

AUSTRALIAN VETERINARY EMERGENCY PLAN

AUSVETPLAN

Response strategy

Sheep and goat pox

Version 5.1

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

National Biosecurity Committee

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1 Introduction

1.1 This manual

1.1.1 Purpose

As part of AUSVETPLAN (the Australian Veterinary Emergency Plan), this response strategy contains the nationally agreed approach for the response to an incident – or suspected incident – of sheep and goat pox (SGP) in Australia. It has been developed to guide decision making to ensure that a fast, efficient and effective response can be implemented consistently across Australia with minimal delay.

1.1.2 Scope

This response strategy covers SGP caused by sheep pox (ShP) virus and goat pox (GtP) virus.

This response strategy provides information about:

- the diseases (Section 2)
- the implications for Australia, including potential pathways of introduction, social, environmental, human health and economic effects, and the critical factors for a response to the diseases (Section 3)
- the agreed policy and guidelines for agencies and organisations involved in a response to an outbreak (Section 4)
- declared areas and premises classifications (Section 5)
- biosecurity controls, including quarantine and movement controls (Section 6)
- response surveillance and establishing proof of freedom (Section 7).

The key features of SGP are described in the **Sheep and goat pox fact sheet** (Appendix 1).

1.1.3 Development

The strategies in this document for the diagnosis and management of an outbreak of SGP are based on risk assessment. They are informed by the recommendations in the World Organisation for Animal Health (WOAH) *Terrestrial animal health code* (14.9) and the WOAH *Manual of diagnostic tests and vaccines for terrestrial animals* (3.8.11). The strategies and policy guidelines are for emergency situations and are not applicable to policies for imported animals or animal products.

1.2 Other documentation

This response strategy should be read and implemented in conjunction with:

- other AUSVETPLAN documents, including the operational, enterprise and management manuals; and any relevant guidance and resource documents. The complete series of manuals is available on the Animal Health Australia website¹
- relevant jurisdictional or industry policies, response plans, standard operating procedures and work instructions
- relevant Commonwealth and jurisdictional legislation and legal agreements (such as the Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses, also known as the Emergency Animal Disease Response Agreement [EADRA]²), where applicable.

1.3 Training resources

1.3.1 Emergency animal disease preparedness and response arrangements in Australia

The Emergency Animal Disease (EAD) Foundation Course³ provides livestock producers, veterinarians, veterinary students, government personnel and emergency workers with foundational knowledge for further training in EAD preparedness and response in Australia.

¹ <https://animalhealthaustralia.com.au/ausvetplan>

² <https://animalhealthaustralia.com.au/eadra>

³ <https://animalhealthaustralia.com.au/online-training-courses>

2 Nature of the disease

Sheep pox (ShP) and goat pox (GtP) are highly contagious viral diseases of sheep and goats, respectively, characterised by papules or nodules (rarely vesicles) on exposed body surfaces, and fever, lacrimation, salivation and nasal discharge. Typical pox lesions appear on the skin and on the respiratory and gastrointestinal mucosa. There is high mortality in susceptible populations. Both diseases are caused by strains of *Capripoxvirus*, which can infect both sheep and goats. The combination of ShP and GtP is referred to as sheep and goat pox (SGP) in this manual.

An outbreak of SGP in Australia would cause major national socioeconomic consequences through serious international trade losses, national market disruptions and severe production losses in the sheep and goat industries.

WOAH listing

SGP are WOAH-listed diseases.⁴

2.1 Aetiology

The viruses that cause ShP, GtP and lumpy skin disease (LSD) belong to the genus *Capripoxvirus* of the family *Poxviridae*. Genome sequencing and phylogenetic analysis has shown that the *Capripoxvirus* genus comprises 3 distinct species – LSD virus, ShP virus and GtP virus – despite 97% nucleotide identity (Hosamani et al., 2004; Tulman et al., 2002). The worldwide geographic distribution of LSD differs from that of SGP.

The members of the genus *Capripoxvirus* are morphologically and serologically indistinguishable from each other. All strains of *Capripoxvirus* examined so far share a common major antigen for neutralising antibodies. It has been reported that sheep and goats that have recovered from infection with one strain demonstrate cross-protective immunity and are resistant to infection with other *Capripoxvirus* strains (Kitching, 2003).

Field observations support the long-held view that ShP virus and GtP virus are generally host-specific, but numerous strains differ in host predilection and virulence. Sheep and goats in the same flock have reportedly been infected with the same viral strain, although the strain will usually be more virulent in 1 of the 2 species (Abu-Elzein et al., 2003; Sangeeta et al., 2025). It appears that genes necessary for infection of bovine hosts are effectively absent from ShP and GtP virus genomes (Tulman et al., 2002).

2.2 Susceptible species

All breeds of sheep and goats are susceptible to ShP and GtP viruses. Some strains of SGP viruses infect both sheep and goats, but generally they cause more severe clinical signs in one species (WOAH, 2024).

⁴ WOAH-listed diseases are diseases with the potential for international spread, significant mortality or morbidity within the susceptible species, and/or potential for zoonotic spread to humans. WOAH Member countries that have been free from a notifiable disease are obliged to notify the WOAH within 24 hours of confirming the presence of the disease.

As Australia has a naive population of sheep and goats, severe disease would be expected to develop following exposure to ShP or GtP virus.

The potential role of cattle in the epidemiology of these diseases under Australian conditions is unknown. However, available literature does not indicate that cattle play a significant role in the epidemiology of SGP outbreaks overseas.

2.2.1 Zoonotic potential

Humans are generally regarded as being nonsusceptible to SGP viruses. There have been isolated reports of mild lesions such as small red papules followed by vesicles on the hands and arms in humans working with *Capripoxvirus* strains in Sweden (von Bakos & Brag, 1957) and India (Sawhney et al., 1972). No generalised infection occurred.

SGP are not food safety issues.

2.3 World distribution

For the latest information on the distribution of SGP, refer to the WOAHP World Animal Health Information System (WAHIS).⁵

2.3.1 Distribution outside Australia

SGP occur in Africa, mainly north of the equator; the Middle East; Central and Southeast Asia, including southern Russia, western China and Vietnam; and the Indian subcontinent as far east as Myanmar (Burma). According to WAHIS, recent outbreaks have been reported in parts of Europe, including Greece, Bulgaria, Serbia and Romania (WAHIS, 2025).

2.3.2 Occurrence in Australia

SGP have never been reported in Australia.

2.4 Epidemiology

2.4.1 Incubation period

The incubation period for ShP and GtP is 8–13 days following contact between infected and susceptible animals. It may be as short as 4 days following experimental infection by intradermal inoculation (WOAH, 2024).

2.4.1.1 WOAHP incubation period

For the purposes of the WOAHP *Terrestrial Animal Health Code*, the incubation period for SGP is 21 days.

⁵ www.woah.org/en/what-we-do/animal-health-and-welfare/disease-data-collection/world-animal-health-information-system

2.4.2 Persistence of agent and modes of transmission

2.4.2.1 General properties

Capripoxviruses are large, lipid-containing viruses that are susceptible to detergents, soaps and a range of disinfectants (**AUSVETPLAN operational manual *Decontamination***⁶).

According to WOA, the SGP viruses are:

- susceptible to heat: 56 °C/2 hours; 65 °C/30 minutes; some isolates were inactivated at 56 °C/60 minutes
- able to survive between pH 6.6 and 8.6 and are susceptible to highly alkaline or acid pH (hydrochloric or sulphuric acid at 2% for 15 minutes)
- inactivated by phenol (2% for 15 minutes)
- sensitive to detergents such as sodium dodecyl sulphate
- sensitive to ether (20%), chloroform, formalin (1%), sodium hypochlorite (2–3%), iodine compounds (1:33 dilution), Virkon® (2%) and quaternary ammonium compounds (QACs)(0.5%) (WOA, 2013).

Rendering may inactivate SGP viruses depending on the animal product and the temperature and time combination used in the production process.

Organic material surrounding the infectious virus in the environment will affect the efficacy of disinfectants.

There are multiple routes by which SGP viruses can be transmitted; for example, direct contact, aerosols, fomites and vectorborne.

2.4.2.2 Environment (including windborne spread)

Capripoxviruses are very stable in the environment and can remain viable for long periods, on or off the animal host. They are susceptible to sunlight but may persist for up to 6 months in a cool, dark environment, such as shaded animal pens (Kitching & Taylor, 1985). The viruses remain viable through freeze–thaw cycles, but infectivity may be reduced (WOA, 2024).

ShP and GtP viruses are not known to be spread via the wind.

2.4.2.3 Live animals

Recovered animals are not known to shed virus; however, virus may remain viable in the exudate from skin lesions that has accumulated in wool and hair for at least 3 months (Geering et al., 1995).

Animals are most infectious soon after the appearance of papules, with high titres of virus present in papules. Lesions on the mucous membranes ulcerate and release virus in nasal, oral and lacrimal secretions, and into milk, urine and semen, which are all important sources of virus dissemination. Affected sheep and goats shed the virus at every stage of the disease.

⁶ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

Most transmission is through aerosol from close contact with nasal secretions and saliva in sheep and goats with ulcerated papules on mucous membranes.

Infection may also occur through other mucous membranes or abraded skin, but these are considered to be less likely sources of transmission during an outbreak (Kitching & Taylor, 1985).

Vertical transmission from ewe to lamb or doe to kid in utero has been reported (Ethiopia Sheep and Goat Productivity Improvement Program, 2009).

Movement of infected animals is the main means by which SGP viruses are spread to new premises or new areas.

Nonsusceptible animals are not considered to have a significant role in the epidemiology of SGP; however, they may act as mechanical vectors for the viruses.

2.4.2.4 Animal products

2.4.2.4.1 Meat, meat products and casings, including use as animal feed

There is no evidence of virus persisting in the meat of infected animals (Davies, 1991a; Williams, 2017).

Meat from infected animals has not been implicated in the transmission of SGP viruses.

2.4.2.4.2 Milk and dairy products

The *Import risk review for dairy products for human consumption* (Department of Agriculture, Fisheries and Forestry [DAFF], 2025) stated that SGP viruses may be present in milk, citing Davies (1991b), who noted the presence of the viruses in milk during the acute phase of the infection. Whether capripoxviruses would be present in contaminated milk in sufficient titres to cause infection, however, is unknown (DAFF, 2025).

There are currently no studies available that directly investigate inactivation of SGP viruses in milk. The sensitivity of SGP viruses to heat differs among strains. Although inactivation of 4 GtP virus strains has been reported following various time/temperature combinations, including 55 °C for 60 minutes and 60 °C for 30 minutes (Datta & Soman, 1991; Kavitha, 2009), some GtP virus strains have been shown to retain infectivity following treatment at 56 °C for 60 minutes and 60 °C for 30 minutes (Tantawi & Al Falluji, 1979; Tantawi et al., 1980; Wolff, Beer et al., 2020). More recently, Wolff, King et al. (2020) found that 4 different *Capripoxvirus* isolates (LSD virus Neethling vaccine strain, LSD virus field strain, GtP virus field strain and ShP virus vaccine strain) were completely inactivated at 56 °C after 30 minutes or at 60 °C for 10 minutes.

In Australia, the process for pasteurisation of milk usually involves heating milk to 72 °C for no less than 15 seconds. While this high-temperature short-time (HTST) pasteurisation is likely to significantly reduce the amount of *Capripoxvirus* present in milk, there is limited evidence to demonstrate its efficiency or degree of inactivation. Evidence does exist for the inactivation of GtP virus at 62 °C for 30 minutes, which is considered equivalent to the low-temperature long-time (LTLT) pasteurisation method; however, there is no information available on the behaviour of the virus at 72 °C.

Riddell et al. (2023) demonstrated that LSD virus is fully inactivated in milk after heating at 72 °C for 7.5 seconds; however, there is currently insufficient evidence to conclude that SGP viruses will be inactivated by these same conditions. Additionally, virus particles are protected by the protein and fat component of milk, which may result in slower inactivation in milk processing plants compared to laboratory testing.

Although SGP viruses are more sensitive to acid than alkali environments, it is likely the low pH of cheese alone may be insufficient to inactivate these viruses (Datta & Soman, 1991). However, the combined product characteristics and processing factors of cheese, such as pH, salt concentration, water activity and ripening conditions, are expected to facilitate further inactivation of SGP viruses in cheese made from milk that has undergone heat treatments such as HTST pasteurisation, thermisation or high-temperature curd cooking.

SGP viruses have been isolated from milk, urine and semen during the early stages of fever (Tuppurainen, 2022; Williams, 2017), indicating that these fluids may be important sources of infection. The European Food Safety Authority (EFSA, 2014) notes that lambs and kids may become infected through consumption of milk or contact with the teats of infected animals.

2.4.2.5 Animal byproducts

The SGP viruses are persistent and remain viable for up to 3 months in dry scabs on the fleece, skins and hair from infected animals (EFSA, 2014). Consequently, the movement of skins, fur, wool and hair from sheep and goats poses a risk of the spread of SGP viruses to susceptible animals at a new, uninfected property.

However, in Australia, movements of wool, mohair and cashmere from farms are typically to export or processing (scouring), which is likely to inactivate SGP viruses, minimising the risk of disease transmission.

2.4.2.5.1 Semen and embryos

SGP viruses have been detected in semen (EFSA, 2014), making it a potential source of infection. It is thought that lesions on the mucous membranes associated with SGP infection may ulcerate and release virus into semen. Capripoxviruses are known to be excreted in semen and could potentially be transmitted via this route (EFSA, 2014; Hare, 1985); however, the duration of viral persistence in semen remains unknown. Williams (2017) noted that orchitis had been reported in goats infected with GtP (Merza & Mushi, 1990).

No information is currently available on the transmission of the viruses via embryos.

2.4.2.6 Equipment, including personal items

As noted previously, capripoxviruses are very stable in the environment and can remain viable for long periods; for example, for up to 6 months in cool, dark environments.

Indirect transmission of virus on fomites such as clothing, contaminated equipment (e.g. shearing clippers), transport vehicles or products (e.g. feed) can occur (Kitching & Taylor, 1985).

2.4.2.7 Arthropod vectors

Due to the high viral loads in skin lesions, insects may act as mechanical vectors of ShP and GtP viruses over short distances, but their significance in natural outbreaks remains unclear (Sangeeta et al., 2025).

The stable fly (*Stomoxys calcitrans*) can transmit *Capripoxvirus* between sheep (Kitching & Mellor, 1986). Additionally, there is experimental evidence of mechanical transmission of SGP viruses by *S. calcitrans* (Sangeeta et al., 2025).

Musca spp. flies have also been implicated in the mechanical transmission of viruses after feeding on exudate from lesions (Kitching & Mellor, 1986). There is no evidence of the viruses persisting longer than 4 days in insects.

SGP outbreaks can occur year round, underscoring the importance of nonvector transmission (Reddy et al., 2024; Tuppurainen et al., 2017).

2.4.3 Factors influencing transmission

ShP and GtP viruses are highly infectious. In endemic areas, transmission may occur during management practices that bring animals into close confinement (Davies, 1981). In an Australian context, this would include practices such as yarding, holding in sheds or yards, mixing at saleyards, or during animal transport. Indirect transmission is also known to occur via fomites (Kitching & Taylor, 1985).

The movement of infected animals is the main means of spread over large distances. In endemic areas, spread occurs mainly in summer.

2.5 Diagnostic criteria

SGP should always be considered when an acute disease with fever is accompanied by pox-like skin lesions, and particularly when there is a high mortality rate in sheep or goats. However, some strains of low virulence may produce only mild clinical signs (Davies, 1976).

2.5.1 Clinical signs

Because sheep and goats in Australia are naive to capripoxviruses, the acute forms of SGP would be expected, with animals likely to develop severe disease and potentially die before showing clinical signs of disease. This prediction is based on field reports from endemic countries documenting high mortalities in unprotected imported breeds of sheep and goats or indigenous breeds that have not had regular exposure to local *Capripoxvirus* strains (WOAH, 2024).

Clinical signs may vary considerably depending on host factors (e.g. age, breed, immunity) and viral factors (e.g. strain, virulence).

The lesions follow the classical pox cycle of skin erythema (redness), papule (0.5–1.5 cm diameter), vesicle (rare), pustule with exudation, encrustation and scab formation. This cycle is typically 2 weeks in length. Exudate from ruptured pustules can cause the fleece or hair to mat. Healing of skin lesions is slow, taking 5–6 weeks. Death may occur at any stage of the disease, with peak mortality occurring about 2 weeks after the appearance of lesions. Mortality may reach 50% in adults and approach 100% in young animals.

Initial clinical signs are often nonspecific. A sudden onset of fever develops, which peaks at 40–42 °C, with clear nasal discharges, increased lacrimation and excessive salivation. Animals lose their appetite, become depressed and are reluctant to move. After 2–5 days, local areas of erythematous skin (macules) develop and become hard papules 5–10 mm in diameter, which may cover the body, but are most obvious where wool or hair is shortest, such as on the face, ears, axillae, groin and perineum, and under the tail. Lesions may be seen on the mucous membranes of the mouth, nostrils and vulva.

Within 24 hours of the appearance of generalised papules, affected animals develop rhinitis, conjunctivitis and enlargement of the superficial lymph nodes, particularly the prescapular lymph nodes. Papules on the eyelids may cause blepharitis. Mucopurulent discharges become apparent as the mucous membranes of the eyes and nose ulcerate. The mucosae of the mouth, anus, and prepuce or vagina may also become necrotic.

Acute respiratory distress can occur if lung lesions are present. Secondary pneumonia is common.

If the affected animal does not die in this acute phase of the disease, the papules start to become necrotic and dark hard scabs form over the following 5–10 days. These scabs can persist for up to 6 weeks and leave small scars (WOAH, 2024). In animals with heavy wool or long fibres, the lesions may be easier to find by palpation rather than visual inspection. Skin lesions are susceptible to fly strike.

A peracute form of SGP may also be seen in initial outbreaks in an area. This form of SGP is characterised by fever, coughing blood (due to haemorrhagic lesions in the lungs), widespread cutaneous ulceration and death.

A nodular form of SGP, called stonepox, can occur. Stonepox resembles LSD (of cattle), with skin lesions 0.5–3 cm in diameter; these are hyperaemic (engorged with blood), thickened and raised above the surrounding skin.

2.5.2 Pathology

2.5.2.1 Gross lesions

At postmortem examination, in addition to skin lesions, haemorrhagic ulcerations may be found in the linings of the trachea and gastrointestinal tract. Lesions consisting of irregularly shaped, pale grey nodules 5–50 mm in diameter may be found throughout the lungs, but particularly the diaphragmatic lobes (WOAH, 2024).

Pox-like lesions (or papules, which may become ulcerated) may be observed in the oesophagus, rumen, abomasum, large and small intestine (Tuppurainen, 2022), and tongue and hard and soft palate (WOAH, 2024). Pale areas of approximately 2 cm in diameter may be seen on the surface of the kidney, liver and testicles (WOAH, 2024).

Lymph nodes are usually enlarged and oedematous.

2.5.2.2 Microscopic lesions

Histologically, pox lesions have extensive inflammatory, necrotic and proliferative changes. The presence of Borrel cells, or cellules claveleuses (epithelioid cells that infiltrate the lesions), and intracytoplasmic inclusion bodies similar to the inclusions found with all poxviruses are characteristic

of SGP viruses. Electron microscopy reveals virus particles indistinguishable from the orthopoxviruses, and these can be readily differentiated from the virus particles of contagious pustular dermatitis.

2.5.3 Differential diagnosis

The clinical signs of severe SGP are highly characteristic; however, in their mild form, they may be confused with various conditions, including:

- allergic dermatitis
- bluetongue
- caseous lymphadenitis
- contagious pustular dermatitis (scabby mouth)/orf (parapoxvirus)
- dermatophytosis
- ectoparasites
- mycotic dermatitis/dermatophilosis
- photosensitisation
- pneumonia
- foot-and-mouth disease (exotic)
- peste des petits ruminants (exotic)
- psoroptic mange (exotic) (United States Department of Agriculture, 2016).

2.5.4 Laboratory tests

2.5.4.1 Samples required

Diagnosis of SGP is based primarily on detection of the viruses in lesions. Detection of antibody in serum may also aid diagnosis. Virus can be detected in blood and secretions such as oral/nasal fluid but is present in significantly lower concentrations and for shorter periods than in skin lesions. Non-skin samples should not be relied on for exclusion of disease.

At postmortem, a range of samples, both fresh and fixed, should be taken from skin lesions, lesions in the respiratory and gastrointestinal tracts, and lesions in other internal organs.

Following the initial diagnosis, a more restricted sample set, still based on sampling lesions, may be defined.

Specimens that should be collected:

- Live animals
 - skin lesions (full-thickness skin biopsies and/or skin crusts/scabs, skin scrapings)
 - oral, nasal and/or ocular swabs
 - blood (ethylenediaminetetraacetic acid [EDTA]/heparin) and serum
- Dead animals
 - skin lesions (full-thickness skin biopsies and/or skin crusts/scabs, skin scrapings)
 - oral, nasal and/or ocular swabs
 - lymph nodes
 - lung

- other tissues with lesions
- nasal fluid (swab)
- blood (serum).

2.5.4.2 Transport of specimens

Specimens should be submitted in accordance with agreed state or territory protocols. Specimens should initially be forwarded to the state or territory laboratory for appropriate analysis, and assessment of whether further analysis will be required by the CSIRO Australian Centre for Disease Preparedness (ACDP), Geelong.

If the state or territory laboratory deems it necessary, duplicate samples of the specimens should be forwarded to ACDP for emergency disease testing. This should occur after the necessary clearance has been obtained from the chief veterinary officer (CVO) of the state or territory of the suspect case, the CVOs of Victoria and Australia have been informed about the case, and the specimens have been transported to ACDP in Geelong (for the first case). Sample packaging and consignment for delivery to ACDP should be coordinated by the relevant state or territory laboratory.

SGP viruses are Security Sensitive Biological Agents (SSBAs). Entities handling and transporting samples known or suspected to contain SGP viruses should ensure that they meet their obligations under the SSBA Regulatory Scheme.⁷

2.5.4.3 Packing specimens for transport

Unpreserved tissue specimens should be chilled and forwarded with water ice or frozen gel packs. If delays of more than 48 hours are anticipated in transit, these specimens should be frozen, if practical, and forwarded packed in dry ice. Frozen specimens will result in a better diagnostic outcome than those that are not frozen, but it is recognised that there may be challenges in keeping specimens frozen when travelling long distances from remote areas.

For further information, see the **AUSVETPLAN management manual *Laboratory preparedness***.⁸

2.5.5 Laboratory diagnosis

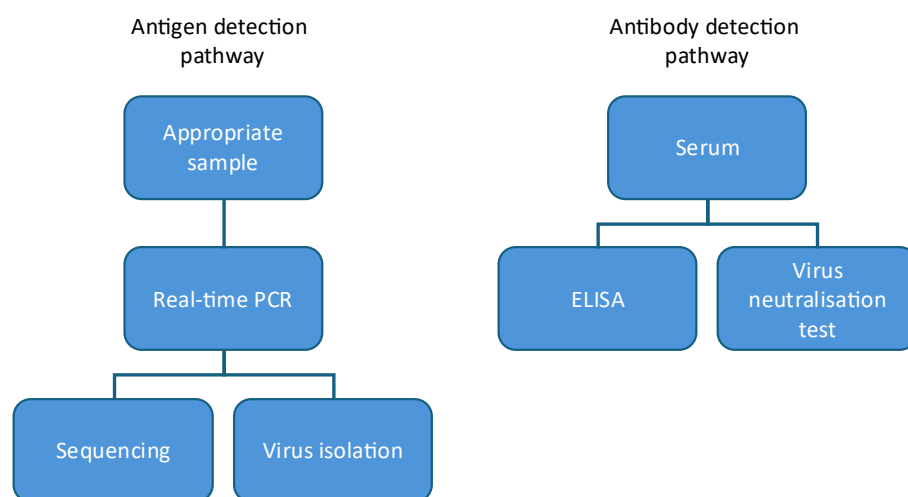
For information on the networked laboratory approach for EAD management see the **AUSVETPLAN management manual *Laboratory preparedness***.⁸

2.5.5.1 CSIRO-ACDP tests

The testing method used by ACDP is shown in Figure 2.1. Further details of tests currently available at ACDP are shown in Table 2.1.

⁷ www.cdc.gov.au/topics/communicable-diseases-prevention-and-control/security-sensitive-biological-agents-ssba-regulatory-scheme

⁸ https://animalhealthaustralia.com.au/AUSVETPLAN_MM/LaboratoryPreparedness



ELISA = enzyme-linked immunosorbent assay; PCR = polymerase chain reaction

Figure 2.1 The current approach to diagnostic testing for sheep and goat pox at the Australian Centre for Disease Preparedness

A **laboratory-confirmed diagnosis** of SGP requires a positive result in an agent detection test. Serologic positives can be considered to raise suspicion but require further investigation before a diagnosis can be confirmed.

Tests currently available at ACDP are shown in Table 2.1. Not all of these tests would be completed in all cases.

Table 2.1: Laboratory tests currently available for diagnosis of sheep and goat pox at the Australian Centre for Disease Preparedness

Test	Specimen required	Test detects	Time taken to obtain result
Agent detection			
<i>Capripoxvirus</i> real-time PCR	Scabs, blood, tissues or cultured virus	Viral DNA	4–5 hours
SGP virus real-time PCR	Scabs, blood, tissues or cultured virus	Viral DNA	4–5 hours
Agent characterisation			
Sequencing	Scabs, blood, tissues or cultured virus	Viral genome	2 days
Virus isolation	Scabs, blood or tissues	Virus	5–10 days
Serology			
ELISA	Serum	Antibody	4–5 hours
Virus neutralisation	Serum	Antibody	7 days

ELISA = enzyme-linked immunosorbent assay; PCR = polymerase chain reaction

Source: Information provided by ACDP, 2024 (refer to ACDP for the most up-to-date information).

Real-time and gel-based polymerase chain reaction (PCR) methods are available for detection of capripoxviruses, several of which are species-specific and allow differentiation of ShP virus and GtP virus from LSD virus (Bowden et al., 2008; Gelaye et al., 2013; Lamien et al., 2011; Le Goff et al., 2009). A PCR method allowing differentiation of 8 poxviruses has been developed; this also allows differentiation of capripoxviruses from bovine papular stomatitis, pseudocowpox and cowpox viruses (Gelaye et al., 2017). Virus may also be isolated from cell culture assays. Sequencing of the viral genome, either from primary samples or from cultured material, will further aid characterisation of the causative agent and provide useful information to improve understanding of the disease's epidemiology.

A tentative diagnosis of SGP can be made by electron microscopy and histopathology of tissue samples; however, with the advent of molecular techniques, these methods are less commonly used for diagnosis.

2.5.5.2 Other tests

The virus neutralisation test and enzyme-linked immunosorbent assay (ELISA) tests are validated serological tests for SGP virus (WOAH, 2024). ELISA is the preferred test for serosurveillance. As all members of the *Capripoxvirus* genus share a common neutralising antigen, serological assays cannot distinguish between the individual members of the genus.

The immune response to SGP virus infection is dominated by cell-mediated immunity. For disease surveillance, although it may be difficult to detect low titres in individual animals, a herd-based approach is reasonable.

2.6 Resistance and immunity

Susceptible sheep and goats of all ages can be infected with SGP viruses and develop serious clinical disease. The introduction of SGP into a susceptible population (in a country previously free from the disease) would likely result in rapid spread of the disease, and morbidity and mortality may be close to 100% (WOAH, 2024).

Different breeds of sheep and goats show varying degrees of natural resistance to infection with SGP viruses. Native breeds are more resistant to infection than European breeds (Zewdie et al., 2021) and imported breeds are likely to have severe disease if they are introduced into an area where the disease is endemic (Spickler, 2017).

Cell-mediated immunity is important against *Capripoxvirus* infections (Hamdi et al., 2021). Infection with SGP viruses also induce a humoral response. Maternal immunity – from ewes infected before pregnancy – provides protection from SGP viruses for up to 3 months (Kitching, 1986).

Animals that have recovered from *Capripoxvirus* infection do not remain carriers of the virus and have lifelong immunity.

2.7 Vaccination

A variety of cell-cultured attenuated ('live') and inactivated vaccines have been used outside of Australia to provide protection against infection with SGP viruses. Currently there are no vaccines that provide the capability to differentiate vaccinated from naturally infected animals.

Currently there are no vaccines for either ShP or GtP virus with regulatory approval for use in Australia.

All strains of capripoxviruses, examined to date share a major neutralising site providing cross-protection. There are several attenuated virus vaccines delivered by subcutaneous or intradermal routes available around the world. These vaccines have been shown to induce relatively extended protection, conferring immunity that may last up to 2 years (WOAH, 2024). The identity of the virus strain and attenuation properties need to be considered when selecting vaccine strains for sheep and goats. The protective dose depends on the vaccine strain used.

Live attenuated vaccines may induce adverse effects, though these may vary with the strain, disease, stress, breed susceptibility and administration (EFSA et al., 2026). Immunised animals may not seroconvert to the vaccine due to the dominance of cell-mediated immunity.

Instances of live vaccine failure when GtP strains have been used in sheep have prompted a recommendation for the use of homologous vaccines (Agrawal & Soman, 1997). However, a vaccine made from a SGP virus that affected both sheep and goats in Kenya effectively immunised sheep, goats and cattle against infection with *Capripoxvirus*. This vaccine was found to be stable and safe, and did not transmit horizontally or vertically (Davies, 1991b; Kitching et al., 1987; Kitching & Mellor, 1986).

Inactivated vaccines do not provide long-term protection (< 1 year), due at least in part to their failure to induce a cell-mediated immune response, which is the predominant protective response to poxvirus infection (WOAH, 2024).

2.8 Treatment of infected animals

There is no specific treatment for SGP.

3 Implications for Australia

3.1 Potential pathways of introduction

Movement of infected animals is the main means by which SGP is spread to new premises or new areas. Since importation of live sheep, goats or cattle, or their semen or embryos, are not permitted from countries in which SGP is endemic, there is little possibility of these diseases entering Australia this way.

While the risk is considered low due to Australia's strong biosecurity measures, the greatest risk of introduction of SGP to Australia is on fomites, such as clothing, equipment and unprocessed wool products brought in by people from endemic areas.

Since mechanical transmission by insect vectors plays only a minor role in disease transmission, introduction of SGP via insects entering Australia on aircraft or ships represents a relatively low risk, in addition to the fact that the numbers of vectors entering Australia in this way would be low.

3.2 Social, economic and environmental effects

An outbreak of SGP would have major national socioeconomic consequences through serious international trade losses, national market disruptions and severe production losses in the sheep and goat industries associated with the disease and response activities. The resulting financial losses would have a serious effect on the domestic and local economies.

If SGP became endemic, ongoing economic impacts would be associated with loss of animals, production losses and the cost of preventive vaccination, if implemented. The permanent loss of some export markets is also likely, with flow-on effects persisting throughout regional communities. Australia's major wool, goat fibre and skin markets, as well as the sheep and goat dairy milk product markets, would be impacted. If zoning was implemented and accepted by trading partners, this may assist to re-establish trade from nonaffected areas (see Section 4.3.6).

Social impacts of an outbreak may arise from the disease or response measures imposed. Many sheep and goat producers would be impacted financially, particularly those on infected and dangerous contact premises (DCPs) and those within declared areas. These factors may lead to an increase in mental health issues and other related social consequences. Market fluctuations due to public health perceptions or product withdrawals would reduce the value of the industries.

3.3 Critical factors for an Australian response

Critical considerations for formulating a policy for the response to an incident of SGP in Australia include the following:

- ShP and GtP are highly contagious diseases, often with high morbidity and mortality, especially in naive populations, so disease should become apparent soon after introduction, particularly in an area of high stocking density. It is noted, however, that this has not always been the case. For example, during an outbreak in Spain in 2022–2023, high mortality in naive populations was not observed (Germán et al., 2024).
- Australian sheep and goat populations are naive to the viruses and would be expected to develop severe disease with high mortality rather than mild or inapparent infection (noting the above contrary situation in Spain).
- In remote areas of Australia, it is possible that SGP would go undetected for some time, potentially months.
- SGP must be notified upon suspicion of disease. Farmers, veterinarians, meat processors and other industry stakeholders must be alert and report suspicion of disease immediately.
- Acute cases (the most common type in naive populations) have a characteristic clinical presentation, which includes fever, anorexia, lethargy, generalised papules over the body and mucous membranes, rhinitis, conjunctivitis and death. Some animals may die without any clinical signs.
- In Australia, SGP should become apparent 8–21 days after exposure, particularly if the flock/herd is regularly observed. The incubation period for SGP can be as short as 8–13 days, although WOAHP states that the incubation period is 21 days.
- All ages and sexes are susceptible, but the disease is more common and severe in juvenile and geriatric animals, and lactating females.
- A rapid confirmatory diagnosis can be made by real-time PCR using a sample from a papule.
- Recovered animals are immune and there is no carrier state. Cellular immunity is the predominant mechanism, which makes serodiagnosis less reliable.
- The viruses are stable in the environment, especially in cool, shaded areas; fomites are important in spread of the disease.
- The viruses are susceptible to a range of disinfectants.
- Under Australian conditions, the potential importance of mechanical transmission of the viruses by biting flies is unknown. There are multiple routes of transmission, including direct contact, aerosols, via fomites and potentially vectorborne, but movement of infected animals is the main means of spread over a large area.
- Should the disease establish in an unmanaged goat population that is not observed regularly, the disease may remain undetected for some time.
- Smallholder sheep and goat populations need special consideration due to their specific management practices, and the variety and density of animals in a location.

4 Policy and rationale

4.1 Introduction

4.1.1 Summary of policy

ShP and GtP are WOAHL-listed diseases that have the potential for rapid spread. Both have implications for sheep and goat production and trade.

The default policy is to eradicate SGP in the shortest possible period using *stamping out*, supported by a combination of strategies, including:

- *immediate quarantine* of SGP-susceptible animals, animal products and fomites (facilities, equipment and other items) on infected premises (IPs) and DCPs
- rapid recognition and laboratory confirmation of cases
- immediate assessment of the epidemiological situation
- implementation of legislated *declared areas* for disease control purposes and to minimise the spread of infection
- *quarantine and movement controls* over animals, animal products and fomites in declared areas to minimise the spread of infection
- *tracing and surveillance* to determine the source and extent of infection and to provide proof of freedom from the disease
- provision of epidemiological and other information to support the resumption of international trade
- *stamping out* on IPs
- *stamping out* on DCPs based on risk assessment, to reduce disease transmission
- *sanitary disposal or treatment* to inactivate the virus of destroyed animals and contaminated animal products to remove the source of infection
- *decontamination and/or disposal* of fomites (facilities, equipment and other items) to minimise the spread of the virus from infected animals and premises
- *enhanced biosecurity* on all premises with sheep and goats
- zoning (where appropriate) to support resumption of market access
- management of feral/unmanaged populations, where required, based on the epidemiological assessment
- an *awareness campaign* to facilitate cooperation from the industries and the community
- *engagement with industries* to improve understanding of the issues, facilitate cooperation and address animal welfare issues.

Vaccination may be considered as part of the response policy in certain circumstances; for example, if stamping out is failing to control the spread of infection/disease or if unmanaged goats are involved in the outbreak.

4.1.2 Case definition

For the purposes of this manual, a case of SGP is defined as laboratory-confirmed infection with ShP or GtP virus in a susceptible animal with or without clinical signs.

Notes

- Positive serology in the absence of detection of ShP and GtP virus with no clinical or epidemiological evidence supporting infection does not constitute a definition of a case.
- AUSVETPLAN case definitions guide when a response to an EAD incident should be undertaken. AUSVETPLAN case definitions do not determine when international reporting of an EAD incident is required.
- At the time of an outbreak, revised or subsequent case definitions may be developed with the agreement of the Consultative Committee on Emergency Animal Diseases (CCEAD).

4.1.3 Cost-sharing arrangement

In Australia, SGP is included as a Category 2 EAD under the EADRA.⁹ If cost sharing is agreed during a response, eligible response costs will be shared 80% by government and 20% by industry unless otherwise approved.

4.1.4 Criteria for proof of freedom

The timeframe for proof of freedom, including the required surveillance, is discussed in Section 7.

4.1.5 Governance

Governance arrangements for the response to EADs are outlined in the **AUSVETPLAN Overview**.¹⁰

Information on the responsibilities of a state coordination centre and local control centre is available in the **AUSVETPLAN management manual Control centres** (parts 1 and 2).^{11,12}

4.2 Public health implications

There are no public health implications.

4.3 Control and eradication policy

The policy for an outbreak of SGP is to contain, control and eradicate the diseases through stamping out in the shortest possible time, while minimising social, animal welfare, environmental and economic impacts. A stamping-out policy is preferred because international experience has shown it to be effective. However, the SGP outbreak in Greece beginning in 2024 demonstrated limited success using stamping-out measures, zoning, cleaning, disinfection and surveillance alone. Vaccination along with stamping out may need to be considered in some situations (Kintz et al., 2025; Department for Environment, Food and Rural Affairs (DEFRA) & Animal & Plant Health Agency (APHA), 2025).

Destruction, disposal and decontamination activities will be carried out in conjunction with movement controls, tracing and surveillance. The selected strategies will take into account that the viruses are transmitted most effectively through direct contact with infected animals. However,

⁹ <https://animalhealthaustralia.com.au/eadra>.

¹⁰ https://animalhealthaustralia.com.au/AUSVETPLAN_Overview

¹¹ https://animalhealthaustralia.com.au/AUSVETPLAN_MM/ControlCentresPart1

¹² https://animalhealthaustralia.com.au/AUSVETPLAN_MM/ControlCentresPart2

noting the long survivability in the environment, there is also considerable risk of spread through fomites (e.g. vehicles, equipment and clothing). The role of vectors should also be considered.

Strategies used to support stamping out will be based on a thorough assessment of the epidemiological situation at the time. Response strategies should be reviewed regularly throughout the response and modified if necessary. It may be necessary to consider emergency vaccination.

Close liaison and information exchange with industry stakeholders, the media and the general public is essential throughout any EAD response.

4.3.1 Epidemiological assessment

Epidemiological investigation or assessment draws on multiple sources of information to build an understanding of the disease and how it is behaving in an outbreak. This helps inform response decision making.

The key objectives for an epidemiological assessment will be to identify:

- the spatial distribution of infected populations
- the source of infection
- the prevalence of infection
- the means by which the virus is spreading
- the potential size of the outbreak (i.e. number of animals infected, number of properties affected)
- risk factors for the presence of infection and susceptibility to disease (including weather and insect populations), and potential vectors involved.

Epidemiological assessment, and tracing and surveillance activities (sections 4.3.4 and 4.3.5) in an EAD response are interrelated activities. Early findings from tracing and surveillance will be inputs into the initial epidemiological assessment (e.g. considering spatial distribution of infection). The outcomes of the initial epidemiological assessment will then guide decisions on subsequent tracing and surveillance priorities.

The outcomes of the epidemiological assessment will also be used initially to determine the feasibility of eradication versus long-term control and to guide the selection of other appropriate response measures (including the application of movement controls).

Ongoing epidemiological assessment is important for any EAD response to evaluate the effectiveness of response measures, determine priority tracing and surveillance activities and support future claims of disease freedom.

4.3.2 Biosecurity and movement controls

As the main form of transmission is by direct contact with infected animals or contaminated products, objects or fomites (including semen and embryos; animal products and byproducts; vehicles; equipment; people; nonsusceptible animals; crops, grains, hay, silage and mixed feeds; and manure/effluent), quarantine and movement controls on these items will assist in containing the disease.

The implementation of biosecurity and movement controls will be underpinned using legally declared areas and application of premises classifications (see Section 5) with the aim to minimise the risk of spread of SGP.

Enhanced biosecurity will also be encouraged on all premises with susceptible animals, including those outside declared areas.

All premises on which infection is confirmed (IPs and approved disposal sites [ADSs]) or suspected (suspect premises [SPs], trace premises [TPs], dangerous contact processing facilities [DCPFs] and DCPs) will be subject to quarantine, increased biosecurity and movement control measures.

Guidance on declared areas and premises classifications can be found in the **AUSVETPLAN guidance document *Declared areas and allocation of premises classifications in an emergency animal disease response***.¹³

See Sections 5 and 6 for further details on declared areas and on quarantine and movement controls.

4.3.3 Biosafety

Biosafety refers to the use of specific practices and/or equipment to assist in protecting personnel from accidental exposure to infectious agents, toxins or other biological hazards, and to prevent the unintentional release of these agents from contaminated premises.

4.3.3.1 Biosafety for personnel

SGP are not a public health risk, but care should be taken to prevent further spread of SGP viruses through movements of people.

Movements of all personnel onto and off high-risk premises (IPs, DCPs, DCPFs, SPs and TP) should be restricted and subject to strict biosecurity measures.

Personnel involved in handling livestock and/or potentially contaminated items or areas (e.g. those involved in sampling animals, or animal products or byproducts; or in destruction, disposal and decontamination activities) on high-risk premises (IPs, DCP, DCPFs, SPs, ADSs and TP) should wear appropriate personal protective equipment (PPE) to avoid contamination and potential onward transmission of the disease. Appropriate PPE includes disposable coveralls, disposable gloves and footwear that should remain onsite and be disposed of in a biosecure manner (see Section 4.3.12). Nondisposable clothing should be laundered and nondisposable footwear decontaminated (see Section 4.3.13) and exposed skin thoroughly cleansed – refer to the **AUSVETPLAN operational manual *Decontamination***¹⁴ for details.

Recommended controls on the movements of people are provided in Section 6.4.11.

4.3.3.2 Biosafety for equipment

Movements of all equipment (including vehicles) onto or off high-risk premises (IPs, DCPs, DCPFs, SPs and TP), where permitted, should be restricted and subject to strict biosecurity measures,

¹³ https://animalhealthaustralia.com.au/AUSVETPLAN_GD/DAP

¹⁴ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

including disposal or decontamination procedures, and record keeping (see Section 6.4.9). Equipment used in destruction, disposal and vaccination activities, and for sampling animals for laboratory testing should be considered contaminated and either disposed of onsite (see Section 4.3.12) or decontaminated (see Section 4.3.13). Details of appropriate controls on the movement of equipment onto or off high-risk premises are provided in Section 6.4.9.

4.3.4 Tracing

Rapid traceback and traceforward of movements of high-risk items from IPs are essential to effectively contain SGP.

Tracing must include the period from at least 21 days before the first clinical signs were observed on an IP to the time the premises was quarantined. Tracing should include the movements to and from any IP of sheep, goats, products (e.g. wool and fibre, dairy products), waste products (e.g. manure), people, vehicles and other things, such as equipment and feed, that could be involved in transmission of the viruses. Tracing must be thorough and detailed, because SGP viruses may persist on inanimate materials and survive outside the host for some time (refer to Section 2.4.2 for further detail).

4.3.5 Surveillance

Surveillance during a SGP outbreak will initially be aimed at:

- defining the extent of infection
- detecting new outbreaks
- identifying potential insect vector species and their distribution.

This will be achieved by investigation of SPs, TP and DCPs, and surveillance of premises in declared areas that have sheep and goats; namely, at-risk premises (ARPs) in restricted areas (RAs) and premises of relevance (PORs) in control areas (CAs). Prioritisation of surveillance should be risk-based, and consider the apparent rate of transmission, sheep and goat densities, and the potential insect vectors implicated in the local context.

Surveillance may also occur in the outside area (OA) to follow up on traces, investigate suspect case reports and demonstrate that infection is not present.

The surveillance program will include physical and clinical examination and serological, virological and molecular diagnostic approaches in sheep and goat populations. In naive flocks/herds, physical and clinical surveillance for development of the characteristic clinical presentation is generally reliable for detection. It is noted, however, that this has not always been the case. For example, during an outbreak in Spain in 2022–2023, high mortality in a naive population was not observed (Germán et al., 2024).

See Section 7 for further details on surveillance.

4.3.6 Zoning and compartmentalisation for international trade

Where it is not possible to establish and maintain disease freedom for the entire country, establishing and maintaining disease-free subpopulations through zoning and/or compartmentalisation may be considered.

In a disease outbreak, zoning proposals will be prepared by the Australian Government in conjunction with the relevant jurisdiction(s). Zoning arrangements are usually negotiated after a disease outbreak has begun; however, when possible, pre-emptive arrangements are negotiated. Compartmentalisation applications typically need to be negotiated before an outbreak occurs and will require input from and support of the relevant industries.

Recognition of both zones and compartments for international trade must be negotiated between the Australian Government and individual overseas trading partners, which can be lengthy and have no guarantee of a favourable outcome. Careful consideration will need to be given to resourcing these activities, because it may divert resources away from disease eradication and return to disease freedom for the entire country.

The concepts of zoning and compartmentalisation are set out in Chapters 4.4 and 4.5 of the WOA *Terrestrial Animal Health Code* (2024), with additional considerations in the disease-specific chapters.

4.3.7 Animal welfare

An incursion of SGP into Australia would be a potentially devastating event for infected sheep flocks and goat herds. In the event of a SGP response, maintaining animal welfare standards, consistent with legislation, codes and national standards and guidelines, is a priority.

An effective animal welfare response should include the rapid destruction of infected sheep and goats in line with the stamping-out policy. Morbidity resulting from SGP may be high, so close monitoring and careful management of animal welfare on affected premises will be required.

EAD respondents are required to refer to and comply with the relevant animal welfare legislation.

Further guidance on managing livestock welfare in an EAD response can be found in the **AUSVETPLAN operational manual *Livestock welfare and management***.¹⁵

4.3.8 Treatment of infected animals

Infected animals will not be treated beyond the humane principles of good animal welfare. If destruction will take some time to occur, supportive therapy may be considered for animal welfare purposes.

Guidance on the management of infected rare and valuable animals can be found in the **AUSVETPLAN guidance document *Risk-based assessment of disease control options for rare and valuable animals***.¹⁶

¹⁵ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/LivestockWelfareAndManagement

¹⁶ https://animalhealthaustralia.com.au/AUSVETPLAN_GD/RiskBasedAssessmentOfDiseaseControlOptionsForRareandValuableAnimals

4.3.9 Vaccination

Vaccination may be implemented:

- in the event that the risk assessment, epidemiological data and/or modelling are supportive of it, and/or
- the outbreak exceeds the available resources for control through stamping out, or
- following a decision by CCEAD and the National Management Group (NMG) after assessment of the outbreak situation.

Vaccination may assist with disease control and create a buffer zone of immune animals around the affected area. If agreed, the vaccination strategy and type of vaccine to be used will need to be determined; the latter based on availability of a safe and efficacious vaccine.

A vaccination strategy must also account for the associated complexities and implementation challenges. Failure to adequately address these factors could lead to an even more difficult situation if the disease spreads into unmanaged populations, given their broad geographic distribution.

Modified stamping out (i.e. prioritising the destruction of clinically affected animals), combined with vaccination to help limit disease spread, may be implemented if the disease is widespread at the time of diagnosis or has spread beyond the resources to available for stamping out alone.

If efforts to eradicate SGP were unsuccessful, vaccination may become a longer-term management/control option using an appropriate vaccine to vaccinate all susceptible animals in high-risk areas. Vaccination of all susceptible animals in a population could potentially result in eradication of the virus within that population and allow vaccination to be strategically discontinued. This may be more difficult in areas where unmanaged populations of susceptible animals are present (e.g. feral/rangeland goats).

Importation of a vaccine would be subject to the issuing of import permit(s) from the Australian Government Department of Agriculture, Fisheries and Forestry. Supply and use of the vaccine in Australia will require an emergency permit and consent to import from the Australian Pesticides and Veterinary Medicines Authority (APVMA).

Vaccination would need to be approved by NMG based on a recommendation from CCEAD.

See Section 2.7 for further details on vaccination for SGP, including the vaccines available and methods of vaccination.

It is noted that eradication without the use of vaccination has been successful in overseas outbreaks of SGP (Appendix 2).

4.3.10 Treatment of animal products and byproducts

A risk-based approach to the use of animal products and byproducts from susceptible animals should be followed. Some criteria that may be considered during a risk assessment include the:

- types of products and byproducts to be treated
- treatments available
- volume/number of products/byproducts to be treated
- treatment capacity
- risk associated with the treatment itself and any movement to the treatment facility.

SGP viruses can persist for up to 3 months on dry scabs/skin in wool/hair from infected animals. The movement of wool/hair from infected animals may risk further transmission, in which case storage under quarantine for an appropriate period of time (> 3 months) may be a preferable option. Alternatively, processing of fibre may be an effective treatment, as the detergents and temperatures applied during the scouring (washing) of wool/hair will likely be effective in inactivating SGP viruses. The specifics of individual scouring facilities will need to be assessed on a case-by-case basis.

Untreated sheep and goat pelts present a high risk of potential spread of SGP. If the pelts originate from IPs or DCPs within 21 days before diagnosis of the disease, they will be destroyed unless they are already at a processing plant, in which case they will be immediately treated or destroyed.

Meat from infected animals has not been implicated in the transmission of SGP. Although WOA does not have any restrictions on the trade of meat for human consumption, Australia still needs to meet the relevant Australian meat standards. Movement controls will apply to the movement of meat from declared areas (see Section 6.4.4) and are important for maintaining export trade by ensuring importing country requirements are met.

Milk and milk products from healthy sheep or goats, including from IPs, can be processed for human consumption if the raw milk can be transported for processing in a biosecure manner (see Section 6.4.5) and appropriately treated (i.e. pasteurised, or chemically treated by acidification). Raw milk and milk products should not be fed to susceptible animals.

Wastes such as faeces and straw will be treated and disposed of on the premises where possible. The management of feed from IPs will be based on risk assessment.

As noted in Section 2.4.2, it should be assumed that SGP viruses would be found in semen and embryos during the viraemic period, and thus may be sources of infection, so semen and embryos collected from animals on IPs and DCPs after the likely date of infection will be destroyed. An informed judgement on semen and embryos in storage may be made when all relevant information is available.

For further information on the treatment of animal products and byproducts, consult the **AUSVETPLAN operational manual *Decontamination***,¹⁷ and the **AUSVETPLAN resource document *Operational guidance on the decontamination of wool and wool facilities***.¹⁸

4.3.11 Destruction of animals

4.3.11.1 Stamping out

Destruction plans should be developed for each premises on which animals may be destroyed. Guidance on destruction methods can be found in the **AUSVETPLAN operational manual *Destruction of animals***.¹⁹

The policy for controlling SGP in Australia is to use stamping out. This will involve the destruction of susceptible animals on IPs. Sheep and goats are considered the susceptible species for SGP.

¹⁷ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

¹⁸ https://animalhealthaustralia.com.au/AUSVETPLAN_RD/OperationalGuidanceOnTheDecontaminationOfWoolAndWoolFacilities

¹⁹ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/DestructionOfAnimals

Destruction of susceptible animals on DCPs may be undertaken in whole or in part, subject to risk assessment. The risk assessment should take into consideration animal welfare, likely exposure to SGP virus (within the premises and to other premises), potential for mechanical transmission by insect vectors, and consequences for disease control. Depending on the assessed risk, it may be preferable to closely monitor the status of animals on these premises and destroy them only if the premises becomes an IP – rather than pre-emptively destroying susceptible animals.

On SPs and TP, the priority will be to determine the status of the premises as quickly as possible. Destruction of animals on these premises is not expected but may be considered on a case-by-case basis to achieve the disease control objectives.

4.3.12 Disposal of animals, and animal products and byproducts

Carcasses, animal products and byproducts, feed, wastes and bedding that may have been contaminated will be disposed of onsite as soon as possible (see the **AUSVETPLAN operational manual *Disposal***²⁰).

The disposal method chosen will be influenced by the type of material to be disposed of, resources available, local environment, prevailing weather, legislative requirements and risk of disease transmission.

If there is a delay between destruction and disposal, decontamination of the carcasses should be implemented as well as measures to prevent interference from vermin or predators. Potential insect vectors should also be controlled.

Disposal of large volumes of wool and/or fibre may be challenging and increase the risk of disease spread. Alternatives to destruction, such as storage under quarantine or scouring, may be preferable options (see Section 4.3.10).

Decontamination of all equipment and machinery involved in onsite disposal will be required.

The disposal method chosen must be suited to the location and product. Disposal must also be in accordance with the movement control requirements in Section 6, and auditable in terms of biosecurity, traceability and financial requirements. Additional guidance on disposal options and methods can be found in the **AUSVETPLAN operational manuals *Decontamination***²¹ and ***Disposal***.²⁰

4.3.13 Decontamination

A detailed and thorough decontamination program is required on each IP due to the persistence of the virus outside the host. Fomites play an important role in transmission of SGP, and therefore all fomites such as bedding materials, feed, footwear, clothing, animal-handling facilities and equipment need to be appropriately decontaminated or destroyed.

Decontamination of wool/hair (by chemical means or by isolating and storing wool/hair for a set length of time) may be a practical option in a SGP outbreak. A risk assessment of disposal against treatment options (see Section 4.3.10) will need to be undertaken on a case-by-case basis to determine the most suitable course of action to minimise the potential further spread of SGP.

²⁰ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Disposal

²¹ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

All vehicles, equipment and people must be decontaminated prior to exiting IPs and DCPs.

Further information is available in the **AUSVETPLAN operational manuals *Decontamination***²² and ***Disposal***,²³ and the **AUSVETPLAN resource document *Operational guidance on the decontamination of wool and wool facilities***.²⁴

4.3.14 Wild animal management

If SGP occur in an area where there are unmanaged goat populations, a goat culling or control program, combined with surveillance, will be established to determine whether the infection has entered the population.

Control measures should prevent wild animal populations (both sheep and goats) from leaving the RA as much as practicable. A range of control measures and options may be available in accordance with the **AUSVETPLAN operational manual *Wild animal response strategy***.²⁵

If SGP spread into unmanaged goat populations, a buffer zone around the goat population would be necessary to contain the disease. This buffer zone may be formed by depopulating the area of sheep and goats, or by vaccination. See the **AUSVETPLAN operational manual *Wild animal response strategy***²⁵ for more information on goat control.

Disposal of contaminated materials (including feedstuffs) and carcasses (where feasible using various methods, including burial, composting and burning) must be prompt to minimise exposure of susceptible feral/unmanaged species, wild predators and vermin to SGP viruses.

Where disposal of carcasses is delayed or not feasible, it will be important to prevent access to the carcasses by both domestic and wild animals.

4.3.15 Vector management

With input from technical experts, a vector monitoring program may be implemented to identify the potential vectors and their possible role in the transmission of SGP viruses.

A vector control program may be necessary if insect vectors are found to pose a significant risk of transmission.

A vector control program may include the aerial and ground application of insecticides such as ultra-low-volume (ULV) fogs, and treatment of animals with either a systemic insecticide such as ivermectin or a topical insecticide that will ideally both repel insects and reduce the population of target insects. Insect-proof housing for animals may also be considered. The treatment radius would be determined by risk assessment. Topical insecticides that repel insects and prevent or reduce biting are preferred, to reduce the likelihood of a naive flock or herd becoming infected. The use and application of each of these options would vary in different areas of Australia and during different seasons, and will need to consider safety, efficacy, and environmental and food safety issues.

²² https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

²³ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Disposal

²⁴ https://animalhealthaustralia.com.au/AUSVETPLAN_RD/OperationalGuidanceOnTheDecontaminationOfWoolAndWoolFacilities

²⁵ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/WildAnimalResponseStrategy

Surveillance for vectors in both the disease-free and the infected areas will be ongoing to ensure that the disease is not being spread by this method.

4.3.16 Public awareness and media

A considered public information campaign will help to address any public health concerns, foster engagement and support for response activities, and support minimising trade impacts. Key public information messages in an outbreak of SGP will include (but are not limited to):

- advice that SGP is not zoonotic (does not affect people)
- advice that Australian sheep and goat products (including meat, milk, baby formula and cheese) remain safe for human consumption
- risk of disease spread associated with the movement of raw wool, goat fibre and skins/pelts
- information about clinical signs of SGP to support early recognition and reporting of the disease
- information to generate understanding of, and support for, disease control measures (e.g. movement controls and destruction, highlighting the importance of effective disease control and animal welfare)
- advice to address environmental concerns if aerial spraying for vector control is used
- advice on where more detailed information can be obtained.

Additional guidance on managing public information can be found in the *Biosecurity incident public information manual*.²⁶

4.4 Funding and compensation

Details of the cost-sharing arrangements can be found in the EADRA.²⁷ Details of the approach to the valuation of, and compensation for, livestock and property in disease responses can be found in the **AUSVETPLAN operational manual *Valuation and compensation***.²⁸

²⁶ www.outbreak.gov.au/our-role/response-outbreak/national-biosecurity-communication-engagement-network

²⁷ <https://animalhealthaustralia.com.au/eadra>

²⁸ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/ValuationAndCompensation

5 Declared areas and premises

Information on declared areas and premises classifications is provided in the **AUSVETPLAN** guidance document *Declared areas and allocation of premises classifications in an emergency animal disease response*.²⁹

²⁹ https://animalhealthaustralia.com.au/AUSVETPLAN_GD/DAP

6 Movement controls

6.1 Principles

General principles for quarantine practices and movement controls for managing EADs are provided in the **AUSVETPLAN guidance document *Movement controls***.³⁰

6.2 Guidelines for issuing permits

Recommended biosecurity and movement controls provide guidance on which movements can be allowed and under what conditions. This is based on an analysis of the disease risks that are presented by a specific movement, of a specific commodity, at a specific time during the EAD response phase. This response strategy indicates whether a proposed movement is:

- allowed (under normal jurisdictional, including interstate, requirements)
- prohibited – except under the conditions of a general, special or emergency permit
- prohibited.

Permits may not be available until the relevant CVO provides approval for movements, and this may not be available in the early stages of a response.

Guidelines for issuing permits are provided in the **AUSVETPLAN guidance document *Movement controls***.³⁰

Movements not reflected within this manual may be considered by the relevant jurisdictional CVO on a risk-assessed, case-by-case basis.

6.3 Types of permits

Permits are either general (GP) or special (SpP). Emergency permits are a form of SpP (see also Glossary).

Permits are legal documents that describe the animal(s), commodities or things to be moved; the origin and destination; and the conditions to be met for the movement. Both GPs and SpPs may be in addition to documents required for routine movements between or within jurisdictions (e.g. health certificates, waybills, consignment notes, National Vendor Declarations [NVDs]).

Details on permit types are provided in the **AUSVETPLAN guidance document *Movement controls***.³⁰

6.4 Recommended movement controls

For all permitted movements, care should be taken to ensure that vectors are not inadvertently transported between properties. This may require treatment with an insecticide, where possible. Consideration should be given for potential withhold periods that might apply to animals intended for slaughter.

³⁰ https://animalhealthaustralia.com.au/AUSVETPLAN_GD/MovementControls

Movement controls may vary depending on the combination of declared area and premises classification. The following tables provide detailed recommendations where a large number of combinations may be considered:

- live susceptible animals (Table 6.1)
- carcasses (Table 6.2)
- semen and embryos (Table 6.3)
- wool and other fibres (Table 6.4).

6.4.1 Live susceptible animals

Table 6.1: Recommended movement controls for live susceptible animals

To →		RA					CA				OA
From ↓		IP, DCP, SP	TP	ARP	DCPF	APF	SP, TP	POR	DCPF	APF	
RA	IP, DCP, SP	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	TP	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited
	ARP	Prohibited	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 5, 9, 10	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited,	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited
CA	SP, DCP	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	TP	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited
	POR	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited, except under SpP – conditions 1, 2, 3, 4, 6, 7, 8, 9, 10	Prohibited	Prohibited, except under GP – conditions 1, 2, 4, 6, 7, 8, 9, 10	Prohibited, except under GP – conditions 1, 2, 4, 6, 7, 8, 9, 10	Prohibited, except under GP – conditions 1, 2, 4, 6, 7, 8, 9, 10	Prohibited, except under SpP – conditions 1, 2, 3, 4, 8, 9, 10

To →	RA					CA				OA
From ↓	IP, DCP, SP	TP	ARP	DCPF	APF	SP, TP	POR	DCPF	APF	
OA	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 6, 8, 9, 10	Prohibited, except under SpP – conditions 2, 3, 4, 6, 8, 9, 10	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 5, 9, 10	Prohibited, except under SpP – conditions 2, 3, 4, 6, 8, 9, 10	Prohibited, except under SpP – conditions 2, 3, 4, 6, 8, 9, 10	Allowed under normal jurisdictional or interstate movement requirements

APF = approved processing facility; ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; DCPF = dangerous contact processing facility; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises

Notes

- For movements from premises within the RA and CA to DCPFs and APFs, it is important to ensure that processing facilities have approved the receiving of live sheep and/or goats before the animals leave the premises of origin.
- Permits for movements from PORs to DCPFs in the RA should only be issued if there is no abattoir reasonably available in the CA.
- Movements from PORs to the OA would only be for slaughter at an APF where there is no abattoir reasonably available in the RA or CA; the transit route would ideally not cross into an RA or another CA.
- Permits for movements from OAs to APFs in the RA or CA should only be issued if there is no abattoir reasonably available in the OA.
- It is recognised that under the Livestock Production Assurance Harvested Rangeland Goats requirements, it is possible to move harvested rangeland goats directly to slaughter or via one registered goat depot without requiring individual electronic identification if they are moved within 10 days. This will need to be considered on a case-by-case basis when dealing with rangeland goats.

Permit conditions for Table 6.1

Permit condition number	Permit condition
1	No evidence of clinical disease consistent with SGP in sheep or goats on the premises on the day of movement or in the previous 21 days.
2	Vehicles carrying livestock or products, and associated equipment, to be decontaminated (i.e. cleaned and disinfected) before and after movement. Refer to the AUSVETPLAN operational manual <i>Decontamination</i> . ³¹
3	Transport route must be approved by the jurisdictional authorities and include only pre-approved stops.
4	The electronic or physical permit accompanies the livestock or vehicle during movement, and the person responsible retains a copy of the permit, consistent with the legal requirements of the jurisdiction.
5	Animals moved to or already on the destination premises are not permitted to move for 42 days (i.e. they must remain resident at the destination for a minimum of 42 days), except for subsequent movement to slaughter.
6	Appropriate biosecurity at the DCPF or APF, including quality assurance systems; record keeping; compliance with traceability requirements; controlled entry of people, equipment and vehicles; pest and vector control, addressing transmission pathways for SGP viruses; and training to recognise SGP and report suspicion or confirmation of disease.
7	Onward movement of the moved animals is not permitted.
8	Animals are slaughtered within 24 hours of arrival at the abattoir (DCPF or APF).
9	Animals were born on the property or resident on the property for the consecutive 21 days immediately before movement.
10	An individual risk assessment has been completed and indicates that the risk is acceptable within the response (this condition only applies to special and emergency permits).

³¹ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

6.4.2 Carcasses

The definition of the term ‘carcass’ for the purposes of AUSVETPLAN is ‘the body of an animal that died in the field’ (see the Glossary).

Table 6.2: Recommended movement controls for carcasses

To→		RA					CA					OA
From ↓		IP, DCP, SP	TP	ARP	DCPF/APF*	ADS	SP	TP	POR	DCPF/APF*	ADS	
RA	IP, DCP, SP,	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	TP	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited
	ARP	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited
CA	SP, DCP	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under GP – conditions 2, 3, 4, 11, 13, 18, 21	Prohibited
	TP	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited	Prohibited, except under GP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 21	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 21	Prohibited	Prohibited, except under SpP – conditions 2, 10, 11, 12, 13, 21	Prohibited, except under GP – conditions 2, 3, 4, 11, 13, 21	Prohibited

To→		RA					CA					OA
From ↓		IP, DCP, SP	TP	ARP	DCPF/APF*	ADS	SP	TP	POR	DCPF/APF*	ADS	
CA	POR	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited	Prohibited, except under GP – conditions 2, 3, 4, 11, 12, 13, 18, 21	Prohibited, except under GP – conditions 2, 4, 11, 12, 13, 18, 21	Prohibited, except under GP – conditions 2, 4, 11, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21
OA		Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 12, 13, 18, 21	Prohibited, except under SpP – conditions 2, 3, 4, 10, 11, 18, 21	Allowed under normal jurisdictional or interstate movement requirements

ADS = approved disposal site; APF = approved processing facility; ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; DCPF = dangerous contact processing facility; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises

*The only type of processing for carcasses is rendering.

Notes

- The ADS in the RA could be another IP for the purposes of communal disposal, with appropriate biosecurity conditions.
- Permits for movements from ARPs to renderers or ADSs in the CA should only be issued if there is no APF or ADS reasonably available in the RA.

Permit conditions for Table 6.2

Permit condition number	Permit condition
2	Vehicles carrying livestock or products, and associated equipment, to be decontaminated (i.e. cleaned and disinfected) before and after movement. Refer to the AUSVETPLAN operational manual <i>Decontamination</i> . ³²
3	Transport route must be approved by the jurisdictional authorities and include only pre-approved stops.
4	The electronic or physical permit accompanies the livestock or vehicle during movement, and the person responsible retains a copy of the permit, consistent with the legal requirements of the jurisdiction.
10	An individual risk assessment has been completed and indicates that the risk is acceptable within the response (this condition only applies to special and emergency permits).
11	Carcases/carcasses are protected from contact with vectors (e.g. treated for vectors; disposed of within hours, such as by burial).
12	Consignment is processed in a single processing run.
13	Facility is cleaned, decontaminated and disinfected following processing of the consignment.
18	The product/material is not brought into direct or indirect contact with susceptible animals.
21	Biosecure transport in appropriate vehicles to ensure that fluids or materials do not leak or fall out of the transport vehicle.

³² https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

6.4.3 Semen and embryos

Table 6.3: Recommended movement controls for frozen semen and embryos³³

To→		RA			CA			OA
From ↓		IP, DCP, SP	TP	ARP	SP	TP	POR	
RA	IP, DCP, SP	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	TP	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited
	ARP	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited
CA	SP, DCP	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	TP	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27
	POR	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under GP – conditions 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27
OA		Prohibited, except under SpP – conditions 10, 24, 25, 26	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under SpP – conditions 10, 24, 25, 26, 27	Prohibited, except under GP – conditions 24, 25, 26, 27	Allowed under normal jurisdictional or interstate movement requirements

ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises

³³ Note: Because the use of fresh semen is very limited and normally only for on-farm use, this table refers to the movement controls for frozen semen and embryos only.

Permit conditions for Table 6.3

Permit conditions number	Permit condition
10	An individual risk assessment has been completed and indicates that the risk is acceptable within the response (this condition only applies to special and emergency permits).
24	The semen was collected a minimum of 21 days before identification of the first Australian case (index case).
25	Frozen semen and embryos must be moved in a biosecure manner, which includes decontamination of the outside of the canisters used to store and transport the semen and embryos.
26	Semen and embryos must currently be held at artificial breeding centres where applications are accompanied by evidence of an operational biosecurity manual, including maintenance of biosecurity procedures, accurate record keeping, and permanent identification of all semen/embryo straws and vials.
27	No semen or embryos of higher-risk SGP status have been added to the container.

6.4.4 Meat and meat products

Risk assessments for permit applications for movements of meat or meat products must consider:

- the likelihood that the consignment of SGP-susceptible animals was infected at the time of processing. This will include consideration of:
 - the classification of the premises of origin of the animals
 - whether animals on a premises were showing clinical signs consistent with SGP on the day of movement to the abattoir.
- the likelihood that meat or meat products have been cross-contaminated by infected or contaminated sheep/goats or products during processing
- destination or intended use of the product
- biosecurity during product transport.

Meat and meat products of SGP-susceptible animals from low-risk premises³⁴ do not present a significant risk of SGP virus transmission; therefore, movement of these products would generally be allowed from approved abattoirs.

No meat, meat products or carcasses³⁵ from SGP-susceptible animals, including field-shot animals, from premises that are not registered abattoirs or commercial meat processing enterprises should be moved within or out of either the RA or the CA.

- Movement of meat and meat products originating from animals on an ARP, POR or OA and processed at commercial processing enterprises designated as a DCPF is prohibited, except under a GP with conditions 6, 17, 18, 19, 20 and 21.
- Movement of all other meat and meat products from commercial processing enterprises designated as IP, SP, TP or DCPF is prohibited except under an SpP with the conditions 10, 17, 18, 21, 22 and 23.
- Movement of meat and meat products from an APF is prohibited except under a GP with the conditions 6, 17, 18 and 19.
- All movements out of the OA are allowed under normal jurisdictional requirements.

³⁴ That is, those from premises other than IPs, DCPs and SPs.

³⁵ The definition of the term 'carcase' for the purposes of AUSVETPLAN is 'the body of an animal slaughtered for food' (see the Glossary).

Permit conditions for the movement of meat and meat products

Permit condition number	Permit condition
6	Appropriate biosecurity at the DCPF or APF, including quality assurance systems; record keeping; compliance with traceability requirements; controlled entry of people, equipment and vehicles; pest and vector control, addressing transmission pathways for SGP viruses; and training to recognise SGP and report suspicion or confirmation of disease.
10	An individual risk assessment has been completed and indicates that the risk is acceptable within the response (this condition only applies to special and emergency permits).
17	Vehicles transporting meat and meat products or offal are decontaminated (i.e. external surfaces and the cabin are cleaned and disinfected) before leaving the processing facility with the relevant disinfectant and adequate contact time. Management of refrigerated vehicles – including appropriate decontamination – needs to meet regulatory food safety standards.
18	The product/material is not brought into direct or indirect contact with susceptible animals.
19	Consigned sheep and goats passed antemortem and postmortem inspection.
20	Consigned animals were not processed after sheep/goats from an IP unless an appropriate decontamination process had occurred after processing animals from the IP and before processing the consigned animals.
21	Biosecure transport in appropriate vehicles to ensure that fluids or materials do not leak or fall out of the transport vehicle.
22	For disposal at an ADS or treatment that inactivates the SGP viruses.
23	Transport by approved routes only to an approved disposal or treatment facility.

6.4.5 Milk and milk products

The risk of transmission of SGP viruses by milk not intended for animal consumption can be mitigated by pasteurisation and transport in closed containers (Tuppurainen et al., 2017).

- For the movement of raw milk and milk products from IPs, DCPs, DCPFs and SPs, an SpP and risk assessment is required, with conditions 2, 28, 29 and 30.
- For the movement of raw milk and milk products from TPs, an SpP and risk assessment may be required, with conditions 2, 28, 29 and 30.
- For the movement of raw milk and milk products from all other premises in declared areas, a GP is required, with conditions 2, 28, 29 and 30.

Notes

- It is important to ensure that processing facilities have approved the receiving of milk and milk products before collection from the premises.
- For raw milk or milk products originating in the RA, movements to processors or disposal sites in the CA are allowed only if there is no suitable processing or disposal site within the RA.

Permit conditions for movement of milk and milk products

Permit condition number	Permit condition
2	Vehicles carrying livestock or products, and associated equipment, to be decontaminated (i.e. cleaned and disinfected) before and after movement. Refer to the AUSVETPLAN operational manual Decontamination . ³⁶
28	Heat treatment/pasteurisation (62 °C for 30 minutes) or approved disposal process for the commodity or product to inactivate the virus.
29	Milk is not for animal consumption.
30	Unprocessed milk and milk products remain contained in transport vehicle until immediately before processing or disposal.

³⁶ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

6.4.6 Wool and other fibres

Unprocessed wool and other fibres are high-risk products because SGP viruses may remain viable on them for up to 3 months.

Table 6.4: Recommended movement controls for wool and other fibres

To→		RA				CA			OA
From ↓		IP, DCP, SP, TP	APF, DCPF, ZP	ARP	ADS	APF, DCPF, ZP	POR	ADS	
RA	IP	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited
	DCP, SP, TP	Prohibited	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited
	ARP	Prohibited	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 33	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 33	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 33	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 32	Prohibited
CA	SP, TP	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
	POR	Prohibited	Prohibited, except under GP – conditions 2, 4, 18, 31, 33	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 33	Prohibited, except under GP – conditions 2, 4, 18, 31, 32	Prohibited, except under SpP – conditions 2, 3, 4, 10, 18, 31, 33	Prohibited, except under GP – conditions 2, 4, 18, 31, 33	Prohibited, except under GP – conditions 2, 4, 31, 32	Prohibited, except under SpP – conditions 2, 3, 4, 18, 31, 33
OA		Allowed under normal jurisdictional or interstate requirements (however, movements into the RA or CA should be avoided).							

ADS = approved disposal site; APF = approved processing facility; ARP = at-risk premises; CA = control area; DCP = dangerous contact premises; DCPF = dangerous contact processing facility; GP = general permit; IP = infected premises; OA = outside area; POR = premises of relevance; RA = restricted area; SP = suspect premises; SpP = special permit; TP = trace premises; ZP = zero susceptible species premises

Notes

- Permits for movements from the RA to the CA should only be issued if there are no suitable processing, storage or disposal facilities available in the RA.
- Permits for movements from PORs within the CA to the OA should only be issued if there are no suitable processing, storage or disposal facilities available in the CA.

Permit conditions for movement of wool and other fibres

Permit conditions number	Permit condition
2	Vehicles carrying livestock or products, and associated equipment, to be decontaminated (i.e. cleaned and disinfected) before and after movement. Refer to the AUSVETPLAN operational manual <i>Decontamination</i> . ³⁷
3	Transport route must be approved by the jurisdictional authorities and include only pre-approved stops.
4	The electric or physical permit accompanies the livestock or vehicle during movement, and the person responsible retains a copy of the permit, consistent with the legal requirements of the jurisdiction.
10	An individual risk assessment has been completed and indicates that the risk is acceptable within the response (this condition only applies to special and emergency permits).
18	The product/material is not brought into direct or indirect contact with susceptible animals.
31	Before transport, and at the site of origin, disinfection of the outside of the wool/fibre bales or other containers used for the wool/fibre is completed with an appropriate treatment to inactivate the SGP viruses.
32	The wool and other fibres are destroyed or disposed of at an ADS where storage or disposal is not possible within the premises of origin.
33	The wool and other fibres are to be: • held in quarantine (on farm, or at a wool store/broker) until it can be proven that the SGP virus in the wool/fibre is inactivated, OR • processed appropriately (at an APF or DCPF) to inactivate the SGP virus.

³⁷ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

6.4.7 Other animal byproducts

Animal byproducts – including skins, pelts, horns, hoofs, knackery products and rendered material – from IPs, DCPs, TPs, SPs or DCPFs may need to be transported offsite for disposal or to premises/processing facilities that treat the product in a manner that meets requirements for inactivation of SGP viruses (e.g. rendering). Permission for movements of animal byproducts will be based on risk assessment and subject to appropriate conditions to mitigate identified risk. This material should preferably not be transported outside the declared area in which the establishment is located.

The following permit conditions apply to movements to a biosecure disposal or rendering facility:

- Animal byproducts are transported in a biosecure manner (i.e. in a manner that prevents leakage of materials from the transport vehicle).
- Transport is by a route approved by the jurisdictional authorities.
- The material is not brought into direct or indirect contact with susceptible species.
- After transportation, vehicles are decontaminated appropriately and in accordance with the **AUSVETPLAN operational manual *Decontamination***.³⁸

The **AUSVETPLAN operational manual *Disposal***³⁹ provides details on composting and other disposal options.

6.4.8 Waste products and effluent

Management of all wastes from the RA or CA will be based on risk assessment and subject to appropriate conditions to mitigate the identified risks. The risk assessment should take into consideration the origin (and therefore the expected SGP virus status) of the animal products, any processing undertaken on the waste material, the potential for any postprocessing cross-contamination from infected material, and the intended site and means of disposal of the wastes (including any proposed use for irrigation).

Because effluent (e.g. manure and yard washings) may contain SGP viruses, it should preferably be disposed of onsite. If movement of effluent from high-risk premises is required, it should only be to premises that exclude all susceptible animals and feral/unmanaged animals (i.e. using exclusion fencing) for disposal.

The **AUSVETPLAN operational manual *Decontamination***³⁸ provides specific details of procedures to reduce the infectivity of effluent.

6.4.9 Vehicles, including empty livestock transport vehicles and associated equipment

Empty livestock transport vehicles and associated equipment may play a role in the spread of SGP viruses by acting as fomites.

Movements from IPs, DCPs, DCPFs, SPs and TPs are prohibited except under SpP. Movements of empty livestock transport vehicles and other vehicles that service these premises (e.g. feed trucks) from the RA to the CA, or from the CA to the OA, are prohibited except under SpP. The issuance of

³⁸ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

³⁹ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Disposal

an SpP will be based on risk assessment and subject to appropriate conditions to mitigate the identified risks. Conditions will include thorough cleaning and decontamination, disinfection to destroy the virus, inspection before leaving the premises, and appropriate record keeping.

For movements originating on an ARP or POR, a GP is required, with the following conditions: vehicles and equipment are thoroughly cleaned before exit from the premises, and records are kept of the movement (origin, destination and cleaning undertaken).

Movements originating in the OA are allowed without restriction.

In all permitted movements, care should be taken to ensure that vectors are not inadvertently transported between properties. This may require treatment with an insecticide, where possible. Consideration should be given for potential withhold periods that might apply to animal intended for slaughter.

6.4.10 Nonsusceptible animals

Contaminated nonsusceptible animals may spread SGP viruses by acting as mechanical vectors.

For all movements of nonsusceptible animals, relevant legislative requirements must be adhered to, including the need for physical identification of animals (i.e. National Livestock Identification System [NLIS]), with appropriate accompanying movement documentation (i.e. NVD, waybill), or other movement requirements such as PigPass.

Movement of nonsusceptible animals from high-risk premises (IPs, SPs, TPs, DCPs and DCPFs) should be based on risk assessment and subject to appropriate measures to mitigate identified risks (e.g. cleaning to remove mud/dirt and limiting access to susceptible species) to prevent the mechanical spread of SGP viruses.

Movement of nonsusceptible animals from ARPs and PORs should also be based on risk assessment, taking into consideration appropriate risk mitigation measures as outlined above. Other movements of nonsusceptible animals in the CA need not be restricted, provided the movement is subject to a risk assessment.

Movement of nonsusceptible animals from and within the OA is allowed without restriction.

6.4.11 People

People may act as mechanical vectors or spread SGP viruses via fomites.

The conditions applied to movements of people off IPs, DCPs, SPs and TPs should be based on risk assessment, taking into consideration any potential contact with susceptible livestock and contaminated environments. Where the assessed risk is high, a change of clothes, headwear and footwear; decontamination procedures; and record keeping should be implemented.

For ARPs, PORs and premises in the OA, owners should be encouraged to enhance biosecurity measures on their premises to limit the movement of potential environmental contaminants (see also Section 4.3.2).

Correct entry and exit procedures for high-risk premises should be adhered to – refer to Section 1.3 of Emergency animal diseases: A field guide for veterinarians.⁴⁰

Further information on decontamination of people can be found in the **AUSVETPLAN operational manual *Decontamination***.⁴¹

6.4.12 Specimens

The movement of biological specimens for laboratory testing is allowed, providing appropriate biosecurity precautions are taken as per Section 2.5.4.

6.4.13 Crops, grains, hay, silage and mixed feeds

Crops, grains, hay and silage harvested from high-risk premises (IPs, SPs, TP and DCPs), or mixed feeds made from such constituents, may present a risk of transmission by acting as fomites.

Movements of these items, where applicable, should be based on risk assessment, taking into consideration a range of factors, including location on the property (and the potential for contamination or cross-contamination – e.g. sprayed or treated with effluent from susceptible animals), the time of harvest, the intended end use and any processing to be undertaken.

Movement of crops, grains, hay, silage and mixed feeds from ARPs should also be subject to risk assessment, taking into consideration the factors outlined above and the proximity of the ARP to known and expected areas of infection. Movements from the RA to the CA or OA are prohibited except under GP with conditions 2 and 4.

Movements of crops, grains, hay, silage and mixed feeds from premises in the CA or OA to premises in the RA (including IPs, SPs, TP and DCPs) may be necessary for animal welfare reasons. These movements may be permitted, provided that the requirements for people, vehicle and equipment movements are met.

6.4.14 Sales, shows and other events

Sales, shows and other events involving susceptible species in declared areas are prohibited.

Sales, shows and other events involving sheep and goats in the OA may proceed at the discretion of the relevant jurisdictional CVO, informed by risk assessment.

Movements of vehicles, equipment and people for such sales, shows and events should be in accordance with Sections 6.4.9 and 6.4.11.

6.4.15 Stock routes and rights of way

Stock routes, rights of way and other public areas where livestock may be present in the RA should be closed to SGP-susceptible animals for the duration of the response. Stock already present in these areas will need to be managed (refer to movement controls in Section 6.4.1).

⁴⁰ www.outbreak.gov.au/prepare-respond/identify-pests-diseases/emergency-animal-diseases-field-guide

⁴¹ https://animalhealthaustralia.com.au/AUSVETPLAN_OM/Decontamination

Stock routes, rights of way and other public areas where livestock may be present in the CA and OA may be opened at the discretion of the relevant jurisdictional CVO, informed by risk assessment. Any susceptible live animals currently located within stock routes, rights of way and other public areas where livestock may be present should be managed following a risk assessment with consideration to area classification and animal welfare needs.

6.4.16 Animal movements for emergency (including welfare) reasons

Permission for the movement of animals for emergency (including welfare) reasons will be based on risk assessment and subject to appropriate conditions to mitigate the identified risks. Examples include movements for emergency veterinary treatment and movements to different premises to manage animal welfare concerns (e.g. feed, space, milking availability, shearing).

If allowed, such movements will be under approval from the relevant CVO or delegate (emergency permit) and subject to appropriate conditions to mitigate the identified risks.

6.4.17 Other movements

Permission for other movements will be based on risk assessment and subject to appropriate conditions to mitigate the identified risks.

7 Surveillance and proof of freedom

Animals with confirmed or clinical signs suspicious of SGP must be immediately reported to jurisdictional authorities.

Suspicion of SGP will normally be raised based on the highly characteristic clinical signs and the presence of lesions. This would facilitate effective clinical surveillance, which can be confirmed by laboratory testing.

7.1 Surveillance

On IPs, in addition to confirming the presence of disease, sampling will support ongoing epidemiological investigation to determine the origin of disease and the length of time that the disease has been present.

All premises with susceptible species in the RA will be subject to clinical surveillance. If there are a large number of animals on a property, such that individual clinical examination of all animals is not feasible, a minimum number of animals should be clinically examined to detect or rule out the presence of animals with clinical signs with an acceptable degree of confidence. This number should be determined in consultation with a veterinary epidemiologist.

The EFSA Panel on Animal Health and Welfare et al. (2022) provides guidelines for recommended sample sizes for the detection of SGP with a 95% confidence using both PCR and ELISA in a variety of flock sizes. These may be useful as a baseline, noting that the situation under Australian conditions may vary.

Susceptible animals on DCPs and SPs should be physically examined daily and any clinical signs reported to the state/territory government. Active surveillance via the collection of samples from randomly selected animals for PCR or serology (i.e. in the absence of clinical signs) can be conducted if this is considered necessary due to epidemiological considerations. Surveillance will also be conducted on farms where no clinically diseased animals are detected.

Premises in the CA not epidemiologically linked to outbreaks are less likely to be infected if movement restrictions are enforced. Therefore, the focus should be on enhancing passive surveillance by raising awareness among property owners, industry and the public to detect clinical signs associated with SGP.

Any property on which typical clinical signs of SGP are observed or where nonspecific clinical signs are reported should be investigated through clinical examination and samples collected for laboratory testing.

The surveillance of feral/unmanaged susceptible species around the affected premises may include the visual inspection of these animals from a distance and the testing of dead and hunted animals by both PCR and serology. Unexpected mortality events in feral/unmanaged susceptible species should be investigated.

On IPs and DCPs that have been destocked, sentinel animals may be introduced after decontamination is completed. These animals should undergo weekly physical inspection with testing as per the Emergency Animal Disease Response Plan (EADRP) for 6 weeks, after which

restocking may occur. The flock or herd should be inspected at 1-month intervals for 3 months. If no disease is detected, the property may then be released from quarantine.

Susceptible animals on DCPs and SPs will be physically examined on a daily basis for the first 14 days and weekly thereafter until the premises status is resolved. Surveillance should include physical and clinical examination of flocks/herds and laboratory testing, as required.

Other properties with susceptible stock within the declared areas are to be monitored as per the EADRP, and communication made to support passive surveillance.

7.2 Proof of freedom

According to WOH (2024), a country with an unknown status or recovering from an outbreak without a stamping-out policy may be considered free from ShP and GtP when it has been shown that ShP and GtP has not been present for at least the past 3 years. A country that was previously free from SGP may regain freedom 6 months after the slaughter of the last affected animal when a stamping-out policy is practised with or without vaccination.

Appendix 1 – Sheep and goat pox fact sheet

Disease and cause

Sheep pox (ShP) and goat pox (GtP) are highly contagious skin diseases of sheep and goats, characterised by papules or nodules (and rarely vesicles) on exposed body surfaces, often with high mortality. The diseases are caused by viruses of the *Capripoxvirus* genus of the family *Poxviridae*.

Species affected

As the names imply, these diseases affect sheep and goats. The viruses are usually host-specific for either sheep or goats, but some strains affect both species. Merino and European breeds of sheep are most susceptible. Humans are considered nonsusceptible.

Distribution

ShP and GtP occur in Africa (mainly north of the equator), the Middle East, Central and Southeast Asia, and the Indian subcontinent as far east as Myanmar (Burma). Outbreaks have been reported in parts of Europe, including Greece, Bulgaria and Serbia (WAHIS, 2025). Neither of these diseases has ever been reported in Australia.

Potential pathways for introduction into Australia

Although the risk is considered low due to Australia's strong biosecurity measures, the greatest risk of introduction of ShP and GtP is on fomites, such as clothing, equipment and unprocessed wool/fibre products brought into Australia by people from endemic areas.

Key signs

Both diseases are characterised by sudden onset of fever with nasal and eye discharges and excessive salivation. The diseases may be mild in indigenous breeds of sheep and goats from endemic areas but are often fatal in newly introduced animals. In 1–2 days, classical pox lesions develop on skin over the whole body but are most obvious where wool or fibre is short. Lesions may occur on the mucous membranes of the mouth, nostrils and vulva and in the gastrointestinal tract, trachea and lungs. Acute respiratory distress occurs if lesions develop in the lungs. Fluid from the lesions causes matting of the fleece/fibre. Deaths may result at any stage, but peak mortality usually occurs about 2 weeks after the development of lesions. Mortality may reach 50% in adults and approach 100% in young animals.

Spread

Both diseases are highly infectious. The incubation period ranges from 8–13 days, but for the purposes of the WOA *Terrestrial Animal Health Code*, the incubation period for ShP and GtP is 21 days. Virus is present in all secretions and excretions of infected animals at every stage of the diseases, including milk and scabs from skin lesions. Transmission is mainly via the respiratory system but may be through abraded skin. Movement of infected animals is the main way disease is

spread to a new premises or area. Insects can act as mechanical vectors of the virus over short distances. Recovered animals do not remain carriers of the virus and have lifelong immunity.

Persistence of the virus

The virus is very resistant to inactivation both on and off the host. It can persist for up to 3 months in dry scabs/skin, wool and hair from infected animals, and for up to 6 months in the environment. There is no evidence that the virus persists in meat from infected animals.

Impacts for Australia

An outbreak of ShP and/or GtP would have significant national socioeconomic consequences through serious international trade losses, national market disruptions and severe production losses in the sheep and goat industries associated with the disease and response activities. The impacts may include closure of markets, increased testing requirements, increased pre-export quarantine requirements and reduced-price premiums for Australian commodities.

Appendix 2 – Control overseas

Eradication of sheep and goat pox (SGP) has been achieved both with and without the use of vaccination. On 19 September 2022, SGP were detected in Spain, which had previously been free since 1968. Numerous outbreaks in European Union (EU) Member States occurred thereafter. The source of the virus introduced into Spain was not identified but was suspected to be the result of accidental introduction through fomites spread from North Africa. A total of 30 outbreaks were observed until 17 May 2023. Despite outbreaks being in a naive population, an unexpected clinical presentation was observed with a prolonged incubation period and limited clinical signs following introduction on properties. This significantly impacted passive surveillance sensitivity and contributed to silent spread. The control and eradication strategies used included stamping out of positive herds, movement restrictions (including the use of declared areas), and strengthening of biosecurity and passive surveillance. Eradication was achieved without the use of vaccination (Germán et al., 2024).

Conversely, the Thrace region in Türkiye (where SGP are endemic in Anatolia) maintained a self-declared free zone following a previous outbreak, which ended on 9 May 2017. Yearly vaccination of all small ruminants in Thrace with an attenuated vaccine was practised, and previous outbreaks were also managed through the use of stamping out, quarantine of infected premises, and movement restrictions (including the use of declared areas). Animal movements from Anatolia to Thrace are also prohibited (WOAH, 2022). Greece has been experiencing ongoing outbreaks of SGP since August 2024. Despite implementation of zoning controls, stamping-out procedures, cleaning and disinfection activities, and enforcement of biosecurity measures and surveillance, new cases continue to be reported (DEFRA & APHA, 2025). Currently, the Greek government remains hesitant to approve vaccination amongst susceptible stock to maintain alignment with EU criteria for country freedom status and ensure continuation of trade (Bianchini et al., 2025).

Glossary

Terms and definitions

Standard AUSVETPLAN terms

For standard AUSVETPLAN terms, see the **AUSVETPLAN Glossary**.⁴²

Abbreviations

Standard AUSVETPLAN abbreviations

For standard AUSVETPLAN abbreviations, see the **AUSVETPLAN Glossary**.⁴²

Manual-specific abbreviations

Abbreviation	Full title
APVMA	Australian Pesticides and Veterinary Medicines Authority
EFSA	European Food Safety Authority
EU	European Union
GtP	goat pox
HTST	high-temperature short-time
LSD	lumpy skin disease
LTLT	low-temperature long-time
NVD	National Vendor Declaration
PPE	personal protective equipment
QAC	quaternary ammonium compound
SGP	sheep and goat pox
ShP	sheep pox
SSBA	Security Sensitive Biological Agent
ULV	ultra-low-volume
WAHIS	World Animal Health Information System

⁴² https://animalhealthaustralia.com.au/AUSVETPLAN_Glossary

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