Draft Australian Animal Welfare Standards for the Export of Livestock, Version 1.0

PRELIMINARY

1.1 Guiding Principles

1) Careful selection and preparation of livestock that are fit to export is critical to successful animal welfare outcomes during the export voyage.
2) Land transport is planned and is undertaken in accordance with the Land Transport Standards on a suitable and competently operated vehicle, with the livestock being handled in a manner that prevents injury and minimises stress throughout the journey.
3) Livestock are handled appropriately and in a humane manner that prevents injury and minimises stress.
4) Livestock facilities, management and husbandry are adequate to maintain the health and welfare of all livestock throughout the export supply chain.
5) Livestock sourced for export meet any relevant animal health and welfare requirements under state and territory legislation, and the Australian Animal Welfare Standards and Guidelines.
6) Livestock sourced for export and intended for human consumption comply with Australian food safety requirements, including standards for chemical residues or environmental contaminants.
7) At each point in the export supply chain, inspection procedures and facilities allow the identification and removal of unfit livestock in a timely manner to ensure that the unfit livestock are not transported to the next stage.
8) Vessels used for the export of livestock comply with international and Australian standards, including Australian Certificate for the Carriage of Livestock (ACCL) requirements.
9) Traceability of livestock complies with the requirements of the National Livestock Identification System and the Exporter Supply Chain Assurance System.

1.2 Required outcomes

1) Livestock mortality is minimised and the welfare needs of livestock sourced for export are provided for throughout the livestock export journey.
2) Livestock are prepared, and the livestock export journey is planned and undertaken, in a manner that meets Australian and the importing country requirements for livestock.
3) Livestock export supply chain operators have clearly defined roles and responsibilities.
4) Livestock sourced for export that become sick or injured during preparation are excluded from export, and arrangements are made for their prompt and humane handling, treatment, or euthanasia.

1.3 Overview

The AAWSEL cover animal welfare requirements from sourcing of the livestock until the last animal has disembarked from the vessel/aircraft.

Parts 1 to 5 apply to the export of livestock by sea. Part 6 applies to the export of livestock by air. Parts 2, 7 and 8 have provisions that apply to the export of livestock by sea and air.

The standards in Part 1 cover the sourcing and on-farm preparation of livestock for export prior to the loading of livestock for transport to registered premises.

The standards in Part 2 cover the welfare requirements for livestock that must be addressed throughout the pre-export land transport phase in the export chain.

The standards in Part 3 cover the assembly and management of livestock for export at the registered/approved premises, commencing with the arrival of the first animal into the premises and ending with the departure of the last animal from the premises.

The standards in Part 4 cover requirements and preparation that must take place when preparing vessels for livestock transport, and for the loading of livestock onto the vessel.

The standards in Part 5 cover onboard management of livestock from the time the first animal is loaded onto the vessel until the last animal is unloaded at the last port of disembarkation.

The standards in Part 6 cover air transportation of livestock for export from the sourcing of livestock and their on-farm preparation, through to and including the air transportation phase of the export chain.

The standards in Part 7 cover requirements for the inspection of livestock across the livestock export supply chain.

The standards in Part 8 cover the record keeping requirements that apply across the livestock export supply chain.

1.4 Roles, responsibilities and competencies

The roles, responsibilities and desirable competencies of livestock export supply chain operators are outlined in **Appendix A.1.**

At point of sourcing the livestock producer is responsible for ensuring that animals are fit to load, and are fit to export as per the contractual requirements of the exporter.

At loading for land transport from the point of source to the registered premises, livestock become the responsibility of transporter.

At unloading at the registered premises, livestock become the responsibility of a designated person at the registered premises. That person must be notified of any aspect of the journey that might affect the future welfare of the livestock.

Upon arrival at the port of embarkation, livestock become the responsibility of a competent person nominated by the exporter.

At the point of loading livestock onto the vessel at the port, livestock become the responsibility of the master of the vessel, who must be notified of any aspect of the preparation of the livestock that might affect their welfare.

At the point of loading of livestock for export by air, livestock become the responsibility of the airline, which then must notify the captain of the aircraft. The captain has overall responsibility for the

livestock and must be advised of the species, location and quantity of all livestock and of any special requirements of the livestock on board the aircraft.

1.5 Acronyms

AGAV	Australian Government Accredited Veterinarian
AAWSEL	Australian Animal Welfare Standards for the Export of Livestock
ACCL	Australian Certificate for the Carriage of Livestock
AEP	Approved Export Program
AMSA	Australian Maritime Safety Authority
APAV	Accreditation Program for Australian Veterinarians (coordinated by Animal Health Australia)
CRMP	Consignment Risk Management Plan
DAFF	Australian Government Department of Agriculture, Fisheries and Forestry
ESCAS	Exporter Supply Chain Assurance System
LNC	Livestock NOI/CRMP
NOI	Notice of Intention to Export

1.6 Definitions

Accredited stockperson	A stockperson who is accredited by LiveCorp for the shipboard husbandry of livestock.
Accredited veterinarian	A registered veterinarian who is accredited by DAFF to carry out duties in relation to the export of livestock.
Adverse effect	An abnormal, harmful or undesirable effect on an animal that causes anatomical or functional damage, irreversible physical changes, or increases in susceptibility to other biological, chemical, or environmental stresses.
Airport/ Port animal welfare officer	A person appointed by the exporter to be responsible at the airport/port for ensuring the humane handling, treatment and husbandry of livestock during unloading from the vehicle, inspection and loading onto the aircraft/vessel, and for ensuring that facilities are appropriate to enable this to occur.
Animal handler	A person with knowledge of the behaviour and needs of animals who, with appropriate experience and a professional and positive approach to an animal's needs, can achieve effective management and good welfare. Competence should be gained through formal training and/or practical experience.
Animal welfare	Animal welfare refers to the ability of an animal to cope with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and

	distress. Good animal welfare requires disease prevention and appropriate veterinary treatment, shelter, management and nutrition, humane handling and humane slaughter or killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment. The concept of animal welfare involves the internationally recognised 'five freedoms', which are: freedom from hunger, thirst and malnutrition; freedom from fear and distress; freedom from physical and thermal discomfort; freedom from pain, injury and disease; and freedom to express normal patterns of behaviour.
Approved export program	A program of activities to be undertaken by an accredited veterinarian, or an authorised officer, for the purpose of ensuring the health and welfare of eligible live animals, or the health and condition of eligible animal reproductive material, in the course of export activities.
Approved premises	A place approved for the preparation of livestock for export by air in accordance with the *Export Control (Animals) Order 2004*.
Bluetongue virus transmission zone	The current zone outlining the limits of bluetongue virus transmission as defined by the National Arbovirus Monitoring Program, Animal Health Australia.
Bos indicus	Tropical cattle breeds originating from the Indian subcontinent. *Now known as Bos primigenius indicus.*
Bos taurus	Temperate cattle breeds originating from Europe. *Now known as Bos primigenius taurus.*
Class	A group of livestock of the same species that share a common characteristic such as age, size or sex, or some other physiological characteristic such as pregnancy.
Clear day	A day that livestock spend at the registered premises excluding the day of arrival or departure.
Cold stress	When the response by animals to cold conditions below their thermo-neutral limit exceeds the ability of their behavioural, physiological or psychological coping mechanisms.
Competent	A person is competent to perform a requirement of the AAWSEL if he or she has the requisite knowledge, skills, experience, attitude and behaviour to perform the requirement, and has the ability to manage and handle animals humanely, efficiently and capably at the relevant stage(s) of the livestock export chain. Supporting evidence of competency includes any of the following: - Records of on-the job training - Relevant experience - Recognised training and staff training registers - Induction training - Supervisor sign-off for specific tasks. - Demonstrable ability

Cow	A female bovine animal that has produced a calf or is over three years of age.
Cumulative stress	The accumulation of stress reactions over time. A sequence of relatively mild stressful events can ultimately create high stress levels if not dealt with effectively on an ongoing basis.
Curfew	The withdrawal of access to water and sometimes feed before another procedure, such as weighing or transport. Any water curfew is included in the total water - deprivation time with respect to transport journeys.
Distress	A state of suffering, or experiencing physical or psychological worry, anxiety or pain.
Downer	An animal that is recumbent and unable to rise without assistance.
Emaciated	Extremely thin body condition due to starvation or disease.
Extended long haul voyage	A loaded voyage greater than 30 days in length.
Extensive lesions	Lesions that cover or affect a large area.
Extreme weather	Temperature and climatic conditions (e.g. rain, hail, snow, wind, humidity and heat) that- individually or in combination- is likely to predispose livestock to heat or cold stress.
Farmer review	The 2011 *Independent Review of Australia's livestock export trade*, conducted by Bill Farmer AO.
Fat	In relation to livestock, means having a body condition score, of 4 or more, as listed in Appendix 1.1.
Fat-tail sheep	Sheep distinguished by a genetic predisposition for the accumulation of fat in the tail and hindquarters.
Feral goats	Feral goats, also known as rangeland goats, are wild-sourced goats that are harvested and have usually not been confined to a feedlot or are subjected to any chemical treatments or routine husbandry/management procedures.
Fit to load	Livestock are fit to load for transportation if the livestock meets all of the following criteria: - The animal is strong enough to undertake the intended journey - The animal can walk normally, bearing weight on all legs - The animal is not severely emaciated or visibly dehydrated - The animal is not suffering from severe visible distress or injury - The animal does not have a wound, injury, lesion or other condition that could cause it increased pain or distress during transport (such as cancer, or a disabling abscess) - The animal is not blind in both eyes - The animal is not in late pregnancy *[Note- this definition has not yet been subject to legal review to ensure consistency with the LTS]*

Fit to export	Livestock are fit to export if the livestock are fit to load, and meet any relevant AAWSEL, DAFF, and importing country requirements. *[Note- this definition has not yet been subject to legal review to ensure consistency with language of the LTS]*
Fodder	Any feed intended for consumption by livestock, including hay, pellets, or grain.
Heat stress	When the response by animals to hot conditions above their thermo-neutral limit exceeds the ability of their behavioural, physiological or psychological coping mechanisms.
Heifer	A female bovine animal less than three years of age that has not produced a calf.
Hospital pen	A designated area reserved for the sole purpose of special care of weak, sick or injured animals. Hospital pens require additional space allowance and are to be kept empty of healthy animals during routine operations.
Euthanasia	The killing of an animal in a humane manner which causes immediate loss of consciousness and then rapid death of the animal while unconscious.
Intended journey	Includes stages, duration, distance, route, road conditions, terrain, traffic, prevailing weather and any other factors that could affect a journey for livestock.
Isolation	The complete separation of an individual animal or a group of animals from others of its class.
Kid	Unweaned goat, under 6 months of age.
Land based AGAV	A DAFF accredited veterinarian, contracted or employed by an exporter, who prepares livestock in accordance with an approved AEP at the registered/approved premises before the animals are loaded onto an export vessel/aircraft.
Land Transport Standards	The *Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock*
Large disparities in size	Differences in size (including weight or height) of penned animals which could lead to adverse animal welfare impacts through competition or injury within the confines of a pen
Livestock inspector	A competent person designated by the exporter or AGAV to inspect livestock on animal welfare grounds at the registered premises and/or the port.
Livestock services	Any Equipment, processes and systems necessary to ensure the health and welfare of livestock throughout the entire export chain, which may include but are not limited to feed and water supply systems, ventilation monitoring on aircraft and ships and the washing down of decks and disposal of faeces on a ship.
Loaded voyage length	Begins upon the loading of the first animal onto the vessel and finishes when the last animal is discharged from the vessel in the importing country.
Long haul voyage	A loaded voyage greater than 10 and not exceeding 30 days in length.
Marine Orders Part 43	Part 43 of the Marine Orders made under subsection 425 (1AA) of the *Navigation Act 1912*.

Moribund	Being in the state of dying, approaching death or about to die.
Notifiable incident	An incident that has the potential to cause serious harm to the welfare of animals. For the export of livestock by sea, a notifiable incident includes, but is not limited to: a) a shipboard mortality rate equal to or greater than a reportable level; b) disablement of ventilation, feeding and/or watering systems on a vessel carrying livestock, causing a serious adverse effect on animal welfare; c) rejection of livestock at an overseas port or by an importing country government; d) diagnosis or reasonable suspicion of a disease in a consignment of livestock; e) loss of vessel carrying livestock; f) disablement of a vessel carrying livestock, such that assistance is required for return to port; and g) an act of terrorism or piracy. For the export of livestock by air, a notifiable incident includes, but is not limited to: a) loss of aircraft; b) breakdown of ventilation systems on an aircraft carrying livestock causing a serious adverse effect on animal welfare; c) rejection of livestock at an overseas airport or by an importing country government; d) a mortality rate equal to or greater than the reportable level; or e) any other incident that has an adverse effect on animal welfare.
Pastoral sheep	Sheep that have been sourced from the pastoral zone.
Pastoral zone	In South Australia and New South Wales the Property Identification Code (PIC) numbers are used to determine if properties are located in the pastoral zone. See Appendix A.2 and A.3. The pastoral zone of Western Australia is outlined in Appendix A.4. All of Queensland is considered to be within the pastoral zone for the purposes of the AAWSEL.
Portable livestock unit (PLU)	A purpose built and DAFF approved, self contained livestock housing unit used by non livestock specific vessels to carry and provide husbandry needs to livestock at sea. Under Marine Orders Part 43 (clause 37.1), portable equipment is taken to include boxes, platforms and containers.
Primary	An activity that is fundamental to, and required or expected in the regular course

responsibility	of employment and is not merely incidental to the employment.
Registered premises	A place registered for the preparation of livestock for export by sea in accordance with the *Export Control (Animals) Order 2004*.
Registered Veterinarian	A qualified veterinarian who is currently registered with a State or Territory Veterinary practitioners registration board or equivalent.
Reject animal	Any animal that is not suitable for export or loading either by being out of consignment specification, failing to meet importing country requirements or meeting any of the rejection criteria as set out in Appendix 7.1.
Reportable level	With respect to the reportable mortality level for a species, the percentage listed below or three animals, whichever is the greater number of animals: *Option 1 – status quo* *a) sheep and goats: 2%;* *b) cattle and buffalo, voyages ≥ 10 days: 1%;* *c) cattle and buffalo, voyages < 10 days: 0.5%;* *d) camelids: 2%;* *e) deer: 2%.* *Option 2 – lowered reportable mortality rates* *a) sheep and goats: 1%;* *b) cattle and buffalo, voyages ≥ 10 days: 0.5%;* *c) cattle and buffalo, voyages < 10 days: 0.25%;* *d) camelids: 1%;* *e) deer: 1%.*
Shipboard AGAV	DAFF accredited veterinarians who deliver contract veterinary services to exporters and are required to accompany designated consignments for the monitoring, managing and regular reporting of consignment conditions on board from loading to disembarkation.
Shipboard mortality rate	The percentage determined by dividing the number of deaths of that species occurring while on the vessel (including during loading and unloading) by the total number of that species loaded, and multiplying the resulting figure by 100. The same calculations apply to individual Livestock NOI/CRMPs.
Short haul Voyages	Voyages no greater than 10 days in loaded voyage length.
Sourcing	Identifying or selecting animals to be exported in a particular consignment.
Sufficient personnel	The number of staff required to ensure good animal welfare outcomes.
Timely treatment	Treatment within a timeframe to avoid any unnecessary suffering and/or optimises the chance of recovery.
Transporter	The driver and / or the registered operator of a livestock transport vehicle.
Veterinary	Oral or written instructions given by a registered veterinarian to a competent

direction	person or persons to perform an allowable duty. Where veterinary direction has been given, the registered veterinarian does not need to be physically present while the person or group of people perform the duties or veterinary services.
Veterinary supervision	Supervision of a person or group by a registered veterinarian, either by: - Direct veterinary supervision – which occurs when a registered veterinarian is on the same premises as the supervised person while the subject activity is being undertaken: and is able to immediately render assistance to the supervised person, if required. - Indirect veterinary supervision – which occurs when a registered veterinarian is not on the premises but is acquainted with the operation and has given written or oral instructions to the person or group.
Voyage	In maritime law, the time of a vessel's transit from one place to another.

PRELIMINARY APPENDIXES

Appendix A.1 Roles, responsibilities and competencies of livestock export supply chain operators

Supply Chain Operator	Roles and Responsibilities	Desirable competencies
Livestock producer	Livestock producers have responsibility for: - breeding, raising and supplying animals to the Australian livestock export market. - ensuring that only those animals that have been identified by the exporter or their agent as being suitable for export are supplied. - ensuring that any animals supplied for sale are healthy and fit to load for transportation and meet state and/or territory legislation obligations related to livestock. This includes providing a national vendor declaration where required. - ensuring that all animals are identified as per state or territory legislation to enable tracing to the place of origin. - humane treatment of their livestock in accordance with relevant Australian legislation. **Legal responsibility:** ensuring that they are aware of all relevant legislation pertaining to the care and management of their livestock including animal welfare Acts and livestock disease control legislation.	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of their obligations under relevant animal welfare legislation and regulations, including model codes of practice, and standards and guidelines
Transporter	Transporters of livestock are responsible for the livestock from the point of loading (including inspection and assessment of livestock during loading), to the point of unloading and notifying the receiver of the livestock at the destination: - ensuring that only 'fit to load' animals are loaded onto trucks. It is the drivers responsibility to refuse to load any animal that is not 'fit to load' unless under veterinary advice. - ensuring the welfare of all animals loaded onto their truck and monitoring and arranging/requesting appropriate and humane care or euthanasia if required as soon as it is practicable to do so. Responsibility for the livestock is transferred when the livestock are delivered to the receiver and unloaded from the transport vehicle. **Legal responsibility:** transporters must act in accordance with the animal welfare legislation of the relevant jurisdiction, abiding by the Land Transport Standards, having awareness and understanding of the livestock disease control Act or its jurisdictional equivalent.	Humane, low stress animal handling ability and understanding of animal behaviour Awareness and understanding of their obligations under animal welfare legislation, the appropriate model code of practice and Land Transport Standards Awareness and understanding of the 'Fit to Load' Guide
Animal handlers	Animal handlers have responsibility for:	Humane, low stress

	- moving, handling and managing livestock at all times in a humane manner that minimises injury or risk to the welfare of animals in their care, and minimises safety and biosecurity risks. Animal handlers may act under veterinary direction or supervision from a registered veterinarian in the performance of their duties as required. **Legal responsibility:** Stock handlers have a legal responsibility to be aware of and understand the animal welfare legislation within their jurisdiction and the livestock disease control Act or its equivalent for the applicable legislation.	animal handling ability and understanding of animal behaviour Awareness and understanding of relevant animal welfare legislation, models codes of practice, and standards and guidelines such as the Land Transport Standards Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide
Exporter	Exporters have responsibility for ensuring: - the humane treatment of livestock under their ownership or control throughout the livestock export chain. This responsibility begins at the point of purchase or receivals of animals at a registered premise, whichever comes first. - compliance with requirements of any relevant state and territory animal health and welfare legislation. - compliance with importing country requirements and the establishment of verification systems to meet audit requirements throughout the livestock export chain. - where the exporter subcontracts to service providers, that service providers comply with these standards and importing country requirements. - the sourcing only of suitable livestock that meet the consignment specifications, such as species, class, condition, animal health and welfare status and number of livestock. - sufficient livestock services are maintained from the point of purchase or receival and up until the point of slaughter in the case of slaughter and feeder animals and up until the point of discharge in the case of breeder animals. Livestock services provided must ensure good levels of animal health and welfare are maintained and all animal welfare and health risks are mitigated in a reasonable manner. - that accredited stockpersons and accredited veterinarians are engaged as required by the Approved Export Program. - that livestock are loaded for transport in a manner that prevents injury and minimises stress by providing competent animal handlers and suitable loading facilities. - that stocking densities meet all relevant requirements and that there is sufficient provisioning of the vessel/aircraft before departure, including feed, water, (bedding where required) and	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of relevant animal welfare legislation, model codes of practice, and standards and guidelines such as the Land Transport Standards Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL Understanding and awareness of the approval of the NOI, AEP and importing country requirements

	veterinary supplies. - that the preparation and loading of livestock at the port of embarkation have been conducted in accordance with the approved loading plan, and any importing country requirements. The exporter must be able to demonstrate and reconcile all numbers of animals involved in the preparation, management and export of a consignment and their location. **Legal responsibility:** compliance with any relevant requirements of: state or territory animal welfare legislation; state or territory livestock disease control legislation; the *Export Control Act 1982* and regulations or orders made under it, including exporter supply chain assurance system requirements; the *Australian Meat and Livestock Industry Act 1997* and regulations or orders made under it; and the AAWSEL.	
Registered/ **Approved Premises staff**	Staff at registered/approved premises involved with animal handling or management have responsibility to: - handle and manage livestock in a humane manner from the time they enter the registered premises to the time they leave. -required to keep certain records in accordance with Part 8 of the AAWSEL **Legal responsibility:** ensure they are aware of and comply with relevant state and territory animal welfare legislation and disease control legislation. **Note.** The roles and responsibilities that apply to animal handlers above also apply.	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of obligations under animal welfare legislation the appropriate and model code of practice Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL
Stevedores	Stevedores involved with livestock handling have responsibility to: - handle and move livestock in a humane manner when they are unloaded from trucks on the wharf until they are loaded onto the vessel. **Legal responsibility:** ensure they are aware of and comply with relevant state and territory animal welfare legislation and disease control legislation. **Note.** The roles and responsibilities that apply to animal handlers above also apply.	Humane, low stress animal handling ability and understanding of animal behaviour Awareness and understanding of their obligations under Animal welfare legislation, the appropriate model code of practice and the land transport standards for livestock Awareness and understanding of the 'Fit to Export' Guide
Airport/port Animal Welfare Officer	Port/airport animal welfare officers have responsibility to: - ensure the humane handling, treatment and husbandry of	Humane, low stress animal handling ability and understanding of animal

	livestock for export at the airport/port. - ensure that the loading facilities and livestock handling practices are satisfactory on animal welfare grounds during unloading from the land transport, inspection and loading onto the aircraft/vessel. **Legal Responsibility:** All people interacting with animals should be aware of and understand relevant areas of the animal welfare and disease control act or their equivalent legislation within their jurisdiction as well as *the Export Control Act*, AAWSEL	behaviour Awareness and understanding of their obligation under Animal welfare legislation, the appropriate model code of practice and the land transport standards for livestock Awareness and understanding of 'Fit to Export' Guide and the AAWSEL
Livestock Inspector	Livestock inspectors have responsibility to inspect all livestock and ensure only fit to export animals are allowed to progress to the vessel for export in accordance with Appendix 7.1. Livestock inspectors must ensure that all reject animals are identified and receive timely and appropriate treatment or are euthanased if needed. Livestock inspectors may act under veterinary direction or supervision in the performance of their duties as required. **Note.** The roles and responsibilities that apply to animal handlers above also apply in relation to livestock inspectors. **Legal Responsibility:** All people interacting with animals should be aware of and understand relevant areas of the animal welfare and disease control act or their equivalent legislation within their jurisdiction as well as the *Export Control Act 1982*, AAWSEL.	Humane, low stress animal handling ability and understanding of animal behaviour Awareness and understanding of Animal welfare legislation, the appropriate model code of practice and the land transport standards for livestock Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL
Livestock Drafters	Livestock drafters have responsibility to: - handle and manage livestock in a humane manner, and to assist the livestock inspectors/AGAV in the removal of any animal that is not fit for export. - notify a livestock inspector /AGAV of any animal in the reject pen that requires immediate treatment due to illness or injury. Livestock drafters may act under veterinary direction or supervision in the performance of their duties as required. **Note.** The roles and responsibilities that apply to animal handlers above also apply in relation to livestock drafters. **Legal responsibility:** All people interacting with animals should be aware of and understand relevant areas of the animal welfare and disease control act or their equivalent legislation within their jurisdiction.	Humane, low stress animal handling ability and understanding of animal behaviour Awareness and understanding of Animal welfare legislation, the appropriate model code of practice and the land transport standards for livestock Awareness and understanding of the 'Fit to Export' Guide
Land based AGAV	Land based AGAVs are DAFF approved registered veterinarians who deliver contract veterinary services to exporters. Land based AGAVs have responsibility for:	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour

	- examining animals, delivering veterinary treatments, testing and animal preparation under an AEP, in accordance with relevant state and territory legislation and importing country requirements. - removing any animals not fit to export from the consignment and ensuring they are identified and treated appropriately or immediately euthanased if necessary. - ensuring that any livestock inspectors or stockpersons employed by them have demonstrable skills, knowledge, experience and ability to competently undertake their duties in accordance with the AAWSEL. **Note.** The roles and responsibilities that apply to animal handlers above also apply. **Legal Responsibility:** All people interacting with animals should be aware of, understand and abide by the animal welfare and disease control act or their equivalent legislation within their jurisdiction as well as the Export Control Act, AAWSEL the AEP and the Veterinary surgeons board legislation pertinent to the relevant jurisdiction and all conditions of the DAFF accreditation.	Awareness and understanding of obligations under animal welfare legislation the appropriate and model code of practice Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL Understanding and awareness of the AEP and importing country requirements Veterinary degree and DAFF accreditation
Registered Veterinarian	Registered veterinarians are responsible for regular veterinary duties that do not require specialist accreditation. **Note.** The roles and responsibilities that apply to animal handlers above also apply. **Legal responsibility:** All people interacting with animals should be aware of and understand relevant areas of the animal welfare and disease control act or their equivalent legislation and the veterinary surgeons legislation pertinent to the relevant jurisdiction.	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of obligations under animal welfare legislation the appropriate and model code of practice Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL. Understanding and awareness of the AEP and importing country requirements Veterinary degree
DAFF veterinarian officer (regional)	DAFF regional veterinarians have responsibility for issuing documentation to enable the export of livestock, based on verification that livestock are eligible for export. This may require: - inspections at registered/approved premises - review of documentation to ensure exporter compliance with	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of Animal welfare legislation the

	the AAWSEL and importing country requirements. - performing flock/herd inspections of all livestock in registered premises, ensuring livestock are fit to export before they can be given permission to leave for loading. - performing flock/herd inspections of all livestock in approved premises and ensuring livestock are fit to export. - monitoring loadout at air or sea ports, including validating stocking densities - issuing documentation to enable the export of livestock, based on inspection and other verification activities **Note.** DAFF officers do not move, handle or manage livestock but have responsibility for monitoring animal welfare and the impact on welfare of the export process. **Legal Responsibility:** All people interacting with animals should be aware of, understand and abide by the Animal welfare and disease control act or their equivalent legislation within their jurisdiction as well as the Export Control Act, AAWSEL, the approval of the NOI and AEP and the Veterinary surgeons legislation pertinent to the relevant jurisdiction.	appropriate and model code of practice Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL. Understanding and awareness of the NOI, AEP and importing country requirements Veterinary degree and registration in the relevant jurisdiction
Shipboard AGAV	Shipboard AGAVs accompany specified consignments. They are responsible under Australian Government legislation for the monitoring, managing and regular reporting to the Australian Government of consignment conditions on board from the commencement of loading to the completion of disembarkation. This includes reporting on the health, welfare and mortalities of livestock during the export voyage. **Note.** The roles and responsibilities that apply to animal handlers above also apply. **Legal Responsibility:** All people interacting with animals should be aware of, understand and abide by the Animal welfare and disease control act or their equivalent legislation within their jurisdiction as well as the Export Control Act, AAWSEL the AEP and the Veterinary surgeons board legislation pertinent to the relevant jurisdiction and all conditions of the DAFF accreditation.	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour Awareness and understanding of their obligations under animal welfare legislation the appropriate and model code of practice Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL Understanding and awareness of the AEP and importing country requirements Veterinary degree and DAFF accreditation
Accredited Stockperson	Accredited stockpersons are employed by the exporter and are responsible for monitoring, managing and reporting on the health, welfare and mortalities of livestock during the export voyage. In the absence of a AGAV they are also responsible for completing the reporting requirements under the AAWSEL.	Humane, low stress animal handling ability and understanding of animal husbandry and behaviour

	All animal movement, handling, or management of any animals under their care is to be done in a humane manner that minimises injury and health risk to the animals. **Note.** The roles and responsibilities that apply to animal handlers above also apply. **Legal responsibility:** All people interacting with animals should be aware of and understand the Animal welfare and disease control act or their equivalent legislation within their jurisdiction and the AAWSEL.	Awareness and understanding of their obligations under animal welfare legislation, the appropriate model code of practice and the land transport standards for livestock Awareness and understanding of the 'Fit to Export' Guide Current accreditation as an onboard stockperson issued by LiveCorp
Master of the vessel	The master of the vessel has overall responsibility for the management of the livestock loaded on the vessel. The master of the vessel prepares a loading plan for animals on the vessel in accordance with the AAWSEL. **Legal responsibility:** The master of the vessel is responsible for ensuring that Livestock carried from Australia are done so in accordance with AAWSEL, Marine Orders 43, the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, the International Convention for the Safety of Life at Sea (SOLAS), 1974 other relevant international treaties and conventions.	Awareness and understanding of the 'Fit to Load' Guide Awareness and understanding of the 'Fit to Export' Guide and the AAWSEL Understanding and awareness of the AEP and importing country requirements

Government Roles and Responsibilities

Australian Government	The Australian Government is responsible for export policy and regulation of the livestock export industry, including licensing livestock exporters, inspection and health and welfare certification of livestock for export, and issuing export permits and health certificates. This includes ensuring exporters, operators of registered premises and accredited veterinarians comply with the AAWSEL. Under its legislation, the Australian Government is also responsible for the development, maintenance and review of the AAWSEL.
State and territory governments	State and territory governments have responsibility for ensuring that livestock producers and exporters comply with relevant state and territory legislation, including animal welfare acts and providing information on notifiable diseases related to the livestock being exported (property of origin certificate) to the Australian Government.

Appendix A.2 New South Wales Livestock Health and Pest Authority Internal Division Boundaries

Note. This appendix relates to the above definition of pastoral zone

For NSW the 3rd and 4th character of the PIC indicates where the property is located. PICs with the following 3rd and 4th characters are pastoral: 03, 05, 07, 09, 13, 31, 39, 58, 61 and 60. The second character of the PIC is a validation character and should be ignored.

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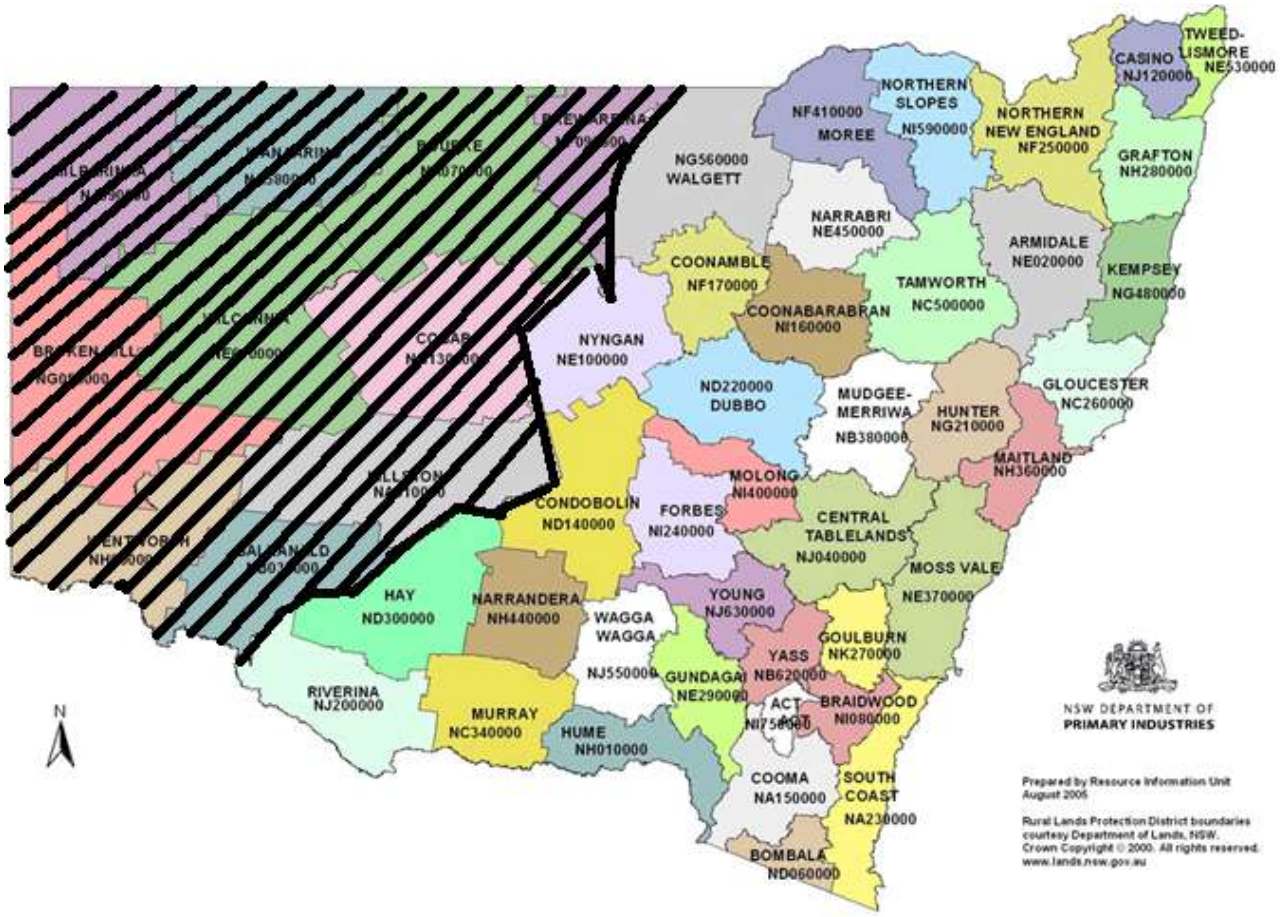
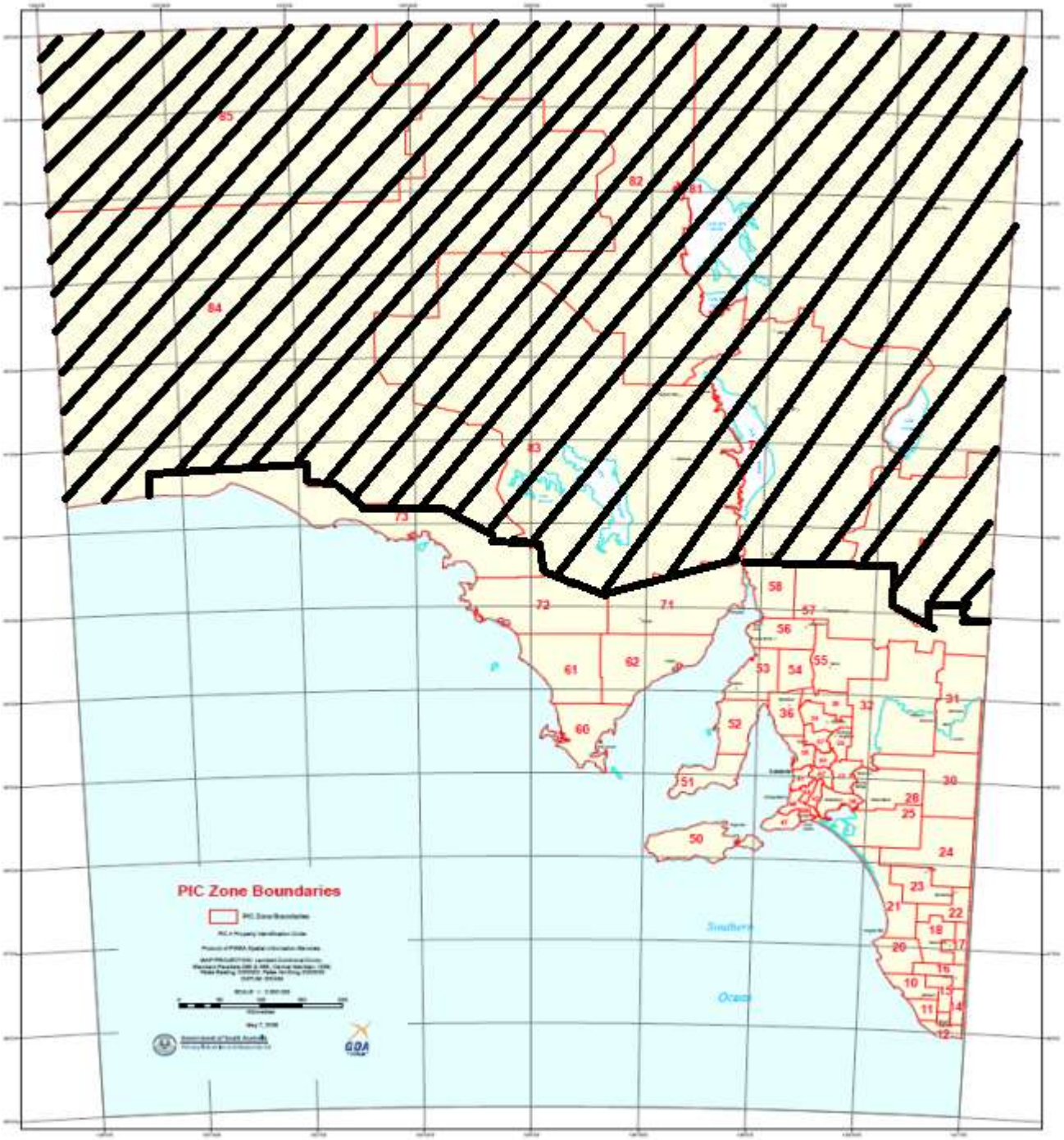


Appendix A.3 South Australia PIC Zone Boundaries

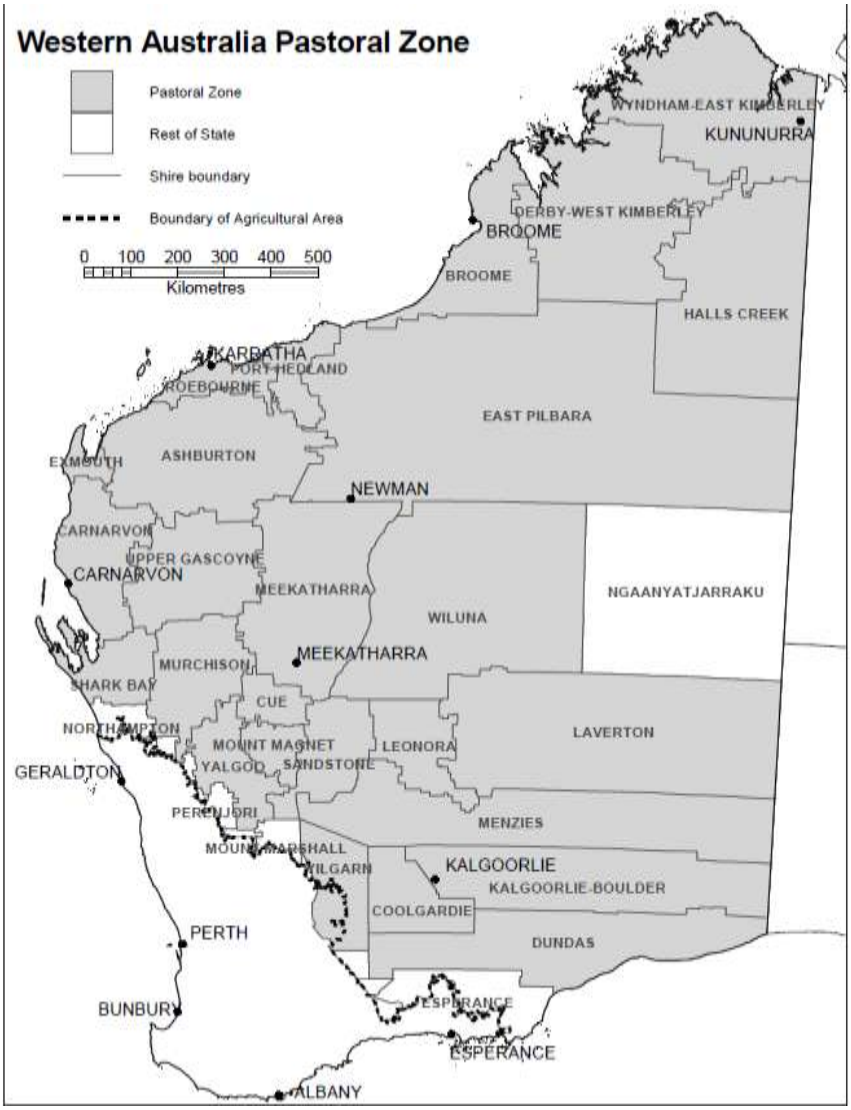
Note. This appendix relates to the above definition of pastoral zone.

For South Australia the 3rd and 4th digit tells you where the property is located. PICs with the following 3rd and 4th characters are pastoral: 70, 80, 81, 82, 83, 84 and 85.



Appendix A.4 Western Australia pastoral zone shires

Note. This appendix relates to the above definition of pastoral zone.



The shires of Western Australia within the pastoral zone are:

Shire code	Shire name
WP	Ashburton
BR	Boulder
BE	Broome
CN	Carnarvon
CD	Coolgardie
CE	Cue
DS	Dundas
EP	East Pilbara
EH	Exmouth
HC	Hallscreek
KE	Kalgoorlie
LN	Laverton
LA	Leonora

Shire code	Shire name
MM	Mt Magnet
MC	Murchison
RO	Roebourne
SE	Sandstone
SB	Shark Bay
UG	Upper Gascoyne
WK	West Kimberly
WI	Wiluna
WY	Wyndham/ E. Kimb
YO	Yalgoo
YN	Yilgarn

MT	Meekatharra
MS	Menzies

PART 1— Sourcing and on-farm preparation of livestock

Number	Standard
S1.1	Livestock sourced for export must be able to meet importing country requirements.
S1.2	Livestock sourced for export must be: a) identified to the property of source; b) accompanied by a correctly completed and signed declaration as to the identification of the livestock and property of source; and c) individually identified where testing is required during preparation.
S1.3	*Option 1 – upper body conditions score of 5 (note this is the same as required in 1.7)* *Bos taurus cattle with a body condition score of 5 must not be sourced for export or exported from an area north of latitude 26°S from 1 October to 31 December (inclusive).* *Option 2 – upper body condition score of 4* *Bos taurus cattle with a body condition score of 4 or above must not be sourced for export or exported from an area north of latitude 26°S from 1 October to 31 December (inclusive).* **Note**. See Table A1.1.3
S1.4	*Option 1 – status quo* *Bos taurus cattle bred in an area of Australia south of latitude 26° south must not be sourced for export to or through the Middle East from May to October unless a livestock heat stress risk assessment agreed by DAFF indicates that the risk is manageable. [less than a 2 per cent risk of 5 per cent mortality]* *Option 2* *Bos taurus cattle must not be sourced for export to the Middle East from May to October.*
S1.5	Sheep must not be sourced for export from the bluetongue virus free zone for export from a port or transported through the bluetongue virus transmission zone from 1 November to 31 May in the following year.
S1.6	Livestock sourced for export must be fit to enter the intended export chain.
S1.7	Livestock must not be sourced for export if they are in an emaciated or overfat body condition. That is: a) cattle and buffalo must be from body condition scores 2 to 4 (inclusive) on a scale of 0 to 5; b) pregnant cattle must be from body condition scores 2.5 to 4 (inclusive) on a scale of to 5; c) sheep, goats and deer must be from body condition scores 2 to 4 (inclusive) on a scale of 1 to 5; and d) camels must be from body condition scores 2 to 4 (inclusive) on a scale of 1 to 5. e) alpacas must be from body condition scores 2 to 4 (inclusive) on a scale of 1 to 5. f) Dairy cattle must be from body condition scores 3 to 6 (inclusive) on a scale of 1 to 8. **Note.** See Appendix 1.1

Number	Standard
S1.8	Cattle and buffalo sourced for export as slaughter and feeder animals: a) must have been weaned at least 14 days before sourcing for export; *Option 1 – status quo* *b) must have an individual liveweight of more than 200 kg and less than 650 kg or, if outside these weights, have written prior approval from DAFF;* *Option 2 – lower maximum weight* *b) must have an individual liveweight of more than 200 kg and less than 500 kg or, if outside these weights, have written prior approval from DAFF;* c) must have been determined not to be detectably pregnant and individually identified, using the following criteria: i. have been pregnancy tested during the 30 day period before export and certified in writing as not detectably pregnant by the registered veterinarian in all jurisdictions or by a person authorised to pregnancy test cattle or buffalo in that jurisdiction who pregnancy tested the cattle or buffalo; or ii. In the event of unforseen delays, DAFF can approve an extension beyond 30 days if certification can be provided demonstrating that animals have been isolated from any bulls after the pregnancy test has taken place. d) must be individually identified and certified by the registered vet/or the person authorised to spay in that jurisdiction; i. that they have been spayed using the Willis dropped ovary technique not less than 30 days before export; or ii. be accompanied by a vendor declaration that certifies that they have been spayed not less than 280 days before export.
S1.9	Cattle and buffalo must only be sourced for export for breeding if they: a) have been weaned at least 14 days before sourcing for export; *Option 1 – status quo* *b) have an individual liveweight of more than 200 kg and less than 650 kg or, if outside these weights, have written approval from DAFF; and* *Option 2 – lowered maximum weight* *b) have an individual liveweight of more than 200 kg and less than 500 kg or, if outside these weights, have written approval from DAFF; and* *c)* have been pregnancy tested within the 30 day period and individually identified before export and certified in writing not to be in the last trimester of pregnancy at the scheduled date of departure. The certification must be provided by a veterinarian who is an accredited tester under the National Cattle Pregnancy Diagnosis Scheme and who pregnancy tested the cattle or buffalo. For journeys of less than 10 days a declaration must be made in writing by a registered veterinarian who can attest to demonstrable current experience and who pregnancy tested the cattle or buffalo. The veterinarian may base this certification on assessment of the animals by a method other than manual palpation.
S1.10	Ewes with a weight of 35 kg or more, all female fat-tail sheep breeds and all does (goats) must only be sourced for export as slaughter and feeder animals if they have been pregnancy tested by ultrasound within 30 days of export, individually identified (tagged) and certified not to be pregnant, by written declaration, by a competent person who conducted the pregnancy test.

Number	Standard
S1.11	*Option 1 – status quo* *Unless approved by DAFF, lambs and goat kids must only be sourced for export if:* *Option 2 – removing DAFF discretionary approval* *Lambs and goat kids must only be sourced for export if:* a) they have been weaned at least 14 days before sourcing for export; b) lambs have a liveweight of more than 28 kg; and c) goat kids have a liveweight of more than 22 kg.
S1.12	Sheep and goats sourced for breeding must only be sourced for export if they have been individually identified and pregnancy tested using ultrasound foetal measurement within 30 days of export and certified, by written declaration, by a competent person who conducted the pregnancy test, to be not in their third trimester of pregnancy at the scheduled date of departure.
S1.13	Camelids sourced for breeding must only be sourced for export if they have been individually identified and pregnancy tested using ultrasound within 30 days of export and certified, by written declaration, by a registered veterinarian, to be not in their third trimester of pregnancy at the scheduled date of departure.
S1.14	Deer sourced as slaughter and feeder animals must only be sourced for export if they have been pregnancy tested by ultrasound within 30 days of export, individually identified and certified, by written declaration, by a competent person who conducted the test, not to be pregnant.
S1.15	Deer sourced for breeding must only be sourced for export if they have been pregnancy tested by ultrasound foetal measurement within 30 days of export, individually identified and certified, by written declaration, by a person able to demonstrate a suitable level of experience and skill, not to be in their last trimester of pregnancy at the scheduled date of departure.
S1.16	Sheep, goats and alpacas must only be sourced for export if they: a) have wool not more than 25 mm in length *Option 1 – DAFF discretion for hair length* b) *have hair not more than 25 mm in length, unless approved by DAFF based on a heat risk assessment model agreed by DAFF and at least an additional 10 percent space provided.* *Option 2- No DAFF discretion for hair length* *b) have hair not more than 25 mm in length.* c) are 10 days or more off shears; or *Option 2 – two days off shears* *d) are to be shorn at least two days (not including the day of shearing and loading) before export, in which case they must be accommodated in sheds on the registered premises.* *Option 3 – three days off shears* *d) are to be shorn at least three days (not including the day of shearing and the day of loading) before export, in which case they must be accommodated in sheds on the registered premises.*
S1.17	*Option 1 – status quo* *Feral goats must not be sourced for export by sea unless they become conditioned to being handled and to eating and drinking from troughs for a minimum of 21 days before transfer to registered premises.* *Option 2 – no feral goats to be exported by sea* *Feral goats must not be sourced for export by sea.*

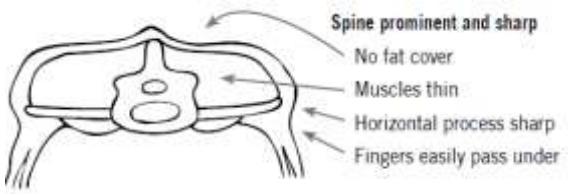
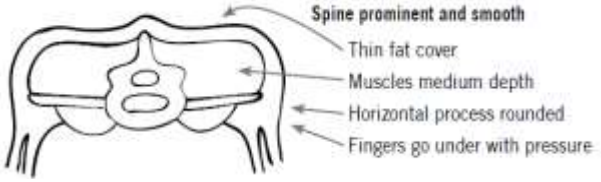
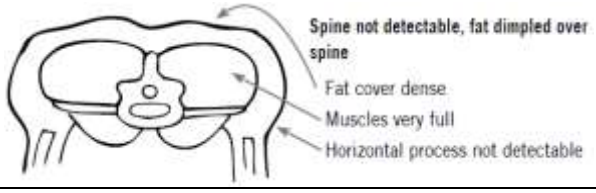
Number	Standard
S1.18	Deer must only be sourced for export if they: a) are at least six months old; b) have been weaned for at least two months before sourcing for export; and c) have become conditioned to being handled and to eating and drinking from troughs for a minimum of 14 days.
S1.19	Camels, including wild-caught camels, must only be sourced for export if they: a) have become conditioned to being handled and to eating and drinking from troughs for a minimum of 14 days; and b) meet transport and shipping height requirements of the intended transport (ie camels standing in their natural position do not touch any overhead structures). c) are in the weight range 200kg to 600kg d) have been weaned for 30 days before sourcing e) have been pregnancy tested, individually identified and certified, by written declaration, by a registered veterinarian with suitable experience who conducted the pregnancy test, not to be in their third trimester of pregnancy at the scheduled date of departure. Bull camels that are more than five years of age and are in rut must not be sourced for export in the period 1 May and 30 September.
S1.20	Female livestock must not be treated with a prostaglandin drug within 14 days of export, and not during the 60 day period before export unless they have been pregnancy tested immediately before prostaglandin treatment and declared to be in the first trimester of pregnancy or not detectably pregnant.
S1.21	Livestock must be assembled and handled in preparation for loading in a way that maintains their health and welfare and fitness for travel. This preparation must include: a) where the journey will take more than 24 hours, provision of suitable feed and water and rest for at least 12 hours close to the loading facility, before commencement of any curfews; and b) where livestock are mustered by helicopter or light aircraft, provision of suitable feed and water and rest for at least 24 hours before commencement of any curfews. Holding areas for livestock before loading for land transport must securely contain the animals and maintain a safe environment.
S1.22	Livestock on green feed must be held off green feed (but may be given access to dry feed) for at least 12 hours prior to loading for transport from the property of source.

PART 1 APPENDIXES

Appendix 1.1 Body condition score for livestock

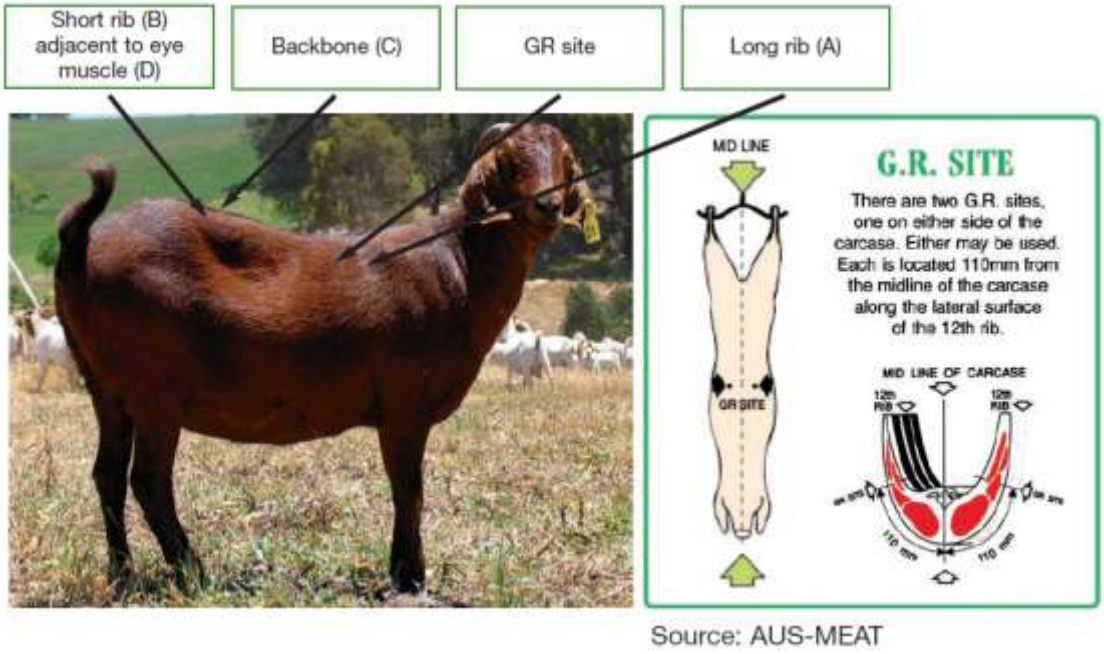
1.1.1 Sheep

Table A1.1.1 Body condition scores for sheep

Score	Backbone	Short ribs	Eye muscle	
1	Prominent and sharp	Ends are sharp and easy to press between, over and around	Thin, the surface tending to feel hollow	
2	Prominent but smooth	Smooth, well-rounded ends — can feel between, over and around each smoothly	Reasonable depth with the surface tending to feel flat	
3	Can be felt, but smooth and rounded	Ends are smooth and well covered — firm pressure is necessary to feel under and between short ribs	Full and rounded	
4	Detectable with pressure on the thumb	Individual short ribs can only be felt with firm pressure	Full with a covering layer of fat	
5	Can be felt with firm pressure	Cannot be felt even with firm pressure	Muscle cannot be felt due to a thick layer of fat	

1.1.2 Goats

To determine the condition score, you feel the grid reference (GR) site of the goat. This point is located 110 millimetres from the backline along the second-last long rib. The condition score relates to the tissue depth (in millimetres) at the GR site. Table A1.1.2 below provides guidance on what to feel for when condition scoring. As the table indicates, the live condition scores assigned in Australia are from one to five. Refer to the diagram below to locate the positions on the goat indicated by A, B, C and D in the first row of table A1.1.2.



Source: AUS-MEAT

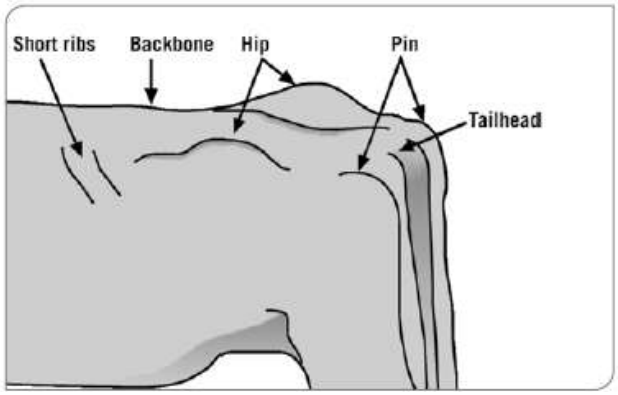
Table A1.1.2 Body condition scores for goats

Score	GR site tissue depth	Long ribs A	Short ribs B	Backbone C	Eye muscle D
1	1-3mm	Individual ribs can be felt very easily; cannot feel any tissues over the ribs.	Short ribs are prominent; it is easy to feel between them. The muscle mass extends two-thirds or less of the way along them.	Bones are raised and sharp; it is easy to feel between them. The muscle mass extends two-thirds or less of the way along them.	Feels noticeably dished.
2	4-6mm	Individual ribs can be felt very easily but slight amount of tissue is present.	Ends of short ribs feel square; it is easy to feel between them. The muscle mass extends to the end of the short ribs.	Bones are slightly raised and can be easily felt, with noticeable dishing between them.	Feels straight or slightly dished.
3	7-9mm	Individual ribs can be felt easily but some tissue is present.	End of short ribs are rounded; it is still possible to feel between them.	Bones are raised and the ends are rounded; it is still possible to feel between them.	Feels slightly rounded.
4	10-12mm	Individual ribs can still be felt but tissue is prominent.	Ends of short ribs are rounded; it may be possible to press between them with pressure.	Bones are slightly raised; it is possible to feel them but not between them.	Feels well rounded.

Score	GR site tissue depth	Long ribs A	Short ribs B	Backbone C	Eye muscle D
5	Over 12mm	Individual ribs can be felt or just felt; tissue is very prominent and may be fluid.	None or only one or two bone ends nearest the rib cage may be felt. It is not possible to press between them.	Some bone ends may still be felt or backbone may be recessed in fat and difficult to feel. It is not possible to feel between bone ends.	Feels very well rounded.

Source: Meat and Livestock Australia (2006) Going into goats: profitable producers' best practice guide

1.1.3 Beef Cattle



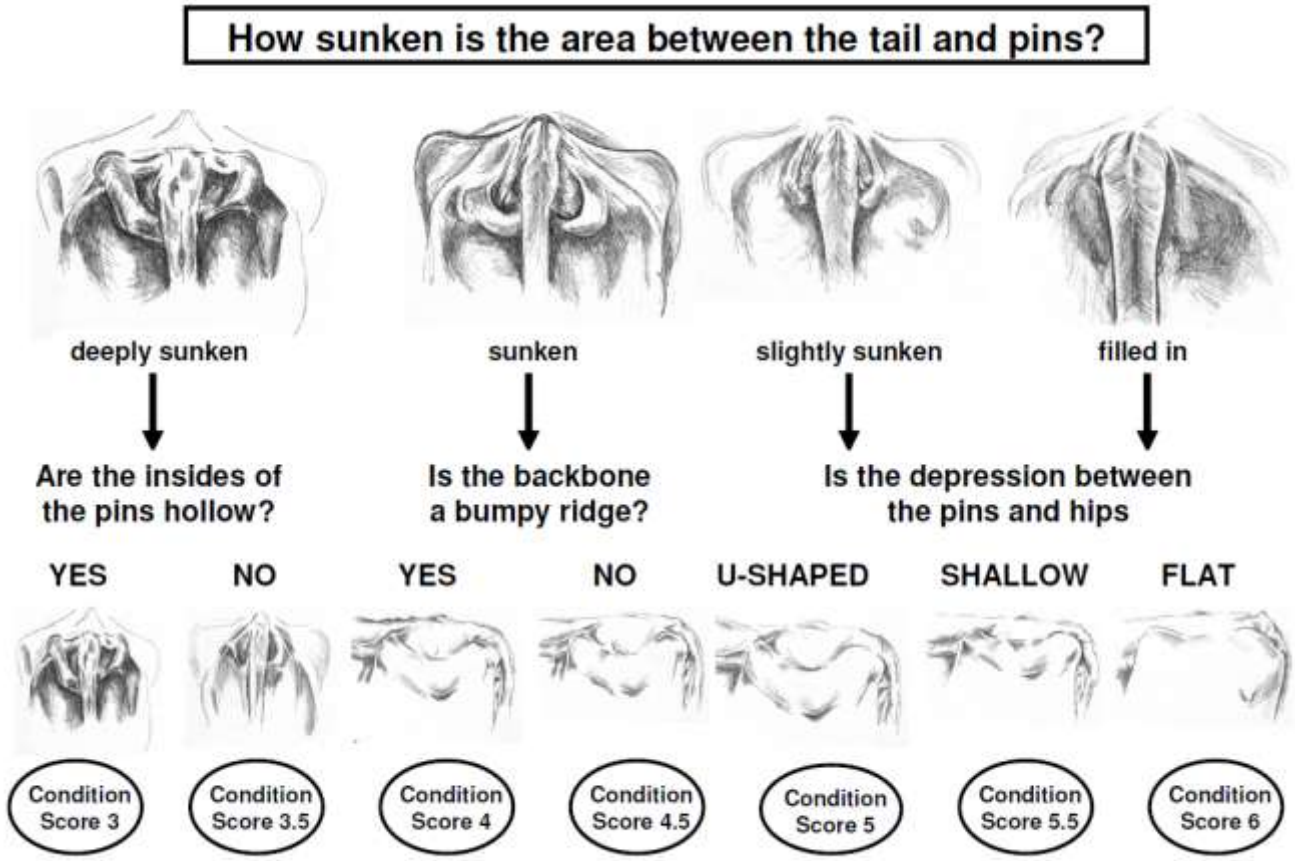
The picture on the left assists with body condition scoring for beef cattle.

Table A1.1.3 Body condition scores for beef cattle

Score	Traditional muscle score equivalent	Traditional fat score equivalent	Description
0	E	0	Severely emaciated
1	D	0	The individual bones are sharp to the touch, with no fat at the head of the tail. Hip bones and ribs are prominent.
2	B-E	1	The individual bones can be felt easily, but feel rounded rather than sharp. There is some tissue cover around the tail head. Individual ribs are no longer visually obvious.
3	A-E	2	The short ribs can be felt only with firm thumb pressure. Areas either side of the tail head have fat cover which can be felt easily.
4	A-E	3	The ribs cannot be felt and fat cover around the tail head is easily seen as slight mounds, soft to touch. Folds of fat are beginning to develop over the ribs and thighs.
5	A-E	4-6	The bone structure of the animal is no longer noticeable and the tail head is almost completely buried in fatty tissue.

1.1.4 Dairy cattle

Table A1.1.4 Body condition scores for dairy cattle



1.1.5 Deer

Body condition scoring is based on palpation of the spine, pelvis and rump of live animals. The simple scoring system varies from score 1 (emaciated) to 5 (overfat) and relates directly to carcase condition scores.

Table A1.1.5 Body condition scores for deer

Score	Description	Pelvis, ribs and spine	Rump area	
1	Emaciated — no fat cover	Prominent	Concave	
2	Lean — minimal fat cover	Prominent but appear rounded rather than sharp	Slightly concave	
3	Prime — ideal fat cover	Not readily distinguished	Flat	
4	Fat — fat (some trimming necessary)	Pelvis rounded, spine covered by fat	Rounded	
5	Overfat — overfat (excessive trimming required)	Pelvis concealed by fat, spine hard to palpate	Very convex	

1.1.6 Camels

The condition of a camel is estimated by looking at the store of body fat (i.e. the hump). This reflects the internal fat reserves and provides a good correlation with total body fat. The camel deposits excess energy as fat into the hump sac and into some internal linings. This contrasts with the energy reserves of other species, in which fat is deposited into the subcutaneous tissues and internal linings and within the muscles.

Note. See http://www.camelsaust.com.au/livebodycond.htm

Table A1.1.6 Body condition scores for camels based on the amount of fat in the hump

Score	Description	Illustration
1	Little or no fat in the hump sac; hump hairy and may be leaning to one side	
2	Hump with moderate development rising 5% higher than chest depth, but may also be leaning to one side	
3	Hump with good development and rising to 10% higher than chest depth. Hump is still sculptured inwards on both sides and still fits over the chest and abdominal area	
4	Hump fully developed and rising to 15% higher than chest depth. Hump rounded outwards on both sides and runs from the shoulder to the rump	
5	Hump overextended and rising more than 15% higher than chest, or so full that it is rounded on the sides like a semicircle	

1.1.7 Alpacas

Note. See http://www.alpaca.asn.au/

Table A1.1.7 Body condition scores for alpacas

The picture above is an example of how to body score an alpaca by placing your hand on the backbone, just forward of the pelvic area (or toward the last of the ribs).

Score	Description	Illustration
1	Severely concave between spine and ribs. The backbone is very noticeable, ribs are clearly felt and brisket shows no fat.	
2	Slightly concave between spine and ribs. You can feel backbone, ribs are noticeable and brisket is firm.	
3	Neither concave nor convex between spine and robs. You can feel the backbone, but it does stand out and you can just feel the ribs and the brisket.	
4	Slightly convex between spine and ribs. You can feel the backbone, but it does not stand out and you can just feel the ribs and the brisket.	
5	Severely concave between spine and ribs, the top of the back feels flat. You can not feel backbone or ribs, brisket wobbles when touched.	

1.1.8 Buffalo

Note. Body condition scores for buffalo are under development.

PART 2— Land transport of livestock

Number	Standard
S2.1	The transport of livestock must be undertaken in accordance with the Land Transport Standards, any other requirements of state and territory legislation, the AAWSEL, and to ensure the livestock meet importing country requirements.

[Note – LTS to be incorporated by reference in this Part, subject to legal review]

PART 3— Management of livestock in registered premises

Number	Standard
S3.1	The location of the registered premises, used for inspection for 'leave for loading', must not be more than 8 hours journey time from the port of embarkation.
S3.2	Livestock must be unloaded into registered premises to rest and adapt for their export journey if the duration of the land transport journey is more than 14 hours Rest time must increase incrementally by 12 hours for every 500km travelled above the original 14 hours of travel from sourcing
S3.3	The operator of registered/approved premises must employ sufficient and competent personnel for the effective day-to-day operation of the premises and management of the livestock.
S3.4	Livestock handling facilities and sheds at registered premises must comply with the following: a) Sheds must be constructed with sufficient drainage and ventilation to ensure that sheds are free draining. b) Sheds with slatted or mesh floors must be designed and maintained to prevent entrapment of feet. c) Facilities must be designed and maintained to facilitate livestock handling, inspection and removal of individual animals with a minimum of stress and injury to the animals. d) Floors of yards, sheds, pens and loading ramps must have non-slip surfaces.
S3.5	Isolation of livestock: a) Where a period of pre-export quarantine or isolation is required by the importing country, animals forming the consignment must at all times be isolated from all other animals (whether for an alternative export market or domestic use) to prevent contact. b) Where handling facilities used for loading, holding, treating or inspecting livestock (including roadway and lanes) are to be used for both domestic and export livestock (including livestock of differing export status), the operator of the premises must have procedures in place to ensure that: i. handling facilities are not used simultaneously by livestock of differing pre-export quarantine or isolation status; ii. a minimum livestock traffic separation of 2 m is maintained at all times, or livestock are separated by a physical barrier such as a fenced road or lane or a fully fenced empty paddock, unless specified otherwise by the importing country; and iii. handling facilities and equipment used by different consignments of animals are managed in accordance with the pre-export quarantine or isolation requirements of each importing country. c) All registered premises must have a designated hospital pen area that enables timely and appropriate recovery, treatment, or euthanasia as required.
S3.6	To control drainage, surface water, groundwater and effluent run-off, the premises must be located or constructed in such a manner that: a) surface water and livestock effluent are directed away from laneways, livestock handling areas, livestock confinement areas and feed storage areas; b) the livestock confinement area of the registered premises is free draining and remains firm under foot; and c) the surfaces around feeders and water troughs are evenly graded and compacted to form a hard, durable surface that readily sheds surface water.

Number	Standard
S3.7	The registered premises must be either constructed or located in such a manner as to provide animals with protection from extreme climatic conditions by means of: a) shade; b) windbreaks; c) shelter; or d) other means approved by DAFF.
S3.8	Fencing at registered premises must: a) be appropriate to hold livestock and to prevent the unauthorised entry or escape of livestock; b) be maintained in a good state of repair; c) be inspected before the entry of each consignment and twice a week while livestock are in the registered premises; and d) be consistent with the importing country requirements.
S3.9	To ensure adequate supply of feed and water: a) feeders, self-feeders and water troughs must allow for complete cleaning of all surfaces and prevent spoilage of feed during inclement weather, and minimise faecal contamination and injuries i. all fodder must be placed in troughs so that animals do not eat from the ground/floor b) all pelletised livestock feed at the registered premises must be stored in a manner that maintains the integrity and nutritional value of the feed, and protects it from weather, pests and external contaminants (including chemical spray drift) c) feed trough allowance for sheep and goats held in paddocks at the registered premises is to be calculated on a paddock-by-paddock basis and must be: i. for ration feeding, no less than 5 cm length of feed trough per head; ii. for ad libitum feeding, no less than 3 cm length of feed trough per head; iii. during any or all of May, June, July, August, September and October feeding must occur from fully sheltered feed troughs, with the exception of areas of Australia north of latitude 26° south. d) the quantity of feed available should meet at least the minimum daily feed requirements, which are: i. cattle/buffalo — 2.5 per cent of their bodyweight, of a quality feed able to meet daily maintenance requirements; ii. sheep and goats — 3 per cent of their bodyweight per day for sheep younger than 4 tooth and 2 per cent of their bodyweight per day for 4 tooth or older, of a quality feed able to meet daily maintenance requirements; and iii. deer — 2 per cent of their bodyweight per day of a quality feed able to meet daily maintenance requirements. e) all livestock in the registered premises must have access to drinking water at all times (unless under curfew or being handled) f) water troughs must be: i. positioned apart from hay and feed sources to prevent fouling; and ii. kept clean. g) the water quality must be suitable for the livestock and there must be sufficient storage and delivery capability or a contingency plan to ensure continuity of supply to all animals at peak demand for 2 days.

Number	Standard
S3.10	For preparation of sheep and goats that are held: a) in paddocks during any or all of May, June, July, August, September and October, premises must have procedures to ensure that: *Option 1 – status quo* *i. sheep and goats to be exported by sea are held at the premises for 5 clear days (excluding the days of arrival and departure) before export;* *Option 2 – increased time in registered premises* *i. sheep and goats to be exported by sea are held at the premises for 7 clear days (excluding the days of arrival and departure) before export;* *ii. livestock are fed ad libitum during that period; and* *iii. during the last 3 days of that period, livestock are fed ad libitum, but only on pelletised feed equivalent to that normally used during an export journey, and ensure that residual hay is not present* b) in paddocks during any or all of November, December, January, February, March and April, premises must have procedures to ensure that: *Option 1 – status quo* *i. sheep and goats to be exported by sea are held at the premises for 3 clear days (excluding the days of arrival and departure) before export; and* *Option 2 – increased time in registered premises* *i. sheep and goats to be exported by sea are held at the premises for 7 clear days (excluding the days of arrival and departure) before export; and* *ii. livestock are fed ad libitum during that period and only on pelletised feed equivalent to that normally used during an export journey.* c) in sheds during any or all months of the year, premises must have procedures to ensure that: *Option 1 – status quo* *i. sheep and goats to be exported by sea are held at the premises for 3 clear days (excluding the days of arrival and departure) before export; and* *Option 2 – increased time in registered premises* *i. sheep and goats to be exported by sea are held at the premises for 7 clear days (excluding the days of arrival and departure) before export; and* *ii. livestock are fed ad libitum during that period and only on pelletised feed equivalent to that normally used during an export journey.*

Number	Standard
S3.11	The minimum length of time that cattle and buffalo must remain in a registered premises prior to departure is as follows: *Option 1- status quo* *a) a long haul voyage — 2 clear days;* *b) for a short haul voyage in a vessel with multiple port loadings or multiple port discharges — 1 clear day;* *c) for a short haul voyage in a vessel with 1 port of loading or 1 port of discharge – 24 hours; or* *d) for an extended long haul voyage — 3 clear days.* *Option 2 – increased minimum time in registered premises* *For a short haul voyage in a vessel with 1 port of loading or 1 port of discharge – 24 hours. For all other voyages, all cattle and buffalo must remain in registered premises for a minimum of 3 clear days prior to departure for export.*
S3.12	Export to the Middle East: a) The operator of the registered premises must not prepare the following classes of livestock for export to the Middle East by sea during the period from May to October: i. For sheep and goats held in paddocks: • pastoral sheep; • lambs (less than 34 kg and no permanent incisors); and • sheep and goats that have been held on trucks for more than 14 hours. ii. For sheep and goats held in paddocks or sheds: • broken-mouth sheep; and • pregnant ewes. b) Pastoral sheep to be exported to the Middle East by sea during the period from May to October must be prepared in sheds.
S3.13	The operator of the registered premises must have arrangements in place at the premises to restrict unauthorised entry and access to the feed when livestock are being prepared for export. Access to the premises must be controlled at all times, with: a) all entry points to premises being clearly signed; b) only those persons necessary for the day-to-day operation of the premises and state and territory government officials having direct access to the area of the premises; and c) all non-employees reporting to reception for appropriate biosecurity checks relevant to the requirements of the facility.

Number	Standard
S3.14	*Option 1* *Stocking density at registered premises must provide at least the following minimum space per head (cattle with horns must be provided with additional space), unless a variation is required and approved by the relevant Australian Government agency:* *Option 2* *Stocking density at registered premises must provide at least the following minimum space per head (cattle with horns must be provided with additional space):* *Option 1* *a) for cattle, buffalo or camels held for 30 days or more, a minimum of 9 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.09 m2 for each 5 kg change in individual liveweight)* *Option 2* *a) for cattle, buffalo or camels held for 10 days or more, a minimum of 9 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.09 m2 for each 5 kg change in individual liveweight)* *Option 1* *b) for cattle, buffalo or camels held for less than 30 days, a minimum of 4 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.04 m2 for each 5 kg change in individual liveweight)* *Option 2* *b) for cattle, buffalo or camels held for less than 10 days, a minimum of 4 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.04 m2 for each 5 kg change in individual liveweight)* *Option 1* *c) for sheep and goats held in sheds for 10 days or more, based on an individual liveweight of 54 kg:* *i. penned in groups of less than 8 animals, a minimum of 0.9 m2* *ii. penned in groups of 9–15 animals, a minimum of 0.8 m2* *iii. penned in groups of 16–30 animals, a minimum of 0.6 m2* *iv. penned in groups of thirty-one (31) or more animals, a minimum of 0.5 m2* *d) for sheep and goats held in sheds for less than 10 days, based on an individual liveweight of 54 kg:* *i. penned in groups of less than 8 animals, a minimum of 0.6 m2* *ii. penned in groups of 9–15 animals, a minimum of 0.53 m2* *iii. penned in groups of 16–30 animals, a minimum of 0.4 m2* *iv. penned in groups of 31 or more animals, a minimum of 0.33 m2* *Option 2* *c) for sheep and goats held in sheds, based on an individual liveweight of 54 kg:* *i. penned in groups of less than 8 animals, a minimum of 0.9 m2* *ii. penned in groups of 9–15 animals, a minimum of 0.8 m2* *iii. penned in groups of 16–30 animals, a minimum of 0.6 m2* *iv. penned in groups of thirty-one (31) or more animals, a minimum of 0.5 m2*

Number	Standard
S3.15	Livestock hospital pens at registered premises must be at least double the space allowance required for the respective penned group. Entire males must not be mixed with females in the hospital pens.
S3.16	All livestock accepted into the registered premises must be offered water and feed within 6 hours.
S3.17	Livestock must be penned so that: a) Animals of different species must not be mixed in a single pen; b) Classes of animals of the same species must not be mixed; c) Young animals must be separated from older animals; and d) Animals of a dissimilar size must be separated.
S3.18	For livestock lacking horns: a) Cattle lacking horns may be mixed with cattle with horns up to 12cm in length and tipped (blunt); b) Sheep lacking horns may be mixed with sheep with horns up to one curl in length and of such a shape as not to cause eye damage; c) Goats lacking horns may be mixed with goats with horns not more than 15 cm in length.
S3.19	Daily monitoring of health, welfare and mortality must include the following: a) All livestock must be closely monitored for evidence of inappetance, and livestock observed to be losing condition must be given timely treatment. b) All sick or injured livestock must be given timely treatment and veterinary advice must be sought if the cause of a sickness or injury is not obvious, or if action taken to prevent or treat the problem is ineffective. An authorised operator must be available to euthanase any animal when necessary during operating hours. A designated person and/or an after hours number should be available for any out of hours euthanasia requirements. c) All animals requiring euthanasia must be immediately euthanased.
S3.20	All cattle destined for an extended long haul voyage must be fully vaccinated to manufacturer's recommendations against bovine respiratory disease complex.
S3.21	Investigation by a registered veterinarian must be conducted if mortalities in any one paddock or shed exceed 0.1 per cent or 3 deaths, whichever is the greater, on any one day for cattle and buffalo, or 0.25 percent or 3 deaths, whichever is the greater, on any one day for any other species of livestock. Dead livestock must be collected and disposed of on a daily basis. Animals must not be able to access the area for disposal of carcases.

PART 4 Vessel preparation and loading

Number	Standard
S4.1	If a ship that is not permanently equipped for the carriage of livestock is to be used for the export of livestock of a particular species from a port in Australia: a) the livestock must be carried in a PLU approved under Marine Orders Part 43; b) the PLUs and the ship must conform to the applicable requirements of Appendix 4.4; and c) the arrangements for the carriage of PLU's on board the ship must be approved by a surveyor appointed under section 190 of the Navigation Act 1912 in accordance with Marine Orders Part 43.
S4.2	Before loading of livestock for export begins, a loading plan must be prepared in accordance with the specifications in Appendix 4.1, including details of: a) the net available pen area on the ship (excluding the area of the hospital pens) according to the vessel's record of equipment for the carriage of livestock; and b) the number of livestock that may be loaded on the vessel, based on the minimum pen area per head for the relevant livestock species and class as specified in Appendix 4.1, Tables A4.1.1–A4.1.7.
S4.3	Pregnant cattle/camels/buffalo must be kept in pens that have an average floor area for each animal of at least: *Option 1 – status quo* *a) for pregnant heifers of a Bos taurus breed — the minimum area required for cattle under Table A4.1.2;* *b) for pregnant heifers of a Bos indicus/buffalo breed — the minimum area required for cattle under Table A4.1.1;* *c) for pregnant cows of a Bos taurus breed — an area 5% larger than the minimum area required for cattle under Table A4.1.2;* *d) for pregnant cows of a Bos indicus breed — an area 5% larger than the minimum area required for cattle under Table A4.1.1; and* *e) for pregnant camels — an area 5% larger than the minimum area required for camels under Table A4.1.7.* *Option 2 – increased space for all voyages* *For pregnant heifers/cows /camels — an area 15 per cent larger than the minimum area required for cattle under Tables A4.1.1, A4.1.2 and A4.1.7.* *Option 3 – increased space for long and extended long haul voyages* *For pregnant heifers/cows /camels on short haul voyages — Option 1 above applies.* *For pregnant heifers/cows /camels on long haul and extended long haul voyages — an area 15 per cent larger than the minimum area required for cattle under Tables A4.1.1, A4.1.2 and A4.1.7.*

Number	Standard
S4.4	Sufficient personnel must be available both at loading and during the voyage to ensure that livestock husbandry and welfare needs are addressed: a) An accredited/approved stockperson who is employed or contracted by the exporter and who is not ordinarily a member of the ship's crew must be appointed to accompany each consignment of livestock for export to its destination. b) At least one accredited/approved stockperson is to be allocated per 2,500 to 3,000 head of cattle or 40,000 to 60,000 head of sheep. *Option 1* *c) If required by DAFF, an accredited veterinarian must be appointed to accompany a consignment.* *Option 2* *c) An accredited veterinarian must be appointed to accompany all long haul voyages, extended long haul voyages and voyages with pregnant livestock. If required by DAFF, an accredited veterinarian must be appointed to accompany a short haul voyage.* *Option 3* *c) An accredited veterinarian must be appointed to accompany all consignments.*
S4.5	Upon arrival of the livestock at the port of embarkation: a) responsibility for the livestock must be transferred to a competent person nominated by the exporter; and b) the exporter, shipboard AGAV and port animal welfare officer must be notified by the transporter of any aspect of transport to the port of embarkation that might affect the future health and welfare of the livestock.
S4.6	When livestock for export are loaded on vessels with enclosed decks, the ventilation system must be run continuously from the commencement of loading.
S4.7	Livestock for export must be loaded onto the vessel by competent stock handlers in a manner that prevents injury and minimises stress.
S4.8	The wharf surface between the unloading trucks and the ship's ramp must provide a non-slip surface.
S4.9	Livestock for export must be presented for loading, and penned on the vessel in accordance with the approved loading plan in accordance with Appendix 4.1.
S4.10	Stocking densities and pen-group weight-range tolerances for species of livestock must be in accordance with specifications in Appendix 4.1 and (where applicable) heat stress assessment using a DAFF agreed heat stress risk assessment unless a variation is required and approved by DAFF.
S4.11	Livestock that are surplus to requirements must be handled appropriately and in a humane manner that prevents injury and minimises stress.
S4.12	All livestock for export must be offered feed and water as soon as possible after being loaded on the vessel, but no later than 6 hours after loading.
S4.13	Supplies of feed and water: a) Adequate water of a quality to maintain good health and suitable feed to maintain good health for all livestock for the duration of the voyage, and statutory reserves as specified in Appendix 4.2, must be loaded. b) The feed and water provisions must take into consideration the livestock species, class, age and expected weather conditions.
S4.14	Bedding must be provided and managed in accordance with specifications in Appendix 4.3.
S4.15	The port animal welfare officer must ensure there are facilities available to allow the humane recapture

	of any escaped animal and any necessary euthanasia or treatment of sick or injured animals.

PART 4 APPENDIXES

Appendix 4.1 Preparation of a loading plan

4.1.1 Loading plan

A suitably competent person must be appointed by the exporter to be responsible for the handling, husbandry and welfare of the livestock for export, and to ensure that loading facilities and livestock handling standards at the port are satisfactory during unloading from the land transport, inspection and loading onto the vessel.

A communication plan involving all responsible parties must be established before the loading of livestock for export begins. This plan must cover:

a) roles and responsibilities of the exporter or nominated representative/s, the accredited stockperson, the accredited veterinarian (if required), the master of the vessel, nominated officers and crew members, and government and port authorities;
b) arrangements for regular meetings of key people before, during and after loading; and
c) reporting procedures during and on completion of the voyage.

Written instructions and/or standard operating procedures for the care and handling of the livestock being exported, to maintain their health and welfare during the voyage, must be prepared before departure of the vessel from an Australian port. These must address:

a) the quantity and type of feed to be provided, and frequency of feeding required, for each class of livestock during the voyage;
b) If the vessel has automatic watering facilities water must be supplied ad libitum
c) if water is not supplied ad libitum, the quantity of water to be provided and frequency of watering required during the voyage
d) pen cleaning requirements;
e) treatment of livestock during the voyage; and
f) authority to euthanase any animal that is seriously ill or injured.

Loading arrangements must be made, and must take into consideration:

a) port facilities, including the available water supply rate;
b) port and ship security;
c) environmental management;
d) labour availability and competency; and
e) workplace health and safety.

A loading plan for the vessel on which the livestock for export are to be transported must be prepared and be compliant with relevant ship safety standards and must give due consideration to:

a) differences in handling, holding and husbandry needs of each livestock species, number of animals, sex, class, reproductive status, weight, breed, origin, preparation and transport history;
b) pen layout, available pen area for the particular consignment, ventilation, vessel characteristics, port rotation, discharge sequence and stability;
c) the segregation of livestock in accordance with criteria in S3.17 and 3.18
d) separation of cattle or buffalo from other species by a passageway, an empty pen or an effective impermeable barrier, to the satisfaction of an accredited stockperson or accredited veterinarian;
e) location of livestock in relation to hatchways (there must be no location of livestock over a hatchway, unless the hatchway is protected against consequent damage and the hatchway covers are secured against movement); and

f) location of livestock in relation to health and welfare (there must be no penning or location of livestock on or in any part of a vessel where the livestock, livestock fittings, livestock equipment or carrying arrangements could substantially compromise livestock health and/or welfare);

g) provision of clearly identified hospital pens (or stalls), constructed to the standard required for the species of livestock for which they are intended as specified in Marine Orders 43 (33), on each deck or otherwise in a manner readily accessible to livestock;

h) hospital pens are stocked at half the rate of the tables shown below; and

i) stocking densities and pen-group weight-range tolerances for the species in accordance with the specifications in the tables below, unless a variation is approved by DAFF based on a DAFF-agreed heat stress risk assessment.

Restraint facilities and veterinary equipment, including medicines, instruments and stores sufficient for the species and number of livestock carried must be provided on the vessel.

The minimum veterinary supplies to be carried on ships exporting sheep and/or goats from Australia to facilitate treatment and minimise the potential for livestock injury and stress is outlined in Table A4.1.8.

The minimum requirements for veterinary supplies and equipment to be carried on ships exporting feeder and slaughter cattle, and/or buffalo from Australia, based on the injuries and diseases likely to occur during a normal voyage, are shown in Table A4.1.9.

Appropriate equipment for the euthanasia of livestock of the species to be carried must be provided.

A contingency plan for emergencies and interruption to loading must be prepared, including procedures for contacting the exporter in the event of an animal health or welfare emergency and for humanely capturing escaped animals.

Hospital pens must be clearly identified and remain empty at loading.

4.1.2 Minimum pen area per head for cattle exported by sea

Table A4.1.1 Minimum pen area per head for cattle exported by sea — default table

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
200 or less	0.770	305	1.127
205	0.787	310	1.144
210	0.804	315	1.161
215	0.821	320	1.178
220	0.838	325	1.195
225	0.855	330	1.212
230	0.872	335	1.229
235	0.889	340	1.246
240	0.906	345	1.263
245	0.923	350	1.280
250	0.940	355	1.297
255	0.957	360	1.314
260	0.974	365	1.331
265	0.991	370	1.348
270	1.008	375	1.365
275	1.025	380	1.382
280	1.042	385	1.399
285	1.059	390	1.416
290	1.076	395	1.433
295	1.093	400	1.450
300	1.110	(*cont.*)	

Liveweight (kg)	Minimum pen area (m2/head)	
	Voyages of 10 days or more	Voyages of less than 10 days
405	1.467	1.459
410	1.484	1.468
415	1.501	1.487
420	1.518	1.505
425	1.535	1.519
430	1.552	1.533
435	1.567	1.547
440	1.586	1.560
445	1.603	1.574
450	1.620	1.588
455	1.637	1.602
460	1.654	1.615
465	1.671	1.629
470	1.688	1.643
475	1.705	1.657
480	1.722	1.670
485	1.739	1.684
490	1.756	1.698
495	1.773	1.712
500	1.790	1.725
505	1.807	1.739
510	1.824	1.753
515	1.841	1.767
520	1.858	1.780
525	1.875	1.794
530	1.892	1.808
535	1.909	1.822
540	1.926	1.835
545	1.943	1.849
550	1.960	1.863
555	1.977	1.877
560	1.994	1.890
565	2.011	1.904
570	2.028	1.918
575	2.045	1.932
580	2.062	1.945
585	2.079	1.959
590	2.096	1.973
595	2.113	1.987
600	2.130	2.000

1) Pen-group liveweight range: the liveweight range in each pen of cattle should not exceed the pen average plus or minus 50 kg.

2) For cattle weighing between 200 kg and 600 kg, for weights between those shown in the table, the minimum pen area per head should be calculated by linear interpolation.

4.1.3 Minimum pen area per head for cattle exported by sea from a port south of latitude 26° south, from 1 May to 31 October

Table A4.1.2 Minimum pen area per head for cattle exported by sea from a port south of latitude 26° south, from 1 May to 31 October

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
200 or less	0.847	355	1.427
205	0.866	360	1.445
210	0.884	365	1.464
215	0.903	370	1.483
220	0.922	375	1.502
225	0.941	380	1.520
230	0.959	385	1.539
235	0.978	390	1.558
240	0.997	395	1.613
245	1.016	400	1.668
250	1.034	405	1.688
255	1.053	410	1.707
260	1.071	415	1.727
265	1.090	420	1.746
270	1.109	425	1.766
275	1.128	430	1.785
280	1.146	435	1.805
285	1.165	440	1.824
290	1.184	445	1.844
295	1.203	450	1.863
300	1.221	455	1.883
305	1.240	460	1.902
310	1.258	465	1.922
315	1.277	475	1.961
320	1.296	480	1.980
325	1.315	485	2.000
330	1.333	490	2.019
335	1.352	495	2.039
340	1.371	500	2.060
345	1.390		
350	1.408		

1) For cattle weighing between 200 kg and 500 kg, for weights between those shown in the table, the minimum pen area per head should be calculated by linear interpolation.
2) For shipments that originate or load from a port south of latitude 26° south and take a route that does not cross latitude 15° south, stocking densities will be calculated from Table A4.1.3 regardless of the date of the voyage.

4.1.4 Minimum pen area per head for cattle exported by sea from a port south of latitude 26°, from 1 November to 30 April

Table A4.1.3 Minimum pen area per head for cattle exported by sea from a port south of latitude 26°, from 1 November to 30 April

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
200 or less	0.770	380	1.382
205	0.787	385	1.399
210	0.804	390	1.416
215	0.821	395	1.433
220	0.838	400	1.450
225	0.855	405	1.467
230	0.872	410	1.484
235	0.889	415	1.501
240	0.906	420	1.518
245	0.923	425	1.535
250	0.940	430	1.552
255	0.957	435	1.569
260	0.974	440	1.586
265	0.991	445	1.603
270	1.008	450	1.620
275	1.025	455	1.637
280	1.042	460	1.654
285	1.059	465	1.671
290	1.076	470	1.688
295	1.093	475	1.705
300	1.110	480	1.722
305	1.127	485	1.775
310	1.144	490	1.827
315	1.161	495	1.880
320	1.178	500	1.932
325	1.195	505	1.984
330	1.212	510	2.035
335	1.229	515	2.086
340	1.246	520	2.137
345	1.263	525	2.157
350	1.280	530	2.176
355	1.297	535	2.196
360	1.314	540	2.215
365	1.331	545	2.235
370	1.348	550	2.255
375	1.365	505	1.984

1) For cattle weighing between 200 kg and 500 kg, for weights between those shown in the table, the minimum pen area per head should be calculated by linear interpolation.
2) For shipments that originate or load from a port south of latitude 26° south and take a route that does not cross latitude 15° south, stocking densities are to be calculated from Table A4.1.3 regardless of the date of the voyage.

4.1.5 Minimum pen area per head for buffalo exported by sea

Table A4.1.4 Minimum pen area per head for buffalo exported by sea

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
200	0.770	355	1.297
205	0.787	360	1.314
210	0.804	365	1.331
215	0.821	370	1.348
220	0.838	375	1.365
225	0.855	380	1.382
230	0.872	385	1.399
235	0.889	390	1.416
240	0.906	395	1.433
245	0.923	400	1.450
250	0.940	405	1.467
255	0.957	410	1.484
260	0.974	415	1.501
265	0.991	420	1.518
270	1.008	425	1.535
275	1.025	430	1.552
280	1.042	435	1.569
285	1.059	440	1.586
290	1.076	445	1.603
295	1.093	450	1.620
300	1.110	455	1.637
305	1.127	460	1.654
310	1.144	465	1.671
315	1.161	470	1.688
320	1.178	475	1.705
325	1.195	480	1.722
330	1.212	485	1.739
335	1.229	490	1.756
340	1.246	495	1.773
345	1.263	500	1.790
350	1.280		

1) Buffalo stocking density is to be calculated according to the formula: $(0.0034 \times \text{liveweight (kg)}) + 0.09\ m^2$.

4.1.6 Minimum pen area per head for sheep and goats exported by sea

Table A4.1.5 Minimum pen area per head for sheep and goats exported by sea

Liveweight (kg)	Minimum pen area (m^2) Nov – Apr	Minimum pen area (m^2) May – Oct
28	0.261	0.261
29	0.263	0.263
30	0.265	0.265
31	0.268	0.268
32	0.270	0.270
33	0.273	0.273
34	0.275	0.275
35	0.278	0.278
36	0.280	0.280
37	0.283	0.283
38	0.285	0.285
39	0.288	0.288
40	0.290	0.290
41	0.293	0.293
42	0.295	0.295
43	0.298	0.298
44	0.300	0.300
45	0.303	0.303
46	0.305	0.305
47	0.308	0.308
48	0.310	0.310
49	0.313	0.313
50	0.315	0.315
51	0.320	0.322
52	0.324	0.329
53	0.329	0.337
54	0.333	0.344
55	0.338	0.351
56	0.342	0.357
57	0.347	0.363
58	0.351	0.369
59	0.356	0.375
60	0.360	0.381
61	0.367	0.389
62	0.374	0.398
63	0.380	0.406
64	0.387	0.415
65	0.394	0.423
66	0.401	0.432
67	0.408	0.441
68	0.415	0.450

Liveweight (kg)	Minimum pen area (m^2) Nov – Apr	Minimum pen area (m^2) May – Oct
69	0.422	0.459
70	0.429	0.468
75	0.465	0.515
80	0.502	0.563
90	0.575	0.658

1) For horned rams a minimum additional 10 per cent pen space must be allocated.
2) For goats with horns in excess of Standard S3.18, the goats are penned separately and an additional 10 per cent space must be allocated.
3) For sheep/goats /alpacas carrying more than 25 mm of hair, a minimum additional 10 per cent pen space must be allocated.

   [**Note** this is subject to standard 1.16]
4) For weights between those shown, the minimum pen area per head should be calculated by linear interpolation.

4.1.7 Minimum pen area per head for farmed red or red × wapiti deer exported by sea

Table A4.1.6 Minimum pen area per head for farmed red or red × wapiti deer exported by sea

Liveweight (kg)	Pen area (m^2)
< 100	TBA
100	1.54
110	1.57
120	1.59
130	1.62
140	1.64
150	1.67
200	1.80
250	2.08
300	2.36

1) Intermediate values should be calculated by linear interpolation.
2) Any variation of this space allowance must be approved by DAFF, taking into account considerations such as breed, pregnancy status, length of voyage, ventilation and likely environmental temperatures and humidity variations.
3) Deer must be penned in solid-walled pens with an adequate number of ventilation holes and 250–300 mm at top and bottom.
4) Deer must be loaded onto the ship through raceways with solid walls, such as plywood, preferably at least 2 m high. Any variation from this requirement must be approved by DAFF, taking into account considerations such as breed, class and number of deer to be loaded.

4.1.8 Minimum pen area per head for camels exported by sea

Table A4.1.7 Minimum pen area per head for camels exported by sea

Average weight (kg)	Stocking density (m^2/camel)
300	1.43
400	1.91
500	2.38

Note. An acceptable stocking density will meet the current camel industry standard. The area is arrived using the formula: area required (m^2) = 0.00477 × average weight (kg).

Where a range of different animal sizes and types are to be carried, the area must be calculated for each line rather than on the basis of average weight of the entire shipment.

When camels are loaded onto a ship, the clearance between the hump and the ceiling must be at least 100 mm.

Pens approved for the carriage of cattle are suitable for camels with two further considerations. First, a suitable bedding material must be supplied. Second, where there is deemed to be a risk of leg injury, the rails must be covered with mesh or plywood kickboards to a height of 1 m. The opening in the rails for feed and water troughs must be at least 450 mm but not exceeding 500 mm.

Camels of different size and sex are to be penned separately.

One hospital pen must be provided for every 300 camels loaded.

Current allometric allowance for sheep and goats along with options for RIS based on:

0.027 – Petherick et al, 2007 literature review which states .027 allows some animals to lie simultaneously if animals time share space
0.033 – Petherick et al, 2007 literature review which states that 0.033 appears to be the threshold below which there are adverse effects on welfare
0.047 – Petherick et al, 2007 literature review which states that 0.047 appears to allow an animal to lie down fully recumbent

ASEL V2.3							
Average weight of sheep (kg)	**On board ship (Nov-Apr)**	**On board ship (May-Oct)**	**Registered premises (<=10 days)**	**Registered premises (>=10 days)**	**Allometric allowance***		
30	0.265	0.265	0.33 -0.60 depending on number of sheep/pen based on 54kg/head	0.50 -0.90 depending on number of sheep/pen based on 54kg/head	0.255	0.330	0.444
40	0.290	0.290			0.308	0.399	0.536
50	0.315	0.315			0.357	0.463	0.621
60	0.360	0.381			0.403	0.522	0.701
80	0.502	0.563			0.487	0.631	0.847
90	0.575	0.658			0.526	0.682	0.916
K-value					**0.027**	**0.035**	**0.047**

- A = $kW^{0.66}$ where A= area in m2, W= weight in kg

Current allometric allowance for cattle and buffalo along with options for RIS based on:

0.027 – Petherick et al, 2007 literature review which states .027 allows some animals to lie simultaneously if animals time share space
0.033 – Petherick et al, 2007 literature review which states that 0.033 appears to be the threshold below which there are adverse effects on welfare
0.047 – Petherick et al, 2007 literature review which states that 0.047 appears to allow an animal to lie down fully recumbent

	ASEL V2.3 on board ship (m2)				**ASEL V2.3 Registered premises (m2)**		**Allometric allowance***		
Weight / head (kg)	**Default Table A4.1.1**	**Table A4.1.2 (southern exports May-Oct)**	**Table A4.1.3 (Southern exports Nov to Apr)**	**Pregnant Bos Taurus cows**	**Held < 30 days**	**Held >= 30 days**			
200 or less	0.770	0.847	0.770	0.889	4.0 based on 500kg/ head	9.0 based on 500kg/head	0.891	1.155	1.552
300	1.110	1.221	1.110	1.282			1.165	1.510	2.028
400	1.450	1.668	1.450	1.751			1.408	1.826	2.452
500	1.725 (SH) 1.790 (LH)	2.060	1.932	2.163			1.632	2.115	2.841
600	2.000 (SH) 2.130 (LH)						1.841	2.386	3.204
k-value					**0.077**	**0.173**	**0.027**	**0.035**	**0.047**

- $A = kW^{0.66}$ where A= area in m2, W= weight in kg

4.1.9 Minimum restraint and veterinary equipment

Table A4.1.8 Minimum veterinary supplies — sheep and goats

Minimum veterinary supplies and equipment – sheep and goats (per 10, 000 sheep and goats)		
Items		**Quantity**
Injectable antibiotics	Penicillin (short or long acting)	300ml
	Oxytetracycline (long acting) or equivalent	5 x 250ml
Other injectables	Dexapent (or other corticosteroid)	50ml
	Unical	1 pack
Oral antibiotics	OTC Powder (Optional)	1 drum
Flystrike dressing	Flystrike powder or Defiance S	1 container per vessel
Pink eye treatment	An effective pink eye treatment system	1 box of 20 tubes or X quantity of injectable oxytetracycline
Topical wound treatment	Topical wound treatment	Cetrigen
	Wound spray	Cetrimide antiseptic or similar
Miscellaneous treatments	Vitamin B1 (Optional)	Mandatory when carrying goats 100ml (per 5,000 goats)
	Sulphadimidine powder Optional for sheep	Mandatory when carrying goats 2kg (per 5,000 goats)
	Ceton Optional for sheep	Mandatory when carrying goats 2 litres (per 5,000 goats)
	Scourban	Mandatory when carrying goats 3 litres (per 10,000 sheep or 5, 000 goats)

Table A4.1.9 Minimum veterinary supplies and equipment —slaughter or feeder cattle or buffalo requirements per 10 days of expected loaded voyage duration per 1000 head of cattle or buffalo

Minimum veterinary supplies and equipment - slaughter or feeder cattle or buffalo (per 1000 head per 10 days)		
Equipment list		
Items		**Quantity**
Identification and restraint	Adjustable head bale	1 per vessel (optional)
	Rope Halter	1 per vessel (Optional)
	Nose grips	1 per vessel
	Rope	15m of 1" rope
Treatment Equipment	Thermometers	3 per vessel
	Needles	18G, 1½" or equivalent - 1 box 100
	Hypodermic syringes	20 x 20 mL, 20 x 10 mL, 5 x 5 mL
	Remotely triggered syringe device	1 per 3000 head or per stockman. 2 syringe plus 20 spare needles per 1000 animals
	Suture kit - Reel of heavy duty suture material with cutting needles, 1 pair scissors, needle drivers, forceps	1 per vessel
	Bandaging kit - Bandaging material/heavy duty dressing tape, cotton wool padding	1 per vessel To be sufficient for voyage length
	Stomach (nasogastric tube) with funnel)	1 per vessel (mandatory)
	Water for injections	4 bottles per vessel
	Glue-on slippers (optional)	1 set per vessel
	Antiseptic solution (eg, Chlorhexidine)	5 litres
Humane killing and post-mortem kit	Captive bolt gun	1 per ship - Plus 40 cartridges per 1000 animals
	2 post-mortem knives plus steel and sharpening stone per ship	1 per vessel
	Gloves	1 box

Minimum veterinary supplies and equipment - slaughter or feeder cattle or buffalo (per 1000 cattle and buffalo per 10 days of expected voyage time)		
Treatment list		
Items		**Quantity**
Injectable antibiotics	Penicillin (short acting)/ Trimethoprim Sulphonomide	15 cattle doses (Quantity is for penicillin and Trimethoprim sulphonamide inclusive)
	Oxytetracycline	15 cattle doses
	BRD Antibiotics - Tulathromycin, Florfenicol, Tilimicosin, Cetiofur, Tylosin	15 cattle doses (Note recommended quantity of antibiotic for respiratory disease is for BRD antibiotics inclusive)
Anti-inflammatory drugs	Steroidal (eg. Dexamethasone),	15 cattle doses
	Non-steroidal (eg. Flunixin meglumine, ketoprophen or tolfidine)	15 cattle doses
Pink eye treatment	An effective pink eye treatment system such as topical cream or oxytetracycline)	1 box 10 tubes or 10 doses of oxytetracycline
Sedative	Xylazine	5 cattle doses
Topical wound treatment	Topical wound treatment	Sufficient to treat 10 minor wounds
	Wound spray	Sufficient to treat 10 minor wounds
Miscellaneous treatments	Tympanyl bloat treatment	1 litre per 5000 animals
	Lignocaine	1 x 100ml bottle per vessel
	Scour treatment (optional)	
	Injectable vitamins (optional)	

Additional requirements for pregnant cattle:

- 5Lt of Obstetrical Lubricant per 2000 dairy cattle
- Calving ropes (1 set per ship)
- Obstetrical gloves (1 box per ship)
- Oxytocin (50ml per 1000 cattle)
- Additional Chlorhexidine (or equivalent) 5Lt per ship
- 1Lt iodine per ship (umbilical cleaning)
- Uterine Pessaries,(10 per 2000 cattle)
- Surgical equipment adequate to conduct a caesarean section.

Additional drugs and equipment may be necessary if there are other classes of cattle or buffalo in the consignment (e.g. mastitis treatment and obstetrical supplies for pregnant cows, scour treatments for calves) or as indicated by the performance of the consignment during preparation. AGAV may request additional/specific supplies as required

Appendix 4.2 Shipboard ration specifications and provisioning

4.2.1 General

The shipboard ration must not contain more than 30 per cent by weight of wheat, barley or corn, unless the livestock have been adapted to the ration over a period of at least two weeks before export.

All pelletised feed must be accompanied by a manufacturer's declaration that states it is manufactured in accordance with national pellet standards.

All feed from a previous voyage that is suitable for livestock consumption may remain in a feed storage tank provided that:

a) each tank is completely emptied at least once in every 90 days;
b) all feed that is no longer suitable for livestock consumption is emptied in its entirety before further feed is loaded; and
c) records are maintained of the emptying of feed storage tanks and are made available for inspection.

All livestock must be able to readily access fodder and water within the troughs.

Supplementary fodder of a non-pelletised form such as chaff or hay must be available at least 1 per cent of the required feed as chaff and/or hay to address shy feeders and any medical requirements (e.g. bloat)

4.2.2 Sheep and goats

Pellets used as the shipboard ration must conform to the nutritional specifications outlined in Table A4.2.1.

At the time of departure, there must be sufficient feed and water on the ship to meet the anticipated needs of the sheep and goats during the voyage, plus an additional 25 per cent or three days feed and water, whichever is less.

Feed and water allowances must be as follows:

a) for young sheep and goats (up to and including four permanent incisor teeth), at least 3 per cent of liveweight of feed per head per day;
b) for sheep and goats with more than four permanent incisor teeth, at least 2 per cent of liveweight of feed per head per day; and
c) for sheep and goats, at least 4 L of water per head per day, except for days when the ambient temperature is expected to exceed 35°C, when allowance must be made for at least 6 L of water per head per day.

Allowance may be made for fresh water produced on the ship while at sea.

Table A4.2.1 Pellet specifications for sheep and goats

Pellet composition	Specification
Moisture content	< 12%
Ash as a percentage of dry matter)	< 13%
Crude protein as a percentage of dry matter)	< 12%, > 9%
Urea as a percentage of dry matter)	< 1.2%
Acid detergent fibre (as a percentage of dry matter)	18–35%
Metabolisable energy	> 8.0 MJ/kg dry matter

4.2.3 Cattle and buffalo

There must be sufficient water on the ship to meet the anticipated needs of the cattle and buffalo during the voyage, plus an additional 3 days water.

There must be sufficient feed on the ship to meet the anticipated needs of the cattle and buffalo during the voyage, plus an additional 20 per cent or 3 days feed, whichever is less.

When calculating feed and water requirements, allowance must be made:

a) for at least the quantity of feed shown in Table A4.2.2;
b) for at least 12 per cent of liveweight of water per head per day:

This water allowance may be reduced to at least 10 per cent of liveweight per head per day if water consumption on the ship for each of the previous 3 voyages averaged less than 10 per cent of liveweight per head per day.

Allowance may be made for fresh water produced on the ship while at sea.

Table A4.2.2 Feed specifications for cattle and buffalo

Class of cattle and buffalo	Minimum feed allowance/head/day (% liveweight)
Cattle and buffalo weighing less than 250 kg	2.5
Breeding heifers with six or fewer permanent incisor teeth (regardless of pregnancy status)	2.5
Pregnant cows	2.5
Other classes of cattle and buffalo	2.0

4.2.4 Deer

Deer must be fed no less than maintenance rations. 2 per cent of liveweight per head per day as good quality hay or its equivalent will usually achieve maintenance rations.

Where concentrates are fed, the concentrates should be included at a ratio of 1:4 with the roughage.

Sufficient feed must be loaded on the ship to meet maintenance requirements for the duration of the voyage, plus:

a) an extra two days for voyages up to and including 20 days; and
b) an extra three days for voyages between 21 and 30 days.

Feed requirements should be calculated on the basis of daily requirements of metabolisable energy (ME) in Tables A4.2.3 and A4.2.4.

Table A4.2.3 Seasonal nutritional requirements of mature deer

	Energy requirement (MJ ME/day)			
Mature deer	**Autumn**	**Winter**	**Spring**	**Summer**
Stags				
Red	19	35	42	38
Elk x red	25	47	56	51
Elk or wapiti	34	62	71	66
Hinds				
Red	27	26	28	49
Elk x red	48	46	50	85
Elk or wapiti	64	61	67	120

Metabolisable energy (***ME***), measured in mega joules (MJ) produced in fermentation of food, is the digestible energy of the food provided, less the energy lost in the production of methane and urine (16–20 per cent total).

Note. This assumes that diets containing 14–16 per cent crude protein are adequate for maintenance.

Table A4.2.4 Seasonal nutritional requirements for maintenance and growth of red deer from weaning until slaughter

	Liveweight (kg)							
	40	50	60	70	80	90	100	110
Maintenance stag requirements (MJ ME/day)								
Autumn (winter sheltered)	11.9	14.1	16.2	18.2	20.1	21.9	23.7	25.5
Winter	13.5	16.0	18.3	20.6	22.7	24.8	26.9	28.9
Spring	10.8	12.8	14.7	16.5	18.2	19.9	21.5	23.1
Summer	9.9	11.7	13.4	15.0	16.6	18.1	19.6	21.1
	Gain (g/day)							
	50	100	150	200	250	300	350	400
Extra energy needed (MJ/day)	2.7	5.3	8.0	10.6	13.3	15.9	18.6	21.2

Note 1. Seasonal maintenance requirements are affected by the weather, and so may be lower when temperatures are warmer than normal and higher when temperatures are lower than normal.

Note 2. Add extra energy for gain to the maintenance requirement to get total requirement.

4.2.5 Camelids

There must be sufficient feed on the ship to meet the anticipated needs of the animals during the voyage, plus an additional 20 per cent or three days feed, whichever is less.

When calculating feed and water requirements allowance must be made:

a) for at least the quantity of feed shown in Table A4.2.5; and

b) for at least 12 per cent of liveweight of water per head per day:

This water allowance may be reduced to at least 10% of liveweight per head per day if water consumption on the ship for each of the previous 3 voyages averaged less than 10 per cent of liveweight per head per day.

Allowance may be made for fresh water produced on the ship while at sea.

Table A4.2.5 Feed specifications for camelids

Class of camelids	Minimum feed allowance/head/day (% liveweight)
Camelids weighing less than 250 kg	2.5
Breeding females with six or fewer permanent incisor teeth (regardless of pregnancy status)	2.5
Pregnant cows	2.5
Other classes of camelids	2.0

Table A4.2.6 Pellet/cube specifications for camelids

Pellet composition	Specification
Moisture content	< 12%
Ash (as a percentage of dry matter)	< 13%
Crude protein (as a percentage of dry matter)	< 12% > 9%
Urea (as a percentage of dry matter)	< 1.2%
Acid detergent fibre (as a percentage of dry matter	18–35%
Metabolisable energy	> 8.0 MJ/kg dry matter

Appendix 4.3 Provision of bedding

Option 1

4.3.1 Cattle and buffalo

Cattle and buffalo on all long haul voyages and extended long haul voyages must be provided with sawdust, rice hulls or similar material to be used exclusively for bedding at a rate of at least 7 t or 25 m3 for every 1000 m2 of cattle pen space.

This does not apply to cattle and buffalo loaded from Brisbane or a port north of latitude 26° south and exported to Southeast Asia or Japan.

4.3.2 Deer

Bedding, such as straw, shavings or sawdust, must be provided on all voyages and must be spread at a rate of at least 7 t or 25 m3 for every 1000 m2 of deer pen space before animals are loaded.

4.3.3 Camelids

Bedding, such as straw, shavings or sawdust, must be provided on all voyages and must be spread at a rate of at least 7 t or 25 m^3 for every 1000 m^2 of camelid pen space before animals are loaded.

Option 2

4.3.1 Cattle and buffalo

Cattle and buffalo on all voyages must be provided with sawdust, rice hulls or similar material to be used exclusively for bedding at a rate of at least 7 t or 25 m^3 for every 1000 m^2 of cattle pen space.

4.3.2 Deer

Bedding, such as straw, shavings or sawdust, must be provided on all voyages and must be spread at a rate of at least 7 t or 25 m3 for every 1000 m2of deer pen space before animals are loaded.

4.3.3 Camelids

Bedding, such as straw, shavings or sawdust, must be provided on all voyages and must be spread at a rate of at least 7 t or 25 m3 for every 1000 m2 of camelid pen space before animals are loaded.

Option 3

Appendix 4.3 Provision and management of bedding

4.3.1 Provision of bedding

Cattle and buffalo on all voyages must be provided with sawdust, rice hulls or similar material to be used exclusively for bedding at a rate of at least 4t per 1000m2 per application (approximately 2.4cm depth spread consistently), including before the animals are loaded.

Deer and camelids on all voyages must be provided with straw, shavings, sawdust, or similar material to be used exclusively for bedding at a rate of at least 4t per 1000m2 per application (approximately 2.4cm depth spread consistently), including before animals are loaded.

Bedding must be provided to cattle, buffalo, deer or camelids at all times, except during the immediate wash down and drainage process.

4.3.2 Management of bedding

In relation to bedding provided to cattle, buffalo, deer and camelids:

a) *Management of the bedding, including deck wash downs and frequency of replacement of bedding materials, must be sufficient to ensure good welfare outcomes for the livestock. In particular, bedding management must minimise abrasions, lameness, pugging, faecal coating and ammonia production*
b) *Sufficient bedding material must be provided on surfaces used for loading and discharging livestock from the vessel in a manner that minimises slipping and the risk of injury to the livestock.*
c) *The consistency and depth of bedding material must be continually monitored*.

Appendix 4.4 Standards for the use of PLUs

4.4.1 Application

This Appendix applies where PLUs are used to transport livestock.

4.4.2 Stocking density

The stocking density must be set in accordance with standard S4.3(b), with an additional 15 per cent space allocation to account for the following as necessary:

a) species and class;
b) size and body condition;
c) wool or hair length;
d) horn status;
e) predicted climatic conditions;
f) design and capacity of the PLU.

4.4.3 Consignment limit

The maximum number of PLUs per voyage/consignment is 5 (not including 1 additional empty PLU, if identified in the CRMP as a hospital/isolation area).

4.4.4 Destination and travel limit

PLUs must not be used to transport livestock from a port of loading to a port of discharge if there is a regular service between those ports of vessels that:

a) are permanently equipped for the carriage of livestock; and
b) have valid ACCLs.

If PLUs are used to transport livestock, the voyage must not be more than 10 days.

4.4.5 Hospital/isolation area

Either of the following must be available, and must be clearly stated in the CRMP, as a means of segregating livestock if required:

a) divider rails (any);
b) an additional empty PLU, along with the required equipment or facilities to move livestock safely between PLUs.

Any “division” within a PLU must comply with the requirements of Marine Orders Part 43.

If an additional empty PLU is used as the means of segregating livestock, identification details of livestock (stud) that are capable of being “led” between PLUs, or of a sheep trolley or portable panels, must be included within the consignment inventory.

Hospital pens must be half the allowable stocking density rates

4.4.6 Shade and shelter

PLUs must be adequately equipped to provide shelter and shade (shade-cloth and tarpaulins).The accredited stockperson or accredited veterinarian must take action before or during extreme weather conditions to minimise the risk to the welfare of livestock.

4.4.7 Bedding

Option 1

The floor surface of a PLU must be non-slip and non-abrasive.

Note. This can be achieved through the use of sufficient and suitable bedding material for the class and species of livestock to be transported.

For cattle, bedding material (kiln-dried sawdust/shavings or equivalent) must be applied at a minimum of 4kg per m2 before loading.

Soiled bedding material must be replaced as necessary (subject to type and species).

The consistency and depth of bedding material must be continually monitored.

Bedding management must minimise abrasions, lameness, pugging, faecal coating and ammonia production.

Option 2

Sufficient and suitable bedding material for the class and species of livestock to be transported must be used to ensure that the floor surface of a PLU is non-slip and non-abrasive.

For cattle, buffalo, deer and camelids, bedding material (kiln-dried sawdust/shavings or equivalent) must be applied at a depth at least 2.4cm per application, including before loading.

Management of bedding must be sufficient to ensure good animal welfare outcomes. In particular:

a) Bedding management must minimise abrasions, lameness, pugging, faecal coating and ammonia production.
b) Soiled bedding material must be replaced as necessary (subject to type and species).
c) The consistency and depth of bedding material must be continually monitored.

4.4.8 Placement and securing on board the vessel

The placement and securing of PLUs on board the vessel must be:

a) done in accordance with sections 34 and 35 of the Marine Orders Part 43; and
b) done in a way approved by a surveyor appointed under section 190 of the *Navigation Act 1912*.
c) PLU's must not be stacked on top of each other.
d) Each PLU must be stowed in a position that allows direct access to the PLU.

4.4.9 Feed and water requirements

Feed and water must be managed in accordance with standard S4.13 and the Marine Orders Part 43:

a) with adequate storage space; and
b) with sufficient protection from weather.
c) The vessel must have adequate capacity to desalinate water or sufficient water storage on board.

4.4.10 Restraint and veterinary equipment

The vessel must carry 1 rope halter and 1 nose grip pliers per consignment, as well as equipment for euthanasia of livestock.

The vessel must carry veterinary equipment, including medicines, instruments and stores sufficient for the species and number of livestock carried.

Note. Tables A4.1.8 and A4.1.9 should be used as a guide for the types of drugs. However, only half the number of doses is required for PLUs because of the lower numbers transported.

PART 5— Onboard management of livestock

Number	Standard
S5.1	The onboard management of livestock for export by sea must ensure that the health, welfare and physical needs of livestock are met during the voyage: a) The accredited stockperson(s) as required under S4.4 must remain with the consignment until the vessel has completed discharging at the final port of discharge. b) The accredited veterinarian as required under S4.4 must remain with the consignment until the vessel has completed discharging at the final port of discharge. c) Accredited stockpersons and/or veterinarians must work with the vessel's master and crew to ensure and maintain the health and welfare of the livestock on board. d) All personnel handling and caring for livestock or who are otherwise responsible for animals during the voyage must be able to demonstrate an adequate level of experience and skill to allow them to undertake their duties. e) Pregnant livestock must be accompanied by an accredited stockperson with experience with pregnant livestock.
S5.2	Any livestock for export identified after loading as being sick, injured or at animal welfare risk must: a) be transferred to a hospital pen, if required; b) be given immediate appropriate treatment; c) if necessary, be euthanased without delay. Refer to Appendix 7.4.
S5.3	The consignment must be checked by the accredited stockperson/AGAV and DAFF before departure to ensure that the livestock have been loaded according to the loading plan.
S5.4	All livestock on the vessel must have access to adequate water of a quantity and quality and frequency to maintain good health and suitable feed to maintain good health of all animals, taking into consideration any particular needs of the livestock species, class and age. Adequate feed and water must be supplied to livestock waiting to be discharged, and during the discharge period.
S5.5	All livestock services on the vessel must be monitored regularly to ensure that the health and welfare of the livestock are maintained while the livestock are on the vessel: a) Feed and water supply systems must be monitored day and night and maintained in good order. b) The pen stocking density must be checked daily throughout the voyage and adjustments made as required. c) Ventilation must be monitored daily to ensure adequate thermoregulation of the livestock. d) Washing down of decks and disposal of faeces must be carried out regularly with regard to the welfare requirements of livestock. e) Ammonia levels must not exceed 25ppm
S5.6	When bedding is used, it must be maintained to ensure the health and welfare of the livestock and meet requirements as set out in Appendix 4.3.

Number	Standard
S5.7	A contingency plan for the following emergencies must be prepared for each consignment as part of the consignment risk management plan: a) mechanical breakdown; b) a feed or water shortage during the voyage; c) an outbreak of a disease during the voyage; d) extreme weather conditions during the voyage; e) rejection of the consignment by the overseas market; f) acts of piracy; and g) to provide satisfactory tending, feeding and watering of the livestock in the event of a malfunction of the automatic feeding or watering systems, but without compromising the safe navigation of the vessel.
S5.8	If a notifiable incident occurs at any time, DAFF must be advised as soon as possible and within 12 hours. In relation to a notifiable incident involving a mortality equal to or greater than the reportable level, a report must be provided that includes the following: a) details of the mortalities (eg number, species, suspected cause); b) factors that may have contributed to the deaths; and c) the current location of the vessel and, if appropriate, its destination and estimated time of arrival.
S5.9	Animals must be considered fit to load for transport in Australia to be discharged from the ship and loaded onto a truck. Animals not fit to load must be euthanased on board the vessel before the AGAV/ accredited stockperson leave the vessel at the end of discharging the last fit to load animal.

PART 6— Air transport of livestock

Number	Standard
S6.1	Livestock sourced for export must be: a) fit to enter the intended export chain. b) identified to the property of source; c) accompanied by a correctly completed and signed declaration as to the identification of the livestock and property of source; and d) individually identified where testing is required during preparation.
S6.2	Cattle and buffalo sourced for export must have been weaned at least 14 days before sourcing for export.
S6.3	Female livestock must only be sourced for export for breeding if they have been pregnancy tested (cattle using manual palpation, other species by ultrasound foetal measurement) within 30 days of export and certified, by written declaration, by a person able to demonstrate a suitable level of experience and skill, to be not in the third trimester of pregnancy at the scheduled date of departure. For cattle and buffalo a declaration must be made in writing by a veterinarian who is an accredited tester under the National Cattle Pregnancy Diagnosis Scheme and who pregnancy tested the cattle or buffalo. For alpacas and llamas a declaration must be made in writing by a registered veterinarian with demonstrable current experience in camelid pregnancy diagnosis and who pregnancy tested the alpacas and llamas. The veterinarian may base this certification on assessment of the animals by a method other than manual palpation.
S6.4	Cattle and buffalo sourced for export as slaughter and feeder animals must be pregnancy tested by a registered veterinarian or an Australian cattle veterinarian and certified not to be pregnant.
S6.5	Ewes with a weight of 35 kg or more, all female fat-tail sheep breeds and all does (goats) must only be sourced for export as slaughter and feeder animals if they have been pregnancy tested by ultrasound within 30 days of export, individually identified (tagged) and certified not to be pregnant, by written declaration, by a competent person who conducted the pregnancy test.
S6.6	Livestock that are declared to be pregnant or that have given birth in the last 48 hours must not be tendered for transport unless accompanied by a veterinary certificate certifying that the animal is fit to travel and there is no evidence of imminent parturition.
S6.7	Unless approved by DAFF, lambs and goat kids must only be sourced for export by air transportation if: a) they have been weaned at least 14 days before sourcing for export; b) lambs have a liveweight of more than 20 kg; and c) goat kids have a liveweight of more than 14 kg. For cria d) cria at foot have a liveweight of more than 12kg and are 3 months old.

Number	Standard
S6.8	Cattle must only be sourced for export by air transportation if they have a minimum weight of 150 kg.
S6.9	Goats must not be sourced for export unless they have become conditioned to being handled and to eating and drinking from troughs for a minimum of 21 days before transfer to an approved premises.
S6.10	Deer must only be sourced for export if they: a) are at least 6 months old; b) have been weaned for at least 2 months before sourcing for export; and c) have become conditioned to being handled and to eating and drinking from troughs for a minimum of 14 days.
S6.11	Camelids, including wild-caught camels, must only be sourced for export if they: a) have become conditioned to being handled and to eating and drinking from troughs for a minimum of 14 days; and b) meet transport and shipping height requirements of the intended transport (ie camels standing in their natural position do not touch any overhead structures).
S6.12	Female livestock must not be treated with a prostaglandin drug within 14 days of export, and not during the 60 day period before export unless they have been pregnancy tested immediately before prostaglandin treatment and declared to be in the first trimester of pregnancy or not detectably pregnant.
S6.13	Loading density and penning arrangements for the export of livestock by air must conform to stocking densities and penning arrangements as given in Appendix 6.1 and any relevant international requirements.
S6.14	Feed and water must be available to all livestock for export by air during the air transport journey, where it is reasonably practicable to do so.
S6.15	The exporter must prepare a contingency plan for the following emergencies for each consignment: a) unavailability of the aircraft to be used for the air transportation; b) mechanical breakdown; and c) rejection of the consignment by the overseas market.
S6.16	Where the aircraft carrying livestock for export by air is on the ground (whether moving or stationary), the operator of the aircraft must ensure that ventilation and temperature in the livestock hold is adequate to maintain the health and welfare of the livestock.

PART 6 APPENDIXES

Appendix 6.1 Stocking density for the penning of livestock during transport by air

6.1.1 General

1) Tables A6.1.1 to A6.1.4 define the minimum area per head. Any decrease in the final stocking density will be determined by DAFF based on animal health and welfare considerations.
2) When calculating stocking rates, the following must be taken into account:
   a) It is essential that accurate final weights of livestock are obtained in view of the weight limitations imposed by the load capabilities of the aircraft and the space required per animal.
   b) When calculating the stocking density per pen, the number of livestock per pen must be rounded to the nearest whole number. 0.5 is rounded up.
   c) The livestock must be able to stand normally, and once lying down should be able to regain their feet unaided and without undue interference from other stock.
   d) In multi-tier penning there may be a loss of floor and height area in the upper tier due to the contour of the aircraft and the overall height limitation.
   e) When the animal stands in a natural position, no part of the animal's body (or horns) should touch any overhead part of the container.
   f) The pen area per head for horned cattle, buffalo, sheep and deer must be increased by 10 per cent.
   g) For total journey time (from start to finish) scheduled in excess of 24 hours, the pen area per head must be increased by 10 per cent. The journey begins from departure from the approved premises or the property used for pre-export preparation and ends with the last animal being unloaded from the aircraft
   h) When livestock are loaded with mixed cargo in aircraft lower holds, the pen area per head must be increased by 10 per cent.
   i) Additional pen area requirements in paragraphs (f) to (i) are not cumulative.
   j) Consideration must be given to ambient temperatures in relation to the ventilation capacity of the aircraft at loading and stopovers.
   k) For cattle weighing more than 650 kg, exporters must submit a detailed management and loading plan to DAFF as part of the NOI.

6.1.2 Minimum aircraft crate pen area for cattle and buffalo exported by air

Table A6.1.1 Minimum aircraft crate pen area for cattle and buffalo exported by air

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
150	0.54	600	1.48
160	0.56	610	1.50
170	0.58	620	1.53
180	0.60	630	1.55
190	0.62	640	1.57
200	0.64	650	1.59
210	0.66	660	1.61
220	0.68	670	1.64
230	0.70	680	1.66
240	0.72	690	1.68
250	0.74	700	1.70
260	0.76	710	1.72
270	0.78	720	1.74
280	0.80	730	1.76
290	0.82	740	1.78
300	0.84	750	1.80
310	0.87	760	1.82
320	0.89	770	1.84
330	0.91	780	1.86
340	0.93	790	1.88
350	0.95	800	1.90
360	0.98	810	1.93
370	1.00	820	1.95
380	1.02	830	1.97
390	1.04	840	1.99
400	1.06	850	2.01
410	1.08	860	2.03
420	1.10	870	2.05
430	1.12	880	2.07
440	1.15	890	2.09
450	1.17	900	2.12
460	1.19	910	2.14
470	1.21	920	2.16
480	1.23	930	2.18
490	1.25	940	2.20
500	1.27	950	2.22
510	1.29	960	2.24
520	1.31	970	2.26
530	1.34	980	2.28
540	1.36	990	2.31

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
550	1.38	1000	2.33
560	1.40		
570	1.42		
580	1.44		
590	1.46		

1) For weights between those shown in Table A6.1.1, the minimum pen area per head should be calculated by linear interpolation.

6.1.3 Minimum aircraft crate pen area for sheep exported by air

Table A6.1.2 Minimum aircraft crate pen area for sheep exported by air

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
20	0.150	49	0.266
21	0.154	50	0.270
22	0.158	51	0.274
23	0.162	52	0.279
24	0.166	53	0.283
25	0.170	54	0.288
26	0.174	55	0.293
27	0.178	56	0.297
28	0.182	57	0.302
29	0.186	58	0.306
30	0.190	59	0.311
31	0.194	60	0.315
32	0.198	61	0.320
33	0.202	62	0.324
34	0.206	63	0.329
35	0.210	64	0.333
36	0.214	65	0.338
37	0.218	66	0.342
38	0.222	67	0.347
39	0.226	68	0.352
40	0.230	69	0.356
41	0.234	70	0.360
42	0.238	75	0.383
43	0.242	80	0.405
44	0.246	85	0.428
45	0.250	90	0.450
46	0.254	95	0.473
47	0.258	100	0.495
48	0.262		

1) For weights between those shown in Table A6.1.2, the minimum pen area per head should be calculated by linear interpolation.

6.1.4 Minimum aircraft crate pen area for goats exported by air

Table A6.1.3 Minimum aircraft crate pen area for goats exported by air

Liveweight (kg)	Minimum pen area (m^2/head)	Liveweight (kg)	Minimum pen area (m^2/head)
15	0.093	40	0.213
16	0.098	41	0.218
17	0.103	42	0.223
18	0.107	43	0.227
19	0.112	44	0.232
20	0.117	45	0.237
21	0.122	46	0.242
22	0.127	47	0.247
23	0.131	48	0.251
24	0.136	49	0.256
25	0.141	50	0.261
26	0.146	51	0.266
27	0.151	52	0.271
28	0.155	53	0.275
29	0.160	54	0.280
30	0.165	55	0.285
31	0.170	60	0.309
32	0.175	65	0.333
33	0.179	70	0.357
34	0.184	75	0.381
35	0.189	80	0.405
36	0.194	85	0.429
37	0.199	90	0.453
38	0.203	95	0.477
39	0.208	100	0.501

1) For weights between those shown in Table A6.1.3, the minimum pen area per head should be calculated by linear interpolation.

6.1.5 Minimum aircraft crate pen area for deer exported by air

Table A6.1.4 Minimum aircraft crate pen area for deer exported by air

Liveweight (kg)	Minimum pen area (m^2)	Liveweight (kg)	Minimum pen area (m^2)
20	0.13	140	0.61
22	0.14	150	0.63
24	0.15	160	0.64
26	0.16	170	0.66
28	0.17	180	0.68
30	0.18	190	0.69
32	0.19	200	0.70
34	0.20	210	0.73
36	0.21	220	0.75
38	0.22	230	0.77
40	0.23	240	0.79
42	0.25	250	0.81
44	0.26	260	0.84
46	0.27	270	0.86
48	0.28	280	0.88
50	0.29	290	0.90
55	0.31	300	0.92
60	0.34	310	0.96
65	0.37	320	0.98
70	0.39	330	1.00
75	0.42	340	1.02
80	0.45	350	1.05
85	0.47	360	1.08
90	0.49	370	1.10
95	0.51	380	1.12
100	0.53	390	1.14
110	0.55	400	1.17
120	0.57	410	1.19
130	0.59	420	1.21

1) For deer, floor space must be adequate to allow deer to lie down during transport.

6.1.6 Loading density — camelids

1) For alpacas, the stocking density table for sheep applies.
2) International Air Transport Association regulations stipulate that trained camels must be penned individually for air transport. However, wild-caught camels are not accustomed to individual penning or segregation and are best transported by air in cattle pens. Use of cattle pens must be limited to camels under 300 kg liveweight.

PART 7— Inspection of livestock

Number	Standard
S7.1	At all points of the supply chain from sourcing of livestock to disembarkation from the vessel in the importing country, there must be appropriate facilities and sufficient personnel to enable the inspection of all animals and their removal on animal welfare or not fit to load/export grounds.
S7.2	At all points of the supply chain any animal identified as being distressed, injured or otherwise unsuitable for export as per the criteria at Appendix 7.1 must be removed from the main group of livestock, individually and clearly marked as a reject and be treated appropriately including euthanasia if required at the first reasonable opportunity.
S7.3	Prior to loading for land transport from the property of source, livestock sourced for export must be inspected by a competent person familiar with the requirements of the consignment. Any animal showing signs consistent with the export rejection criteria in Appendix 7.1 or any other condition that could cause the animal's health and welfare to decline during transport or export preparation, must not be prepared for export or transported.
S7.4	Any livestock identified at unloading into the registered/approved premises as being distressed, injured or otherwise unsuitable for export must be individually and clearly identified, and, where appropriate isolated from the rest of the consignment. Criteria for rejection are outlined at Appendix 7.1. Livestock must be individually inspected by a competent stockperson under a minimum of 200 lux lighting at unloading at the registered/approved premises to determine whether they are suitable for preparation for export. Livestock that are weak, ill or injured at unloading at the registered/approved premises must be provided with appropriate treatment, or euthanased if required, as soon as possible.
S7.5	All livestock at the registered/approved premises must be inspected daily by a competent stockperson familiar with the criteria at Appendix 7.1.
S7.6	For livestock exports by sea the land based AGAV must complete a thorough flock/herd inspection prior to the individual inspection commencing and issuance of permission to leave for loading certificate.

Number	Standard
S7.7	The primary individual inspection of all livestock must be conducted by a competent handler under the supervision of a land based AGAV at the registered premises immediately prior to animals leaving the premises to ensure that only fit to export livestock are transported from the premises for loading onto the vessel. The facilities and inspection process must be designed to reliably assess each animal for fitness to load/export against all of the rejection criteria Appendix 7.1. Individual inspection must be a thorough, two-sided and whole body inspection, including the eyes, face and underbelly of the animal. The facilities must enable the inspectors to assess animals while stationary, if required (such as using slide gates). Any livestock rejected during primary individual inspection must be individually clearly identified as a reject and provided appropriate humane treatment or euthanasia in accordance with Appendix 7.4. Any livestock leaving the registered premises for loading onto the vessel must be healthy and fit for export.
S7.8	An inspection must be conducted by a competent person on the wharf immediately before livestock are loaded onto the vessel/aircraft. Only livestock that are healthy and fit for export on arrival at the port/airport can be loaded onto the vessel/aircraft. Any livestock rejected upon arrival to the port/airport must be individually and clearly identified as a reject and arrangements made to provide appropriate humane treatment or euthanasia and for removal from the port as soon as practicable. A competent person must be available on the wharf at all times that livestock are present to euthanase animals if required (in relation to exports by sea only).
S7.9	When the majority of livestock have been loaded onto the vessel, DAFF, the shipboard AGAV and a competent stockperson must ensure that livestock have been loaded in accordance with the loading plan.
S7.10	For exports by sea, all livestock on the vessel must be individually inspected twice daily by the shipboard AGAV or an accredited stockperson to ensure that the health and welfare of the livestock are maintained.
S7.11	For exports by sea, a meeting must be held daily to discuss all issues relating to the health and welfare of the livestock. This must include the master and/or the master's representative, accredited stockperson and/or veterinarian.
S7.12	Livestock for export by air must be inspected to ensure they remain fit to export: a) by a DAFF officer at the airport immediately before departure; and b) where feasible by a competent stockperson or the exporter: i. within 30–60 minutes of commencement of the journey; ii. at least every 2–3 hours as conditions warrant c) immediately prior to departure after any transit stops.

Number	Standard
S7.13	Any livestock for export identified by a competent stockperson and/or the exporter during transport by air as being distressed or injured must, where reasonably practical: a) be given immediate treatment if distressed or injured; b) be euthanased without delay as necessary and in accordance with Appendix 7.4; and c) arrangements must be made to remove or separate sick or dead livestock from pens carrying multiple animals at transit stops, if it is safe, practical and permissible to do so. If animals need to be off-loaded, arrangements must be made to ensure the health and welfare of the animals.

PART 7 APPENDIXES

Appendix 7.1 Livestock rejection criteria

1) Livestock identified with any symptoms consistent with the rejection criteria must be rejected from the proposed export consignment. Any other condition that could be defined as an infectious or contagious disease that would mean that an animal's health or welfare would decline or that the animal would suffer significant distress during transport, also requires the animals rejection from export.

Category	Rejection criteria
General requirements	Fail to meet requirements of protocol/import permit, such as sex, type, breed, tag number Lactating animals, unless with calves at foot and being transported by air Pregnancy status not confirmed as appropriate for journey
Systemic conditions	Emaciated or over fat Showing signs of anorexia (inappetence) Uncoordinated, collapsed, weak Unwell, lethargic. Dehydrated Ill-thrift
Musculoskeletal System	Lameness, abnormal gait, foot abscesses, arthritis, footrot (sheep) and fractures etc. Abnormal soft tissue or bony swellings, including hernias
Gastrointestinal system	Dysentery or profuse diarrhoea Bloat
Nervous system	Nervous symptoms (head tilt, circling, incoordination) Abnormal or aggressive behaviour/ intractable violence
External/ skin	Generalised skin disease such as papillomatosis or generalised ringworm, dermatophilosis Generalised and extensive buffalo fly lesions (cattle) Cutaneous myiasis /flystrike (sheep) Wet / unhealed/weeping/ or bleeding shearing cuts (sheep) For sheep/goats/alpacas: wool longer than 25mm or hair longer than 25mm in compliance with standard S1.16 External skin cancer Ballantitis(pizzle rot in sheep) or urolithiasis Visible external parasites Significant lacerations Discharging wounds or abscesses Blood/ discharge from reproductive tract(vulva/ prepuce)
Head	Blindness in one or both eyes Cancer eye Keratoconjunctivitis (including pink eye) Generalised eye disease and any other eye condition including grass

	seeds in eyes Scabby mouth Excessive salivation Nasal discharge, the cause of which may affect the health or welfare of the livestock Severe sustained or profuse coughing Respiratory distress- difficulty in breathing <u>Horns:</u> Horns must be no longer than the ears and blunt Horns must not cause damage to head or eyes or endanger other animals during transport. Horns must not restrict access to feed or water during transport <u>Sheep:</u> Long horns greater than one curl, except with DAFF approval <u>Goats:</u> Horns are not to exceed 15 cm in length and must be blunt, except with DAFF approval. <u>Cattle:</u> horns must be no longer than 12 cm in length and tipped (blunt) <u>Buffalo:</u> horns must be no longer than the spread of the ears and are blunt. <u>Deer:</u> In velvet exceeding 10cm in length Broken antlers Hard antlers longer than 5cm. Male deer must not be sourced if they have not had hard antlers removed leaving only buttons, if they are in the first week after velveting, if all velveting wounds are not healed and if they are in rut (if they are over one year old) If livestock are dehorned wounds must be healed.
Other	Mobs with unusual mortalities or mortalities of more than 0.5% over the whole period of pre-export preparation Large disparities in size or age (redraft animals in this case)

Appendix 7.2 Reject management guidelines

Rejection reason	When	Where	By who	Action required
Not fit to load/ export/ animal health and welfare reasons	Selection at source	On farm/ saleyard	Livestock producer,buyer, stock agent	Treat, euthanase, send to slaughter, do not load
Not fit to load/ export/ animal health and welfare reasons	Upon loading onto truck at farm/ saleyard	On farm/ saleyard	Livestock producer, buyer, stock agent, truck driver	Treat, euthanase, send to slaughter, do not load
Not fit to export/ animal welfare reasons	Arrival into registered premise	Registered Premises	Registered premises staff, exporter	Treat, make exportable (e.g. shear), euthanase or send to slaughter
Not fit to export/ animal health and welfare reasons	During daily inspections	Registered premises	Registered premises staff, exporter	Treat, make exportable (e.g. shear), euthanase or send to slaughter
Not fit to export/ animal health and welfare reasons	During protocol Procedures	Registered premises	Registered premises staff, AGAV, exporter	Treat, make exportable, euthanase or send to slaughter
Not fit to export, not fit to load, animal health and welfare reasons	During primary inspection	Registered Premise	Registered premises staff, exporter, livestock inspector/ AGAV, drafter	Treat, make exportable (e.g shear), euthanase or send to slaughter
Not fit to export, animal health and welfare reasons.	During secondary inspection	Wharf	Exporter, stevedores, livestock inspector/ AGAV, drafter, Shipboard stockperson/ AGAV	Treat, euthanase, return to registered premises to make exportable for future voyages or send to slaughter
Animal health and welfare reasons	Daily onboard inspections	Onboard export vessel	Shipboard AGAV/ Stockperson	Treat or euthanase
Not fit to discharge, Not fit to load, Animal welfare reasons	Discharging livestock from vessel to importing country port from vessel	Onboard export vessel	Shipboard AGAV/ Stockperson or captain	Euthanase

Appendix 7.3 Treatment and euthanasia guidelines for reject animals

Situation	Recommended Action	Where	Person responsible
An animal that is deemed not fit to load immediately prior to loading onto the truck.	**Do not load**	-Farm	- Livestock producer - Buyer - Truck driver
		-Saleyard	-Agent -Buyer -Exporter - Truck driver
		-Registered Premises	-Exporter -Registered premises staff -AGAV -Livestock Inspector -Drafter -Truck driver - DAFF regional veterinary officer
		-Wharf	-AGAV -Livestock inspector -Stevedore -Exporter -Truck driver - DAFF regional veterinary officer
At any stage throughout the export chain an animal, if possible may be made suitable for export providing the equipment and competent personnel are available e.g. tipping horns, shearing sheep.	**Made to be fit to export**	-On farm -Registered premises	-Livestock producer -Exporter -Registered premises staff -AGAV - DAFF regional veterinary officer
Any animal determined by a competent person to be likely to recover from an illness or injury without suffering and in consideration of the existing environmental factors.	**Treat/ Medicate**	-All points of the export chain	-Livestock producer -Exporter Registered premises staff -AGAV (shipboard or land based)

			-Onboard stockperson
Any animal that is fit to load and does not require immediate euthanasia	**Send to slaughter**	-Farm -Saleyard -Registered premise	-Livestock producer -Livestock producer -Agent -Exporter -AGAV -Registered premises staff
-Any animal that is unlikely to recover from illness or injury (e.g. fractured leg, advanced pneumonia) -Any animal that is moribund and is not improving in health with an outlook to full recovery with appropriate care. -Any animal that has not independently stood or walked for 24 or more hours and is not improving in health with an outlook to full recovery with appropriate care. -Any animal that has not eaten or drunk water for 24 hours or more and is not improving in health or likely to recover	**Timely Euthanasia:**	At any stage of the export chain	-Livestock producer -Exporter -DAFF regional veterinary officer -Experienced Registered Premises staff -AGAV -Shipboard AGAV -Onboard Stockperson
An animal experiencing extreme pain and suffering such as a fractured leg, or severe injury requires immediate euthanasia	**Immediate Emergency Euthanasia:** **NB:** Where it is necessary to euthanase livestock, it is to be done promptly, safely and humanely in accordance with the land transport standards.		-Livestock producer - Agent -Buyer -Truck driver -Saleyard staff -Exporter -DAFF regional veterinary officer -Registered Premises staff -AGAV -Livestock Inspectors -Drafter -Stevedores -Shipboard AGAV -Onboard Stockperson

Appendix 7.4 Guidance on euthanasia of livestock

Note. This appendix is based on similar provisions of the Land Transport Standards.

Objective

Where it is necessary to euthanase livestock, it is done promptly, safely and humanely.

Standards

SA6.1 A person in charge must ensure that humane destruction methods result in rapid loss of consciousness followed by death while unconscious.

SA6.2 A person in charge must ensure a moribund animal is humanely destroyed by a competent person or under the direct supervision of a competent person at the first reasonable opportunity.

SA6.3 If a competent person is not immediately available to humanely destroy an animal, the person in charge must arrange for a competent person to carry out the procedure at the first reasonable opportunity; unless it is in the welfare interest of the animal and a competent person is not immediately available, and the person considers they have the capability to destroy the animal.

SA6.4 A person humanely destroying an animal must take reasonable action to confirm the animal is dead.

SA6.5 A person must only use blunt trauma to the forehead to destroy an animal if that animal is either a piglet up to 15 kg live weight or is less than 24 hours old and of the following species — alpacas, camels, cattle, deer, goats and sheep.

SA6.6 Deer, goats or sheep must only be destroyed by bleeding-out by neck cut if the person is competent to perform the task or under the direct supervision of a competent person, and only in situations where there is no firearm or captive bolt available.

Note. Points of aim for firearms and captive bolts are shown in a diagram for each species, as relevant.

Guidelines

Humane destruction methods

GA6.1 Humane destruction should be done with the minimum number of people present, and other distractions should be minimised.

GA6.2 The animal should be handled carefully and be appropriately restrained so that it is not unnecessarily distressed or alarmed. Where livestock are able to walk, they should be handled in a race or crush.

GA6.3 Livestock (excluding poultry) should be brain-shot by rifle or captive bolt in the approved positions, according to the species standards.
Note. The primary consideration in humane destruction is to prevent the animal from suffering further pain or distress. Part B defines recommended methods for humane destruction for each species and class of livestock.

In the context of the transport process, humane destruction is an emergency procedure. Many practical, safety and legal considerations will influence the choice of a humane destruction method. In the context of transport, it is accepted that livestock to be destroyed will be appropriately restrained for close handling. The most prompt, approved method to relieve suffering is recommended.

Observing livestock after humane destruction

GA6.4 Following use of a humane destruction method, livestock should be monitored for at least three minutes to ensure that death has occurred.

GA6.5 To determine whether humane destruction has caused death, two or more of the following signs should be observed (the first four signs are usually the most useful:

- loss of consciousness and deliberate movement (this sign alone is not sufficient, as the animal may just be stunned; involuntary movements may occur in a dead animal)
- absence of rhythmic respiratory movements (this sign alone is not sufficient, as there may be temporary respiratory failure)
- absence of corneal 'blink' reflex when the eyeball is touched
- maximum dilation of the pupil, nonresponsive to light
- absence of response to painful stimuli (although the withdrawal reflex is not reliable)
- absence of intentional vocalisation (animal may gasp but this should not be in a consistent pattern)
- tongue becomes limp (in some species) and absence of jaw muscle tension (may be difficult to judge)
- absence of heartbeat (requires expertise to detect; heartbeat may persist for some minutes in an animal that is brain dead)
- absence of a pulse (requires expertise to detect, as for heartbeat)
- loss of colour in the mucous membranes, which become pale and mottled
- glazing of the eyes, where the cornea becomes opaque, dry and wrinkled (onset after some time, therefore not immediately useful)
- rigor mortis (onset after several hours, therefore not immediately useful).

GA6.6 Return of rhythmic breathing, corneal reflex, vocalisation or deliberate movement are the main signs that an animal is only stunned and requires the application of an approved method to ensure death.

GA6.7 If it is not certain that an animal is dead, then an approved method should be used immediately to ensure death in a rapid and humane manner. If necessary, bleeding-out or another technique should be used to ensure death in unconscious livestock.

Note. The confirmation of an animal's death following a humane destruction procedure can be a difficult task to judge, and requires training and experience of species differences in responses. It is important that an animal is monitored in the three minutes immediately following the humane destruction procedure.

Recommended methods and procedures for humane destruction

Note. The following guidelines provide information on the recommended methods for humane destruction. Further detail on specific practices and applying methods to particular species is presented in Part B.

Firearms

GA6.8 Firearm use should be in the frontal or poll positions, except for cattle and pigs which can also be shot in the temporal position.

GA6.9 Firearms should be cleaned regularly and maintained in optimal working condition.
GA6.10 To ensure maximum impact and the least possibility of misdirection, projectiles should be fired at the shortest range possible, but not with the barrel in contact with the animal's head.

GA6.11 Suitable projectiles and propellant charges for the species and class of livestock and situation should be used to always achieve humane destruction with reasonable personal safety if carried out correctly.

Note. In general, firearms are the most acceptable method of humane destruction for livestock. In transport situations, the distance between the end of the firearm barrel and the animal is expected to be between 10 and 100 cm. The only approved target organ is the brain. There are three effective aiming points at the head: frontal, poll and temporal. These positions are covered in the species standards in Part B. Before firing, the animal's head must be still.

For the frontal method, the firearm or captive bolt should be directed at a point in the middle of the forehead where two lines from the topside of the base of the ears and top of the eyes intersect (pigs — from the bottom side of the ears to the eyes). The line of fire should be aimed into the skull towards the imagined centre of the brain or spinal cord as indicated in the diagrams.

For the poll method, the animal is shot through the skull just behind the base of the antlers or horns. The line of fire should be in line with the animal's muzzle. Generally, the poll method is preferred for horned livestock, such as goats and sheep.

For the temporal method (firearm only), the animal is shot from the side of the head so that the projectile enters the skull at a point midway between the eye and the base of the ear on the same side of the head. The projectile should be directed horizontally into the skull. This method is an option for adult livestock due to the heavier bone structure of the front of the skull but should be avoided if horn structures interfere with the aim point. A firearms safety consideration is that projectiles may exit the skull.

Firearms energy specifications are as follows:

- the standard 0.22-long rifle cartridge means the use of any 0.22 rim fire cartridge that produces in excess of 100 foot pounds of energy at the muzzle
- the standard 0.22-magnum cartridge means the use of any 0.22 rim fire magnum cartridge that produces in excess of 300 foot pounds of energy at the muzzle
- the centre fire cartridge means the use of any centre fire cartridge that produces in excess of 1000 foot pounds of energy at the muzzle.

Captive bolt devices

GA6.12 Captive bolt use should be:

- in the frontal or poll positions; and
- accompanied by appropriate restraint; and
- applied in contact with the skull.

GA6.13 The captive bolt stunner should be pressed firmly on the head before being discharged, and should be positioned as described in the approved positions for each species of livestock. The temporal position is not an option.

GA6.14 For penetrating captive bolt stunners, the cartridge power and length of bolt should be appropriate to the species and class of livestock. Non-penetrating captive bolt stunners are not recommended.

GA6.15 Operators should make sure that charges intended for use are appropriate for the species and class of livestock.

GA6.16 Captive bolts should be regularly cleaned and maintained in optimal working condition according to the manufacturer's instructions.

Note. Two types of captive bolt stunners powered by an explosive cartridge are available:

- the concussion stunner (non-penetrating) has a wide mushroom-shaped head that delivers a blow to the skull, causing unconsciousness
- the penetrating captive bolt stunner has a narrow bolt that is driven a short distance into the brain.

Both types of stunner only cause a stun, or loss of consciousness, that may be temporary and not lead to death. The penetrating captive bolt stunner is recommended because it is more reliable at delivering an effective stun in livestock. The concussion stunner is not recommended for destruction of livestock during transport. Captive bolt stunning should be followed by an effective procedure to cause death, such as bleeding-out.

Anaesthetic overdose

GA6.17 Veterinarians or approved persons should perform anaesthetic overdose as appropriate.

Note. Anaesthetic overdose depresses the central nervous system causing deep anaesthesia, leading to respiratory and cardiac arrest. Many different drugs are available, but only for use by veterinarians. The method is appropriate for all species that can be handled.

Stunning by blunt trauma to the head

GA6.18 A single, sharp blow should be delivered to the centre of the forehead. *Humane destruction* **37**

Note. Blunt trauma to the forehead using a hammer or other suitable solid, heavy object may be used to render unconscious small and easily controlled piglets (up to 15 kilograms live weight), or other

livestock less than 24 hours old, as permitted in Part B. Blunt trauma must be applied properly to be effective and humane; therefore, the training and skill of the operator is essential. A follow-up procedure, such as bleeding-out or pithing, should be used immediately after stunning to ensure death.

Bleeding-out (exsanguination)

GA6.19 Bleeding-out of deer, goats and sheep without prestunning using the neck cut should only be done as a last resort by a skilled person using a suitable, sharp knife and adequate restraint of the animal. The cut should transect both the carotid arteries and both the jugular veins.

GA6.20 The animal should be monitored to ensure that death has occurred from effective blood loss.

Note. Bleeding-out of stunned livestock is a method to cause death. Bleeding-out (exsanguination) is performed by cutting the main blood vessels; at the top of the heart via the thoracic inlet (chest stick), in the neck (neck cut) or in other locations. The neck cut is the only method to be used where permitted in conscious livestock.

Pithing

GA6.21 Pithing should be done to ensure death after stunning, particularly where blood loss is to be avoided.

Note. Pithing is permitted only after an effective stunning method has been used and animals have been assessed to be unconscious.

Pithing is the process of destroying nervous tissue in and around the brainstem to ensure death. Pithing is carried out by inserting a metal or plastic rod through a hole made with a captive bolt pistol in the animal's head. The rod is pushed down through the foramen magnum and into the spinal cord. Pithing can also involve severing the spinal cord between the atlas and axis (the first and second bones of the neck). The pithing process can stimulate violent involuntary movements of the animal's legs and head. Pithing is not permitted at a registered livestock processing establishment. Any livestock dispatched in this manner must not be used for human consumption.

PART 8 Reporting and record keeping requirements

Number	Standard
S8.1	A record of all recordable husbandry procedures relevant to livestock exports (such as pregnancy testing), vaccinations relevant to livestock exports (such as for scabby mouth), veterinary medicines and agricultural chemicals used to vaccinate, treat or prepare livestock from sourcing to disembarkation from the vessel must be kept by the farmer/producer pre-sourcing of livestock or the exporter post-sourcing of livestock. For at least two years after the date of export.
S8.2	The land transport must be undertaken in accordance with a travel plan. This travel plan must be completed for all interstate journeys greater than two hours duration and journeys of more than eight hours duration. Each plan must address the following: a) species, class, condition and number of livestock; b) transport vehicles; c) loading densities and penning requirements; d) duration of the journey, including rest periods for driver and livestock; e) the method of loading and unloading of the livestock; f) inspection of livestock before loading; g) the feed and water requirements and curfew times applicable to the livestock under these standards, including to livestock sourced from saleyards; h) the expected weather conditions before and during transport; i) the route and the types of roads traversed; j) completion of vendor declarations or waybill regarding the property of source and the time of departure; k) contingency plans for managing transport breakdown, accidents, escapes, deaths, downers and injuries; l) emergency contacts; m) date and time livestock last had access to water; and n) date and time livestock were last inspected for welfare concerns and any actions taken.

Number	Standard
S8.3	Livestock must not be loaded until the travel plan is completed. The following documentation must accompany each load of the consignment: a) a signed declaration as to the identification of the livestock and the property of source; and b) a journey log that commences at loading, is maintained through the journey and finalised on completion of unloading, and is used to record the actual journey details. The transporter must be aware of the travel plan prior to commencement of the journey. The documentation relating to each consignment must be kept by the transporter or transporter operator for at least two years after the date of export.
S8.4	When receiving livestock, the operator of the registered premises must obtain a copy of the vendor declarations for each consignment regarding the property of source and health and welfare status of the livestock before accepting the livestock for the purpose of preparation for export. The declaration is provided by the livestock producer and must be kept by the exporter for at least two years after the date of export.
S8.5	If a registered premises mortality investigation is conducted in relation to standard 3.21, the exporter must provide a report of the investigation to DAFF as soon as possible after the investigation has occurred.
S8.6	From the period of arrival of livestock at registered premises to loading onto the vessel, a record must be kept by the operator of the registered premises that details the identity, mortalities, the method of treatment or euthanasia and disposal of all livestock rejected in accordance with Appendix 7.1, Appendix 7.2, Appendix 7.3 and Appendix 7.4.
S8.7	Records for each consignment held at registered premises (e.g. daily monitoring, inspections, treatment or euthanasia) must be kept by the exporter or operator of the registered premises for at least two years after the date of export.
S8.8	At the commencement of loading of the vessel, the land based AGAV responsible for preparing animals for export must provide the shipboard AGAV/ stockperson/master of the vessel and DAFF with a registered premises report as prescribed in Appendix 8.1. The registered premises report must be kept by the exporter or operator of the registered premises for at least two years after the date of export.
S8.9	Veterinary drugs must be stored and used according to veterinary directions and manufacturers' recommendations, and treatment records/drug usage must be maintained. Treatment records collected by the shipboard AGAV/ stockperson must reflect individual or line/mob identification and be kept by the exporter for at least two years after the date of export.
S8.10	An accredited stockperson/ shipboard AGAV must provide daily reports on the health and welfare of the livestock to DAFF, commencing on day 1 of the voyage. The report must include the information outlined in Appendix 8.2, and confirm that these activities are undertaken. Where an accredited veterinarian is on board, the veterinarian rather than the stockperson must provide the daily report.

Number	Standard
S8.11	If a notifiable incident occurs at any time during the export of livestock a report must be provided by the person responsible for the welfare of the livestock to DAFF as soon as possible by: a) The master of the vessel or AGAV in the case of exports by sea; or b) The exporter in the case of exports by air.
S8.12	Regardless of the journey duration, within five days of completion of discharge at the final port of discharge, an accredited stockperson/ shipboard AGAV must provide an end-of-voyage report on the health and welfare of the livestock to DAFF. The report must include the information outlined in Appendix 8.3. Where an accredited veterinarian is on board, the veterinarian rather than the stockperson must provide the end-of-voyage report.
S8.13	An end-of-journey report on the health and welfare of the livestock transported by air must be prepared by the exporter and provided to DAFF within 5 days of completion of discharge at final port of disembarkation and must contain the information outlined in Appendix 8.4.

Note. The records referred to in this part must be provided on request to DAFF, if the request is made within the specified period in which the records are to be kept. The records will be treated as confidential.

PART 8 APPENDIXES

Appendix 8.1 Registered premises report (handover report)

To be provided to the master of the vessel/ shipboard AGAV upon commencement of loading the livestock onto the vessel by the land based AGAV, the handover report must provide information on animal health and welfare experienced, and any related issues, that may be relevant to the health and welfare of the livestock on board the vessel. The report must include details of:

1. The name of the land based AGAV
2. Identification of the registered premises where preparations were undertaken
3. Date of receivals of animals into the registered premises
4. The number of animals received into the registered premises
5. Any issues identified on arrival of animals at the registered premises
6. Identification of any tests/ procedures performed on the livestock
7. Any animal health issues encountered including details of treatments given to livestock being loaded
8. The mortalities, treatment and disposal of all livestock
9. Number of mortalities
10. Any mortality investigations and outcomes
11. Any adverse weather/ environmental conditions encountered
12. Any foreseeable risks, animal health developments
13. Any births during preparation

Appendix 8.2 Daily voyage report

Veterinarian ……..... Stockman ……..... Exporter..... ..... Vessel & voyage no ……... Port(s) of loading……. LNC no..... ..... Date ……..... ..... Day No* ……..... .. Vessel position and ETA(s) …….....	*Day number to start with first animal loaded and end on day last animal is discharged from the vessel

Voyage details

2 Discharging port(s) (when and where and what species/ type of livestock are to be discharged if changed)

3 Current weather conditions

4 Any forecasted adverse weather conditions (if known), including any preparation/risk mitigation strategies for any forecasted adverse weather conditions

5 Daily maximum temperature, dry bulb/ wet bulb/ ambient (bridge temperature)/humidity

6 Feed and water consumption (average per head)

8 Issues with feed and water quality or access

10 Animal health and welfare issues by deck/ load plan

Veterinarian
…….....

11 Detail medications or treatments used on this day

12 Hospital pen report by deck/ load plan, including any infectious disease process exhibited onboard

13 Respiratory type (normal, panting, gasping) by species/ type/ deck/ hold.

15 Pregnant cattle: any births, abortions, lactating animals or lactation related illnesses

16 Observed heat stress by deck or areas of concern/ by load plan if needed

17 Ventilation operation (indicated on load plan if needed)

- Any ventilation issues (breakdowns/ maintenance)
- Any ventilation breakdowns, if so for how long and what were the environmental conditions (were there any adverse AW/ health effects on the livestock?)
- Ammonia levels (provide details for any areas exceeding 25ppm)

18 Any relevant mechanical developments that could affect animal welfare

19 Any relevant maintenance issues that could affect animal welfare

20 Faecal type: normal, sloppy, diarrhoea, dry, firm pellets

21 Any excessive faecal build-up affecting animal welfare, by deck or load plan where indicated: and what is being done to correct it

22 Deck conditions:

- Requires washdown
- Any water leakages onto livestock decks
- Flooding pen space occupied by livestock
- Any rough or slippery deck areas causing injury to any livestock or requiring maintenance
- Any other decking issues

23 Next wash/ deck management event (what and when):

- Shovel out
- Wash
- Add sawdust to manage moisture build up

24 Mortality:

- Species

Veterinarian
…….....

- Reasons (if know)
- Animals euthanased
- Animals found dead
- Daily/cumulative mortality by species

25 Is the vessel travelling through known pirate waters? Are there guards onboard?

26 Any issues from the daily meeting

26 Any other relevant matter

Veterinarian/ Stockperson's Signature:

Captains Signature:

Appendix 8.3End of voyage report

Vessel details

- Vessel name
- Voyage number
- Location and date the vessel was loaded
- Vessel destination(s)
- Where was vessel unloaded, dates, how many animals at which ports.

Voyage details

- Voyage dates inclusive of start to finish
- Duration of livestock voyage:
- AGAV/ Accredited stockperson on board:
- Exporter/s:
- LNC number/s:
- Port of loading: umber of each species, type loaded (where loaded):
- Loaded port/s: when and where and what species/ types of livestock loaded:
- Discharging port/s: When and where and what species/ type of livestock is to be discharged:
- Weather conditions experienced:
    - Any adverse weather conditions:
    - Any preparation/ risk mitigation strategies for any adverse weather conditions experienced:
- Feed and water issues
- Animal health and welfare issues experienced (by deck/ load plan stocking density if pertinent)
- Hospital pen report by deck/ load plan
    - Any infectious disease process exhibited on board
- Was the ships veterinary medication and equipment supply sufficient to ensure good animal welfare for all livestock on board
    - Medications or treatments used throughout voyage; (by quantity used divided into dose rates if ear tags unreadable)
- Any respiratory problems, or areas of concern.
- Any pregnant cattle, if so
    - Any births
    - Any abortions
    - Any lactating animals or lactation related illness.
- Heat stress observed indicated, by deck or areas of concern/ by load plan if needed
- Ventilation operation (indicated on load plan if needed)
    - Any ventilation issues (breakdowns/ maintenance)
    - Any ventilation breakdowns, if so for how long and what were the environmental conditions (were there any AW/ health implications to the Livestock?)
    - Ammonia levels (did they exceed 25ppm)
- Any relevant mechanical developments that could affect animal welfare and health

    - Any ship breakdowns
    - did the main engine stopped for any period of time leaving the vessel stationary (if so for how long, what were environmental conditions during this period)
    - Any reverse osmosis or fodder machine/ supply issues
- Any relevant maintenance issues that could affect animal welfare and health
- Deck conditions, any issues or events leading to poor animal welfare outcomes;
    - Any rough or slippery deck areas causing injury to any livestock or requiring maintenance
    - Any other decking issues
- If any heat stress incidents-
    - did cattle require emergency hosing to cool?
    - Was this undertaken?
- Mortality- reasons, (indicated by deck and load plan)
    - Animals euthanased
    - Animals found dead
    - Total mortality numbers by LNC and voyage
- Any known/ expected risks to vessel or cargo :
    - Weather/ seas
    - Pirate area, guards carried?
    - Acts of terrorism
    - other
- General comments
- Any shipping design issues that could affect AW and health
- Relationship/ communication issues;
    - Is DAFF required to contact/ telephone the AGAV/ Stockperson privately
    - was communication easily accessible to the AGAV and Stockperson for business purposes
- Ships livestock ramps:
    - were the ships loading/ discharging ramps in good operational order
    - Were the ships loading/ discharging ramps of safe design for livestock: e.g.: with no gaps to injure legs of livestock
- Any other relevant matter

Veterinarian/ Stockperson's Signature:

Appendix 8.4End of air transport journey report

This report must provide a general overview of the air voyage, with mention of any specific issues relevant to the health and welfare of the livestock, and must include the following information:

1	Aircraft type(s) and airline(s)
2	Flight number(s)
3	Departure port(s) Date Total loaded, by species
4	Transit stops Feed and water Access Maintenance issues
5	Flight conditions Weather Temperature (where the livestock is kept) Ventilation
6	Health and welfare of livestock Number of livestock born during the journey Number of abortions Number of mortalities
7	Discharge port(s) Date
8	Comments on discharge operations

Notes

1) All legislative instruments and compilations are registered on the Federal Register of Legislative Instruments kept under the *Legislative Instruments Act 2003*. See www.frli.gov.au