

AUSTRALIAN VETERINARY EMERGENCY PLAN

AUSVETPLAN

1996

Enterprise Manual

Dairy processing

INTERIM DOCUMENT

AUSVETPLAN is a series of technical response plans that describe the proposed Australian approach to an exotic 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

This Enterprise Manual forms part of:

AUSVETPLAN Edition 2.0, 1996

[AUSVETPLAN Edition 1.0, was published in 1991]

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

Record of amendments to this manual:

There are occasional minor differences in the page breaks between the paper and this electronic version which we can unfortunately not avoid.

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PREFACE

The enterprise manuals constitute part of the Australian Veterinary Emergency Plan (AUSVETPLAN Edition 2.0). AUSVETPLAN is an agreed management plan and set of operational procedures which would be adopted in the event of an exotic animal disease outbreak in Australia. The procedures are outlined in the AUSVETPLAN Summary Document. The enterprise manuals are written for specific animal industries where a greater than normal harm could be expected from an exotic disease outbreak. This manual covers the dairy industry with reference to the handling of milk and milk products after they leave the farm gate.

This manual gives instructions on the actions to be taken by milk handlers and processors should an exotic disease, especially foot-and-mouth disease, be known or suspected to be present on dairy farms in their supply area to enable them to minimise the risk of spread of the disease.

The enterprise manual for the dairy industry is aimed at government and industry personnel associated with milk and milk product operations who may be involved in exotic disease preparedness. For government personnel, the manual brings together operational guidelines, plans of action, and exotic disease emergency issues such as contaminated milk in a dairy factory or a factory who has suppliers within a declared area. For owners or managers, the manual provides guidelines on the strategies which may be adopted for the handling milk products, plant and personnel contaminated with an exotic disease agent.

This manual is being released as an interim document to allow for full industry/government consultation before it is approved by 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 W.A. Geering, A.J. Forman and M.J. 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 dairy enterprises.

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:

The AUSVETPLAN Coordinator
Livestock and Pastoral Division
Department of Primary Industries & Energy
GPO Box 858
Canberra ACT 2601

Tel: (06) 272 5540; Fax: (06) 272 3372.

Membership of writing group

Agriculture Victoria
(Dr A J Turner - Chief Veterinary Officer)

PO Box 500
East Melbourne
Victoria 3002

The consultant was responsible for drafting this strategy. However, the text may have been amended at various stages of the consultation/approval process and the policies expressed in this version do not necessarily represent the views of the consultant. Contributions may also have been made by other people not listed above and the assistance of all involved is gratefully acknowledged.

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1 NATURE OF ENTERPRISE

There are a number of exotic diseases that can affect dairy cattle, sheep and goats; of these foot-and-mouth disease (FMD) is the most significant. Milk from a cow infected with FMD may contain virus for three days before clinical signs are seen in the animal. Milk and milk products may spread the disease if the virus is not inactivated by heat processing or chemical means.

Milk collection, handling and processing has a high potential to spread disease within the livestock industries. It is essential that as soon as an outbreak occurs, controls are applied immediately to the collection, handling and processing of milk so as to prevent any further spread of the virus by people, plant or product as well as any additional contamination of plant. In an exotic disease outbreak all enterprises, including those that handle milk and milk products, have the responsibility to avoid increasing the risk of disease spread through their routine activities.

This manual will apply to all bulk milk handling enterprises receiving milk from the declared (disease control) area(s) whether or not the enterprise is located within the declared area(s). Operations must be treated as though the receiving enterprise was in a declared area (DA).

In respect of dairy products, the OIE Animal Health Code was rewritten in May 1995 and provided less burdensome procedures for the production of milk and milk products (see Section 1.3.3) that can be traded as FMD-free. It will be essential for the dairy industry throughout Australia to implement manufacturing to these standards as soon as an outbreak occurs so that product will be eligible for sale on export markets. The dairy processing industry will be required to meticulously record its processing standards to ensure ready certification of produce.

Milk and milk products in Australia are primarily derived from cattle. Sheep and goats milk supply much smaller, specialist markets. Most raw cows' milk leaving farms is destined for processing and packaging for human consumption. Small volume milk samples can also leave dairy farms for quality testing at herd test centres. The disease control principles are the same for sheep and goats, and their milk products need the same treatment as for cow milk products.

1.1 Description of Enterprise

Raw milk is collected from suppliers for transport and processing at a dairy factory. Factories range from small specialist cheese makers with one or more suppliers to milk packaging plants and manufacturers of dairy based products who have many suppliers.

1.1.1 Bulk factories

Dairy factories collect milk from their suppliers on a twice daily, daily or alternate day basis depending on milk flow from the farm and on-farm milk storage capacity. The milk is transported in tankers that have the capacity of 16,000 to 27,000 litres. A tanker will visit many farms consecutively in the process of filling the tank. Tankers and tanker drivers may enter or leave a property with potentially contaminated milk and equipment.

Tankers return to the milk factory depot for unloading, where milk is pumped into bulk storage silos which may have a capacity greater than 250,000 litres. Depending on the milk factory, some milk may then be treated and packaged for the whole milk market, trans-shipped in bulk for treatment and packaging for the fresh milk market or processing into dairy products at a distant location.

1.1.2 Herd Test Centres

Herd test centres receive individual cow milk samples from dairy farms for measurement of fat, protein and somatic cell count. Samples may be farmer collected or a herd tester may visit the farm to collect samples on behalf of the farmer. The samples are transported to the herd test centre either by the herd tester or are collected on a round, by herd test centre staff where farms will be visited consecutively.

1.1.3 Legislation and codes of practice

The Stock Diseases legislation operated by the States provide wide-ranging provisions that can influence operational procedures during an exotic disease outbreak including the availability of dairy produce for markets.

Legislation at both the Commonwealth and State/Territory level has been enacted for the purpose of controlling exotic animal diseases. The Commonwealth legislation in the Quarantine Act (1908) is primarily concerned with preventing the introduction of disease into the country. Statutory provisions exist in all States/Territories aimed at the control and eradication of disease in animals. The Acts and subordinate legislation establish controls over movement of animals and animal products, treatment, decontamination (including premises and plant involved in milk handling), slaughter and compensation. Wide powers are conferred on government inspectors, including the power to enter premises, impose quarantine, order stock musters, test animals and order the destruction of animals and products that are suspected of being infected or contaminated.

1.2 Exotic diseases of concern

1.2.1 Major exotic diseases

Below is a summary for each of the AUSVETPLAN diseases that affect cattle, sheep and goats. For more information, refer to *Exotic Animal Disease: a Field Guide for Australian Veterinarians* by W.A. Geering, A.J. Forman and M.J. Nunn.

The disease of most concern to livestock industries and milk handlers and processors is foot-and-mouth disease (FMD). FMD is the most contagious of all the livestock diseases and would have a devastating impact on export of livestock products and the national economy. This manual is written with special reference to FMD.

Foot-and-mouth disease

Foot-and-mouth disease is an acute, highly contagious viral infection of domestic and wild cloven-hoofed animals. It is characterised by fever and vesicles in the mouth, on the nose, feet and teats. Serious production losses can occur, but deaths are unlikely except among young animals. Virus is present in milk of infected animals for up to three days before the onset of clinical signs.

Rabies

Rabies is 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 hosts include members of the *Canidae* (dogs, foxes). Virus maybe present in the milk of infected animals. Oral infection through the ingestion of infected milk from the mother has been recorded in a lamb and a human baby. Infection of humans by ingestion of contaminated bovine milk is not recorded.

Rift Valley fever

Rift Valley fever of cattle, sheep, goats and humans, is caused by a mosquito borne virus and is characterised by high rates of abortions and high rates of mortality in young animals. Severe cases can occur in humans. The virus is present in the milk of infected animals.

Rinderpest

Rinderpest is an acute, highly contagious disease principally of cattle ("cattle plague"). Characteristics are high fever, nasal and ocular discharges, laboured breathing, severe, often bloody diarrhoea and death. The virus is related to the *peste des petits ruminants* virus. The virus is not stable in the environment. It is present in the milk of infected animals from one to two days before clinical signs develop and exceptionally has been recorded up to 45 days after clinical recovery.

Peste des petits ruminants

Peste des petit ruminants in sheep and goats resembles rinderpest of cattle and is caused by a virus closely related to rinderpest.

Vesicular stomatitis

Vesicular stomatitis is principally a disease of cattle, horses and pigs. It causes signs indistinguishable from FMD. The disease is in North, Central and South America. The epidemiology of the disease is unclear, but transmission cycles between insects and small wild ruminants is known to occur. Virus is present in the milk of infected animals.

Bovine spongiform encephalopathy (BSE)

BSE is 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 practices in processing meat meal permitted transmission of the scrapie agent to cattle. Transmission of the disease agent by milk is not known to occur.

Lumpy skin disease

Lumpy skin is an acute, generalised viral skin disease of cattle. It is highly infectious and characterised by 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 that causes sheep and goat pox. The virus can be in milk via contamination with infective scab material and particles.

Sheep pox and goat pox

Sheep pox and goat pox, are highly contagious skin diseases of small ruminants, characterised by papules and pustules on exposed body surfaces, with a high mortality rate. The virus is very resistant to inactivation in the environment. The virus can be in

milk from one to two days before clinical signs develop and exceptionally, has been recorded up to 45 days after clinical recovery.

Scrapie

Scrapie occurs naturally 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 one to three years or longer. Clinical signs of pruritus and incoordination progress to depression, recumbency and death. Infected animals showing no clinical signs can be a source of infection to others. Scrapie has been transmitted by inoculation of infected mammary tissue from infected animals into susceptible animals.

1.2.2 Potential occupational health issues

Bulk milk derived from a herd infected with the above exotic disease agents presents an extremely low risk of infection to people handling and consuming that milk.

Foot-and-mouth disease virus uncommonly causes minor disease in humans and can be carried passively in the upper respiratory tract.

Rabies and Rift Valley fever viruses infect humans although the risk of infection from handling bulk milk from an infected herd is low. Rabies is usually spread by the bite of an infected animal, but can be spread by contamination of broken skin by saliva or other body fluids, (possibly including milk) and by aerosol infection through the conjunctiva, but only in the most exceptional circumstances.

Rift Valley fever causes a severe influenza like disease in humans and is transmitted to livestock by the bites of mosquitoes. Most human infections are acquired through handling the tissues, blood, secretions and excretions of infected animals (possibly including milk). It is also spread by aerosol exposure from infectious body fluids.

Vesicular stomatitis can cause influenza like disease in humans although the risk of infection from handling bulk milk from an infected herd is low.

1.2.3 AUSVETPLAN strategy and OIE requirements for each disease

Australia's eradication policies and the relevant OIE code are contained in Section 3 and Appendix 3 of the applicable **AUSVETPLAN Disease Strategy**.

1.3 The risk of disease agents entering milk handling establishments

There is a high risk of disease agents entering milk handling establishments through contaminated milk, plant and personnel.

During the foot-and-mouth disease outbreak in England in 1967/68, levels of FMDV were detected in milk samples, obtained and tested from farms before FMDV became clinically apparent. These studies showed that virus was being shed in milk at least 33 hours and probably longer before clinical signs. Virus was found in retail bottled milk and milk from milk tankers. Slopping of milk in tankers created aerosols containing virus and this led to infection in herds when tanker air was exhausted in the process of filling with milk.

1.3.1 Virus survival in milk handling establishments

Foot-and-mouth disease

The virus is resistant to external influences including common disinfectants. In 1924 the virus persisted for 345 days on one farm in California. It has survived for 10-12 weeks on clothing and feed, and up to a month on hair. Airborne FMD virus may persist in animal rooms for at least 48 hours. Other reported survival times in various conditions include (up to):

- 50 days in water;
- 35 days on cardboard, wood or metal contaminated with contaminated serum, blood or tissue; and
- 398 days on wood contaminated with fat.

It is susceptible to pH changes away from neutral, particularly to pH less than 5.0.

Rabies

The virus is relatively fragile outside the host, it is susceptible to most standard disinfectants and inactivates in dried saliva within a few hours.

Rift Valley fever

The virus can survive outside the host animal e.g. for 4 months in dried blood at a pH > 6.8 and a temperature of 25°C.

Rinderpest and peste des petits ruminants

Rinderpest and peste des petits ruminants viruses are fragile and do not survive well outside the host for more than a few hours at normal temperatures. The virus is readily destroyed by heat, drying and most disinfectants.

Vesicular stomatitis

Vesicular stomatitis virus can be stable in the environment for days, for example on milking machines where spread results in teat and udder lesions, in cool water, soil and on vegetation, where transmission results in mouth lesions.

1.3.2 Spread of virus by milk and milk products

Foot-and-mouth disease

With treatment, milk and milk products have provided a major vehicle for the transmission of FMD within and between countries. The OIE accepts that specified heat treatments of milk will destroy the FMDV so that milk and its products can be used for human and animal consumption, (see Section 1.3.3).

Rabies

The virus may appear in the milk of affected animals but spread of infection to humans by ingestion of contaminated bovine milk is not recorded (see Section 1.2.1). Usually, milk production ceases in clinically affected animals. Treatment by heat as for FMDV will be more than sufficient to inactivate any virus.

Rift Valley fever

There is a sharp drop in milk production in affected animals. Infection by the ingestion of milk containing virus is unlikely. Treatment by heat as for FMD will be sufficient to inactivate any virus.

Rinderpest and peste des petits ruminants

Infected cattle excrete virus in milk before clinical signs occur. Milk from cows infected with rinderpest contains the virus and the virus can persist in the milk of infected cows for

up to 45 days. However infection by the oral route is unusual, the virus is thermolabile and indirect spread via fresh meat, meat products, food and transport vehicles is unusual. Treatment by pasteurisation will destroy the virus.

Vesicular stomatitis

Milk has not been incriminated in the spread of vesicular stomatitis virus. In an outbreak, milk production in affected cattle often ceases and the virus does not survive pasteurisation.

General

For all the above listed exotic diseases, milk will not be picked up from farms where animals show clinical signs. In the case of FMD and rinderpest the whole herd will be slaughtered. For the other diseases, animals developing clinical signs would be destroyed and suspect milk from the property discarded.

1.3.3 Destruction of foot-and-mouth disease virus in milk and milk products

The OIE Code specifies the following procedures for the destruction of FMD virus:

Milk or Cream for human consumption

- a) Ultra-high temperature (UHT is a minimum temperature of 132°C for at least one second).
- b) If the milk has a pH less than 7.0, simple HTST.
- c) If the milk has a pH of 7.0 or over, double HTST.

Milk for animal consumption

- a) Double high temperature short time pasteurisation (HTST is 72°C for at least 15 seconds)
- b) HTST combined with other physical treatment, e.g maintaining a pH < 6 for at least 15 seconds
- c) UHT combined with another physical treatment referred to in b) above.

In the case of foot-and-mouth disease where milk or milk product derivative is subject to processing to a pH of less than 5 or greater than 11, for a minimum of 30 minutes, the product may be defined as treated, for example, cottage cheese, yoghurt, acid casein and acid whey.

However, the treatment of all milk by HTST by an above treatment prior to its use in any manufacturing or transport will reduce the overall contamination of the factory and will reduce the controls which would need to be placed over manufactured product.

In the advent of a FMD outbreak, it will be necessary to receive all farm milk into a factory silo where pH is checked and HTST applied to that milk to the above standards, before it is used for manufacture on site or trans-shipping to another plant.

1.3.4 Virus entering on plant

Surfaces of tankers, other vehicles and plant can become contaminated with FMD virus if vehicles have visited an infected property within the incubation period for the disease and/or when clinical signs are apparent.

1.3.5 Virus entering on personnel

Tanker drivers, herd testers, inseminators are likely to be contaminated with the virus if they have handled infected livestock or product within the incubation period for the disease and/or when clinical signs are apparent.

1.4 The risk of spreading disease by milk and milk products

Traceback of dairy products will be important, in the case of FMD. Tracing the movement of product, plant and personnel must have a high priority. The tracing must include all product produced for at least 14 days prior to the commencement of the disease outbreak. In some instances, milk products from processing plants in the declared area, or plants receiving product from the declared area, *will not be able to be exported to some countries*. Certain products may need to be reprocessed.

1.4.1 Australian Food Standards Code pasteurisation recommendations

These standards are below OIE requirements and do not provide assurances of pathogen destruction. The higher OIE standard needs to be adopted as soon as FMD is diagnosed.

1.4.2 FMDV transmission by milk and milk products

Milk or milk products originating from a declared area cannot be fed to any animal, unless subject to the treatment regimes as outlined in the OIE code (see section 1.3.3) or the milk product was subject to processing at a pH or less than 5 or greater than 11 for a minimum of 30 minutes.

1.4.3 FMDV transmission by discharges and aerosols

Discharges contaminating milk, soil, manure, litter or other materials may present a risk of infection for livestock. Cattle and pig aerosols provide the major means for spread of infection between livestock.

1.4.4 FMDV transmission by milk tankers

There are concerns over the possibility of FMDV being spread by aerosols produced by bulk milk tankers exhausting air from the tanker space. However, Hugh-Jones (1976) used a spatial model to examine the likelihood that milk tankers spread FMD during the 1967/68 FMD outbreak in the United Kingdom and concluded that the risk of milk tankers spreading FMD is less than might have been previously thought. However, there is a risk and it needs to be minimised by initiating preventive action on tanker vents.

Milk tankers can also mechanically transfer infective material from property to property on tyres and hoses etc and this transmission must be prevented.

1.4.5 FMDV transmission by personnel

Tanker drivers, herd testers, inseminators and other dairy farm visitors are highly likely to be contaminated with the virus if they have handled infected livestock or product and present a high risk of mechanically transferring infection from farm to farm.

1.5 OIE Animal Health Code Requirements for International Trade

Milk and products may continue to be traded as long as they fulfil the requirements listed in Section 1.3.3. It is essential that product processed to the new OIE standards is stored and recorded separate from product processed prior to an outbreak.

2 RISK REDUCTION AND CONTINGENCY PLANNING

Contingency planning is necessary for an exotic disease. It also has other benefits by being able to be used in other emergency situations such as the receipt of residue contaminated milk. Forward planning for coping with an exotic disease will provide for a more organised and rapid response and return to normal commercial production.

2.1 Design of the enterprise

The enterprise should be designed so that, in the event of contamination by an exotic disease agent, the number of entrances and exits can be minimised and those that do not have disinfection points can be locked to prevent unauthorised entry and to ensure all personnel and plant leaving the premises undertake disinfection. **Staff parking areas** should be separate from the enterprise to avoid the need to disinfect private vehicles. **Effluent systems** should be designed to allow discharges to be controlled, trapped and treated before emission. There should be adequate facilities for personal decontamination, and these should include showering facilities. All surfaces that may come in contact with milk or milk products must be of a type and quality that allows disinfection. Porous or rough surfaces should be avoided. There should be provision for **effectively quarantining** potentially contaminated product from non-contaminated product. An unlimited water supply will be required for cleaning purposes and for additional dilution of effluent.

2.2 Tanker design

Tankers must have the milk tanker air vent either fitted with a virus filter or pass the vented air through the engine manifold or into the exhaust system. See Appendix 3 - tanker modifications. The connecting hose on tankers, sample boxes and equipment, the hose carrying tube must be easy to clean and disinfect. The inside of the cabin should be easy to clean and disinfect, non water proof upholstery materials should be avoided. Each milk collection vehicle should be supplied with mechanically operated spray equipment and a supply of a suitable disinfectant that will inactivate most viruses.

Note: During the consultation phase that this draft manual circulates, it will be necessary to come to a decision as to whether the Australian dairy industry will use filters or exhausting to control any spread of FMD from tankers.

2.3 Staff training

Milk collection, handling, processing and laboratory personnel should be made aware of the exotic diseases that are likely to affect their enterprises, and of procedures that they will have to adopt in the event of suspicion or presence of an exotic disease. Sufficient materials and equipment should be available to put procedures into operation immediately.

Staff must carry in their vehicles, at all times, suitable disinfectants, water, scrubbing brushes etc for personal decontamination and decontamination of equipment. Staff should be familiar with disinfection procedures to be used for personnel and plant (**see Decontamination Manual, Section 4**).

Field staff, herd testers, inseminators and other workers who move from farm to farm must be aware that they will have to cease farm visits to infected and dangerous contact premises in the restricted area (RA) and other operations will be restricted to essential visits. They should, before leaving the farm, thoroughly clean their equipment, boots and protective clothing by removing all traces of mud, manure and litter and then rinsing in an appropriate disinfectant.

Tanker drivers should be familiar with the procedure for bulk milk collection in a declared area - (see Appendix 2.5 role statement for a tanker driver in the event of an outbreak of exotic disease).

Staff living on a farm in a RA must be made aware that they cannot make farm visits or handle livestock and may be subject to special conditions imposed by the Local or State Disease Control Centre.

Staff handling potentially contaminated milk, milk products or by-products must avoid handling livestock and must change clothing before leaving their enterprise.

Staff who live on farms may be subject to special conditions as imposed by the Local or State Disease Control Centre.

2.4 Work procedures and staff hygiene

Milk handling staff should be equipped with waterproof boots, aprons, gloves made of rubber, plastic or similar impervious material, capable of being disinfected and head gear and clean overalls. These staff must not visit farms or carry out duties such as milking on farms. This includes tanker drivers.

Milk and milk samples should be handled so as to prevent contamination of workers' clothing or equipment.

Staff should be aware that, in cases where exotic disease is known or suspected, the following areas should be cleaned and disinfected at frequent intervals during each day with a broad spectrum disinfectant:

- vehicle unloading and turning area
- receiving platform and unloading bay
- sampling equipment
- exterior of all equipment on the platform
- office floors and working surfaces
- laboratory floors and working surfaces
- toilets and staff amenity rooms

2.5 Product movement conditions review

Systems must be in place to ensure that all product entering premises is tracked and recorded. Product leaving the premises must also be able to be traced and recalled. Detailed tracings will be done using the ANEMIS procedures in the local disease control centre (LDCC). Dairy products must be coded so that they can be readily and accurately

identified so that potentially contaminated product can be identified and segregated. Permits will be required for movement of vehicles carrying milk or dairy products, see Appendix 5.

2.6 Records

Records of the number, name and address of producers for each tanker round, the tanker and tanker driver involved in each round, and the route taken should be maintained and be quickly and easily retrievable (see 3.2.4).

Up to date lists of tanker drivers, and other factory, office or herd test staff should be maintained.

2.7 Water supply arrangements

Additional water will be required for cleaning purposes. The danger of effluence from milk handling and processing plants can be greatly reduced by dilution with large quantities of water and by ensuring that such effluence are directed to a sewerage system or are treated by acidification before release to the environment and susceptible animals are not provided with any opportunity to contact the discharges.

2.8 Vermin control

Special care should be taken to exclude rats, mice and birds or other animals that may come into contact with milk or milk product or by-product.

3 RESPONSE PLANS FOR PREMISES IN A DECLARED AREA OR FOR PREMISES RECEIVING MILK FROM A DECLARED AREA

3.1 Introduction

This section addresses the situation where a milk factory is either within a declared area or receives milk from a declared area.

3.1.1 Declared Areas

The term *declared area* is used to cover both restricted and control areas.

A restricted area (RA) is the area around infected premises (IP) and dangerous contact premises (DCP) that is subject to intense surveillance and movement controls. Movement out of the area will in general be prohibited, while movement into the RA would be only by permit. Multiple RAs may exist within one CA for a large outbreak. Guidelines for establishing RAs are provided in Appendix 1 of each disease control strategy and are based on the Office International des Epizooties (OIE) animal health code.

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

As outlined above, there will be established restricted and control areas. These will comprise the Infected Zone as provided for in OIE guidelines; the areas outside the Infected Zone will be the Free Zone. The purpose of establishing these zones is to seek international recognition to allow the free trade of animals and animal products from the Free Zone, so limiting the impact of trade restrictions to animals and animal products coming from the Infected Zone.

3.1.2 Local disease control centre

In the event of an outbreak of exotic disease, each State or Territory is responsible for its own disease control activities under the direction of the State/Territory 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. The controller (or delegated veterinarian) of the LDCC would be the contact for dairy processing enterprises. It may be necessary to contact the LDCC, rather than assuming that the required information will always come from the LDCC.

3.2 Can the enterprise continue to operate if in a declared area?

Milk factories can continue to operate in a DA, with the approval of the State chief veterinary officer (CVO), depending on the disease and the circumstances. Milk from properties in RAs and CAs will be taken by approved tanker to nominated factories for defined treatments that will inactivate virus. These factories will be located within the DA if possible.

Establishments collecting and processing milk within the declared area will operate according to instructions from the CVO, using this manual as a guideline. Officers of the appropriate State department of agriculture or primary industry will assist management with implementation of these instructions.

Factories will be able to produce milk products for export during this time as long as strict processing requirements are met. However, the variety and number of international markets may be reduced.

Milk collection from IPs and DCPs is prohibited but normal collection from other farms within the DA, including the RA, may continue. Guidelines for the collection of milk should be followed (see Appendix 2.5 role statement for a tanker driver in the event of an outbreak of exotic disease).

Movement of raw milk outside a DA should be avoided. In many situations milk handling, collection and processing centres may not be in a DA, but will have suppliers in a DA. In these cases **the SDCHQ may direct milk collection to be carried out by a factory within the declared area or closest to the DA**, if there is a factory within that area or closer to that area. Given the size of the restricted and control areas it may be necessary to dedicate a factory to solely receiving and handling such milk, or to strictly batching milk from such areas.

Herd test centres within the declared area should cease herd testing and other operations. Herd test centres which are not in a declared area, but have clients within the declared area, should cease all operations within the declared area.

3.3 Minimisation of risks associated with the operation

An officer, known as the dairy officer, may be assigned to the factory to assist management to carry out the procedures described in this manual to minimise the risk of spread of the exotic disease agent. This person will liaise closely with the Risk Enterprise Officer (LRD 503) in the local disease control centre. The role of the dairy officer is outlined in Appendix 2.3.

The immediate role of this officer will be to determine if the factory received milk from any infected premises. If infected milk was received, it will be necessary to identify and quarantine any product in or dispersed from the factory.

If the factory did not receive milk from any infected premises, then milk may continue to be received and processed and the factory management would be directed to:

- begin collating tanker traceback information (all load sheets for tankers that went to the restricted and control areas, stating clearly what farms they visited) for the danger period.

- begin modifying tankers (see Appendix 3);
- obtain spray pumps for disinfection and supplies of waterproof leggings and coats;
- set up a wheel bath or wheel cleaning area filled with disinfectant through which all vehicles entering and leaving the factory area must pass.

If the factory did receive milk from an infected premises, then no further milk can be received or processed until:

- all milk in silos is impounded;
- the factory and all equipment has been cleared of product in processing;
- the plant and all equipment has been treated to destroy FMDV;
- the product produced in the plant for the previous 14 days has been identified and impounded.

Processing can recommence with the milk in silo being treated to the OIE requirement before any further processing. Further detail is given in Sections 4.1 and 4.2.

3.3.1 Milk collection in a restricted area

Depending on the disease strategy decided upon by the CVO, it may be necessary to re-route tankers, so that all milk from outside the declared area(s) goes to a factory outside the declared area and all milk produced within the declared area(s) is processed within the declared area or at a dedicated factory. Movement of milk out of the restricted area will only be allowed after milk has been treated, and with an appropriate permit. It is essential that milk collection continues from normal herds given disposal issues.

Tanker modifications for foot-and-mouth disease

Tankers intended for milk collection within the restricted area must:

- be fitted with an air-filtering device to prevent the escape of aerosols from the tanker exhaust vents or be fitted with a device which passes air from the tank into the inlet manifold or into the exhaust system (see Appendix 3); and
- have suitable spray equipment for the rapid decontamination of the outside of the tanker hose, associated farm equipment and the driver's waterproof protective clothing. A 20 litre water container and concentrated disinfectant should be carried.

Once the tanker is fully modified and equipped, it can be issued with a movement permit, which remains valid until revoked (see Appendix 5). The movement permit will be issued by the Milk Reception Area Supervisor (see Appendix 2.4 or a description of the role of a Milk Reception Area Supervisor).

Tankers leaving factory

Once a Milk Reception Area Supervisor has been appointed, no tanker will leave the factory without:

- a movement permit which indicates that the necessary modifications have been made to the tanker (see Appendix 5).
- a current disinfection permit valid for one trip only (see Appendix 5).

The disinfection permit indicates that:

- the tanker has been cleaned and decontaminated;

- the disinfectant in the air-filtering device has been renewed (see Appendix 3);
- the disinfectant in the tanker's spray equipment has been replenished; and
- the driver has waterproof boots, leggings and coat.

It is recommended that tankers carry an adequate supply of concentrated disinfectant and another container in which to make up a working solution to allow more working solution to be prepared on farm if necessary (**see Decontamination Manual**).

Tankers collecting milk

Before entering any farm in a restricted area the tanker driver must stop at the farm gate and check whether there is a notice warning that exotic disease is suspected or the farm is quarantined for exotic disease. Where such a warning is displayed, the driver must not enter the farm. All dairy farmers will be told that it is their responsibility to prevent milk collection if they are awaiting examination of suspected infected animals. Tanker access gates for IP or DCP's and possibly suspect properties should be padlocked and preferably guarded.

Once the driver has determined that the farm is not an infected premises (or dangerous contact premises in the case of foot-and-mouth disease), and before entry, the driver must don waterproof protective clothing and boots. The driver must clean and decontaminate his/her waterproof boots, outer protective clothing and the wheels of the tanker. This will be repeated on leaving the farm. If the tanker driver has entered a farm and is then told by the farmer that a disease outbreak is suspected, the driver must follow the procedures of paragraphs 6.2 and 6.4 in Appendix 2.5 which provides a guide to tanker drivers in the event of an outbreak of exotic disease.

All dairy farmers will be instructed to provide the necessary facilities for decontamination of tanker wheels at the farm gate. This will be a straw, sacking or foam rubber mat soaked in disinfectant at the road entrance. Farmers will be advised to deny animals access to the tanker track.

Drivers should take note of any suppliers who have not fulfilled these requirements and advise the Milk Reception Area supervisor at the factory (see Appendix 2.4 for a list of duties for the Milk Reception Area Supervisor).

The outside of the tanker hose must be disinfected before it is connected with the vat and before the hose is returned to the tanker after milk collection.

During milk collection, the driver must confine his/her movements to the minimum area necessary to carry out the task and should not operate any equipment including the vat cleaning equipment, or touch any surfaces, including electrical switches that cannot be disinfected. On no account should the driver touch any animal or enter an area where animals are present or kept, for example, the milking area, calf pens etc. Any surfaces touched by the tanker driver must be disinfected.

The tanker driver must ensure that the sample containers, stopper and dipper do not come into contact with anything on the farm. The outside of the sample containers should be disinfected after taking the sample and full and empty sample containers should be segregated.

Milk and milk samples should be handled so as to prevent contamination of tanker drivers clothing or equipment.

Any milk drainings from the farm vat or tanker hose or any spilt milk must be sprayed immediately with a suitable disinfectant (**see Decontamination Manual**) as this milk may be carrying the exotic disease agent.

Care must be taken that the tanker is not overfilled. Milk must not spill from the tanker while it is travelling back to the factory or between farms.

The outside of the tanker hose and the coupling nut must be disinfected before they are returned to the vehicle.

Before leaving the collection point the driver must disinfect the vat room door handle and any other equipment he/she has touched.

The tanker must stop at the farm exit and the driver must scrub waterproof boots and any other protective clothing to remove any litter, soil, manure etc and spray disinfectant on boots and waterproof clothing. Any gross contamination of the vehicle cab must also be removed. Protective clothing may be removed between farms.

The tanker driver must ensure that tanker wheels have passed through disinfectant at the farm exit.

Collection of milk and cream in cans

Milk and cream cans must only be collected from a roadside point not involving entry on to the property.

Clean empty cans must be replaced at these points. The outer surface of the cans, including the bottoms, must be in a clean condition and must be treated with a suitable disinfectant before loading on to the vehicle.

The driver must wash his/her hands, waterproof boots and other protective clothing with a suitable disinfectant after handling the cans.

Summary of the tanker driver's obligations

See Appendix 2.5 of this manual. This section is to be photocopied in the event of an outbreak of an exotic disease and a copy given to each tanker driver.

3.3.2 Milk reception areas procedures in a restricted area

If an outbreak of an exotic disease occurs, Appendix 2.4, which outlines the duties of a milk reception area supervisor's role, should be photocopied along with copies of the relevant movement and disinfection permit (see Appendix 5), and given to the person in charge of the milk reception area.

Supervision of the milk reception area

All milk unloading operations must be carried out under the supervision of a responsible person, who will be the Milk Reception Area Supervisor (or the Dairy Officer, see Section 3.3). This person will usually be an employee of a State department of agriculture or primary industry with dairy industry knowledge.

The Milk Reception Area Supervisor will:

- issue movement permits to tankers which have been fully modified and equipped (see Appendix 5);
- issue disinfection permits to tankers which have been cleaned and disinfected (see Appendix 5);

- ensure that the public is kept away from the milk reception area;
- ensure that tankers are not returning overfull;
- ensure that milk spillage is promptly and effectively treated (**see Decontamination Manual**);
- ensure that the unloading and cleaning procedures, as outlined below, are followed;
- relay any relevant information from tanker drivers to the LDCC eg failure of farmers to supply disinfection mats at the farm exit; and
- ensure all necessary records are kept.

Tanker arrives at the factory

The outside of milk tankers will be thoroughly cleaned and sprayed with a suitable disinfectant on arrival at the factory and before withdrawing milk from them (**see Decontamination Manual**).

Tankers may be washed in the tanker unloading bay, but all washings must be contained and piped to the effluent treatment plant and safely discharged.

Tanker discharge

During an outbreak, all milk collected from a restricted area must be considered infected and precautions must be taken to prevent the escape of the disease organism through spilt milk or aerosol releases. During pump-out, tanker manhole lids can be opened.

After unloading the milk and before the hose is uncoupled, the interior of the tanker must be rinsed with potable water until all the milk residues are removed. This must be followed by sufficient potable water so that no milk can flow back through the milk unloading pump when the hose is disconnected.

The tanker must then be washed out with disinfectant, again followed by potable water. (A one per cent sodium metasilicate solution can be used when aluminium is being disinfected).

All milk leaks and spills must be washed away with a copious amount of a suitable disinfectant (**see Decontamination Manual**). Acid solutions should be used on milk spills because the casein precipitation demonstrates that sufficient disinfectant has been used.

All effluent from tanker discharge areas must be contained and piped to the effluent treatment facility, effluence should be discharged in such a manner so as not to create aerosols.

Tanker drivers and other staff working in the milk reception and treatment areas must try to avoid moving to other areas of the factory so as to prevent potential cross contamination.

Before departure

Once the tanker is unloaded and disconnected, the driver must:

- spray the exterior of the tanker and the pump compartment with a suitable disinfectant;
- renew the disinfectant in the air filter;
- top up the tanker's spray kit;

- clean all the dirt from the cab;
- wipe or spray the cab floor, foot pedals, gear shift and steering wheel with disinfectant; and
- ensure suitable waterproof clothing including boots, over pants, and coat are in the cabin.

When the Milk Reception Area Supervisor is satisfied that the work described above has been done effectively, he/she will collect the old disinfection permit and issue a new disinfection permit for the next collection (see Appendix 5).

Milk and cream cans

The lids from the full cans must not be removed at the dairy factory until the contents are required for processing.

All labels and string must be removed and retained on the premises. The used cans must be thoroughly washed, either manually with hot water or steam cleaned, until all traces of milk or cream have been removed. The cans are then to be rinsed with a suitable disinfectant (**see Decontamination Manual**), before being rinsed again with potable water.

3.3.3 Factory processing procedures in a restricted are

Personnel

All employees must take the following special hygienic precautions to prevent the accidental spread of the disease from the establishment:

- Staff who handle milk or milk product or by-product must not leave the factory area without showering and changing from factory protective clothing.
- All personnel must walk over disinfection pads or footbaths when entering and leaving the site.
- The movement of staff from one part of the factory to another must be restricted to prevent potential cross contamination.
 - Staff should avoid moving between milk unloading or milk treatment areas and other parts of the factory (the use of different coloured armbands or overalls to identify staff to a particular section of the factory may facilitate this).
- All personnel in the factory area must wear waterproof boots and waterproof protective clothing that can be easily disinfected.
- If no infected milk has been received then regulation overalls and waterproof boots can be worn, boots must be disinfected, overalls need to be laundered in water of at least 100°C on the premises.
- If infected milk has been received then waterproof boots and waterproof protective clothing must be worn during the cleaning and disinfection operations and boots and protective clothing must be decontaminated, overalls need to be soaked in disinfectant and sealed in plastic bags, the bags are to be given a second wash down in disinfectant and placed at an outer limit of the premises for collection for laundering, the overalls should be autoclaved or treated as contaminated clothing in a hospital laundry (**see Decontamination Manual**);
- private vehicles must be restricted to the approved parking area

- staff should avoid contact with livestock especially in the case of foot-and-mouth disease.

General Factory Requirements

The following should be cleaned and disinfected with a suitable disinfectant at frequent intervals during each day:

- vehicle unloading and turning areas
- milk can deck
- receiving platform and unloading bay
- exterior of all equipment on the platform
- sampling equipment
- laboratory floors and working surfaces
- floor of processing plant
- staff amenity areas, showers and toilets
- office floors and working surfaces.

Raw milk storage area

All milk collected from a restricted area is potentially infective and precautions must be taken to prevent the escape of the virus through spilt milk, aerosol releases or drainage.

Raw milk spills must be avoided as much as possible and any spills that do occur must be diluted with a copious amount of a suitable disinfectant before hosing down (**see Decontamination Manual**).

All equipment and piping that has contacted raw milk products must be disinfected at least twice daily with a suitable disinfectant.

Milk treatment area

All milk received into the factory to be used for human consumption must have pH recorded and must be subjected to at least HTST heat treatment with pH less than 7.0 prior to being used for processing or dispatch to another premises (see 3.2.3.5).

Separator sludge could contain a highly infective concentration of virus particles. The discharge from self-desludging separators will be treated with the other drainage, but the sludge from solid bowl separators needs careful handling and disposal. The addition of disinfectant followed by autoclaving or boiling for a considerable period are suitable methods of treatment for disposal.

Raw milk spills and leakages must be avoided as much as possible and any spills that do occur must be diluted with a copious amount of a suitable disinfectant before hosing down (**see Decontamination Manual**).

Treatment of milk products

It is preferable that dedicated factories receive milk from the Restricted Area and separate factories receive milk from the Control Area.

The AUSVETPLAN National Disease Strategy for foot-and-mouth disease requires that milk be handled and treated or processed so that it meets OIE standards for the international trade in milk and milk products (see Section 1.3.3).

FMDV is one of the most difficult viruses to inactivate in milk, and any treatment that inactivates foot-and-mouth disease virus will inactivate vesicular stomatitis, Rift Valley fever, rabies and rinderpest viruses. For this reason, all milk received at a factory will be heat treated by HTST before further transport or processing is undertaken.

Market milk and cream

Liquid market milk must be treated by the HTST process of 72°C for at least 15 seconds after pH is less than pH 7.0. The destruction of FMD virus is significantly enhanced if the pH is less than 7.0.

Treated milk is suitable for human use only and must not be fed to livestock. As with other dairy produce it cannot be removed from the milk factory without a movement permit.

Milk vendors collecting from milk stations and depot delivery trucks need movement and disinfection permits. Vendors collecting from a depot do not need movement or disinfection permits.

Milk powder (spray and roller dried)

All milk powder produced in the restricted area must be produced from HTST treated milk with the milk powder having a whey protein nitrogen index (WPNI) of less than 1.5 mg/g, obtained by pre-heat treatment of the milk before the evaporator.

Milk powder produced in the restricted area cannot be used for animal consumption unless produced from milk subject to double HTST treatment or HTST combined with another physical treatment or UHT treatment combined with another physical treatment (see Section 1.3.3).

Cream or whey cream for butter and anhydrous milk fat (AMF) manufacture

Butter may be made from milk produced in the restricted area with the permission of the Officer in Charge. Cream, or whey cream, obtained from HTST treated milk need not be treated again unless the cream is believed to have been contaminated, or is to be moved outside the restricted area.

The cream must be acidified to pH 4-5 or heat-treated if the milk was not heat treated or if the cream is to be transported outside the restricted area.

Cream that is to be moved within the restricted area does not need further heat treatment unless contamination is suspected. Contaminated cream shall be destroyed.

Cheese and casein

All milk for cheese and casein production must be pH adjusted and be heat treated to the equivalent HTST pasteurisation standard (see Section 1.3.3). Traditionally, cheese has been made safe by pH control of the process and curing for periods up to 120 days. In the interests of ensuring adequate treatment all milk for cheese and casein production will be treated by HTST according to Section 1.3.3.

Waste products

All waste products (eg milk and whey) must be heat treated or acidified below pH 5 before disposal with temperatures and pH being recorded.

Laboratory test samples

Laboratory test samples must be sterilised before disposal. Suitable methods of disposal include:

- incineration,

- autoclaving, or
- dissolving followed by pH adjustment as outlined in 3.3.7.

Sample containers should be incinerated or buried at an official tip site as directed by the Controller of the LDCC.

Discarded products

All floor sweepings and other discarded products must be sterilised before disposal. They must not be used for livestock feed. Suitable methods of disposal include incineration or dissolving followed by pH adjustment.

Condenser water

See 3.3.4.

Movement of products

While there is a disease outbreak of foot-and-mouth disease, Rift Valley fever, rinderpest or vesicular stomatitis, no dairy product produced from 14 days before the outbreak shall be removed from the factory without a movement permit, see Appendix 5.

For tracing purposes, a list of destinations is required for all dairy products dispatched during the 14 days before the declared outbreak, and for subsequent days.

Movement of ancillary vehicles

On declaration of an exotic disease outbreak, all vehicles leaving the site must be cleaned and disinfected. This includes ancillary vehicles, such as those delivering supplies or ingredients, and those of private contractors etc.

3.3.4 Effluent treatment procedures in a restricted area

Effluent treatment

Liquid waste from dairy factories and milk stations may be treated with an acid to reduce the pH value, or with an alkali to raise the pH value, according to the disease, see 3.3.7 and the **Decontamination Manual**. The actual danger from effluent is greatly reduced by dilution and the free use of above normal quantities of water in the usual cleaning processes will further reduce the danger.

General factory effluent, which does not include material from tanker unloading, tanker washing and raw milk storage and treatment areas, can be discharged on confirmation that the correct pH has been reached.

Effluent, which comes from, or includes, material from tanker unloading, tanker washing and raw milk storage and treatment areas must be held for at least 60 minutes at the required pH.

Batch holding involves batching, treating, holding with agitation, and then discharge of the effluent. Several tanks or pits may be used for filling, holding and emptying.

Continuous holding entails the use of a large tank, with previously defined flow characteristics, to hold the treated effluent which is continuously added and discharged.

The effluent from cheese and casein factories is generally near neutral (pH around 6); if whey is added the waste water is fairly acidic (pH around 5 to 6). Unless circumstances dictate otherwise, acidify casein and cheese factory discharges and add alkali to milk powder and butter factory effluence.

Treatment lagoons

Some viruses such as the foot-and-mouth disease virus could survive passage through either aerobic or anaerobic treatment lagoon systems. Incoming effluent streams must be pH adjusted and held (see Section 3.3.7 and the **Decontamination Manual**) to avoid contamination of the pond itself. Aerobic treatment lagoons may continue to be aerated once the incoming effluent has been correctly treated. Aerobic treatment lagoons should be capable of functioning with an incoming waste at pH 5 to 11, but anaerobic lagoons should have their inward streams treated with acid unless the pH is to be readjusted later. If the treatment lagoon is already contaminated with untreated infected incoming effluent, the lagoon itself may be treated with the recommended chemical, left at the required high or low pH for a time and then neutralised either with an acid if treated at a high pH or an alkali if treated at a low pH.

Condenser water

Condenser water that has been in contact with aerosols from dairy products, eg. evaporators or vacreators, could in theory be contaminated with virus. The condenser water from evaporators producing high-heat powder (WPNI less than 1.5mg/gm) should be safe and not need further treatment, provided that for a:

VAC 25

- the Vacreator operates at or above 85°C out of the preheat section;
- all preheat tubes are operating and in good repair; and
- the throughput does not exceed 11,400 litres per hour.

VAC 16

- the Vacreator operates at or above 87°C out of the preheat section;
- all preheat tubes are operating and in good repair; and
- the throughput is not greater than 7,300 litres per hour.

3.3.5 Traceback information

Tanker traceback

An accurate record must be kept of all routes taken by tankers and trailers, farms visited, and the names of drivers. A record must also be kept of all between-factory transfers of liquid dairy products.

If an outbreak of an exotic disease such as foot-and-mouth does occur, factory management will need to prepare a list of all farms visited by each tanker, and the sequence of pickups, during the previous 14 days and each day after the declaration. Priority should be given to the routes containing any infected premises. When the sequence of visits is uncertain this must be stated in the list.

The factory will be required to provide:

- load sheets for all tankers during the danger period;
- the receiving factory for each load;
- number, name and address of producers for each tanker round;
- the tanker and tanker driver involved in each round; and

- the route taken.

Product traceback

It is essential to be able to match all dairy products with the date of collection of the milk and to record accurately the details of the processes of manufacture.

Each factory servicing an infected premises will be required to provide a list of tankers movements, inter factory transfer and products traceback for, in the case of FMD, the period commencing 14 days prior to the disease first appearing on the first infected premises.

Dairy products should be coded so that they can be readily and accurately identified if any of them are suspected of being contaminated before the recognition of the disease.

On declaration of the exotic disease outbreak, factory management needs to prepare a list of the identities and destination of all products (including whey) that left the factory during the previous 14 days and each day after the official announcement. The list is to include any centralised milk testing laboratories that have received raw milk samples.

Staff traceback

If there is an outbreak of an exotic disease, factory management shall produce a record of the home addresses of all staff employed and indicate whether staff own, keep or work with susceptible stock (eg milk part time, feed pigs etc).

3.3.6 Services required of dairy companies

To eradicate an exotic disease, Departments of Agriculture or Primary Industries may ask dairy companies for the use of milk tankers to assist in the cleaning and disinfection of infected premises, and possibly staff and dairy factory equipment to help disinfect buildings, sheds, vehicles etc.

3.3.7 Chemical treatment of milk

For compatible detergents see the **Decontamination Manual**. If appropriate for the disease, use citric acid rather than chlorine inside the factory, because chlorine is harsher on equipment.

Acids

Citric acid - A two per cent solution is required, this is achieved by mixing 200 grams of citric acid in 10 litres of milk (two kilograms citric acid in 100 litres of milk). This concentration is ten times that required for personal disinfection. Add compatible detergent if available.

Acetic acid - Add 200 millilitres acetic acid to 10 litres of milk (two litres acetic acid to 100 litres of milk). Add compatible detergent if available.

Oxidising agents - Chlorine

Calcium hypochlorite (pool chlorine) - A 2 - 3 per cent available chlorine solution is required, this is achieved by adding one kilogram of calcium hypochlorite (pool chlorine) to 30 litres of milk, or 3.4 kilograms of calcium hypochlorite in 100 litres of milk.

At 80 ppm, chlorine will inactivate viruses, and this solution will give 500-1000 ppm or more active chlorine. It is more convenient to use calcium hypochlorite because it is in powder form and is readily available.

Sodium hypochlorite - A 0.5 per cent solution, which gives 500 ppm available chlorine, is required to inactivate FMDV in milk. Sodium hypochlorite is available in solution in varying strengths, therefore the amount of solution to be added to the milk will vary. Manufacturers' instructions have to be followed to determine volume required to give a 0.5 per cent solution. Generally large volumes of sodium hypochlorite have to be used per volume of milk when compared with using powdered calcium hypochlorite.

Use citric acid in preference to chlorine if it is appropriate for the disease (**see Decontamination Manual**).

The milk treated with acid or hypochlorite should then be allowed to mix in the collection tank for one hour to ensure thorough dispersal of the disinfectant throughout the solution.

If the disinfectant is thoroughly mixed into the milk by the tank agitator, this will be sufficient whether the milk is of low or high fat content.

Alkalis

Sodium hydroxide (caustic soda) - Milk can be alkalisied if necessary by adding 600 millilitres of concentrated solution (50 per cent w/w, S.G. = 1.53) to 100 litres milk. The caustic soda solution should be added slowly and while stirring to avoid stratification.

The following pH values should be noted:

- FMDV is varyingly stable between pH 4 and 6.5 and rapidly inactivated below pH 4 and above pH 11;
- Rift Valley fever virus is susceptible to low pH (< 6.2);
- vesicular stomatitis virus is stable between pH 4 or 5 and 10;
- rinderpest virus is relatively stable between pH 7.2 and 7.9 but is rapidly inactivated at values less than 5.6 and greater than 9.6.

Adding Alkali to a pH value of 11 will not produce a precipitate. It is recommended that the pH be checked by use of a suitable pH indicator paper.

Indicator papers fit for use in milk include:

Merck, pH 0 - 6.0

Merck Alkalit, pH 7.5 - 14.0

Merck Spezialindikator, pH 11.0 - 13.0

3.3.8 Disposal of treated milk to Solid Waste Landfill

Tankers are to be disinfected once emptied and personnel handling contaminated milk are required to undergo personal disinfection under the instructions of a LDCC officer or delegate. This would occur before leaving the burial site, and a suitable disinfectant would be provided by the LDCC. It would be necessary for personnel to have a change of clothing on hand, so that contaminated clothing can be disinfected.

3.4 Milk collection and handling from a control area

The control area is that area outside of the restricted area where the movement of animals and animal products is limited so as to minimise any occurrence of a disease outbreak in that area.

As indicated in Section 3.3.1, disease control requires that milk from restricted areas be specially treated to inactivate any virus in the milk and milk products. Given the proximity of the control area to the restricted area, it is essential that -

- tanker pick-ups be separated for the two areas as far as is practicable;
- tanker routes are documented and carefully assessed to ensure farms of least infection risk are visited first;
- tankers are fitted with exhaust vents as outlined in Appendix 3;
- milk is handled and processed as though it was being collected in the restricted area; and
- milk is treated to the OIE standard to ensure infection control.

4 RESPONSE PLANS IN AN INFECTED OR DANGEROUS CONTACT PREMISES

4.1 Can the enterprise continue to operate if declared infected?

A factory or milk handling establishment would be declared infected if it receives milk from an infected farm or from a farm that is subsequently declared infected.

If the factory did receive infected milk, then all unloading, processing, waste disposal and inter factory transfer operations would cease and factory management would be directed to begin clean-up and disinfection operations (as outlined in Section 4.2), and begin collating traceback information on tanker and product movement.

The factory can recommence operations only when clean-up and modifications to tankers (see Appendix 3) are complete and all milk and product on the premises has been treated to OIE standard or the milk product has been destroyed.

Suspect milk must be segregated and treated as outlined in Sections 3.2 and 3.3. This applies to milk unloaded into silos, but afterwards the contaminated plant must be cleaned and disinfected as outlined in Section 4.2.

4.1.2 Action on receipt of infected milk

On being notified by an inspector that suspect milk has been received into the factory, the management must immediately cease accepting tanker milk in the normal way until the requirements of Section 4.2 have been carried out.

Normal reception of milk can resume when either:

- a thorough cleaning and disinfection of all contaminated areas in the factory has been carried out and procedures are in place to deal with a further eventuality; and
- the Controller, LDCC, or CVO gives approval.

To reduce the duration of the hold up to a minimum, thorough cleaning and disinfection should be undertaken as soon as possible in the following sequence:

- tanker unloading bays
- milk lines and pumps from tanker unloading bays leading to milk holding silos
- milk holding silos
- milk lines and pumps from silos to the pasteuriser(s).

Cleaning and disinfection may cease at the pasteuriser if the HTST or UHT heat treatment was used, unless contamination is known to have occurred later in the process.

Unloading of milk tankers may recommence as soon as a cleaned and disinfected silo is available.

All staff engaged in cleaning and disinfection must be provided with waterproof boots and waterproof protective clothing. Strict procedures must be in force to ensure all protective clothing is collected and overalls decontaminated (by soaking in a suitable disinfectant solution for 60 minutes) and laundered (**see Decontamination Manual**).

After cleaning and disinfection has been completed, all staff involved must shower and change into clean factory clothing (or street clothing if leaving the factory).

4.2 Elimination of the agent

All operations must cease and factory management would be directed to:

- cease milk unloading, processing, waste disposal and inter factory product transfers (initiate actions as per various tanker scenarios see Appendix 4);
- begin clean-up and disinfection operations;
- begin collating tanker traceback information (all load sheets for tankers that went to the Restricted Area, stating clearly what farms they visited) for the danger period;
- adjust milk tanker pick up rounds to take account of area declarations and infected and dangerous contact premises;
- assist in procedures for tracing potentially infected product, and for detaining it in stores etc or treating it in accordance with company product recall procedures; and
- commence modifying tankers see Appendix 3.

The factory can recommence operations only when clean-up is complete with permission from SDCHQ/LDCC.

Any tankers already carrying suspect milk should be treated as per Appendix 4. These tankers will not be available for service for up to 48 hours, as they will be required to undergo disinfection, and may be used for the transport of infected milk (which could include milk from other areas) to disposal sites.

Suspect product could be used for human consumption, but under no circumstances be fed to any ruminant or pig (this statement refers to foot-and-mouth disease).

4.3 Media and public relations

General enquires about the disease or control activities should be directed to the LDCC. Milk handling establishments will need to advise their clients of the situation, as it affects the provision of services. Any advice to the media should be limited to comments relating directly to the milk handling establishment and should only be made following clearance to comment from the media/PR section of the LDCC. Staff should refrain from making any public comments about the disease outbreak itself.

APPENDIX 1 List of AUSVETPLAN diseases

African horse sickness
African swine fever
Aujeszky's disease
Avian influenza
Bluetongue
Bovine spongiform encephalopathy (BSE)
Classical swine fever (hog cholera*)
Equine influenza
Foot-and-mouth disease
Lumpy skin disease
Newcastle disease
Peste des petits ruminants
Rabies
Rift Valley fever
Rinderpest
Scrapie
Screw-worm fly
Sheep and goat pox
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*)

* this term is not used in AUSVETPLAN

APPENDIX 2

Summary role statements for key personnel

This appendix provides details about role statements for the following people:

Risk Enterprise Officer - Dairy
Principal Dairy Officer
Dairy Officer (Factory.....)
Milk Reception Area Officer
Tanker Driver
Industry liaison representative

It is possible (and likely) that aspects of the first four positions may be combined and performed by the one individual, unless the outbreak is extremely serious or widespread.

Appendix 2.1 Risk Enterprise Officer - Dairy [LRD 503]

[The description for this position has been extracted from the Control Centres Management Manual Part 2. For more information about how the position fits into the LDCC please see Part 1.]

Skills

- A *government officer* with extensive knowledge of the industry involved in the outbreak.
- Well developed local knowledge of the affected industry.
- Extensive local contacts with the affected industry.
- Well developed communication and negotiation skills.

Line Relationships

- Responsible to the LDCC Technical Manager.
- Must liaise closely with Industry Liaison Officers at the LDCC and the local industry and its organisations.

Roles And Responsibilities

- Provide advice on the nature of the local industry to assist with disease risk assessment.
- Assist with developing and implementing plans for disease eradication/control.
- Provide advice on the economic and other consequences of proposed actions.

Duties

- Details of the control/eradication strategies are contained in the AUSVETPLAN **Disease Strategy** for the disease concerned. The officers must be familiar with these, and the appropriate AUSVETPLAN enterprise manual.
- Prepare for the LDCC Technical Manager comprehensive advice on the local industry which is affected. This should include advice on its size, distribution, sources of supply, marketing practices (including by-products), industry organisations and all other factors which may affect the eradication/control program (ie assist with the risk assessment).
- Advise the LDCC Technical Manager on the practicality and economic and other consequences of actions proposed for eradication/control purposes.
- Develop plans to handle potentially contaminated material. These plans should identify steps to pick up, handle, process and distribute this material to limit the spread of any infection.
- Liaise with local industry contacts to develop and implement these plans.
- Prepare written recommendations and plans as required.

Appendix 2.2 Role Statement for the Principal Dairy Officer

The Principal Dairy Officer will be a person who is an employee of a State department of agriculture or primary industry or possibly a dairy authority, with a knowledge of the dairy industry and the exercise of regulation.

The Principal Dairy Officer will be responsible to, and liaise with, the Risk Enterprise Officer - Dairy (LRD 503) and proceed with the following:

- 1 Establish which *milk factories received milk from infected premises* within the danger period for the disease (for example in the case of FMD in the period 14 days prior to the appearance of the first signs on an IP).
- 2 Depending on the disease strategy decided upon, *organise for tankers to be re-routed*, whenever possible, so that all milk from outside the restricted area goes to factories outside the restricted area and all milk produced within the restricted area is processed within the restricted area. *Request load sheets* for all tankers during the danger period and the receiving factory for each load.
- 3 Any tankers already carrying potentially infected milk should be treated as per the action lists in Appendix 4. Advise that these tankers will not be available for service for up to 48 hours, as they will be required to undergo disinfection, and may be used for the transport of infected milk (which could include milk from other areas) to disposal sites.
- 4 Any tankers which have collected milk from the restricted area in the danger period must be externally disinfected at the next visit to a tanker washing bay.
- 5 Organise a set of waterproof clothing for each Dairy Section person. Assign Dairy Officers to those factories most at risk and advise them about obtaining supplies of disinfectant and the means of contact with the LDCC.

Appendix 2.3 Role statement for the Dairy Officer assigned to the factory

The Dairy Officer assigned to a milk factory will begin the following actions:

The Dairy Officer will be a person employed by the State department of agriculture, primary industry or possibly a dairy authority or dairy company with a knowledge of the dairy industry.

- 1 If the factory **did not** receive milk from an infected premises, contact the factory management and direct them to:
 - Begin collating tanker traceback information (all load sheets for tankers that went to the restricted area, stating clearly what farms they visited) for the danger period. This information will then be collated into ANEMIS in the LDCC;
 - Begin modifying tankers (see Appendix 3);
 - Obtain spray pumps for disinfection and supplies of waterproof leggings and coats; and
 - Set up a wheel bath filled with disinfectant through which all vehicles entering and leaving the factory area must pass.

Milk may continue to be received and processed.

- 2 If the factory **did** receive or was likely to have received infected milk, contact the factory management and tell them to:
 - Stop deliveries of milk and product from the premises;
 - Cease milk unloading, processing, waste disposal and between factory product transfers - initiate actions as outlined in Appendix 4;
 - Begin clean-up and disinfection operations as outlined in section 4.1.2;
 - Begin collecting tanker traceback information (all load sheets for tankers that went to the restricted area, stating clearly what farms they visited) for the danger period;
 - Initiate procedures for tracing potentially infected product, and for detaining it in storage or treating it in accordance with company product recall procedures; and
 - commence modifying tankers as outlined in Appendix 3.
- 3 Before leaving for the factory:
 - obtain a copy of this manual;
 - obtain photocopies of Appendix 2.5, preferably laminated or in waterproof folders (to be supplied to tanker drivers);
 - obtain photocopies of disinfection permits (see Appendix 5);
 - obtain a photocopy of this appendix (to be supplied to the Milk Reception Area Supervisor); and
 - obtain a set of waterproof clothing.
- 4 Proceed to the factory and on arrival meet with factory management. If the factory **did not** receive infected milk:

- ensure that all of the alterations required for disease control purposes are being carried out as fast as possible even though milk continues to be received and processed.
- 5 If the factory is known to have received or was likely to have received infected milk ensure that:
- movement of vehicles and personnel from the premises is controlled;
 - the clean up and disinfection of the milk reception area is carried out thoroughly;
 - raw milk handling and storage equipment is thoroughly cleaned and disinfected;
 - plant past the pasteuriser is thoroughly cleaned and disinfected where HTST and UHT heat treatment of the milk has not been carried out; and
 - staff clothing requirements are enforced - waterproof boots and waterproof protective clothing are worn; and
 - no milk or product is to leave the plant unless it complies with the OIE requirement and the controller of the LDCC is aware of the move.
- 6 In addition:
- ensure factory management prepare lists of tanker movements, between factory transfers and product trace backs for the previous 14 days;
 - instruct factory management to produce a current staff list comprising home addresses and telephone numbers, and, if possible, showing whether staff keep, own or work with stock or have had any stock contacts within the danger period for the disease. This must include details for absent staff (refer to section 3.3.5);
 - brief all tanker drivers on the procedures that they must follow (see appendix 2.5), and, if possible, address factory staff on the nature of the emergency and what precautions are required;
 - stop the collection of all waste for animal feed; and
 - identify the areas where the factory needs assistance, eg. earthmoving machinery, workforce or chemicals.
- 7 Notify the Principal Dairy Officer when the above steps have been completed. As the information becomes available, report on:
- resource requirements
 - traceback lists
 - staff lists
- 8 Implement relevant instructions and seek clarification from the Risk Enterprise Officer LDCC on matters of concern. In addition, do not leave the site until relieved. Ask for replacement staff, if necessary.

Appendix 2.4 Role statement for the Milk Reception Area Supervisor

The milk reception area supervisor will supervise all milk unloading operations. This person will usually be an employee of a State department of agriculture or primary industry with dairy industry knowledge.

The *Milk Reception Area Supervisor* will:

- issue movement permits to tankers which have been fully modified and equipped (see Appendix 5);
- issue disinfection permits to tankers which have been cleaned and disinfected (see Appendix 5);
- ensure that the public is kept away from the milk reception area and the plant environs;
- ensure that tankers are not returning overfull (see Section 3.3.1),
- ensure that milk spillage is promptly and effectively treated (see Section 3.3.2);
- ensure that the unloading and cleaning procedures are followed, and
- relay any relevant information from tanker drivers to the LDCC eg failure of farmers to supply disinfection mats at the farm exit.

Appendix 2.5 Role statement for a tanker driver in the event of an outbreak of an exotic disease

In the event of an outbreak of an exotic disease such as foot-and-mouth disease (FMD), photocopy the following instructions and give one copy to each tanker driver. The instructions should be laminated or in a waterproof folder.

1 Economic consequences

Exotic animal diseases such as foot-and-mouth disease have enormous economic implications for Australia. Tanker drivers are the first line in the dairy industry's defence against the spread of the disease. Apply this information - your future livelihood may depend on it.

2 Movement restrictions

During an outbreak of a disease such as foot-and-mouth, an area around the infected farm will be designated a *restricted area*. The movement of vehicles and livestock out of this area will be strictly controlled. Vehicle check points may be established.

3 The diseases

Some exotic viral diseases of animals can be transmitted through the milk of infected animals. During the incubation period, there may be no observed disease, but the milk may be infective. For this reason, during some exotic animal disease outbreaks, all milk produced in the restricted area must be considered potentially infected. Viruses are also spread by people, vehicles and clothing.

4 Tanker modifications

Once an outbreak of an exotic animal disease such as foot-and-mouth disease has been declared, each tanker collecting milk in the restricted area will be modified. The tanker will be equipped with a device to prevent the escape of virus as a fine mist (aerosol) from the vents, with a supply of disinfectant and a portable spray.

5 Procedure when leaving the factory

Tankers must not leave the factory to collect milk unless they are fully equipped and have a movement permit and a current disinfection permit issued by the Milk Reception Area Supervisor based at the dairy factory.

6 Procedure at the farm

- 6.1 Before entering the farm, stop at the farm gate to check whether there is a notice warning that the declared disease is suspected. If there is a notice, or the farmer indicates that he/she suspects there is an outbreak on the farm, ***do not enter the farm.***
- 6.2 Before entering the farm you must spray waterproof boots and outer protective clothing with disinfectant. All dairy farmers will have been instructed to provide the necessary facilities for the decontamination of the tanker wheels at the road entrance. If this has not been supplied by the farmer, spray the wheels of the tanker yourself.

Farmers will be told to prevent animals from entering the tanker track. Drivers should take note of suppliers who have not fulfilled these requirements and advise the Reception Area Supervisor.

If drivers enter a farm and are then advised by the dairy farmers that a disease outbreak is suspected, ***leave immediately.*** Stop at the farm gate and spray disinfectant on your waterproof boots if you have left the cab and thoroughly clean

and disinfect the wheels of the tanker. Observe any direction given to you by the Officer in Charge of an infected premises.

- 6.3 If there is no indication of disease on the property, proceed to the vat room. Spray the outside of the tanker hose with disinfectant before connecting the hose to the vat.
- 6.4 Commence milk collection. If advised by the farmer that he/she suspects a disease outbreak, stop further collection and contact the factory for advice; do not leave the farm. If the disease is confirmed, all of the tanker load may be treated and disposed of on the farm. The tanker will then be cleaned and disinfected.
- 6.5 Do not move far from the tanker. Restrict movements as much possible to the immediate vicinity of the tanker and vat room. Do not go into areas used by animals. Do not touch electrical switches that cannot be disinfected, eg the switch for the automatic vat cleaning system.
- 6.6 If any milk is spilled, from the vat or hose, immediately spray disinfectant on the spillage.
- 6.7 Do not overfill the tanker.
- 6.8 Disinfect the outside of the hose and the connecting nut before returning the hose to the tanker.
- 6.9 Spray the vat room door handle and any other farm equipment handled, eg vat valve.
- 6.10 Proceed to the farm gate and stop.
- 6.11 Before leaving the property spray disinfectant on waterproof boots and other waterproof protective clothing and on the tanker tyres.

7 Collection of milk and cream in cans

- 7.1 Only collect milk and cream cans from a roadside point not involving entry on to the property.
- 7.2 Only replace clean empty cans at these points.
- 7.3 The outer surfaces of the cans must be in a clean condition. Spray cans with a suitable disinfectant before loading on to the vehicle. Do not forget to treat the bottoms of the cans.
- 7.4 Spray or wash hands, waterproof boots and other waterproof protective clothing with disinfectant after handling the cans.

8 On return to the factory

- 8.1 On arrival at the factory, and before pumping out, thoroughly clean the outside of the tanker and the inside of the pump compartment. Follow this with a disinfectant spray. Cleaning and disinfection could be done with a portable high pressure spray.
- 8.2 Connect and pump out the tanker taking every precaution to minimise spillage. The manhole lids may be open during pump out.
- 8.3 After unloading, but before disconnecting the tanker hose, rinse the interior of the tanker so that all milk residues are removed. Follow this with sufficient flushing

water so that no milk can flow back from the unloading pump when the hose is disconnected.

- 8.4** Wash all leaks and spills of milk with a copious amount of suitable disinfectant.
- 8.5** Before departure on another run, spray the exterior of the tanker and the interior of the pump compartment with disinfectant and renew the disinfectant in the air filter. Clean all dirt from the driver's cab and wipe disinfectant on the floor of the cab, foot pedals, gear shift and steering wheel.
- 8.6** When the person in charge of the Milk Reception Area is satisfied that the tanker is ready, he/she will issue a new disinfection permit to cover the next collection.
- 8.7** Avoid moving to parts of the factory other than the milk reception and treatment areas. This is to prevent contamination of treated products or clean areas.

Appendix 2.6 Industry liaison representative [LRD 506]

[The information for this position is extracted from the control centre management manual Part 2. The aim of this position is to ensure close liaison occurs between industry and the disease control centre during eradication procedures.]

Skills

- Recognition (by industry) as *a representative of their local industry*.
- Extensive knowledge of the industry involved in the outbreak, especially the local industry.
- Good communication and negotiation skills.

Line relationships

- Responsible to their industry, providing advice to the LDCC Controller through the Technical Manager.
- Must liaise closely with the LDCC Risk Enterprise Officer(s) and local industry.

Roles and responsibilities

- Provide advice on the nature of the local industry to assist with disease risk assessment.
- Assist with developing and implementing plans for disease eradication/control.
- Provide advice on the economic and other consequences of proposed actions.
- Act as a focus for consultation and advice to the local industry.

Duties

- Prepare comprehensive advice on the local industry which is affected. This should include advice on its size, distribution, sources of supply, marketing practices, industry organisations and all other factors which may affect the eradication/control program (ie assist with the risk assessment).
- Provide advice on the practicality and economic and other consequences of actions proposed for eradication/control purposes.
- Provide advice on plans for handling potentially contaminated material. Identify the steps required to pick up, handle, process and distribute this material and limit the spread of any infection.
- Consult with other local industry contacts about the campaign and act as a focus for contact with the local industry.

APPENDIX 3 Tanker modifications

Failing any further development in Australia regarding virus filtration systems for dairy tankers, those tankers with Roff breathers are to be used in preference to those with mushroom valves on the manhole covers, during the emergency.

Air from the air space above the milk in a tanker can be ducted to the manifold inlet.

APPENDIX 4 Action lists for various tanker scenarios

Tanker at factory - no unloading started

- Disinfect exterior and cab of tanker after removing any dirt, mud or organic material (see **Decontamination Manual** for suitable disinfectants).
- Seal breathers on tanker (sealing the manhole covers will actually seal the tanker if it has Roff breathers).
- Suppliers samples to be externally disinfected, and all ice, eskies and equipment in rear compartment to be disinfected. Preferably destroy samples by burning, burial or autoclaving. Otherwise carry out normal procedures of testing observing appropriate precautions.
- Driver and any personnel contacting samples or milk to be disinfected and reclothed.
- Contact LDCC and arrange for disposal of milk.
- Add suitable disinfectant to tanker and allow one hour for settling by either:
 - if there is room in the tanker, prepare disinfectant in rinse water tank, allowing for diluting water, and add to tanker via sprayballs; or
 - if there is no room in the tanker, add disinfectant slowly with hand agitation.
- If the tanker is very full, proceed as if it were already unloaded or partly unloaded - see below.
- After contents of tanker are disinfected, seal manholes and send it to recommended disposal site
 - arrange to have interior and exterior of tanker disinfected at disposal site.
- Breathers must be opened before the tanker is pumped out.

Tanker unloaded or part unloaded

- Complete unloading.
- Disinfect exterior and cab of tanker after removing mud etc (see Decontamination Manual for suitable disinfectants for the disease involved).
- Calculate total amount of milk in silo (may include other milk as well). Calculate required amount of disinfectant, allowing for dilution water.
- Prepare disinfectant concentrate in rinse water tank(s) and pump into tanker through sprayballs, and carry out a full rinse procedure for the tanker and hose etc. -
 - then pump contents into a silo, and agitate thoroughly
 - the amount of concentrate must allow for what remains in lines from tanker to silo.
- Driver and any personnel contacting samples or milk to be disinfected and reclothed.
- Contact LDCC and arrange for disposal of milk, if necessary, organise extra tankers.
- Seal manholes on tanker and transport to disposal site.

- Breathers must be opened before the tanker is pumped out

Tanker en route to another factory

- Notify receiving factory and arrange for the tanker to be met and stopped before entering premises.
- Contact by radio and instruct driver to stop, notify position and await instructions.
- Assemble exterior disinfection kit, and send crew to the site (arrange for a Metropolitan Fire Brigade tanker or Country Fire Authority tanker).
- Proceed to stopped tanker and decontaminate on site, ensuring that all mud etc is removed, to minimise likelihood of mud trapping and preserving disease agents. Seal the manholes.
- Return tanker to the factory of origin or the factory handling infected milk and proceed as per tanker at factory, no unloading started.
- Breathers must be cleared before tanker can be pumped out.

Tanker unloaded and departed on next run

- Contact first property and arrange for the tanker to be stopped before it enters the farm.
- Contact by radio and proceed as for tanker en route to another factory (above).
- Isolate infected silo and any product emanating from it. If all milk is still in silo, hold and await return of tanker before proceeding according to last five paragraphs of *tanker unloaded or part unloaded*.
- Any product which has left the silo must be isolated and disinfected in an appropriate manner. All equipment involved must also be disinfected.

APPENDIX 5 Permits

On declaration of an outbreak of an exotic disease such as foot and mouth, disinfection and movement permits will be used to control the movement of vehicles carrying milk or dairy produce. Permits will be issued by the Milk Reception Area Supervisor or other authorised individuals.

Forms developed by the South Australian Department of Primary Industry are shown below. These forms are provided only as examples - all States will need to develop their own forms.

Form 25/1, the Disinfectant Permit. This permit is issued to cover one trip of a vehicle that is to be used to convey dairy products eg a milk tanker. The Disinfection Permit is only issued when the vehicle has been satisfactorily cleaned and disinfected.

Form 25/2, the Tanker Movement Permit. This permit is issued to each tanker that is to convey milk. It is valid until it is revoked, and it is only issued after the vehicle has had any necessary modifications carried out, if any. For information on tanker modifications see Paragraph 6.1 and Section 14 of this Appendix.

A Stock Products Movement Permit will be issued to cover the movement of processed milk and other dairy products.

Permit no.....	Primary Industries (SA)Form 25/1
Stock Act 1990	
Section 25 (2) (g)	
DISINFECTANT PERMIT	
I, the undersigned, being a Stock Inspector under the Stock Act, 1990 hereby permit the removal from.....	
of the vehicle, registration number....., this	
vehicle having been cleaned and disinfected to my satisfaction.	
This permit is valid for one trip only.	
Date.....	Time.....
Issued by.....	
(Stock Inspector)	
Signed.....	
(Stock Inspector)	

Permit no.....	Primary Industries (SA)	Form 25/2
Stock Act, 1990		
Section 25 (2) (g)		
TANKER MOVEMENT PERMIT		
This is to certify that the milk tanker, registration number.....		
has been modified with air filter devices on the vents according to specifications described in SA Action Plan Appendix 25, Paragraph 6.1 and Section 14 for the purpose of transporting milk during the outbreak of		
.....disease in South Australia		
Issued to:		
Name:.....		
Address:.....		
.....		
This permit is to accompany the vehicle and is valid until revoked.		
Date.....Issued by.....		
(Stock Inspector)		
Signed.....		

GLOSSARY

Agent	<i>see</i> Disease agent.
Animal products	Meat products and products of animal origin (eg eggs, milk) for human consumption or for use in animal feeding.
Animal by-products	Products of animal origin destined for industrial use, eg raw hides and skins, fur, wool, hair, feathers, hooves, bones, fertiliser.
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 database.
AUSVETPLAN	A series of documents that describes the Australian response to exotic 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 exotic animal disease control in that State or Territory.
Chief Veterinary Officer of Australia	The nominated senior Commonwealth veterinarian in the Department of Primary Industries and Energy who manages Australia's international animal health commitments and the Commonwealth's response to an exotic animal disease incursion.
Consultative Committee on Exotic Animal Diseases	A committee of State/Territory CVOs, AAHL and CSIRO, chaired by the CVO of Australia (Cwlth DPIE), to consult in emergencies due to the introduction of an exotic disease of livestock, or serious epizootics of Australian origin.
Compensation	For definition of compensation <i>see</i> 'Minimum Standards for compensation', items 28–30 in the Commonwealth/States cost-sharing agreement (Appendix 3).

Control area	A bigger 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 exotic animal diseases (<i>see</i> Appendix 3).
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 or animals or other serious contact.
Decontamination	Includes all stages of cleaning and disinfection.
Declared area	A defined tract of land for the time being subject to disease control restrictions under exotic 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.
Enterprise	<i>see Risk</i> enterprise.
Exotic animal disease	A disease affecting animals that does not normally occur in Australia. Also called foreign animal disease.
Foreign animal disease	<i>see</i> Exotic 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 exotic 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 exotic animal disease emergency.
Phases of activation and deactivation	<i>see</i> Stages of activation.
Quarantine	Legal restrictions imposed on a place, animal, vehicle or other things limiting movement.
Rehabilitation	Process of adjustment to circumstances prevailing in the aftermath of an exotic disease outbreak.
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 <i>restricted areas</i> may exist within one <i>control area</i> .
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 of detecting the presence of a specific exotic disease agent.
Stages of activation and deactivation	Investigation, alert, operational, stand-down.
– investigation	exists when a report of a possible exotic disease is being investigated by animal health authorities.
– alert	exists when a high probability that an exotic disease is being investigated by animal health authorities.
– 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 and operations are wound down.
Stamping out	Eradication procedures based on quarantine and slaughter of all infected animals and animals exposed to infection.
State/Territory disease control headquarters	The emergency operations centre that directs the disease control operations to be undertaken across the State.
Surveillance	A systematic examination and testing of animals or things of unknown disease status to determine the presence or absence of an exotic disease.
Susceptible animals	Animals that can be infected with the disease.
Suspect animal	An animal that may have been exposed to an exotic 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 exotic disease agent.
Suspect premises	Premises containing suspect animals which will be subject to surveillance.
Swill	Food scraps of placental mammal origin that have not been obtained from approved slaughter facilities or treated by an approved process..
Swill feeding	Swill feeding is the feeding of swill to pigs; unlicensed swill feeding is illegal in Australia.
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.

Zoning	The process of defining disease-free and infected zones, based on geopolitical boundaries and surveillance in accord with OIE guidelines, in order to facilitate trade.
Zoonosis	A disease that can be spread between animals and people.

Abbreviations

AMF	Anhydrous milk fat
ANEMIS	Animal Health Emergency Management Information System
ARMCANZ New	Agriculture and Resource Management Council of Australia and Zealand
ASVETPLAN	Australian Veterinary Emergency Plan
BSE	Bovine Spongiform Encephalopathy
CA	Control area
CVO	Chief Veterinary Officer
DA	Declared area
DCP	Dangerous contact premises
FMD	Foot-and-mouth-disease
FMDV	Foot -and-mouth disease virus
HTST	High temperature short time
IP	Infected premises
LDCC	Local disease control centre
OIE	Office International des Epizooties [World Organisation for Animal Health]
RA	Restricted area
SDCHQ	State/Territory disease control headquarters
SP	Suspect premises
UHT	Ultra-high temperature
WPNI	Whey protein nitrogen index

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