideration. It is spread by contamination of broken skin or mucosa with infectious saliva or other body fluids. This is generally caused by biting, but can also be due to licking of damaged skin, by aerosol infection through the conjunctiva or exposure to infectious brain tissue during removal of the brain or spinal cord. Veterinarians, their staff and their clients must take appropriate precautions

Many human infections with Rift Valley fever occur through handling tissues, blood, secretions or excretions of infected animals. Decontamination of blood spills from slaughtered animals is essential to prevent human infection.

Japanese encephalitis can be transmitted from infected animals by mosquitos and contact with infected blood is not a risk.

1.2.4 AUSVETPLAN strategies and OIE requirements for each disease

Table 1 provides a concise summary of the proposed strategy in Australia if there is an outbreak of one of the emergency diseases covered by AUSVETPLAN. More details are provided in the individual **Disease Strategies**.

The Office International des Epizooties (OIE) is the world organisation for animal health. The OIE, established in 1924 in order to promote world animal health, provides guidelines and standards for health regulations in the international trade of animals and animal products. Diseases that spread rapidly, have particularly serious socioeconomic or public health consequences and are of major importance in international trade, have been designated by OIE as List A diseases. List B diseases are similar to List A, but are considered less invasive across political borders, and to be ‘significant’ diseases only for international trade considerations. The OIE International Animal Health Code for each disease is shown in Appendix 3 of the individual Disease Strategies.

1.3 Inputs

In a quarantine station inputs include:

- imported animals and associated equipment, containers, horse and other animal tack etc;
- sentinel animals (eg sentinel SPF chickens for avian import program);
- feed (varies from commercial pet foods to fodder for horses and large ruminants);
- vehicles/equipment; and
- people—animal owners/importers, grooms, visiting government and private veterinarians and quarantine staff.

1.4 Outputs

Animals and other items leaving a quarantine station include:

- imported animals on completion of quarantine; and
- wastes (litter, manure, bedding etc);

- carcasses;
- diagnostic specimens;
- vehicles/equipment; and
- people (as for inputs).

For most contagious diseases, the movement of live animals must be regarded as the highest risk, followed by the movement of dead animals, specimens or other animal tissues. The next category of risk is instruments used for invasive procedures and other materials that could become contaminated as a result of such procedures and subsequently are used again with susceptible animals. The potential for the spread of specific diseases is indicated in Table 2.

Table 1 OIE classification, cost-sharing agreement and eradication strategies for the AUSVETPLAN diseases (excluding bee diseases).

DISEASE	OIE	CSA	ERADICATION STRATEGY*						
			S	L	C	D	I	V	H
African horse sickness	A		S				I	V	H
African swine fever	A	✓	S			D			
Aujeszky's disease	B			L		D		(V)	
Virulent avian influenza	A	✓	S			D			
Bluetongue	A	✓					I	V	H
Bovine spongiform encephalopathy	B				C				
Classical swine fever	A	✓	S			D		(V)	
Equine influenza	B					D		V	H
Foot-and-mouth disease	A	✓	S			D		(V)	
Japanese encephalitis	B							(V)	
Lumpy skin disease	A		S			D	I	(V)	
Newcastle disease	A	✓	S			D		(V)	
Peste des petits ruminants	A		S			D			
Rabies	B	✓			C			V	
Rift Valley fever	A						I	V	
Rinderpest	A	✓	S			D			
Scrapie	B				C				
Screw-worm fly	B	✓					I		H
Sheep and goat pox	A		S			D	I	(V)	
Swine vesicular disease	A	✓	S			D			
Transmissible gastroenteritis	B			L		D		(V)	
Vesicular exanthema		✓	S			D			
Vesicular stomatitis	A	✓		L		D	I		H

* Quarantine and movement controls are part of all the eradication procedures.

KEY:

- OIE List A or List B disease (Office International des epizootics)
- CSA Cost-sharing agreement
- S Slaughter infected and at risk animals to remove the major source of the virus.
- L Eradication program including limited slaughter according to circumstances
- C Slaughter of clinically affected or dangerously exposed animals
- D Decontamination essential to eliminate the presence of the virus on infected premises.
- I Insect vector control
- V Vaccination of susceptible animals to prevent the disease
- (V) Vaccination may be considered
- H Husbandry, including treatment of affected animals that will assist the eradication program.

Table 2 Major transmission risks and other considerations for the more important emergency diseases

Disease	Transmission considerations
African horse sickness	Insect transmitted but could also be transmitted by parenteral procedures; meat infectious for dogs
African swine fever	Direct contact, animal products, fomites.
Aujeszky's disease	Direct contact, aerosol and fomites.
Avian influenza	Mainly direct contact; possibly fomites
Bluetongue	Insect transmitted but could be spread by parenteral procedures
BSE	Spread essentially by ingestion but could be transmitted by parenteral procedures and possibly in embryos
Sheep and goat pox	Direct contact and fomites
Classical swine fever	Direct contact, animal products and fomites—probably transmissible in washed embryos
Equine influenza	Mainly direct contact
Foot-and-mouth disease	Highly contagious — direct contact, animal products, fomites, aerosols, semen; survives for several hours in human respiratory tract; washed embryos are safe
Japanese encephalitis	Mosquito-borne
Newcastle disease	Direct contact and fomites
Rabies	Exposure of abraded skin or mucosa to infected saliva; clinical disease in humans is invariably fatal
Rinderpest	Generally direct contact
Rift Valley fever	Spread by insects but also by exposure to uterine contents and to body fluids (especially blood) on autopsy; human infection can be fatal
Scrapie	Spread essentially by ingestion but could be transmitted by parenteral procedures and possibly in embryos
Swine vesicular disease	Direct contact, animal products and fomites
Vesicular stomatitis	Spread generally by insects but could be transmitted by parenteral procedures; human infection causes an influenza-like disease

2 RISK REDUCTION (under normal operating conditions)

Import protocols are designed to substantially manage disease risks in the country of origin before importation, and hence minimise the risk of diseased animals arriving from overseas. Under normal conditions, exotic disease outbreaks in post-arrival quarantine premises are extremely unlikely. The design and normal operation of animal quarantine stations ensures containment of most exotic diseases, allowing action to be taken in isolation from the national herd.

2.1 Design of the enterprise

While quarantine stations will vary considerably in size and facilities they all must have secure, usually double, boundary fencing, a controlled entry/exit point and be in a location isolated from other animal species. Internally, facilities should allow different species to be kept well apart (preferably by at least 200 metres), and all drainage and effluent should be isolated from coming into contact with any animals.

2.2 Normal routines

Normal operating and animal management procedures are based on an assumption that imported animals may be infected with a quarantinable disease. With the exception of dogs and cats, consignments of animals are handled on an ‘all-in all-out’ basis.

Quarantine stations are specialised in that certain species are not permitted to be held in some stations for disease control reasons. For example ruminants are only quarantined in stations located in insect vector-free areas.

As a minimum, animals are subject to a veterinary examination on arrival, and immediately before release. Tests and treatments are conducted as prescribed in import protocols by, or under the supervision of, government veterinarians. Vets and staff undertake regular inspections during the quarantine period.

For imported dogs and cats, it is a fundamental operating requirement that there is no direct contact between animals at any time throughout the quarantine period. Where any direct contact occurs (outside of normal operational practices) this must be recorded in a specific register for reference in case of a disease outbreak (particularly rabies).

Imported birds and poultry are held in microbiologically secure avian facilities. Staff assigned to work in these facilities shower into and out of the facilities, and are required to sign a contract prohibiting contact with other birds for 48 hours prior to entry and 96 hours after exiting the facility. These routine procedures also ensure imported birds are protected from exposure to ‘local’ diseases during quarantine.

Visiting veterinarians pose a risk of introducing disease as well as carrying disease agents out of a quarantine station. Strict controls over such personnel are essential and procedures such as routine changes of protective clothing and use of dedicated equipment are of paramount importance.

Owners of livestock in quarantine are not normally permitted to visit the station. As rabies is only spread by direct animal–animal contact, this restriction does not apply to owners of dogs and cats, who are able to visit their animals at times determined by the station manager.

For further details, see the quarantine station operational manuals that must detail normal routines for each species held at the station.

Note: Where detailed manuals do not exist they should be developed as a priority.

2.3 Release of animals

Consignments of animals (except dogs and cats) are managed on an all-in-all-out basis, and all animals are subject to veterinary inspection to confirm clinical disease freedom before release. Accurate records of the following must be obtained at animal release time to allow follow-up in case of disease outbreak:

- owners name, address and contact phone number; and
- address of premises where animals are to be kept for next few weeks.

This is particularly important for dogs and cats, which are released progressively on completion of the prescribed quarantine period. A disease outbreak in animals at the station may require tracing and re-call of animals released in previous weeks, (see Section 4).

Imported cattle from UK and Switzerland are released under quarantine surveillance for BSE, and details of origin, owner, importer, property and location are recorded electronically on the AQIS Animal Import Register. Owners are required to notify change of ownership and/or location, or death of an animal, to enable ongoing surveillance as necessary.

Some animals are released from primary quarantine into approved premises for secondary post-arrival quarantine for periods up to 12 months. Current examples include alpaca and parrots.

2.4 Record keeping

Full records must be kept for each animal detailing the following:

- country of origin;
- name and address of owner/importer;
- date of entry and release;
- clinical history during quarantine;
- tests and treatments performed;
- pens occupied during quarantine;
- direct contacts between like species (especially important for dogs and cats); and
- visitors including private veterinarians.

2.5 Training and awareness

The main objective of training is to prepare all quarantine station staff for a disease emergency, including training for specific individual roles and information about and recognition of exotic diseases most likely to occur. Emphasis should be placed on the need for staff to report promptly any abnormalities in animals under their care.

Implementation

- Development and distribution of job cards to all staff, relevant to their respective roles in a disease emergency on the station.
- Instruction of animal handlers in the recognition and understanding of diseases relevant to them (see Section 1.2).
- Training of animal handlers to restrain and examine their animals and birds for disease diagnostic purposes, and in the collection and dispatch of laboratory specimens.
- Mandatory routine screening of diseased and dead zoo animals, with emergency diseases in mind.
- Instruction in disease disinfection procedures and the importance of preventing cross-infection.
- Regular internal simulation exercises for quarantine staff to test and reinforce their roles relevant to possible emergency mammalian and avian diseases.

Further information on training materials, including videos and slides can be found in the **Summary Document, Appendix 2**.

2.6 What to do if an emergency disease is suspected — summary

These are the main actions for a quarantine station officer to follow if an emergency disease is suspected:

- contact a government veterinarian immediately;
- do not permit staff to leave the premises unless it is essential;
- do not allow any livestock or livestock product to leave the premises until the situation is clarified;
- keep suspect infected animals separate from others;
- if staff must leave the premises, they must disinfect themselves, their equipment and vehicle; leave any potentially contaminated materials on the premises or transport them in sealed plastic bags;
- do not go onto a property that has other susceptible livestock; and
- maintain a detailed movements log until such time as the disease incident has been controlled.

3 RESPONSE PLANS IN A DECLARED AREA

3.1 Introduction

This section discusses the situation that occurs when an emergency disease has been diagnosed, but the quarantine station itself is not infected or under suspicion.

3.1.1 Declared areas

[The term 'declared area' is used to cover both restricted and control areas. Certain paragraphs may require specific references to restricted and control areas because the procedures are likely to be different for some diseases. Generic definitions are provided below. Definitions may vary or such areas may not be necessary for specific diseases]

A restricted area is a relatively small area around infected premises that is subject to intense surveillance and movement controls. Movement out of the area will in general be prohibited, while movement into the restricted area would only be by permit. Multiple *restricted areas* may exist within one *control area*. Guidelines for establishing restricted areas are provided in Appendix 1 of each disease control strategy and the OIE animal health code.

A control area will be a buffer between the restricted and areas free of disease where restrictions will reduce the chance of the disease spreading further afield. The control area should reduce in size as confidence about the extent of the outbreak becomes clearer (minimum 10 km radius for intensive-raising region and 50 km for an extensive livestock-raising region). In principle, animals and specified product will only be able to be moved out of the control area into the free area by permit.

3.1.2 Local disease control centre

In the event of an outbreak of emergency disease outside the quarantine station, each State or Territory is responsible for its own disease control activities, under the direction of the State/Territory chief veterinary officer (CVO). A local disease control centre (LDCC) will be established and will be responsible for all activities within the declared area, including disease investigation, collection of specimens, quarantine of properties, valuation, slaughtering and disposal of livestock, and decontamination of properties.

Managers should be in contact with the LDCC controller and all support staff must be made fully aware of LDCC requirements and of all arrangements to control and eradicate the disease.

3.2 Can quarantine stations continue to operate in a declared area?

An animal quarantine station in a declared area can be considered adequately contained since the physical and management barriers required are already in place. (This however may not be the case if the declared disease was insect vector-borne or subject to windborne spread) Staff are trained in the prevention of cross-contamination and decontamination, and management practices facilitate the early recognition of any suspect emergency disease.

Hence under most circumstances animal quarantine stations will continue to operate, but with regard to the following issues:

3.2.1 Staff and public entry

Staff and animal attendants for imports would be required to change clothing on entry to the facility and warned to avoid contact with other animals to prevent introduction of disease. The only public allowed entry would be dog/cat owners, grooms and private veterinarians, and essential service contractors such as plumbers.

All staff and visitors would be subject to any restrictions applied under the declared area (DA) requirements. People living on farms or who by normal work processes are in contact with susceptible animals within the DA will be refused entry. Normal quarantine routines for staff and stockmen would continue.

In avian facilities, dedicated staff shower on entry into and on exiting the facility and sign a contract prohibiting contact with birds for 48 hours prior to entry and 96 hours after exiting. Thus imported birds are already protected by routine procedures.

3.2.2 Animal exports

Animals held in the station for export would have to meet export certification for disease freedom, and export may not be possible.

3.2.3 Continued animal imports

If the quarantine station is in a declared area, animals being imported may not be able to enter the station due to DA restrictions. AQIS would need a contingency plan to divert animals in transit, and provide advice to prospective importers regarding alternative quarantine stations available, if appropriate.

3.2.4 Release of animals

Animals that have completed their import quarantine requirements would be released from all import quarantine restrictions but movement off the station would be subject to the DA requirements, depending on whether they are:

- susceptible species ('non-susceptible' species, eg dogs and would have to fit in with the DA requirements, but release should be possible); and
- considered to play a role in the transmission of the disease.

There may be a special case for animals in quarantine stations being released as they have been held under conditions of strict isolation and control. The LDCC controller in consultation with State disease control headquarters (SDCHQ) and AQIS would determine this. To assist such a determination, existing management schemes would have to be documented in detail, hence the importance of operational manuals for each species/station (see Section 2 above).

Feed/equipment/vehicles entering the station would be subject to DA requirements. Depending on the disease, vehicles may need to be disinfected on entry (as described in the station manual).

3.3 Minimisation of risks associated with operation

The aim would be to minimise the chance of the station becoming an IP and to maximise the opportunity for animals to be moved off the station (in accordance with DA requirements) at the earliest opportunity after import quarantine has been completed. To this end, normal

controls over outputs would continue and enhanced controls over inputs would be initiated as appropriate.

3.3.1 Animals

The station veterinarian should prepare a list of all the potentially susceptible animals within the station divided into high-and low-risk groups. A schedule of regular surveillance of these animals for the presence of the disease should be developed. The methods and frequency should be as considered appropriate for the species involved and disease. Instructions should then be given to appropriate staff to carry out these surveillance procedures and report the results to the station veterinarian.

Animal movement controls

- Within station—not affected
- In and out—as described in Section 3.2 above

3.3.2 Products

Recent food introductions should be traced immediately. If any uncertainty exists regarding the source of food it should not be fed to susceptible species. If the risk of contamination is considered significant then it should be destroyed following the procedures in the **Disposal Procedures Manual**.

Further food brought in to the station should only be sourced from outside the declared area.

3.3.3 By-products (including carcasses)

Normal operating procedures would apply to the disposal of by-products.

Faecal waste from large animals is usually held on the premises until quarantine is completed. This would apply equally if quarantine was extended or release delayed. DA requirements would apply.

3.3.4 Discharges

Normal operating procedures would apply, subject to any additional DA requirements.

3.3.5 Vehicles

Where vehicles are still within the station and there is any risk of them being contaminated, they should be withdrawn from use until decontaminated. A checkpoint should be set up for all future vehicle entries into the station proper. Only vehicles that have not originated from within the declared area and have appropriate permits from the LDCC should be allowed entry.

Where appropriate, vehicle disinfection areas would be set up to allow any essential vehicles to be disinfected in and out.

3.3.6 Equipment

Similar to vehicles.

3.3.7 Personnel

Some restrictions on animal keeping by staff are in place but staff owning or in contact with species considered to play a role in the transmission of the disease would be restricted in their

contact with such species either in the quarantine station or in the DA depending on the disease concerned and animal species involved.

3.3.8 Vermin and feral animals

Basic vermin and/or feral animal control routines are already in place at quarantine stations. These controls may be enhanced or reinforced under DA requirements.

Immediate action should be taken to control any vermin or feral animals that could spread the disease agents. This may include rodents or wild birds (see **Wild Animal Control Manual, in press**), and insects (consult an entomologist with relevant department of agriculture or primary industry or review the **Screw-worm Fly, Section 1.6, Bluetongue and Rift Valley Fever Disease Strategies**).

3.3.9 Buildings and structures

Attention should be paid to the security of boundary and internal security fencing and enclosures to prevent the entry of animal vectors.

3.4 Media and public relations

The manager should liaise with AQIS (central office plus local) to coordinate any media releases. Advice to clients should not involve revealing any specific information or rumours about other reported disease outbreaks.

4 RESPONSE PLANS IN AN INFECTED PREMISES OR DANGEROUS CONTACT PREMISES

4.1 Introduction

Declared premises proclaimed in the event of an outbreak of an emergency disease by the State/Territory CVO under the relevant State diseases legislation are described below.

Infected premises (IP): defined as the area (which may be all or part of a property) in which an emergency disease exists, is believed to exist, or in which the infective agent of that emergency disease exists or is believed to exist.

Dangerous contact premises (DCP): defined as premises containing animals showing no clinical signs of disease but that, by reason of its probable exposure to disease, will be subjected to disease control measures.

Suspect premises (SP): defined as an area containing animals that have possibly been exposed to an emergency disease through possible contact with infected animals or facilities, people, equipment, semen or embryos, and currently show no symptoms; or where the disease symptoms are evident, but the diagnosis is as yet to be confirmed.

The declaration by the CVO of an IP, DCP or SP is determined by the AUSVETPLAN **Disease Strategies** in order to minimise the spread of disease.

The response will vary according to the particular disease, and could be modified for quarantine stations, as a number of restrictions should have already been in place. The descriptions below relate to an outbreak of a highly contagious disease, such as foot-and-mouth disease, which would require complete decontamination of a premises. For other diseases that are not transmitted by indirect contact, the implications would be less severe.

4.2 Can quarantine stations continue to operate as an infected or dangerous contact premises?

The continued operation of a quarantine station declared an IP or DCP would depend on the disease concerned, the species held and the nature of the outbreak itself. Normal operation would continue for species not considered to be involved in the transmission of the disease. For susceptible species, the operation of the station and the action to be taken would depend on the particular disease. The procedures detailed below are based on an assumption that the disease was introduced into the station by an infected animal *in the course of importation from overseas*.

4.3 Elimination of agent

Animal quarantine stations are premises with arrangements in place for physical and disease security that ensure containment of most emergency diseases, allowing action to be taken to eliminate disease agents in isolation from the national herd.

Taking this into account, procedures are detailed below for dealing with outbreaks of selected diseases without necessarily requiring full stamping out/destruction of a consignment of imported animals.

4.3.1 Bluetongue and epizootic haemorrhagic disease of deer (EHD)

AQIS policy requires that bluetongue/EHD susceptible species from bluetongue/EHD countries are not quarantined in Australia within the vector zone. In addition, animals are held pre-export in a vector-free zone for a minimum period of 80 days. Normal import procedures therefore minimise the likelihood of a viraemic animal arriving at a quarantine station.

If a bluetongue/ EHD is diagnosed in a quarantine station *within the vector zone*, the full AUSVETPLAN strategy would be invoked.

If a bluetongue / EHD-positive animal (seropositive on test) is found in a quarantine station *outside the known insect-vector zone*, it may be important, in determining the action to be taken with the consignment, to verify the vector status of the area in which the quarantine station is located (for details see the **Bluetongue Disease Strategy**).

Bluetongue / EHD-positive animals and cohorts would be dealt with according to the import protocol. Depending on the circumstances, this may involve:

- slaughter of reactors and retesting of cohorts after 21 days; if negative release cohorts; or
- release seronegative cohorts and test reactors for evidence of viraemia; if no viraemia, release reactors.

For non-susceptible species, quarantine station operations would remain unaffected, while observing the bluetongue strategy. There would be no effect on routine procedures in relation to fodder, staff, visitors, etc.

4.3.2 African horse sickness (AHS)

Australia does not import horses directly from countries affected by AHS. Horses originating from AHS-affected countries must reside in an approved free country for a minimum of two months before importation into Australia.

AHS-susceptible species considered at potential risk of exposure to AHS (eg en route to Australia) are not permitted to be quarantined in Australia within the known insect-vector zone.

If a case of AHS were diagnosed in a quarantine station *inside the insect-vector zone of Australia*, the full AUSVETPLAN strategy would be invoked.

If a case of AHS is diagnosed in a quarantine station *outside the insect-vector zone of Australia*, immediate steps should be taken to verify the vector-free status of the area in which the quarantine station is located (see the **African Horse Sickness Disease Strategy**).

AHS positive animals would be dealt with according to the import protocol. If in a confirmed vector-free area, it is likely that the infected animals would be destroyed and the cohorts closely monitored during extended quarantine, with eventual release.

For non-susceptible species, quarantine station operations would remain unaffected, while observing the AHS strategy. Fodder, vehicles, animal wastes, etc would be dealt with according to the recommendations in AUSVETPLAN for AHS. These closely accord with routine quarantine station practice.

4.3.3 Newcastle disease/virulent avian influenza

Imported birds are held in highly secure facilities in which these agents can be fully contained. All birds in the avian facility would be euthanased, carcasses autoclaved, and the facility fully disinfected and fumigated. Detailed procedures for the destruction, disposal, disinfection and sentinel restocking would be as outlined in the **Destruction Manual, Disposal Procedures Manual and the Decontamination Manual**. All other operations on the station would be unaffected.

As a routine procedure, facility staff are prohibited from contact with avian species for 7 days (see Section 3.2); this period may be increased following contact with known infected birds/facilities.

4.3.4 Rabies

This section deals only with dogs and cats. Other species are considered to be dead-end hosts, and a case of rabies in a consignment would lead to retention in quarantine until the epidemiology had been clarified.

The following management guidelines recognise that normal management practices at quarantine stations are such as to prevent contact between animals in different pens. If accidental direct contact does occur between dogs or cats from different pens during the course of quarantine, details are clearly recorded for future reference, in addition to records of any person bitten or scratched by an animal in quarantine.

A kennel 'block' is a physically discrete building or part of a building containing animals imported from countries of similar rabies status. Accordingly a block will contain animals all of which are either:

- from a rabies-free country, being unvaccinated or of unknown vaccination history (category 1); or
- from approved infected countries, having been vaccinated and a protective antibody level confirmed before importation (category 2).

Suspicion

Except in the case of sudden death, there is likely to be an initial period of suspicion, based on clinical signs. During the suspicious phase, non-clinical animals in pens adjacent to the suspect case should be further isolated by being moved away one pen and all other animals in the block moved away, if possible staying within the same block, or else into a block previously empty. If necessary, the last two animals would be moved into another block that would be of equivalent status.

The suspect animal must be confined in its pen until a diagnosis is made or until a decision is made to destroy it. Signs would be appropriately placed to warn staff of suspect blocks, pens and animals.

Owners and visitors access will be restricted as necessary.

During the suspicious phase, no animal should be allowed to leave the station until the epidemiological situation is clarified. The station manager would aggregate records of recent releases from the same block, of animals in accidental contact and of animals from the same source country. Animals entering the station to commence quarantine should not be placed into the suspect kennel block.

Any staff member not vaccinated would be directed to work in another area. Suspect animals should be managed in such a way that staff are not put at risk of being bitten or scratched. The station manager must also check that staff and known visitors have not been potentially exposed ie by being scratched or bitten by the suspect animal since its arrival.

The Chief Quarantine Office (Animals) must be immediately advised of a suspect emergency disease.

Confirmation

In a confirmed case all animals in the block would be held pending further action as detailed below.

In other blocks, animals not at risk (due to management practices that ensure no contact) may be released after completing the required import quarantine period. Any animals that have been in direct contact with the confirmed case would be detained in quarantine pending further action. Animals in this category would have been identified during the suspicious phase, by examination of penning arrangements and of station records.

Note: 'Contact' means animals that have, within 14 days before the onset of clinical signs:

- had direct physical contact with the case;
- been in adjacent pens to the case;
- had access to the same pen/s; or
- travelled on the same flight or vehicle.

Action necessary will be dependent on the category of kennel block in which the case occurs as follows.

Infected block category 1 (*unvaccinated or unknown vaccination history*):

- animals in pens adjacent to case
 - vaccinate, test for antibody after 28 days, and hold for total of 120 days if protective titre detected; OR
 - hold for 270 days (or destruction at owners request)
- animals in remaining pens
 - vaccinate, test after 28 days and release (at end of normal quarantine period) if satisfactory titre
- animals released from the infected block within 14 days of the disease being detected should be traced and recalled, and dealt with according to which of the two groups above apply.

Infected block category 2 (*vaccinated and protective level of antibody confirmed*):

- animals in adjacent pens
 - release after 30 days observation or at end of normal quarantine period, whichever period is greater;
- animals in remaining pens
 - release at end of normal quarantine period;
- animals released from adjacent pens to the case within 14 days before the disease was detected should be recalled for 30 days observation.

Animals from the same country as the confirmed case:

- if from a rabies-affected country, no further action would be required as this does not alter the status of that country, or the validity of our import protocol.
- if rabies-free country, other animals in the station, or other quarantine stations, from that country should be held pending investigation within the country of origin. Release should follow action as detailed above for Category 1 kennel blocks, ie vaccinate and test. Further imports from that country would be suspended pending investigation and risk analysis.

Note: ‘Recent releases’ above would also apply to animals transferred to other quarantine stations within the 14 days before the disease was detected.

Disinfection

Disinfection procedures would be carried out in accordance with the **Decontamination Manual**.

4.3.5 Equine influenza (EI)

All horses requiring post-arrival quarantine in Australia are correctly vaccinated against equine influenza before entering pre-embarkation quarantine in the country of origin. Australian horses temporarily exported to compete overseas and return are vaccinated against EI before departure from Australia.

Post-arrival quarantine for horses is run on an all-in-all-out system. Rectal temperatures are recorded twice daily during the 14-day quarantine period. Given the highly contagious nature of EI, all horses in a consignment can be considered to be in contact for the purposes of disease control.

If equine influenza is diagnosed on a quarantine station, all horses will be detained in quarantine, revaccinated and close clinical observation and temperature monitoring continued. The use of direct antigen detection tests (Directigen FLU-A test-Becton Dickinson) may provide a quick and effective method to monitor infection in the consignment. Culture of nasopharyngeal swabs will be undertaken if these tests are unavailable.

For the index case(s) the following procedures should be carried out:

- isolate horse(s) as far as possible;
- treat to minimise clinical complications and allow the disease to run its course;
- thoroughly investigate the vaccination history, as a case of EI in quarantine indicates inadequate protection;
- change of clothing and equipment and vigorous disinfection by the diagnosing veterinarian as outlined in the quarantine station Manual of Operations;
- dedicate treating veterinarian to that horse, and perhaps to species other than horses.

Release of the consignment may be approved once:

- 30 days has elapsed since the onset of clinical signs in the last affected horse; and
- all horses in the consignment are negative to tests for virus in nasopharyngeal swabs.

APPENDIX 1 List of AUSVETPLAN diseases and pests

African horse sickness
African swine fever
Aujeszky's disease
Australian bat lyssavirus
Avian influenza
Bluetongue
Bovine spongiform encephalopathy (BSE)
Sheep and goat pox
Classical swine fever (hog cholera*)
Equine influenza
Foot-and-mouth disease
Japanese encephalitis
Lumpy skin disease
Newcastle disease
Peste des petits ruminants
Rabies
Rift Valley fever
Rinderpest
Scrapie
Screw-worm fly
Swine vesicular disease
Transmissible gastroenteritis
Vesicular exanthema
Vesicular stomatitis
Bee diseases:
 Braula fly (*Braula coeca*)
 tracheal mite (*Acarapis woodi*)
 tropilaelaps mite (*Tropilaelaps clarae*)
 Varroa mite (*Varroa jacobsoni*)
Bee pests:
 Asian bees
 Africanised bees

* this term is not used in AUSVETPLAN

GLOSSARY

ANEMIS	Animal Health <i>Emergency Information System</i> . A system for the collection, assimilation, actioning and dissemination of essential disease control information using paper documentation and a computer data base.
Artiodactyl	Possessing an even number of digits.
AUSVETPLAN	A series of documents that describe the Australian response to emergency animal diseases linking policy, strategies, operations, coordination and emergency-management plans.
Chief Veterinary Officer	The senior veterinarian of each State or Territory animal health authority who has responsibility for animal disease control in that State or Territory.
Chief Veterinary Officer of Australia	The nominated senior Commonwealth veterinarian in Agriculture, Fisheries and Forestry – Australia who manages Australia's international animal health commitments and the Commonwealth's response to an emergency animal disease incursion.
Conjunctiva	The modified epidermis of the front of the eye, covering the cornea externally and the inner side of the eyelid.
Control area	A larger area than a restricted area (possibly initially as big as the State) where restrictions will reduce the chance of the disease spreading further afield. The control area may reduce in size as confidence about the extent of the outbreak becomes clearer but must remain consistent with OIE Codes. In principle, animals and specified product will only be able to be moved out of the control area into the free area by permit.
Cost-sharing agreement	Commonwealth/States cost-sharing agreement for the eradication of certain emergency animal diseases.
Dangerous contact animal	An animal showing no clinical signs of disease but which, by reason of its probable exposure to disease, will be subjected to disease control measures (which may require slaughter of all or some of such animals).
Dangerous contact premises	Premises that contains a dangerous contact animal(s) or other serious contact.
Declared area	A defined tract of land for the time being subject to disease control restrictions under emergency disease legislation. Types of declared areas include <i>restricted area</i> ; <i>control area</i> ; <i>infected premises</i> ; and <i>dangerous contact premises</i> .
Disposal	Sanitary removal of animal carcasses and things by burial, burning or some other process so as to prevent the spread of disease.
Emergency animal disease	Includes exotic animal diseases and endemic diseases that warrant a national emergency response.
Enterprise	<i>see</i> Risk enterprise.
Exotic animal disease	A disease affecting animals that does not normally occur in Australia. Also called foreign animal disease.

Forward command post	A field operations centre, subsidiary to a local disease control centre.
Infected premises	A defined area (which may be all or part of a property) in which an emergency disease or agent exists, or is believed to exist.
Job card	A written list of tasks to be carried out by an individual in the early stages of an emergency response.
Local disease control centre	An emergency operations centre responsible for the command and control of field operations in a defined area.
Movement control	Restrictions placed on movement of animals, people and things to prevent spread of disease.
National disease control headquarters	A centre established in Canberra from which national disease control actions are coordinated in an emergency animal disease emergency.
Perissodactyl	Having an odd number of digits.
Quarantine	Legal restrictions imposed on a place, animal, vehicle or other things limiting movement.
Restricted area	A relatively small declared area (compared to a <i>control area</i>) around an infected premises that is subject to intense surveillance and movement controls. Movement out of the area will in general be prohibited, while movement into the restricted area would only be by permit. Multiple restricted areas may exist within one control area.
Ring vaccination	Vaccination of susceptible animals around a focus of infection to provide a buffer against the spread of disease.
Risk enterprise	Livestock-related enterprise with a high potential for disease spread or economic loss.
Role description	Statement of functions of a position within the overall operation.
Sentinel animals	Animals of known health status monitored for the purpose to detect the presence of a specific emergency disease agent.
Spell	Keep unused for a period of time until there is no risk of disease agent remaining.
Stages of activation and deactivation	The four stages of an emergency disease emergency plan are investigation, alert, operational, stand-down.
– investigation	exists when a report assessed as being a low probability of an emergency disease is being investigated by animal health authorities;
– alert	exists when a high probability that an emergency disease is present or is confirmed in another State;
– operational	when the CVO determines that an animal disease emergency exists in the State, and operations to contain control or eradicate the disease are implemented;
– stand-down	when the CVO determines that an animal disease emergency no longer exists.
State disease control headquarters	The emergency operations centre that directs the disease control operations to be undertaken in the State.
Stamping out	Eradication procedures based on quarantine and slaughter of all infected animals and animals exposed to infection.
Surveillance	A systematic examination and testing of animals or things to determine the presence or absence of an emergency disease.

Suspect animal	An animal that is may have been exposed to an emergency disease such that its quarantine and intensive surveillance, but not pre-emptive slaughter, are warranted; OR, an animal not known to have been exposed to a disease agent but showing clinical signs requiring differential diagnosis.
Suspect materials or things	Materials or things suspected of being contaminated by an emergency disease agent.
Suspect premises	Premises containing suspect animals that will be subject to surveillance.
Tracing	The process of locating animals, persons or things that may be implicated in the spread of disease.
Vector	A living organism (frequently an arthropod) that transmits an infectious agent from one host to another. A <i>biological</i> vector is one in which the infectious agent must develop or multiply before becoming infective to a recipient host. A <i>mechanical</i> vector is one that transmits an infectious agent from one host to another but is not essential to the life cycle of the agent.
Vector control area	An area in which the containment, control or reduction of specified vector populations is conducted.
Zoonosis	A disease that can be spread between animals and people.
Zoning	The process of defining disease-free and infected zones, based on geopolitical boundaries and surveillance, in accord etc as above.

Abbreviations

AFFA	Department of Agriculture, Fisheries and Forestry - Australia
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ANEMIS	Animal health emergency information system
AUSVETPLAN	Australian Veterinary Emergency Plan
BSE	Bovine spongiform encephalopathy
CA	Control area
CCEAD	Consultative Committee on Emergency Animal Diseases
CVO	Chief veterinary officer
DA	Declared area
DCP	Dangerous contact premises
EHD	Epizootic haemorrhagic disease
FMD	Foot-and-mouth disease
IP	Infected premises
LDCC	Local disease control centre
NDCHQ	National disease control headquarters
OIE	Office International des Epizooties [World Organisation for Animal Health]
PPR	Peste des petits ruminants
RA	Restricted area
SDCHQ	State disease control headquarters
SPF	Specific pathogen free

References

Geering, WA, Forman, AJ and Nunn, MJ (1995) *Exotic Diseases of Animal; A Field Guide for Australian Veterinarians*. Australian Government Publishing Service, Canberra.

Training resources

Video resources — *Exotic disease awareness series; Recognising exotic livestock diseases series; and Controlling an exotic disease outbreak series*. AAHL 1991–93 (available from the Animal Diseases/Incidents Section, DPIE, Canberra; or AAHL)

See the **Summary Document, Appendix 2** for a full list of training resources.

OIE publications

OIE Code (1997). *International Animal Health Code* (7th edition), OIE, Paris, France.

OIE Manual (1996). *Manual of Standards for Diagnostic Tests and Vaccines* (3rd edition), OIE, Paris, France.