

LiveCorp Submission

October 2021

# Review of ASEL 3.1

2021 update of the Australian Standards for the  
Export of Livestock (Draft ASEL 3.2)

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## 1. Introduction

### 1.2. About LiveCorp

The Australian Livestock Export Corporation (LiveCorp) is the research and development corporation (RDC) for the Australian livestock export industry. It is a not-for-profit industry body owned and funded through levies on the export of cattle, sheep, and goats from Australia.

LiveCorp works closely with exporters and other industry stakeholders (including the Australian Government), to continuously improve performance in animal health and welfare, supply chain efficiency, regulation, and market access. LiveCorp delivers this by investing in research, development and extension (RD&E) and provides technical and marketing services and support to enhance the productivity, sustainability and competitiveness of the livestock export industry. A key aspect of this is to inform and provide support to industry in the implementation of new and existing regulation to meet its regulatory requirements and continue to deliver positive animal health and welfare outcomes (please refer to LiveCorp's Strategic Plan for details [www.livecorp.com.au](http://www.livecorp.com.au)). LiveCorp does not engage in agri-political activity.

LiveCorp works in partnership with other RDCs, industry bodies and research providers to achieve strategic outcomes for the industry and leverage higher returns for investments that demonstrate value for money for livestock exporters. In recognition of the benefit of livestock exports to businesses throughout the entire supply chain, including producers, much of LiveCorp's investment occurs in partnership with Meat and Livestock Australia (MLA), through the joint Livestock Export Program (LEP). The partnership with MLA to deliver the LEP is widely recognised as the most efficient mechanism for delivering RD&E and in-market technical support.

### 1.3. LiveCorp / MLA Research, Development and Extension (RD&E) Program

The LEP Research, Development and Extension (RD&E) Program is the primary mechanism for undertaking RD&E activities for the livestock export industry. The RD&E Program Blueprint sets out the program structures and the five key priority areas for investment. The most significant area of investment for the RD&E Program is the delivery of animal health and welfare improvements, which received 74% of the RD&E Program budget in 2020-21. Other areas of priority and investment are supply chain efficiency and market access.

LEP R&D provides scientific information, findings and recommendations specific to the livestock export industry, which can play an important role in helping to determine what changes may be needed to meet the expectations and requirements of the Australian Government, the livestock export industry and the Australian community. LiveCorp would welcome the opportunity to present any of its research to the department.

The RD&E Program Blueprint and information on current research projects is available on the LiveCorp website ([www.livecorp.com.au/researchAndDevelopment](http://www.livecorp.com.au/researchAndDevelopment)).

## 2. The ASEL review process

LiveCorp understands that the primary objective of the current ASEL 3.2 review is to enhance the usability and clarity of the standards and ensure it is fit for purpose. However, during our engagements with exporters in preparing this submission it was noted there remained some confusion around what amendments were intended for the annual, three-yearly, or topic specific reviews (e.g. as flagged for sheep in the draft ASEL 3.2). Additional clarity to stakeholders may help improve understanding and expectations for the different review processes and support priority setting.

### 2.1. Consistent language, interpretation, and outcomes

Regulatory clarity and consistency of interpretation are key components of an effective compliance framework. Ongoing work to reduce instances of inconsistency and support common understanding or interpretations between and within industry and government would be beneficial. In this regard, it is noted that the department's development of the ASEL Rejection Criteria Guidance materials through a process that engaged with industry participants has been a positive step.

## 3. Key industry research

While the intention of this review is to improve usability, LiveCorp considered that it was a good opportunity to provide information and research that could support the refinement of existing standards to reflect current research, practices, and knowledge.

### 3.1. Veterinary medicines and equipment

The 2018 ASEL Review Technical Advisory Committee (the TAC) recommended to the department that the *“Mandatory veterinary medicines and equipment [requirements] be updated following completion of the LiveCorp project on shipboard drug use.”* This LEP RD&E program project – *‘Shipboard provision of animal health equipment and medications’* – has now been completed and is available on the LiveCorp website.

The project looked at several areas relating to animal health medications and equipment. However, a key focus was considering the adoption of a standards and guidelines approach for the veterinary medicines and equipment standards in ASEL. Clearly defined mandatory standards supported by complementary guidelines can assist exporters in complying with ASEL requirements and deliver positive animal health and welfare outcomes. In other agricultural standards and guidelines, the emphasis is on defining the outcome through the standard and outlining the inputs through the guidelines.

This approach provides greater flexibility for keeping regulatory requirements up to date with higher-level ‘category’ based requirements enshrined within the standards, and more specific details that are prone to frequent change (e.g. veterinary medicine names) outlined in the guidelines. Stipulating only the categories of medicines (i.e. analgesics, injectable antibiotics: short acting and long acting, sedatives etc) manages the high-level animal health risks during voyages and allows for the updating of specific medicines and protocols outside of formal reviews. The project developed proposed standards for consideration by the department, which are attached at Appendix 2 and can be found on pages 4-7 of the research report.

The department’s proposed removal of Ceftiofur from ASEL as a ‘recommended’ antibiotic for the treatment of bovine respiratory disease is a useful example of why a more flexible system would be beneficial and would enable timely changes outside of review processes, if required.

It is noted that the project made a number of additional recommendations including in relation to the regulatory framework and standardisation of terminology, which LiveCorp would be happy to explore with the department separately to this review.

### 3.2. Shearing management of sheep

As noted by the ASEL 3.2 review document, there continue to be several areas of relevance to shearing that have been raised for potential amendment by members of the livestock export industry, including:

- Shed housing for sheep less than 10-days off-shears
- Minimum 2 clear days between shearing and export
- Shearing of hair sheep

LiveCorp understands that the department is planning to wait until the completion of the Inspector General of Live Animal Export (IGLAE) review *Livestock export permits and health certificates* before considering certain amendments related to sheep standards raised by exporters.

While this is noted, there is industry support for changes in this area to be implemented more promptly and as such, we believed it would be timely to provide feedback on these items.

#### Shed housing for sheep less than 10-days off-shears

As noted in LiveCorp’s 2018 ASEL Review submission, there appears to be limited clear justification or scientific backing for the requirements that sheep be a minimum of 10 days off shears to be able to be held in paddocks. LiveCorp understands that the minimum 10-day requirement was originally established with the intention of mitigating the potential welfare risks for recently shorn sheep to winter weather conditions during pre-export preparation in south-eastern Australia (e.g. Portland). In this regard, it is noted that exports from Portland have significantly declined, with minimal shipments in the last five years (Table 1). Further, the risk factors appear to be both geographically and climatically based – which should enable more focused and proportionate regulation targeted at risk (e.g. either limited to Portland, or to the winter months at risk of extreme cold conditions).

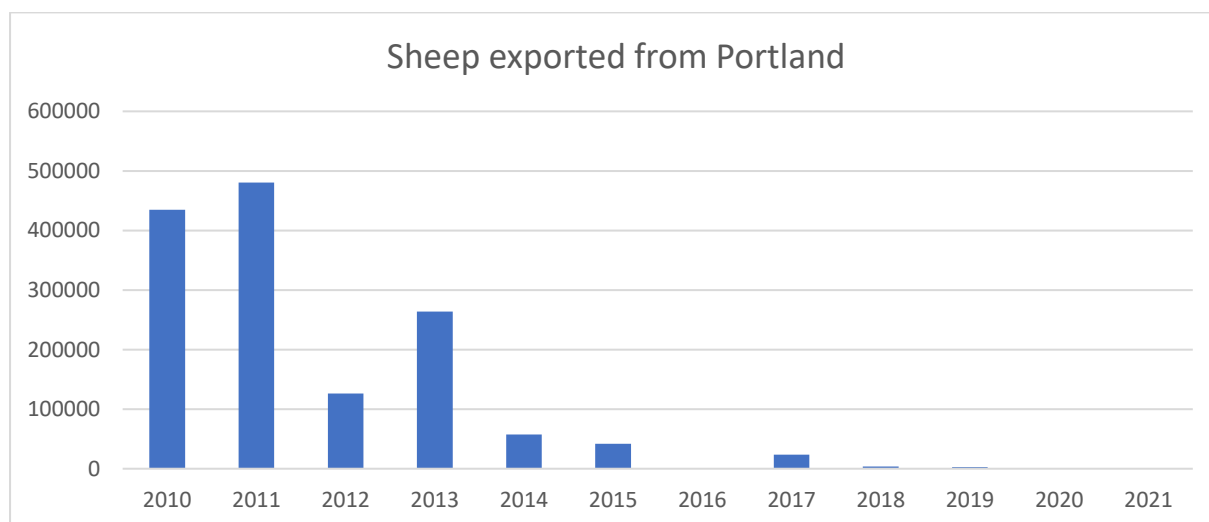


Table 1: Sheep export volumes from Portland

### Minimum 2 clear days between shearing and export

An area that was questioned in the 2018 ASEL Review was also the requirement for sheep to have at least two clear days between shearing and loading. Available research shows that the stress responses induced by shearing dissipate within 24 hours and have limited to no lasting impacts on feeding behaviour – that is, sheep return to baseline behaviours within 24 hours. The application of two clear days extends this period beyond the expected stress response and consideration could be given to whether the existing provision is consistent with the current science.

### Shearing of hair sheep

The 2018 Review amended ASEL to require hair sheep to be shorn where their ‘wool’ exceeds 25 mm. As was noted during that review, it is questionable whether this requirement as constructed is consistent with current science / knowledge and best practice animal welfare practices. Hair sheep are not typically shorn due to their breed characteristics and are also recognised for higher heat tolerance. Given shearing these sheep requires them to be subject to further stressors (handling, shearing, drafting), there needs to be clear justification behind the requirement from an evidenced risk and demonstrated benefit.

It is noted that the ASEL Review identified that there were differences in the proportion of hair to wool in some breeds, and the potential for cross-breeding. However, there is minimal variability in the breeds that are live exported and it would appear possible to investigate and create targeted conditions for those breeds, where necessary.

### Future review and management

LiveCorp notes that the department has indicated that it will review these standards, and we look forward to being involved in that process.

## 4. Shipboard fodder

### 4.1. Actual vs estimated liveweight

The department has proposed requiring that “actual” liveweights be used to calculate shipboard feed requirements. However, it is noted that there is not a clear rationale or objective provided for the proposal. Further, LiveCorp understands that this proposed change will have significant practical implications and implementation challenges for industry.

For example, by the time livestock loading commences, the exporter has already purchased the required fodder and started loading it onto the vessel. It would be impractical to require that the fodder requirements be re-calculated and adjusted once final liveweights are confirmed. Calculating total liveweight during the loadout and loading process also introduces a further administrative and data requirement to be completed at an already busy time.

Noting the above, it would be useful to understand the risk that the department is seeking to manage from this change and to see whether available data shows persistent, meaningful variance between estimated and liveweight figures. In turn, it needs to be assessed whether weight estimation is the root cause of the issue or risk, and whether it is the best regulatory tool / change to manage that issue.

LiveCorp and industry would welcome the opportunity to investigate this further with the department.

## 4.2. Reinstatement of 20% contingency fodder allowance for short-haul voyages

The ASEL TAC recommended amendments to the volume requirements for fodder on vessels in 2018, including changing the short haul requirement from 20% to 3 days. The practical implications of this change have been substantive from an exporter perspective and short haul voyages (of 5 – 7 days) are now carrying close to 40% additional fodder. This is a significant change in burden and without clearly identified animal welfare risks in the short-haul trade and a causal connection to the statutory fodder reserve volumes, it does seem that the newer blanket provision lacks the proportionality and reasonableness of the earlier version.

Given there does not appear to have been a welfare improvement as a result of the change, the increased burden, costs, and wastage (the fodder must be disposed of or sold at a discount or given to another exporter) seem disproportionate to the change. It is suggested that consideration be given to reinstating the more targeted provisions from ASEL 2.3 in relation to fodder reserves for short haul voyages.

The industry has also flagged a desire to engage further on how contingency feed requirements can be managed in a way that reduces loss and burden, yet manages the risks of delay.

## 5. Management of rejected livestock at Registered Establishments

ASEL 3.0 modified the language from ASEL 2.3 regarding the management of rejected livestock at Registered Establishments (REs). Since this change, LiveCorp has received feedback from industry that the lack of clarity in the application of the standard (S3.1.15) has led to inconsistent and disproportionate enforcement by RVOs. For example, we have been advised that RVOs have interpreted “rejected from the consignment” as an action that must be performed as soon as the animal is identified. This is attributed on the basis that ASEL stipulates “[Daily inspection] to determine whether they are suitable for preparation for export”.

Depending on the nature of the reason for rejection, the immediate removal of animals from consignments (outside of planned handling activities such as vaccinations etc) can put unnecessary stress on the animals as they are ‘chased around’ a pen to be marked and then removed. During preparation of livestock in REs, there are regular activities that present an ideal situation to remove (via drafting) these rejected animals from consignments.

In addition, it has also been reported that use of NLIS ear tags as the permanent marker for rejected animals is having inconsistent acceptance during government inspections. As an existing ID marker, it reduces unnecessary animal handling to apply additional marking. Ear tags are also used for the traceability of animals (rejected or otherwise) in the consignment. The expected interpretation and outcomes of marking rejected animals should be clearly defined to manage compliance and animal welfare.

## 6. First reporting day

ASEL 3.0 introduced increased reporting requirements, including the requirement to complete and submit daily reports for sea export consignments starting from the first day of loading (due to the change in definition of voyage day). The role and responsibility of Accredited Stockpersons and AAVs is to manage the health and welfare of the livestock, including during loading – a particularly busy and important period from both a livestock care and commercial perspective. For large consignments, typically departing from Western Australia, loading can often take three days to complete.

Therefore, despite the extended 36-hour window permitted for submission of the first daily report, compliance with the new reporting requirements has proven to be particularly challenging for AAVs and Accredited Stockpersons. Several AAVs/stockpersons have indicated to LiveCorp that they must either try to complete the daily report while loading is taking place, or the decision is made to pause loading for a few hours while they complete and submit the first daily report. We understand that these disruptions can have serious commercial impacts and detract the AAVs / stockperson from their core focus of vessel loading and animal care. LiveCorp believes that the requirement for submission of daily reports during loading should be reviewed and are happy to engage to discuss how data/commentary on loading could be captured most effectively.

## 7. Individual identification of livestock

Traceability is regulated at the state and territory level and individual NLIS ID for goats, sheep, camels, and alpacas is not mandated in most jurisdictions. This means that it will not be possible for exporters to comply with the proposed requirements for “individual NLIS ID” to be used for pregnancy certification of goats, sheep, camels, alpaca, and deer (S1.6.7, S1.7.5, S1.7.6, S6.2.4), as they do not have individual NLIS tags. It is recommended the department considers omitting ‘individual’ from these standards. The examples of how this wording could be structured can be found in Appendix 1.

## 8. Conclusion and future considerations

LiveCorp welcomes the opportunity to contribute to the 2021 ASEL review and would be happy to discuss any input provided further with the department.

We would also like to note that there have been several changes or decisions not to change proposed that are reasonable and positive decisions, including in relation to ammonia where further information and research will greatly inform that standard, and the changes to how the average daily mortality rate is used (which has not been practical or effective in its current application as a notifiable event).



## Appendix 1. Comments on proposed ASEL

Reference	Key points in Draft ASEL 3.2	LiveCorp comment
1.1.3 d)	<p>Additional clarification of:</p> <p>'d) individually identified where testing, <i>including pregnancy testing</i>, is required during preparation, <i>excluding feeder/slaughter sheep where the pregnancy testing certification may identify animals to a mob-based level</i>; and'</p>	<p>Mandating NLIS significantly varies between jurisdictions, and not all animals have individual NLIS tags.</p> <p>Where the intention of this standard is to maintain traceability of animals (pregnancy status, rejection or otherwise), records where <i>'the animal's identification [are] in accordance with state and territory'</i> should be sufficient in maintaining traceability and consider omitting 'individual' from 'individual NLIS' for breeder sheep, goats, camels and alpacas.</p> <p>See also</p> <p>1.1.8 i) – Animal records</p> <p>1.7.5 – Sheep (&gt;40kg, female fat tailed) sourcing documentation</p> <p>1.7.6. – Sheep (breeder) sourcing documentation</p>
1.1.8	<p>Additional of:</p> <p>procedures relevant to export preparation such as disease testing, pregnancy testing, <i>shearing (to a mob/pen-based level)</i>, and date(s) undertaken; and...</p>	<p>Management of sheep within registered establishments is not at a pen basis. Sheep can be moved between pens for a variety of management reasons. Therefore, to align with S1.1.3 and prevalent management of sheep, 'pen-based' should be omitted:</p> <p>'...procedures relevant to export preparation such as disease testing, pregnancy testing, <i>shearing (to a mob/<del>pen-based</del> level)</i>, and date(s) undertaken; and...</p>
1.7.5	<p>" The certification must include <i>the certifier's name, veterinary registration number or attestation to experience and skill in pregnancy testing of sheep, signature, the animal's individual NLIS identification number and the date of the procedure.</i>"</p>	<p>The mandated use of NLIS identification significantly varies between jurisdictions, and not all animals have individual NLIS tags. This means that the proposed clause is not achievable from a regulatory compliance perspective.</p>

		<p>Where the intention of this standard is to maintain traceability of animals (pregnancy status, rejection or otherwise), records where <i>‘the animal’s identification [are] in accordance with state and territory’</i> should be sufficient in maintaining traceability.</p> <p><i>“The certification must include the certifier’s name, veterinary registration number or attestation to experience and skill in pregnancy testing of sheep, signature, the animal’s <del>individual</del> NLIS identification number and the date of the procedure.”</i></p> <p>See also:</p> <p>1.6.7 – goat sourced for export  1.7.5 – Sheep (&gt;40kg, female fat tailed) sourcing documentation  1.7.6. – Sheep (breeder) sourcing documentation</p>
2.1.4	<p>Reinstating this clause from ASEL 2.3 as it was not covered in Land Transport Standards:</p> <p><i>“Well-trained dogs may be used to help with the loading of livestock (other than camelids and deer). Dogs must be muzzled. The number of dogs used should be the minimum necessary to complete the task. Working dogs must not be transported in the same pen as livestock.”</i></p>	<p>Should re-iterate the intention of minimising injury to livestock by including <i>“and unloading”</i>:</p> <p><i>“Well-trained dogs may be used to help with the loading <u>and unloading</u> of livestock (other than camelids and deer). Dogs must be muzzled. The number of dogs used should be the minimum necessary to complete the task. Working dogs must not be transported in the same pen as livestock.”</i></p>
3.1.15	<p>Status quo of:</p> <p><i>“Livestock must be individually inspected at unloading, and inspected at least daily, to determine whether they are suitable for preparation for export. Any livestock identified as being distressed, injured or otherwise unsuitable for export (including the rejection criteria outlined in Standard 1 Table 1) must be rejected from the consignment, marked by</i></p>	<p>Suggested refinement in line with the feedback in the body of the submission, for example:</p> <p><i><u>“...identified as being...unsuitable for export... must be identified and removed at the earliest appropriate time, where immediate removal will not result in the best animal welfare outcome...”</u></i></p> <p>Feedback was provided that the individual marking of rejected animals presents unnecessary handling stress for the animals and there has been</p>

	<i>a semi-permanent or permanent method and isolated from the rest of the consignment. Any other condition that could be defined as an infectious or contagious disease, or would mean that the animal's health or welfare could decline or that the animal would suffer distress during transport, also requires the animal's rejection from export preparation..."</i>	inconsistent interpretation of when these processes should occur. There are also existing identification systems in place (i.e. NLIS tags) that should be considered as an appropriate method of recording rejected animals (in relation to cattle and buffalo).
3.1.16	<p>Clarification of animals which can be penned when of differing characteristics:</p> <p>"...management plans and entire vs castrated male livestock) are not mixed in a single pen.; and <i>This excludes the following which may be penned together:</i></p> <p><i>i) immature ewe and wether lambs;</i></p> <p><i>ii) entire and spayed female livestock;</i></p> <p><i>iii) ≤500kg and &gt;500kg cattle and buffalo (provided the weight of each animal in the pen does not vary from the pen average weight by more or less than 50 kg, and that all animals in the pen are managed in accordance with an approved heavy management plan); and...'</i></p>	<p>Immature is not an industry term. The accepted definition of lamb is "an ovine animal that is under 12 months of age or does not have any permanent incisor teeth in wear" and is widely understood in the industry. The word immature should be omitted from this line.</p> <p>Therefore this wording should read:</p> <p><i>"i) <del>immature</del> ewe and wether lambs;"</i></p> <p>It was suggested that where there is not a large weight variance (&gt;50kg), steers and bulls should also be allowed to be penned together as they do not present adverse welfare risks to each other.</p>
3.4.2	<p>Status quo of:</p> <p>'The minimum length of time that cattle must remain in a registered establishment prior to departure for the port is 2 clear days for short [haul voyages]'</p>	It is noted that the change to this standard implemented in ASEL 3.0 continues to be questioned and that as data becomes available it should be reassessed to confirm that it is justified by management of risk and improved welfare outcomes.
3.7.4	<p>Status quo of:</p> <p>"a) for ration feeding, no less than 5cm of feed trough width per head; or</p> <p>b) for ad libitum feeding, no less than 3cm of feed trough width per head."</p>	The prescriptiveness of this standard may not be proportionate to the risk managed. Considering state and national welfare standards and guidelines, the department should consider adopting the wording to 'at a rate ensuring adequate nutrition and adaptation to ship ration.'

6.1.14	<p>Redefining:</p> <p>“... .4 [animal] and below must be rounded down. Decimal point 5 and above can be rounded up if the resulting space allocation does not exceed a 5% decrease from minimum requirements”</p>	<p>The rationale (supplied chart in the draft) was difficult to interpret, it also highlighted that only the top weight ranges exceeded the 5% decrease from minimum requirements. The department should consider simplifying the stipulation and not have the 5%, Requiring the number be either rounded up or down as per previous standards.</p>
6.1.24	<p>Refined to:</p> <p><i>“where livestock are accessible during the flight”</i> and delayed implementation until further notice.</p>	<p>While this is further clarification from a previous standard, there should be consideration that where animals are ‘accessible’ during a flight, actions possible are restricted by IATA regulations on cargo handling during flight.</p>

## Appendix 2: Recommended standards for the minimum veterinary medication and equipment requirements for sea export voyages from *Shipboard provision of animal health equipment and medications, 2021*

Minimum provisions of medications for sea export voyages with cattle and sheep  
The following table is recommended as the standards for the provision of animal health medications to the Australian Standards for the Export of Livestock.

Product type	Specific items	Species	Provisions required per 1000 animal days <sup>AC</sup>	Medication must be included to treat major syndromes or diseases
<b>Analgesics/anti-inflammatorys including corticosteroids</b>	Injectable anti-inflammatorys	Cattle	4.5 doses <sup>B</sup>	-
		Sheep	0.1 doses <sup>B</sup>	-
	Local anaesthetic	Cattle	1ml (minimum 50ml)	-
		Sheep	0.1ml	-
<b>Injectable antimicrobials</b>		Cattle	4.5 doses <sup>B</sup>	1 - Respiratory disease
				2 - Musculoskeletal conditions and injuries
				3 - Eye disease
		Sheep	0.1 doses <sup>B</sup>	1 - Musculoskeletal conditions and injuries
			2 - Enteric disease	
<b>Sedatives</b>		Cattle	0.5 doses <sup>B</sup>	-
		Sheep	0.1 doses <sup>B</sup>	-
<b>Topical wound treatment</b>		Cattle	1 treatment	Musculoskeletal conditions and injuries
		Sheep	0.1 treatment	Musculoskeletal conditions and injuries Flystrike
<b>Supportive products</b>	Metabolic solutions	Cattle	1 treatment	-

Minimum provisions of equipment for sea export voyages with cattle and sheep

The following table is recommended as the standards for the provision of animal health equipment to the Australian Standards for the Export of Livestock.

Equipment	Item	Consignment type	Detail	Number per vessel	Equipment per on-board staff <sup>A</sup>	Redundancy
Personal Protective Equipment <sup>B</sup>	Examination gloves	All	More than 50	-	1	-
	Obstetrical gloves	All	More than 50	1	-	-
	Eye protection	All	For use with drug administration and euthanasia	-	1	1
	Ear protection	All	For use with euthanasia	-	1	1
Handling equipment	Portable head bale	Cattle	Light weight, able to be moved around the ship and secured as needed	1	-	-
	Rope halter	Cattle	-	1	-	-
	Nose grips	Cattle	-	1	-	1
	Ropes for handling	Cattle	-	2	-	1
	Cattle talker/slapper	Cattle	Appropriate for low stress stock handling	4	1	1
Identification	Marker	Sheep	Stock identification marker		1	1
Diagnostic equipment	Thermometers	All	-	2	-	1
	Meat temperature gauge	All	To determine post-mortem muscle carcass temperature	1	-	-
	Multi-test dipstick	All	More than 50	1	-	-
	Small post-mortem	All	2 post-mortem knives plus steel and sharpening stone	2	-	-
Site preparation	Antiseptic	All	1 litre of chlorhexidine,	1	-	-

			iodine or equivalent			
	Isopropanol, methylated spirits, or equivalent	All	1 litre of methylated spirits or equivalent	1	-	-
Surgical equipment	Small suture kit	All	Scalpel blades, scalpel handle, needle drivers, forceps, needles, and suture material	1	-	-
	Pole syringe devices or equivalent	Cattle	Examples: MasterJect or Westergun		1	2 plus parts <sup>D</sup>
	Sheep bottle mount injection device	Sheep	Examples: NJ Phillips Automatic BMV Injector	-	1	1 plus parts <sup>D</sup>
	Syringes	Cattle	Syringes suitable for pole syringe device	0.5 per 1000 animal days <sup>C</sup>		10
		Cattle	20 ml or above	2 per 1000 animal days <sup>C</sup>	-	-
		Cattle	10ml or below	2 per 1000 animal days <sup>C</sup>	-	-
		Sheep	10 ml and above	0.05 per 1000 animal days <sup>C</sup>	-	-
		Sheep	5 ml or below	0.01 per 1000 animal days <sup>C</sup>	-	-
Treatment equipment		Cattle	Suitable for pole syringe device and loaded medications	1 per 1000 animal days <sup>C</sup>		20
	Needles	Cattle	Needles suitable for manual injection	2 per 1000 animal days <sup>C</sup>	-	-
		Sheep	Needles for bottle mount injection device	0.02 per 1000 animal days <sup>C</sup>		20
		Sheep	Needles suitable for manual injection	0.05 per 1000 animal days <sup>C</sup>	-	-
	GIT equipment	All	Stomach tube	1	-	-
		Cattle	Bloat trocar/cannula	1	-	-
	Hoof equipment	Cattle	Hoof knife or pincers	1	-	-

	Cattle	Hoof blocks and glue	10	-	-	
	Sheep	Foot secateurs	1	-	-	
Obstetrical equipment	All pregnant breeder consignments	Mechanical assistance device	1	-	-	
		Obstetrical chains/ropes	1	-	-	
		Prolapse needle & prolapse tape	1	-	-	
		Obstetrical lubricant	5 litres	-	-	
Wound equipment	All	Cotton wool	2 rolls	-	-	
	All	Vetwrap or equivalent	2 rolls	-	-	
	All	Elastoplast, PVC duct tape, or equivalent	2 rolls	-	-	
Euthanasia equipment	Captive-bolt device	All	-	1	-	
	Cartridges	Cattle	Suitable for weight/type of livestock	4 per 1000 animal days <sup>C</sup>	-	-
		Sheep	Suitable for weight/type of livestock	1 per 1000 animal days <sup>C</sup>	-	-

<sup>A</sup> On-board staff refers to AAVs and stockpersons

<sup>B</sup> This is not inclusive of all OH&S equipment that might be required for the exporter to provide a safe work environment

<sup>C</sup> 1000 animal days at sea is the number of animals multiplied by the number of days at sea divided by 1000

<sup>D</sup> 1 complete spare device plus spare parts to rebuild the minimum number of devices required on board

\* Further consideration is required when applying the recommendations to voyages with days at sea greater than 20