Foreword

The Australian Standards for the Export of Livestock v2.3 (ASEL) set out the requirements to ensure animals are fit to export and manage the risks to animals' health and welfare throughout the export voyage. The Technical Advisory Committee (the committee) has been appointed by the Department of Agriculture and Water Resources (the department) to review the standards. The purpose of this review is to ensure the standards remain fit for purpose and reflect the latest science.

The committee undertook a review of the ASEL for livestock exported by sea in 2018. The committee provided its final report Review of the ASEL: Sea Transport and draft reformatted standards to the department in December 2018. The committee consulted widely in forming its views. It also considered the findings of a literature review commissioned by the department. On the basis of information received, and its own analysis, the committee recommended a number of changes to the standards to help ensure the welfare of animals.

The committee is now undertaking a review of the ASEL for livestock exported by air. To help prepare the draft report, the committee is seeking:

- your views on issues relating to livestock prepared for export and exported by air
- any additional research projects or publications, and the provision of any economic data that might relate to these issues.

This issues paper offers guidance on how to provide feedback to the committee.
Consultation

The committee is developing recommendations to improve the Australian Standards for the Export of Livestock for livestock exported by air. These recommendations will be provided to the department.

The committee is undertaking public consultation throughout the review. The committee is conscious of the effort required from individuals and businesses to participate in consultations. The committee intends to take advantage of the synergies possible by directly considering the 2012-13 ASEL Review and relevant information in submissions made in response to the issues paper released on 6 February 2018, during Stage 1 of the ASEL review.

The committee is consulting widely to ensure that consultation captures the diversity of stakeholders affected by any regulatory changes. The committee is also aware of the high level of community interest in the welfare of exported livestock. Interested parties are strongly encouraged to make a submission to this paper so that the committee may better understand the potential impacts of any regulatory changes.

There will be two public consultation periods in the ASEL air review, as outlined in Table 1.

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 April 2019</td>
<td>Issues paper released – beginning of consultation period (this document)</td>
</tr>
<tr>
<td>16 May 2019</td>
<td>Submissions close – consultation period ends.</td>
</tr>
<tr>
<td>June 2019</td>
<td>Draft report released – beginning of second consultation period</td>
</tr>
<tr>
<td>July 2019</td>
<td>Submissions close – consultation period ends.</td>
</tr>
<tr>
<td>August 2019</td>
<td>Final committee report to be submitted to the department</td>
</tr>
</tbody>
</table>
1.1 Making submissions

Individuals and organisations are encouraged to contribute to the review process by making submissions, which are due on 16 May 2019.

You are invited to comment on any aspect of this issues paper, however, we are particularly seeking to:

- collect evidence and factual data to support different options listed within the paper or alternatives
- elicit information from stakeholders to improve the standards
- clarify the possible impacts of the issue or recommendation on you, regulated parties, governments and the wider community
- quantify the likely costs and benefits of any regulatory measures on affected stakeholders, including the long term economic viability of the industry
- identify areas where the obligations of the regulated party are duplicated between different pieces of regulation or standards and where it may be appropriate to simply adopt or refer to that regulation.

We also welcome further information on:

- additional scientific papers describing relevant research findings.
- details of perceived barriers and challenges to achieve effective and sustainable animal health and welfare management in livestock exports, within the scope of ASEL (that is, prior to unloading of the aircraft).

In making a submission, please:

- write clearly and be specific about the issues that are of concern to you, linking them back to the page and section of the issues paper your comments relate to
- if you agree or support a particular option, recommendation or part of the issues paper, please say so
- if you disagree with a particular option, recommendation or part, please tell us what you disagree with and why
- suggest any recommended changes, alternative wording or solutions you may have
- provide a copy or link to any supporting evidence relevant to your submission.

1.2 Publication of submissions

Submissions will ordinarily be available at agriculture.gov.au, unless you request otherwise. Please indicate when submitting your submission through Have Your Say, should you wish it to be treated as confidential, either in full or part. The committee and the Australian Government reserves the right to refuse to publish submissions, or parts of submissions, which contain offensive language, potentially defamatory material or copyright infringing material. A request may be made under the Freedom of Information Act 1982 (Cth) for a submission marked confidential to be made available. Such requests will be determined in accordance with provisions under that Act.
2 Introduction

2.1 What is the problem we are trying to solve?

The Australian Standards for the Export of Livestock (ASEL) version 2.3 was updated in 2011. Whilst a review of the standards took place over 2012–13 following the Farmer Review, it was not finalised. In the meantime, animal science and industry practices have evolved meaning that the requirements in the standards are not necessarily fit-for-purpose.

This review aims to address concerns that:

- The standards do not deliver acceptable animal welfare outcomes for exported livestock within a viable industry.
- The standards do not meet community expectations for the welfare of animals.
- The standards are not based on the best available scientific evidence.

It is important that national minimum standards are set for livestock exports that ensure consistent welfare outcomes across the industry, and which provide industry participants with clear criteria for demonstrably meeting their duty of care to the animals they manage along the export supply chain. As the standards are mandated by law in Australia they must, to the maximum extent possible, be evidence-based, and supported by contemporary science relevant to Australian systems and the conditions faced during air journeys from Australia. Additionally, the standards need to be sufficiently flexible to accommodate newly developed animal management and transport systems, hence be outcomes-based where possible rather than overly prescriptive.

The standards and this review use the World Organisation for Animal Health (OIE) definition of animal welfare, which means:

... how an animal is coping 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. (OIE 2016c, p. 1)

This review has been undertaken in two parts. In 2018, the committee undertook a review of the standards as they relate to livestock exported by sea. The final report was provided to the department in December 2018. The department accepted all 49 recommendations made by the committee in full or in principle, and is in the process of implementing an updated ASEL that reflects the changes. In 2019, the committee is focussing on reviewing the ASEL for livestock exported by air.
2.2 What is the role for government?

The Productivity Commission in its report Regulation of Australian Agriculture. No. 79, 15 November 2016, suggested that the role for government was in addressing those instances where ‘animal welfare and profitability are not complementary because the market is largely unable to provide society with desired states of welfare’ (p. 199). This misalignment establishes animal welfare as ‘a public good externality and is addressed by establishing and enforcing standards for animal welfare’ (McInerney, 2004).

The Productivity Commission further identified that in setting standards, government must ensure that credible science underpins animal welfare standards and they are effectively regulated:

“The government has a role in ensuring this minimum level of welfare is achieved, where it would not otherwise be achieved as a result of the commercial incentives and actions [...] Ethical considerations are important in determining the acceptability of welfare standards, but it is critical that views about animal welfare are based on credible science. People may perceive a practice to be cruel because they do not understand the actual welfare outcomes for an animal. [...] and most people accept that there can be tradeoffs between standards and the costs and practicality of achieving them. For that reason, it is important that factual (scientific and economic) considerations are separated from judgements about what is appropriate (ethics).” (2016, p. 202-205)

Further,

“An important policy question is whether regulatory arrangements can effectively manage the welfare of Australian live exports without imposing costs that lead to a substitution to exports from other countries.” (2016, p. 247)

2.3 Scope of the paper

The review of the ASEL as it relates to livestock exported by sea has been completed with a final report and reformatted version of ASEL submitted to the department in December 2018.

The committee is now specifically considering Standard 6 of the ASEL; Air transport of livestock, any remaining unresolved issues from the 2012–13 review of ASEL and issues raised regarding air transport during Stage 1 of the ASEL review in 2018.

2.3.1 Out of scope

In addition to the items listed in the committee’s terms of reference as out of scope for the review, the following issues are also out of scope:

- Consequences and penalties for breaching ASEL
- Performance of the regulator
- Broader legislative framework for live animal exports.
2.4 Summary of Issues

Each issue is set out under headings including:

- Current requirements—current requirements under the ASEL version 2.3
- ASEL 2012–13—any relevant information and options as discussed in the 2012–13 review of ASEL
- Issues raised by stakeholders in Stage 1 of the ASEL review in 2018 and comments received during consultation
- ASEL: sea transport final report recommendations and discussion.

The committee strongly encourages you to read the supporting material provided in the submissions and supporting documents referred to throughout this paper, for further context around the issue. Submissions are available at: agriculture.gov.au/animal/welfare/export-trade/review-asel and links to supporting documents are available at section 10 of this issues paper.
3 Sourcing and preparation of livestock

3.1 Liveweight and body condition score for livestock exported by air

3.1.1 Current requirements
The ASEL v2.3 rejection criteria under S6.4 requires that any livestock showing systemic conditions such as 'emaciated or over-fat' must not be prepared for export. However, these terms are not defined.

The ASEL v2.3 gives minimum weights for sheep, goats, alpacas and cattle.

S6.9 Unless approved by the relevant Government agency, 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 12 kg and are 3 months old.

S6.9A Cattle must only be sourced for export by air transportation if they have a minimum weight of 150 kg.

3.1.2 Issues raised by stakeholders in Stage 1 and during consultation
It was recognised through submissions to Stage 1 of the review that sheep under 24kg and goats under 18kg are a higher risk category that require a high level of care in an intensive management system, such as during the air transport journey. It was suggested that animal welfare would be enhanced if the minimum weight allowed for sheep exported by air is increased to 24 kg and 18kg for goats.

During consultation, it was suggested a consignment specific management plan could be introduced for miniature breeds, as the characteristics of these breeds do not conform to the average weights/criteria existing in ASEL v2.3.

3.1.3 ASEL: sea transport final report
The committee identified the need to update body condition score tables based on agreements reached in the 2012-13 review, and define subjective terms such as ‘emaciated’ or ‘over-fat’.

Body condition scores and tables were updated using those recommended by industry bodies and widely used in livestock industries. The committee also developed a definition of emaciated or over-fat body condition in line with current industry processes:
Emaciated or over-fat body condition

Livestock is in an emaciated or over-fat body condition if it is assessed by a competent person against the corresponding species scoring system within Appendix A, as having the body scores in Table 2.

Table 2 body condition scores

<table>
<thead>
<tr>
<th>Species</th>
<th>Body condition</th>
<th>Fit to export (inclusive)</th>
<th>Over-fat (inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Emaciated (inclusive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cattle</td>
<td>less than 2</td>
<td>2 or more, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>Pregnant cattle</td>
<td>Less than 4</td>
<td>4 or more, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>Dairy cattle</td>
<td>less than 3.5</td>
<td>3.5 or more, but less than 5.5</td>
<td>5.5 or more</td>
</tr>
<tr>
<td>Buffalo</td>
<td>less than 2</td>
<td>2 or more, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>All other livestock</td>
<td>less than 2</td>
<td>2 or more, but less than 4</td>
<td>4 or more</td>
</tr>
</tbody>
</table>

The body condition score tables that were recommended by the committee are in Appendix A of this paper.

Questions about liveweights for livestock exported by air

Note: Please provide rationale and evidence to support your position.

1) Should the minimum live weight of sheep exported by air be increased from 20kg to 24kg? Should it be higher/lower and why? What are the animal health and welfare risks?

2) Should the minimum live weight of goats exported by air be increased from 14kg to 18kg? Should it be higher/lower and why? What are the animal health and welfare risks?

3) Are the weight restrictions for other species appropriate? Should a minimum weight be specified for other species? If yes, what should the minimum weight be (by species)? What are the animal health and welfare risks? Are there any mitigating measures that must be taken?

4) Should the standard include a provision for miniature breeds?

5) Should the body condition score tables in Appendix A, as recommended in the ASEL: sea transport final report, be adopted for air transport? Are there any other body condition score tables that should be considered?

6) What would be the costs of any changes to the current arrangements?

3.2 Sourcing of deer and camels

Livestock, as defined in the Australian Meat and Live-stock Industry Act 1997 and the Export Control (Animals) Order 2004, includes cattle, sheep, deer, buffalo and camels (that is, camels, llamas, alpacas and vicunas), and includes the young of an animal of any of those kinds.
As such, ASEL includes requirements for deer and camelids to be exported. The export of deer and camelids is infrequent and recently has only been by air, as shown in Table 3.

### Table 3 deer and camelids exported in 2015—2018

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>90</td>
<td>80</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sea</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
<td>80</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Camels</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>123</td>
<td>61</td>
<td>67</td>
<td>4</td>
</tr>
<tr>
<td>Sea</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>123</td>
<td>61</td>
<td>67</td>
<td>4</td>
</tr>
<tr>
<td>Alpacas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td>1113</td>
<td>243</td>
<td>1801</td>
<td>870</td>
</tr>
<tr>
<td>Sea</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1113</td>
<td>243</td>
<td>1801</td>
<td>870</td>
</tr>
</tbody>
</table>

### 3.2.1 Current requirements
ASEL v2.3 contains specific requirements for sourcing deer and camels in S6.14–S6.16:

**S6.14 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.

**S6.15 Male deer must only be sourced for export if:**

a) They are not in velvet or hard antler;  
b) They are not in the first week after velveting;  
c) Velveting wounds have healed; and  
d) They are outside the roar and rut periods if they are over 1 year of age.

**S6.16 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).

### 3.2.2 Issues raised by stakeholders in Stage 1 and during consultation
In Stage 1 of the review, a range of stakeholders said the standards for deer and camelids are insufficient, not based on relevant scientific evidence or best practice and require revision to ensure additional safeguards for their welfare. It was suggested that consignment-specific management plans should be prepared for any export containing deer or camelids.
One submission provided specific comments on sourcing deer for export by air including:

- **Reportable mortality rate for deer should be increased to 3 per cent (due to high stress levels)**
- **Revise the requirement ‘velveting wounds have healed’ as velveting wounds can dry out and stop bleeding within a day but can take months to fully heal.**
- **Amend the requirement ‘not have broken antlers’ to ‘not have broken velvet’**
- **Amend the requirements ‘not be in velvet or hard antler’ and ‘hard antlers longer than 5cm’ to ‘must have all hard antlers removed, leaving only buttons.’**

**3.2.3 ASEL: sea transport final report**

The committee agreed to the removal from ASEL of specific requirements for deer and camelids for export by sea, requiring provision of consignment–specific management plans to address specialised animal health and welfare requirements.

**Questions about deer and camels**

*Note: Please provide rationale and evidence to support your position.*

1) **Should the requirements relevant to exporting deer and camels by air be replaced by the provision of consignment–specific management plans?** These plans would initially cover the requirements contained within ASEL but would be required to be customised to address specialised animal health and welfare requirements for these high-risk consignments.

2) **Are the standards in relation to rejection criteria for deer adequate? Should the requirements for antlers be revised? If so, how?**

3) **What would be the costs of any changes to the current arrangements?**

**3.3 Pregnancy testing requirements**

**3.3.1 Current requirements**

ASEL v2.3 details pregnancy testing requirements and the allowable maximum days gestation for livestock exported by air. The gestation periods listed were provided by the World Organisation for Animal Health (OIE) and are also found in the International Air Transport Association Live Animal Regulations (IATA Live Animal Regulations) for pregnant livestock transported by air.

S6.6 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 more than the maximum number of days pregnant at the scheduled date of departure as identified in Table 4.
### Table 4 maximum days of gestation at scheduled date of departure

<table>
<thead>
<tr>
<th>Livestock</th>
<th>Maximum days of gestation at scheduled date of departure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and buffalo (for breeding)</td>
<td>250</td>
</tr>
<tr>
<td>Deer (axis, fallow, sika)</td>
<td>170</td>
</tr>
<tr>
<td>Deer (rusa, red, reindeer)</td>
<td>185</td>
</tr>
<tr>
<td>Sheep (for breeding)</td>
<td>115</td>
</tr>
<tr>
<td>Goats (for breeding)</td>
<td>115</td>
</tr>
<tr>
<td>Camelids</td>
<td>250</td>
</tr>
</tbody>
</table>

Note: These gestation periods were provided by the World Organisation for Animal Health (OIE) and adopted into IATA Live Animal Regulations for pregnant livestock transported by air.

For cattle and buffalo a declaration must be made in writing by a veterinarian who is a member of the Australian Cattle Veterinarians and 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.

If the veterinarian:

a) is accredited under the National Cattle Pregnancy Diagnosis Scheme; and
b) determines that cattle or buffalo are too small to be manually palpated safely;

the veterinarian may base this certification for cattle or buffalo on assessment of the animals by a method other than manual palpation.

S6.6A Cattle and buffalo sourced for export as slaughter and feeder animals must be pregnancy tested by a registered veterinarian and certified not to be pregnant. A declaration must be made in writing by the registered veterinarian who pregnancy tested the cattle or buffalo.

S6.6B All female Damara breed sheep sourced as feeder or slaughter must be pregnancy tested within 30 days before export by ultrasound and certified not to be pregnant. The certification must be in writing, and given by a person able to demonstrate a suitable level of experience and skill.

S6.7 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.

S6.8 Ewes with a weight of 40 kg or more 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 and certified not to be pregnant, by written declaration, by a person able to demonstrate a suitable level of experience and skill.
All female Damara sheep breeds sourced as feeder or slaughter must be pregnancy tested within 30 days of export by ultrasound and certified in writing, by a person able to demonstrate a suitable level of experience and skill, not to be pregnant.

S6.18A 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.

3.3.2 2012–13 Review
Submissions to the 2012-13 ASEL review indicated that pregnancy testing requirements in the ASEL are inadequate. There was a general view that requirements for competency of pregnancy testing must be consistent and of the highest standard.

3.3.3 Issues raised by stakeholders in Stage 1 and during consultation
There were a number of submissions to Stage 1 of the review that commented on general pregnancy testing requirements and limits, though most were in reference to sea transport. However, it was suggested that the committee consider the lack of discretion in pregnancy testing, including minimum weight/age for species, and whether the 30 day period for testing is adequate for increased pre-export quarantine periods in certain markets.

During consultation in 2019, stakeholders raised questions on requirements for goat pregnancy testing, suggesting the requirements should be reviewed.

3.3.4 ASEL: sea transport final report
The committee considered the subject of pregnancy testing and competent pregnancy testers thoroughly during the review of sea transport. The committee made a number of amendments to the standards including to the definition of a competent pregnancy tester and a valid pregnancy test as well as extending the pregnancy testing requirements relating to damara sheep to all fat-tailed sheep:

**Competent pregnancy tester**

A person permitted under a relevant state or territory law to conduct pregnancy tests in livestock. Competent pregnancy testers may only diagnose pregnancy for feeder/slaughter cattle or buffalo by manual palpation and are not approved to use ultrasound diagnoses or the IDEXX pregnancy test. They cannot complete pregnancy testing of breeder or buffalo consignments for any market.

**Valid pregnancy test**

A valid pregnancy test is that which has been completed in accordance with the species pregnancy test requirements within [Appendix B of this paper]. For the purposes of pregnancy testing requirements, the day that the animal is pregnancy tested is taken to be day zero (0). For example, if a heifer is pregnancy tested on 1 July, day zero is 1 July and the day of loading must be no later than 31 July to meet the valid pregnancy test requirements of testing during the 30 day period.
Fat tailed sheep provisions: All female feeder or slaughter sheep over 40 kg and all female fat-tailed sheep must be determined to be not detectably pregnant and tested in accordance with the requirements of a valid pregnancy test.

Further pregnancy testing requirements made in the reformatted standard are detailed in Appendix B of this paper.

**Questions about pregnancy testing requirements**

*Note: Please provide rationale and evidence to support your position.*

1) Are the maximum days of gestation appropriate for cattle and buffalo? Should they be changed?

2) Should the maximum days of gestation be reduced for any other species? If so, which species and why?

3) Should the pregnancy testing requirements in section 3.3.4 and Appendix B of this paper be adopted for air transport?

3) What would be the costs of any changes to the current arrangements?

### 3.4 Non-farmed livestock

#### 3.4.1 Current requirements

S6.13 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 registered or approved premises.

S6.16 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 (that is camels standing in their natural position do not touch any overhead structures).

The ASEL v2.3 (Appendix 6.1; 6.1.1) recognises the IATA Live Animal Regulations in relation to penning arrangements for trained camels and wild-caught camels.

#### 3.4.2 Issues raised by stakeholders in Stage 1 and during consultation

It was raised during Stage 1 of the review and again in discussions with stakeholders that certain categories of livestock are particularly vulnerable, including non-farmed goats and camels, and additional requirements within the standards are needed.

The committee noted the lack of specific requirements in the current standards for non-farmed goats and camels, and questioned whether the current general provisions are adequate. The committee would like further information and observations on the time it takes for non-domesticated livestock to acclimatise to being handled and eat and drink from troughs. The committee also discussed including a rejection criteria for non-farmed livestock that had not been acclimatised in the appropriate amount of time.
Questions about non-farmed livestock requirements

Note: Please provide rationale and evidence to support your position.

1) Are the standards for non-farmed livestock adequate i.e. wild caught camels or goats?

2) Should the standard be revised with respect to the minimum requirement for non-farmed livestock to become accustomed to handling and eating and drinking from troughs prior to export? Is 14 days adequate for camels? What other time frames could be considered and why?

3) What would be the costs of any changes to the current arrangements?

3.5 Vulnerable or special classes of livestock

3.5.1 Current requirements

The ASEL v2.3 does not have requirements for livestock with young at foot, however there are provisions for livestock to be exported shortly after giving birth:

S6.7 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.

3.5.2 Issues raised by stakeholders in Stage 1 and during consultation

In submissions from Stage 1 of the review, it was suggested that all high risk and vulnerable animals need additional safeguards to be in place, such as livestock with young at foot.

The committee also considered the need for livestock with young at foot to be appropriately managed during preparation and export. It was suggested that the standards be amended to include a consignment-specific management plan for these categories of livestock.

Questions about vulnerable classes of livestock

Note: Please provide rationale and evidence to support your position.

1) Should the standards be amended to remove existing references to livestock with young at foot and be replaced by a provision for a consignment specific management plan? These plans would cover the requirements contained within ASEL but would be required to be customised to address specialised animal health and welfare requirements for these high-risk consignments.

2) Are there specific requirements that need to be in place for vulnerable or special classes of livestock which are currently not addressed in the ASEL? Which categories of stock and what additional requirements are needed? Could these be managed under specific management plans, or departmental discretions?

3) What would be the costs of any changes to the current arrangements?

3.6 Livestock with horns

3.6.1 Current requirements

S6.10 Horned cattle and buffalo must only be sourced for export as slaughter and feeder animals:
a) For cattle, if the horns are 12 cm or less in length and tipped (blunt);
b) For buffalo, if the horns are no longer than the spread of the ears and are blunt; and
c) If de-horned, wounds are healed.

Otherwise, horned cattle and buffalo must only be sourced for export with the approval of the relevant Australian Government agency.

S6.11 Horned sheep or rams must only be sourced for export if the horns:
   a) Are not turned in so as to cause damage to the head or eyes;
   b) Would not endanger other animals during transport;
   c) Would not restrict access to feed or water during transport; and
   d) Are one full curl or less, or are tipped back to one full curl or less.

Otherwise, horned sheep or rams must only be sourced for export with the approval of the relevant Australian Government agency.

S6.12 Goats must only be sourced for export if the horns:
   a) Are not turned in so as to cause damage to the head or eyes;
   b) Would not endanger other animals during transport;
   c) Would not restrict access to feed and water during transport; and
   d) Are no more than 15 cm long and are blunt or are no more than 22 cm long with tips no more than 20 cm apart.

Otherwise, horned goats must only be sourced for export with the approval of the relevant Australian Government agency.

3.6.2 Issues raised by stakeholders in Stage 1 and during consultation
In Stage 1 of the review, it was suggested in some submissions that the requirements for horned cattle should be aligned with the Australian Animal Welfare Standards and Guidelines. Dehorning mature cattle is not good animal welfare practice. When well developed horns are cut to less than 12 cm in length, the vascular portion of the horn is invariably exposed, with intensive bleeding.

In relation to goats, it was suggested that the requirements need to be simplified. Stakeholders raised issues with the current requirements being confusing and difficult to assess.

3.6.3 ASEL: sea transport final report
Cattle: If horned, cattle must have horns no longer than 12 cm and the nonvascular horn tip must be removed to a diameter of three (3) cm, unless otherwise agreed by the relevant Australian Government agency.

Buffalo: If horned, buffalo must have horns no longer than the spread of the ears, unless otherwise agreed by the relevant Australian Government agency.

Sheep: If horned, sheep must have horns no longer than one full curl, unless otherwise agreed by the relevant Australian Government agency.
Questions about livestock with horns

Note: Please provide rationale and evidence to support your position.

1) Are the standards for horned goats adequate? Should the requirements regarding the length of horns be revised? If so, how?

2) Should the requirements for horned cattle, buffalo and sheep in section 3.6.3 of this paper be adopted for air transport?

3) What would be the costs of any changes to the current arrangements?

3.7 On-farm preparation of livestock

3.7.1 Current requirements

Under the Export Control (Animals) Order 2004, where importing country requirements state livestock are to be prepared at premises approved for pre-export quarantine or isolation, the Secretary of the Department of Agriculture and Water Resources, may approve the premises. However, there are no specific standards in ASEL v2.3 that detail where and how on-farm preparation of livestock exported by air should occur.

ASEL v2.3 defines an ‘Approved Premises’ as a place, approved by AQIS for the pre-export preparation of livestock by air.

If livestock were to be prepared at a registered premises (as per Standard 3 of the ASEL v2.3), the premises must conform to the requirements in the ASEL v2.3 and the Export Control (Animals) Order 2004.

Maximum travel times and associated rest periods for livestock during land transport are outlined in the Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock (Land Transport Standards) and Standard 2 of the ASEL v2.3. The maximum acceptable travel times vary for different species, and these are described in the appendices to the ASEL v2.3 (Appendixes 2.1 and 2.2).

3.7.2 Issues raised by stakeholders in Stage 1 and during consultation

During stakeholder consultation, concerns were raised around extended travel times between the premises at which the animals are being prepared and the airport. It was suggested that a maximum travel time between the premises and airport could be included in the standard for livestock exported by air. Noting that, if the livestock are prepared at a registered premises, the location of that premises must be within eight hours of the port of disembarkation [or airport], with the exception of camels through northern ports, unless approved by a relevant government agency.

The committee noted that livestock exported by air do not currently need to be prepared at a registered premises, and queried why there was a difference between livestock exported by air and sea. The requirements for registration and approval of premise are contained in the Export Control (Animals) Order 2004.

Stakeholders also recognised the need for a standard that deals with livestock returned to a premises from the airport, due to unforeseen delays such as a flight cancellation. Comments
were provided in relation to what is an appropriate time livestock should be rested prior to being reloaded onto trucks to return to the airport.

Questions about on-farm preparation of livestock

*Note: Please provide rationale and evidence to support your position.*

1) Should the standards define a maximum travel time from the property where livestock are prepared to the airport? If so, what should it be? Should this be related to the anticipated total journey time from the property the livestock are prepared to overseas destination?

2) Should the standards define a minimum rest period if livestock are returned to the property prior to being reloaded onto trucks for export?

3) There is currently a difference in the requirements for premises used for preparation of livestock for export by sea and air. Should the standards be amended to require preparation for export by air to be completed at a registered premises (or an alternative)? If not, why not?

4) What would be the costs of any changes to the current arrangements?
4 Penning arrangements and crate design

4.1.1 Current requirements
ASEL v2.3 has established a number of penning and crate requirements which are detailed in Appendix 6.1 of the standard. These include:

- Minimum space allowance for livestock during air transport (Appendix C outlines the minimum space allowances as per ASEL v2.3, the IATA Live Animal Regulations and the Land Transport Standards)
- Additional space allowances above the minimum for individual characteristics that necessitate additional space. These include:
  - horned livestock
  - livestock on journeys over 24 hours
  - livestock loaded with mixed cargo in the lower hold of the aircraft
  - sheep, alpacas and goats with more than 25 mm of wool/fibre.
- Additional considerations for crate design in relation to the manoeuvrability of livestock and operation of the aircraft.

The IATA Live Animal Regulations are very prescriptive with respect to penning arrangements and crate design, also taking account of air safety considerations, and were considered in development of these requirements.

4.1.2 Issues raised by stakeholders in Stage 1 and during consultation
In Stage 1 of the review, LiveCorp commented on a number of projects the Livestock Export Program (LEP) has invested in to support the air industry regarding penning including subjects such as best practice crate design and crate ventilation. Other submissions indicated these projects should be considered when looking at penning and crate requirements under the ASEL. The committee noted in discussions that the current penning arrangements were in line with IATA Live Animal Regulations.

Stakeholders raised that consideration should be given to minimum aircraft pen space allowances for camelids. Alpacas are currently penned in accordance with sheep standards and requirements for camels are limited. It was further suggested that these pen area requirements provided insufficient and/or unsuitable space for camelids.

Another issue identified was the penning of mixed sex consignments, that is entire males and females, within the same crate or on the same tier of a crate. It was suggested that the committee consider a requirement prohibiting mixed sex consignments being penned together.

Questions were raised about the practicalities and implications of the current provisions for rounding up livestock numbers in relation to pen area, citing over stocking of crates as an issue in some circumstances. Currently, the standards require the number of livestock per pen to be rounded up to the nearest whole number (for example 4.5 animals is rounded up to 5).
It was suggested that the requirement for animals to be able to stand in their ‘natural position’ without any part of them touching the overhead part of the crate is subjective and needs clarification, in relation to the design of crates.

4.1.3  ASEL: sea transport final report
The committee made a number of recommendations in relation to additional stocking density requirements in the ASEL: sea transport final report including:

- 10 per cent additional space for buffalo
- 30 per cent additional space for cattle and buffalo with long horns (for example, those with horn length over and above S6.10)
- additional space for cattle and buffalo over 500kg as agreed in a heavy cattle management plan
- 15 per cent additional space for pregnant cattle and buffalo
- 10 per cent additional space for rams and goats with horns.

Questions about stocking density

*Note: Please provide rationale and evidence to support your position.*

1) Are the current stocking density and penning arrangements in the standard appropriate for air transport? If not, what should they be? Can this be done within the practical limitations for crates to fit on aircraft?

2) Do you think more space is required for livestock loaded in the lower cargo compartment/hold of the aircraft? If so, why?

3) Are the current provisions for ‘rounding up’ stocking densities appropriate (for example, 4.5 animals is rounded up to 5)?

4) Should the standard include specific stocking density and penning arrangement for alpacas? If so, what should be the basis for the stocking density calculation?

5) Should the standard include specific stocking density and penning arrangement for camels? If so, what should be the basis for the stocking density calculation?

6) Should the standard include reference to head height (in relation to crate design)? If so, should the standard adopt international standards (IATA Live Animal Regulations) or use another measure?

7) Should the standard include provisions for mixed sex loading (entire males or females) of crates/decks?

8) What would be the costs of any changes to the current arrangements?
5 Fodder and water requirements

5.1.1 Current requirements
S6.24 Feed and water must be offered to all livestock for export by air while in transit if climatic conditions, species and class of livestock and total journey time warrant.

S2.8 The following feed and water curfews must be observed for livestock before their loading for land transport from the property of source:

a) Livestock on green feed must be held off green feed (but may be given access to dry feed) for at least 12 hours; and
b) Livestock may be held off water (but may be given access to dry feed) for up to 12 hours.

S2.9 Livestock must not be deprived of water beyond the limits specified for each species and class of animal as summarised in Appendix D of this paper.

5.1.2 Issues raised by stakeholders in Stage 1 and during consultation
Stakeholder consultation revealed that livestock are offered water during transit when circumstances allow. However, in Stage 1 of the review one submission advised that delivery outcomes are not enhanced by providing livestock exported by air with fodder and water in transit. It was suggested that this is not best animal welfare practice and identified a number of practical and welfare disadvantages.

The committee has queried whether there may be benefit in requiring a consignment-specific management plan for this requirement, to ensure all aspects of the consignment including species, climate and journey time are considered in making this decision.

The committee has noted that the Land Transport Standards prescribe a maximum water deprivation time for livestock which could be considered in this context.

Concerns were raised about the extended period of time some livestock can be deprived of water when transported by air. It was suggested a consignment-specific management plan should be required to manage the risks associated with water deprivation, an air export journey maximum water deprivation time requirement be introduced and/or a maximum curfew be introduced prior to loading.

The committee has also identified the need to clearly define the term ‘journey’, as per the definition in section 9 of this issues paper.

Questions about water requirements

Note: Please provide rationale and evidence to support your position.

1) Should a consignment specific management plan be submitted to manage the provision of water during transit stops?
2) Should a consignment specific management plan be submitted to manage the water deprivation time for the entire journey (from the property the livestock are prepared to the importing country)?

3) Should there be a maximum water deprivation time for the entire journey (from the property the livestock are prepared to the importing country)? If so, how long (by species)?

4) What would be the costs of any changes to the current arrangements?
6 Inspection of livestock

6.1.1 Current requirements
S6.4 Livestock sourced for export must be fit to enter the export chain. Livestock sourced for export must be inspected on farm and any animal showing signs consistent with the rejection criteria [outlined in S6.4 of ASEL v2.3] 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.

S6.22 Livestock for export by air must be checked to ensure they remain fit to travel:
   a) Immediately before departure;
   b) Where feasible:
      i. Within 30-60 minutes of commencement of the journey;
      ii. At least every 2-3 hours as conditions warrant; and
   c) Immediately prior to departure after any stops.

S6.23 Any livestock for export identified during transport by air as being distressed or injured must, where feasible:
   a) Be given immediate treatment if distressed or injured;
   b) Be euthanased without delay as necessary; and
   c) Arrangements must be made to remove or separate sick or dead livestock from pens carrying multiple animals in transit. If animals need to be off-loaded, arrangements must be made to ensure the health and welfare of the animals.

6.1.2 Issues raised by stakeholders in Stage 1 and during consultation
There were a number of comments by stakeholders regarding the inspection of livestock both before departure and on-board aircraft. Some stakeholders noted the lack of inspection requirements for livestock prior to export by air and questions were raised about requiring inspection in premises during preparation.

Many argued that the inspection of livestock during flights may not be possible or feasible, and attempts to do so may have a negative welfare effect in some situations. It has been suggested that livestock must be checked to ensure health and welfare is maintained:
   a) for livestock travelling in a lower cargo hold - as late as possible before the animals are loaded into the aircraft and as soon as possible after they are unloaded;
   b) for livestock travelling on the main deck of a freighter aircraft – when the animals are loaded onto the aircraft, until the main door of the aircraft is closed, and again as soon as possible after the aircraft lands; and
   c) the temperature in each cargo hold with livestock must be monitored throughout the flight.

It has been suggested that consideration be given to whether a competent handler should accompany each consignment, where feasible, and what requirements that person should have during the journey.
It was noted that LiveCorp is developing a stockpersons manual for the export of livestock by air.

**Questions about inspection of livestock**

*Note: Please provide rationale and evidence to support your position.*

1) Are the current requirements for inspection of livestock practical and feasible? If not, why not and what are alternate suggestions?

2) Are the facilities available at airports adequate to allow proper inspection of livestock?

3) Should the standard be amended to require inspections at other points in the supply chain? If so, at which points and why?

4) Should the standards require a competent person to accompany all or some consignments? If so, which consignments?

5) What would be the costs of any changes to the current arrangements?
7 Reporting requirements

7.1 Reportable Mortality rate
The current ASEL set out a whole-of-consignment mortality rate for livestock export voyages which, if exceeded, triggers a requirement for an investigation of that voyage by the department. Reports into these incidents are published on the department's website. These trigger levels are referred to as the 'reportable mortality rate' and vary for different species of livestock. As a result of the investigation, compliance and/or corrective actions may be taken.

Over the past three years (2016–2018), the voyage mortality rates reported for the various classes of livestock exported by air have been as follows:

- Sheep: 0.02 per cent across 495 consignments (134,301 sheep exported)
- Goats: 0.03 per cent across 250 consignments (88,724 goats exported)
- Cattle: 0 per cent across 189 consignments (25,293 head exported)
- Alpacas: 0 per cent across 37 consignments (2,890 head exported)
- Camels: 0 per cent across 8 consignments (2,890 head exported)
- Deer: 0 per cent across 1 consignment (80 head exported)
- Buffalo: 0 per cent across 1 consignment (10 head exported)

7.1.1 Current requirements
As defined in preliminary section 6.5 of ASEL v2.3, a reportable level in respect of a species, means the percentage listed below or 3 animals, whichever is the greater number of animals:

a) Sheep and goats: 2 per cent
b) Cattle and buffalo, voyages ≥ 10 days: 1 per cent
c) Cattle and buffalo, voyages < 10 days: 0.5 per cent
d) Camelids: 2 per cent
e) Deer: 2 per cent.

7.1.2 ASEL: sea transport final report
The committee recommended reportable mortality rates for sea exports should be lowered to the following:

- Sheep and goats: 1 per cent
- Cattle and buffalo: 0.5 per cent
- Camelids: 1 per cent
- Deer: 1 per cent.

Questions about reportable mortality rates

Note: Please provide rationale and evidence to support your position.

1) Should the reportable mortality rates in section 7.1.2 of this paper be adopted for air transport? If not, what reportable levels are appropriate (for each species)?

2) What would be the costs of any changes to the current arrangements?
7.2 Contingency planning and reporting requirements

The committee welcomes comments on the existing reporting requirements and contingency planning. The committee encourages submitters to consider additional animal welfare indicators that could be of use in air transport, as well as any other events that should be the subject of a contingency plan.

The committee considers end of journey reports to be an important method of monitoring and collecting information on animal welfare and performance.

7.2.1 Current requirements

As defined in preliminary section 6.5 of ASEL v2.3, a notifiable incident with regard to export of livestock by air includes, but is not limited to:

- a) Loss of aircraft;
- b) Disablement of ventilation systems on an aircraft carrying livestock causing a serious adverse effect on animal health and welfare;
- c) Rejection of livestock at an overseas airport;
- d) A mortality rate equal to or greater than the reportable level; or
- e) Any other incident that has an adverse effect on animal health and welfare.

S6.25 A contingency plan for the following emergencies must be prepared for each consignment as part of the consignment risk management plan:

- 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.

S6.27 If a notifiable incident occurs at any time during the export of livestock by air, a report must be provided to the relevant Australian Government agency as soon as possible after the notifiable incident.

S6.28 An end-of-journey report on the health and welfare of the livestock transported by air must be prepared and provided to the relevant Australian Government agency within 5 days of completion of discharge at final port of disembarkation and must contain the information outlined in Appendix 6.2 [of ASEL v2.3].

7.2.2 ASEL: sea transport final report

The committee included a number of additional animal welfare indicators and environmental monitoring in end of voyage reports and daily voyage reports for livestock exported by sea.

<table>
<thead>
<tr>
<th>Questions about contingency planning and reporting requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Note:</strong> Please provide rationale and evidence to support your position.</td>
</tr>
<tr>
<td>1) What further changes, if any, do you think are necessary to the end of journey reporting requirements in the standards?</td>
</tr>
<tr>
<td>2) Should there be specific recording and reporting of animal welfare indicators in the end of journey report? If so, what might these indicators be?</td>
</tr>
</tbody>
</table>
3) Should the requirements for contingency planning be expanded to cover more issues? If so, what types of contingency plans might be required for air transport?

4) Is the current definition of ‘notifiable incident’ adequate?

5) What would be the costs of any changes to the current arrangements?
8 General questions

The IATA Live Animal Regulations are the worldwide standard for transporting live animals by commercial airlines. The objective of the IATA Live Animal Regulations is to ensure all animals are transported safely and humanely by air.

The IATA Live Animal Regulations were considered in the development of ASEL v2.3 and many provisions within Standard 6 are consistent with them.

IATA Live Animal Regulations are reviewed twice per year and the regulations revised annually. Reviews of ASEL are less frequent. The committee is considering how adoption or recognition of IATA Live Animal Regulations is best undertaken to ensure any standard in ASEL, that has been adopted from the IATA Live Animal Regulations is updated, as and when required.

As noted in section 2.2, the Productivity Commission’s report indicated that the role for government:

1. is to address those instances where animal welfare and profitability are not complementary because the market is largely unable to provide society with desired states of animal welfare; and
2. ensuring that minimum levels of welfare are achieved, where it would not otherwise be achieved as a result of the commercial incentives and actions.

The combination of aircraft freight costs, the type and value of livestock being exported by air, the destinations and customers involved mean that the animals are, in general, more valuable than those exported by sea by the time they reach their destination. Additionally, due to the journey times and aircraft environmental controls, consignments exported by air historically have low mortality rates as noted in section 7.1. This raises the general question, as raised by the Productivity Commission, of whether regulation is needed if the desired welfare outcomes are being achieved as a result of commercial incentives and actions. Or, are the very low mortality rates being achieved for export by air the result of regulation rather than commercial incentives?

Questions about general items

Note: Please provide rationale and evidence to support your position.

1) Where there are provisions of international standards and requirements, such as the IATA Live Animal Regulations, relevant to and adopted by the ASEL, should they be reproduced in ASEL or referenced? How might this best be done?

2) Is the level of regulatory detail for the export of livestock by air in ASEL necessary and appropriate? Should the standards for air be largely outcomes focused and avoid prescription (given the role of the IATA Live Animal Regulations)?

3) What would be the costs of any changes to the current arrangements?
9 Definitions

Unless otherwise indicated, the following definitions are from the reformatted standard released as part of the committee’s Review of ASEL: Sea Transport.

Air Export Journey (new definition)

An air export journey covers the period from the time the first animal is loaded into a crate for transport by air, until the time the last animal is unloaded from a crate at the final destination airport.

Animals

The term animal or animals has the same meaning in these standards as the term 'live-stock' has in the Export Control (Animals) Order 2004.

Approved premises

A premises approved in accordance with the Export Control (Animals) Order 2004 for the preparation, quarantine or isolation of livestock for export by air.

Camelids

Includes camels, llamas and alpacas.

Competent pregnancy tester

A person permitted under a relevant state or territory law to conduct pregnancy tests in livestock.

Competent pregnancy testers may only diagnose pregnancy for feeder/slaughter cattle or buffalo by manual palpation and are not approved to use ultrasound diagnoses or the IDEXX pregnancy test.

Competent pregnancy testers cannot complete pregnancy testing of breeder cattle or buffalo consignments for any market. These can only be undertaken by a registered veterinarian who is a member of the Australian Cattle Veterinarians and an accredited tester under the PREgCHECK® (NCPD) Scheme.

Crate

The container or pen in which livestock are held while carried on an aircraft.

Curfew

Also known as 'empty out' time, curfew is the deliberate and variable period of water and/or 'green' fresh fodder deprivation before another procedure, such as weighing or transport. Any water curfew must be included in the total water-deprivation time with respect to transport journeys.
Emaciated or over-fat body condition

Livestock is in an emaciated or over-fat body condition if it is assessed by a competent person against the corresponding species scoring system within Appendix A, as having the following body scores:

<table>
<thead>
<tr>
<th>Species</th>
<th>Emaciated (inclusive)</th>
<th>Fit to export (inclusive)</th>
<th>Over-fat (inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>less than 2</td>
<td>more than 2, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>Pregnant cattle</td>
<td>Less than 4</td>
<td>more than 4, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>Dairy cattle</td>
<td>less than 3.5</td>
<td>more than 3.5, but less than 5.5</td>
<td>5.5 or more</td>
</tr>
<tr>
<td>Buffalo</td>
<td>less than 2</td>
<td>more than 2, but less than 5</td>
<td>5 or more</td>
</tr>
<tr>
<td>All other livestock</td>
<td>less than 2</td>
<td>more than 2, but less than 4</td>
<td>4 or more</td>
</tr>
</tbody>
</table>

Euthanasia

The killing of an animal in a humane manner which causes immediate loss of consciousness and then rapid death of the animal, by a method approved under Australian Animal Welfare Standards or National Model Code for the species.

Fit to export

To be fit to export, animals must:
- meet the importing country requirements
- have the appropriate characteristics, i.e. not meet any of the rejection criteria specified in this standard
- not be showing behavioural or physical signs of illness or disease, or a condition that could cause the decline of the animal’s health and welfare during export preparation or the export voyage.

Fodder

Any food intended for consumption by livestock, including hay, pellets, or grain.

IATA Live Animal Regulations

The International Air Transportation Association Live Animal Regulations current edition as in force.

Importing country requirements

A reference to importing country requirements is a reference to:
- the requirements of the relevant importing country protocol, and
- the requirements or conditions of the relevant import permit (including any waiver or variation of a requirement of the importing country protocol).
Land Transport Standards

The *Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock* published by Animal Health Australia.

Livestock

As defined under ‘live-stock’ in the Export Control (Animals) Order 2004, livestock (live-stock) means cattle, sheep, goats, deer, buffalo and camelids (that is, camels, llamas and alpacas) and includes the young of an animal of any of those kinds.

Mortality rate

Mortality means, in respect of any species, the percentage determined by dividing the number of deaths of that species occurring during the air export journey by the total number of that species loaded and multiplying the resultant figure by 100. Mortalities which occur after arrival at the airport but before the animal can be discharged must be included in the daily and end-of-journey reports.

Notifiable incident

An incident that has the potential to cause serious harm to the health and welfare of animals.

For the export of livestock by air, a notifiable incident includes, but is not limited to:

- loss of aircraft
- breakdown of ventilation systems on an aircraft carrying livestock causing a serious adverse effect on animal welfare
- rejection of livestock at an overseas airport or by an importing country government
- a mortality rate that is equal to or greater than a reportable mortality rate, and/or
- any other incident that has an adverse effect on animal welfare.

Prepared for export

Includes actions taken from sourcing through to the completion of loading the animals onto the aircraft.

Registered premises

Premises registered for holding and assembling livestock for export in accordance with the *Export Control (Animals) Order 2004*.

Reportable mortality rate

A reportable mortality rate for a species of the percentage listed below, or three animals, whichever is the greater number of deceased animals:

- sheep and goats: 1 per cent
- cattle and buffalo: 0.5 per cent
- camelids: 1 per cent
- deer: 1 per cent.
Valid pregnancy test

A valid pregnancy test is that which has been completed in accordance with the species pregnancy test requirements within Appendix B of this standard.

For the purposes of pregnancy testing requirements, the day that the animal is pregnancy tested is taken to be day zero (0). For example, if a heifer is pregnancy tested on 1 July, day zero is 1 July and the day of loading must be no later than 31 July to meet the valid pregnancy test requirements of testing during the 30 day period.

Water deprivation time

The time that animals can be deprived of access to adequate water of a quality to maintain good health and welfare. Water deprivation time is the total continuous period of water deprivation, starting when all animals last had access to water. Each of the below must be included when calculating the total water deprivation time with respect to transport journeys:

- time off water during mustering and when yarded after mustering
- curfew
- all time on the transport vehicle, whether moving or stationary
- any time without water after unloading, such as at a saleyard, spelling centre or registered or approved premises, and
- the air export journey.

Note: this term is used in Appendix D.
10 Supporting documents

The Australian Standards for the Export of Livestock Version 2.3

2018 ASEL review: Stage 1 submissions

ASEL: seat transport final report and reformatted standard

The Water Buffalo, NT Department of Primary Industries, 2017

Productivity Commission Inquiry Report No.79 – Regulation of Australian Agriculture, 15 November 2016 (p.199, 202- 205 and 247)


2013 Draft Australian Animal Welfare Standards for the Export of Livestock

Cow Body Condition Handbook, Dairy Australia, 2013


Animal welfare, economics and policy, McInerney, J., 2004 (Abstract, p.3)
Appendix A body condition score tables

Table 5 cattle body condition scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Traditional muscle score equivalent</th>
<th>Traditional fat score equivalent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>E</td>
<td>0</td>
<td>Severely emaciated</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>0</td>
<td>The individual bones are sharp to the touch, with no fat at the head of the tail. Hip bones and ribs are prominent.</td>
</tr>
<tr>
<td>2</td>
<td>B-E</td>
<td>1</td>
<td>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.</td>
</tr>
<tr>
<td>3</td>
<td>A-E</td>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>4</td>
<td>A-E</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>5</td>
<td>A-E</td>
<td>4-6</td>
<td>The bone structure of the animal is no longer noticeable and the tail head is almost completely buried in fatty tissue.</td>
</tr>
</tbody>
</table>

This picture assists with body condition scoring for beef cattle.
Table 6 dairy cattle body condition scoring

<table>
<thead>
<tr>
<th>How sunken is the area between the tail and pins?</th>
</tr>
</thead>
<tbody>
<tr>
<td>deeply sunken</td>
</tr>
<tr>
<td>sunken</td>
</tr>
<tr>
<td>slightly sunken</td>
</tr>
<tr>
<td>filled in</td>
</tr>
<tr>
<td>Are the insides of the pins hollow?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Is the backbone a bumpy ridge?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Is the depression between the pins and hips?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
</tr>
<tr>
<td>NO</td>
</tr>
<tr>
<td>U-SHAPED</td>
</tr>
<tr>
<td>SHALLOW</td>
</tr>
<tr>
<td>FLAT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition Score 3</th>
<th>Condition Score 3.5</th>
<th>Condition Score 4</th>
<th>Condition Score 4.5</th>
<th>Condition Score 5</th>
<th>Condition Score 5.5</th>
<th>Condition Score 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score (1-5)</td>
<td>Optional Score [1-6] (Production/Research)</td>
<td>Description</td>
<td>P8 Fat mm thickness (1-5) [1-6]</td>
<td>Loin Surface</td>
<td>Illustration of vertical section of the loin region between spinous and transverse processes</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------</td>
<td>-------------</td>
<td>---------------------------------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>Emaciated; very weak — extreme muscle wastage. All bones highly visible. Skin 'draped' over skeleton. Unsteady gait.</td>
<td>0</td>
<td>Severely concave</td>
<td><img src="image1" alt="Severely concave illustration" /></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Very lean; becoming quite angular, concave around most muscle groups including legs with muscle depletion evident.</td>
<td>0</td>
<td>Very concave</td>
<td><img src="image2" alt="Very concave illustration" /></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Lean; short ribs visible, hook and pin bones still prominent. Can easily count all ribs. Some muscle depletion. No subcutaneous fat visible or palpable.</td>
<td>0</td>
<td>Moderately concave</td>
<td><img src="image3" alt="Moderately concave illustration" /></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Backward store; tail head still prominent with hollows to pins. Ribs visible only at top and rear.</td>
<td>[1-2]</td>
<td>Slightly concave</td>
<td><img src="image4" alt="Slightly concave illustration" /></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Store; (Average) good muscle definition, with fat starting to be deposited, rib outlines disappearing, hook and pin bones still defined.</td>
<td>(1-4) [3-4]</td>
<td>Level, even slope</td>
<td><img src="image5" alt="Level, even slope illustration" /></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Forward Store; hook and pin bones becoming more rounded. Pin to stifle leg straight to slightly convex.</td>
<td>[5-7]</td>
<td>Slightly convex</td>
<td><img src="image6" alt="Slightly convex illustration" /></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Prime; quite even and smooth over whole backline. Muscling becoming more convex due to fat deposition.</td>
<td>(5-35) [8-14]</td>
<td>Moderately convex</td>
<td><img src="image7" alt="Moderately convex illustration" /></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Fat; well-rounded all over all bone. Some unevenness of fat deposits appearing around rump area.</td>
<td>[15-35]</td>
<td>Very convex</td>
<td><img src="image8" alt="Very convex illustration" /></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>Overfat; usually only mature cows can achieve this condition. Bulbous fat deposits both sides of tail head. Pin and hook bones not discernable.</td>
<td>(&gt;36) [&gt;36]</td>
<td>Severely convex crease / dip along spine</td>
<td><img src="image9" alt="Severely convex crease / dip along spine illustration" /></td>
<td></td>
</tr>
<tr>
<td>Score</td>
<td>Backbone</td>
<td>Short ribs</td>
<td>Eye muscle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Prominent and sharp</td>
<td>Ends are sharp and easy to press between, over and around</td>
<td>Thin, the surface tending to feel hollow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Prominent but smooth</td>
<td>Smooth, well-rounded ends — can feel between, over and around each smoothly</td>
<td>Reasonable depth with the surface tending to feel flat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Can be felt, but smooth and rounded</td>
<td>Ends are smooth and well covered — firm pressure is necessary to feel under and between short ribs</td>
<td>Full and rounded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Detectable with pressure on the thumb</td>
<td>Individual short ribs can only be felt with firm pressure</td>
<td>Full with a covering layer of fat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Can be felt with firm pressure</td>
<td>Cannot be felt even with firm pressure</td>
<td>Muscle cannot be felt due to a thick layer of fat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Score</td>
<td>GR site tissue depth</td>
<td>Long ribs A</td>
<td>Short ribs B</td>
<td>Backbone C</td>
<td>Eye muscle D</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1-3mm</td>
<td>Individual ribs can be felt very easily; cannot feel any tissues over the ribs.</td>
<td>Short ribs are prominent; it is easy to feel between them. The muscle mass extends two-thirds or less of the way along them.</td>
<td>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.</td>
<td>Feels noticeably dished.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4-6mm</td>
<td>Individual ribs can be felt very easily but slight amount of tissue is present.</td>
<td>Ends of short ribs feel square; it is easy to feel between them. The muscle mass extends to the end of the short ribs.</td>
<td>Bones are slightly raised and can be easily felt, with noticeable dishing between them.</td>
<td>Feels straight or slightly dished.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7-9mm</td>
<td>Individual ribs can be felt easily but some tissue is present.</td>
<td>End of short ribs are rounded; it is still possible to feel between them.</td>
<td>Bones are raised and the ends are rounded; it is still possible to feel between them.</td>
<td>Feels slightly rounded.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10-12mm</td>
<td>Individual ribs can still be felt but tissue is prominent.</td>
<td>Ends of short ribs are rounded; it may be possible to press between them with pressure.</td>
<td>Bones are slightly raised; it is possible to feel them but not between them.</td>
<td>Feels well rounded.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Over 12mm</td>
<td>Individual ribs can be felt or just felt; tissue is very prominent and may be fluid.</td>
<td>None or only one or two bone ends nearest the rib cage may be felt. It is not possible to press between them.</td>
<td>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.</td>
<td>Feels very well rounded.</td>
<td></td>
</tr>
</tbody>
</table>

To determine the condition score, feel the grid reference (GR) site of the goat. This point is located 110mm from the backline along the second-last long rib. The condition score relates to the tissue depth (in mm) at the GR site. Table 5 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 5.
Table 10 alpaca body condition scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Severely concave between spine and ribs. The backbone is very noticeable, ribs are clearly felt and brisket shows no fat.</td>
<td><img src="image1" alt="Illustration" /></td>
</tr>
<tr>
<td>2</td>
<td>Slightly concave between spine and ribs. You can feel backbone, ribs are noticeable and brisket is firm.</td>
<td><img src="image2" alt="Illustration" /></td>
</tr>
<tr>
<td>3</td>
<td>Neither concave nor convex between spine and ribs. You can feel the backbone, but it does stand out and you can just feel the ribs and the brisket.</td>
<td><img src="image3" alt="Illustration" /></td>
</tr>
<tr>
<td>4</td>
<td>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.</td>
<td><img src="image4" alt="Illustration" /></td>
</tr>
<tr>
<td>5</td>
<td>Severely concave between spine and ribs, the top of the back feels flat. You cannot feel backbone or ribs, brisket wobbles when touched.</td>
<td><img src="image5" alt="Illustration" /></td>
</tr>
</tbody>
</table>

The picture on the left is an example of how to body score an alpaca by placing hand on the backbone, just forward of the pelvic area (or toward the last of the ribs).
### Table 11 camel body condition scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Illustration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Little or no fat in the hump sac; hump hairy and may be leaning to one side.</td>
<td><img src="image1" alt="Illustration" /></td>
</tr>
<tr>
<td>2</td>
<td>Hump with moderate development rising 5 per cent higher than chest depth, but may also be leaning to one side.</td>
<td><img src="image2" alt="Illustration" /></td>
</tr>
<tr>
<td>3</td>
<td>Hump with good development and rising to 10 per cent higher than chest depth. Hump is still sculptured inwards on both sides and still fits over the chest and abdominal area.</td>
<td><img src="image3" alt="Illustration" /></td>
</tr>
<tr>
<td>4</td>
<td>Hump fully developed and rising to 15 per cent higher than chest depth. Hump rounded outwards on both sides and runs from the shoulder to the rump.</td>
<td><img src="image4" alt="Illustration" /></td>
</tr>
<tr>
<td>5</td>
<td>Hump overextended and rising more than 15 per cent higher than chest, or so full that it is rounded on the sides like a semicircle.</td>
<td><img src="image5" alt="Illustration" /></td>
</tr>
</tbody>
</table>

### Table 12 deer body condition scoring

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
<th>Pelvis, ribs and spine</th>
<th>Rump area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emaciated — no fat cover</td>
<td>Prominent</td>
<td>Concave</td>
</tr>
<tr>
<td>2</td>
<td>Lean — minimal fat cover</td>
<td>Prominent but appear rounded rather than sharp</td>
<td>Slightly concave</td>
</tr>
<tr>
<td>3</td>
<td>Prime — ideal fat cover</td>
<td>Not readily distinguished</td>
<td>Flat</td>
</tr>
<tr>
<td>4</td>
<td>Fat — fat (some trimming necessary)</td>
<td>Pelvis rounded, spine covered by fat</td>
<td>Rounded</td>
</tr>
<tr>
<td>5</td>
<td>Over-fat — over-fat (excessive trimming required)</td>
<td>Pelvis concealed by fat, spine hard to palpate</td>
<td>Very convex</td>
</tr>
</tbody>
</table>
Appendix B pregnancy testing criteria from the reformatted standard

Please note as per the definition of valid pregnancy test, for the purposes of pregnancy testing, the day that the animal is pregnancy tested is taken to be day zero (0). For example, if a heifer is pregnancy tested on 1 July, day zero is 1 July and the day of loading must be no later than 31 July to meet the valid pregnancy test requirements of testing during the 30 day period.

Pregnancy testing for breeder cattle or buffalo

Note: for breeder cattle or buffalo exported by air, paragraphs b, c and d(i) are not relevant.

A valid pregnancy test for breeder cattle or buffalo must:

(a) have been carried out during the 30 day period before export, unless otherwise agreed by the relevant Australian Government agency, with that agreement to be provided only where necessitated by circumstances outside the control of the exporter and where the exporter can demonstrate it will not impact on animal welfare.

(b) for voyages of more than 10 days, be carried out by a registered veterinarian who is a member of the Australian Cattle Veterinarians and an accredited tester under the PREgCHECK® (NCPD) Scheme.

(c) for voyages of 10 days or less, be carried out by a registered veterinarian who can attest to demonstrable current experience.

(d) be evidenced by written certification by the person carrying out the test that the animal is no more than the following maximum days pregnant at the scheduled date of discharge:

(i) For export by sea—190 days for cattle and 220 days for buffalo, or, if the export involves female Bos taurus cattle crossing the equator between 1 May and 31 October (inclusive), that the animal is not detectably pregnant.

(ii) For export by air—250 days for cattle or buffalo

NOTE: For consignments where an accredited PREgCHECK® tester is required, the exporter must ensure the name of the accredited tester, their accreditation number and a statement of their accreditation is provided on the pregnancy declaration for the consignment.

(e) That in relation to (d), the veterinarian may base this certification on assessment of the animals by a method other than manual palpation if the veterinarian:

(i) is accredited under the PREgCHECK® Scheme, and

(ii) determines that cattle or buffalo are too small to be manually palpated safely.

Pregnancy testing for feeder or slaughter cattle or buffalo

A valid pregnancy test for feeder or slaughter cattle or buffalo must:

(a) have been carried out during the 30 day period before export, unless otherwise agreed by the relevant Australian Government agency, with that agreement to be provided only where necessitated by circumstances outside the control of the exporter and where the exporter can demonstrate it will not impact on animal welfare.
(b) be carried out by a registered veterinarian if exported by air, or if exported by sea by a registered veterinarian or a competent pregnancy tester

(c) be evidenced by written certification by the person carrying out the test, that the animal is not detectably pregnant.

**Pregnancy testing for camelids**

Note: for camelids exported by air, paragraph d(i) is not relevant.

A valid pregnancy test for camelids must:

(a) have been carried out during the 30 day period before export, unless otherwise agreed by the relevant Australian Government agency, with that agreement to be provided only where necessitated by circumstances outside the control of the exporter and where the exporter can demonstrate it will not impact on animal welfare

(b) have been carried out by ultrasound, or in the case of breeders by ultrasound foetal measurement

(c) be carried out by a registered veterinarian with demonstrable current experience in camelid pregnancy diagnosis

(d) be evidenced by written certification by the person carrying out the test, that the animal is not detectably pregnant, or in the case of breeders, not more than:

(i) for sea 228 +/- 2 days pregnant at the scheduled date of discharge

(ii) for air 250 days pregnant at the scheduled date of departure.

**Pregnancy testing for goats, sheep or deer**

A valid pregnancy test for goats, sheep or deer must:

(a) have been carried out during the 30 day period before export, unless otherwise agreed by the relevant Australian Government agency, with that agreement to be provided only where necessitated by circumstances outside the control of the exporter and where the exporter can demonstrate it will not impact on animal welfare

(b) have been carried out by ultrasound, or in the case of breeders by ultrasound foetal measurement

(c) be carried out by a person able to demonstrate a suitable level of experience and skill, and

(d) be evidenced by written certification by the person carrying out the test, that the animal is not detectably pregnant, or in the case of breeders, not more than the specified number of days pregnant (refer section 3.3.1) at the scheduled date of discharge.
Appendix C space allowance comparison

The following tables have been produced to show a comparison of space allowances for livestock required under the ASEL v2.3, the Land Transport Standards and the IATA Live Animal Regulations. Where there is no prescribed space allowance for a weight range or species it has been left blank.

Table 13 minimum space allowance per head for cattle

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head) LTS</th>
<th>Minimum floor area (m²/head) ASEL</th>
<th>Minimum floor area (m²/head) IATA LAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL</td>
<td>IATA LAR</td>
</tr>
<tr>
<td>100</td>
<td>0.310</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>150</td>
<td>0.420</td>
<td>0.540</td>
<td>-</td>
</tr>
<tr>
<td>200</td>
<td>0.530</td>
<td>0.640</td>
<td>-</td>
</tr>
<tr>
<td>250</td>
<td>0.770</td>
<td>0.740</td>
<td>-</td>
</tr>
<tr>
<td>300</td>
<td>0.860</td>
<td>0.840</td>
<td>0.840</td>
</tr>
<tr>
<td>350</td>
<td>0.980</td>
<td>0.950</td>
<td>-</td>
</tr>
<tr>
<td>400</td>
<td>1.050</td>
<td>1.060</td>
<td>-</td>
</tr>
<tr>
<td>450</td>
<td>1.130</td>
<td>1.170</td>
<td>-</td>
</tr>
<tr>
<td>500</td>
<td>1.230</td>
<td>1.270</td>
<td>1.270</td>
</tr>
<tr>
<td>550</td>
<td>1.340</td>
<td>1.380</td>
<td>-</td>
</tr>
<tr>
<td>600</td>
<td>1.470</td>
<td>1.480</td>
<td>1.450</td>
</tr>
<tr>
<td>650</td>
<td>1.630</td>
<td>1.590</td>
<td>-</td>
</tr>
<tr>
<td>700</td>
<td>-</td>
<td>1.700</td>
<td>1.630</td>
</tr>
</tbody>
</table>

Table 14 minimum space allowance per head for sheep

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head) LTS</th>
<th>Minimum floor area (m²/head) ASEL</th>
<th>Minimum floor area (m²/head) IATA LAR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL</td>
<td>IATA LAR</td>
</tr>
<tr>
<td>20</td>
<td>0.170</td>
<td>0.150</td>
<td>-</td>
</tr>
<tr>
<td>25</td>
<td>-</td>
<td>0.170</td>
<td>0.170</td>
</tr>
<tr>
<td>30</td>
<td>0.190</td>
<td>0.190</td>
<td>-</td>
</tr>
<tr>
<td>40</td>
<td>0.220</td>
<td>0.230</td>
<td>-</td>
</tr>
<tr>
<td>50</td>
<td>0.250</td>
<td>0.270</td>
<td>-</td>
</tr>
<tr>
<td>60</td>
<td>0.290</td>
<td>0.315</td>
<td>-</td>
</tr>
<tr>
<td>70</td>
<td>-</td>
<td>0.360</td>
<td>0.360</td>
</tr>
</tbody>
</table>
Table 15 minimum space allowance per head for goats

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL</td>
<td>IATA LAR</td>
</tr>
<tr>
<td>20</td>
<td>0.150</td>
<td>0.117</td>
<td>-</td>
</tr>
<tr>
<td>30</td>
<td>0.170</td>
<td>0.165</td>
<td>-</td>
</tr>
<tr>
<td>40</td>
<td>0.220</td>
<td>0.213</td>
<td>-</td>
</tr>
<tr>
<td>50</td>
<td>0.250</td>
<td>0.261</td>
<td>-</td>
</tr>
<tr>
<td>60</td>
<td>0.280</td>
<td>0.309</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 16 minimum space allowance per head for alpacas

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land Transport Standards</td>
<td>ASEL v2.3¹</td>
<td>IATA Live Animal Regulations</td>
</tr>
<tr>
<td>20</td>
<td>0.400</td>
<td>0.150</td>
<td>-</td>
</tr>
<tr>
<td>30</td>
<td>0.500</td>
<td>0.190</td>
<td>-</td>
</tr>
<tr>
<td>40</td>
<td>0.600</td>
<td>0.230</td>
<td>-</td>
</tr>
<tr>
<td>50</td>
<td>0.700</td>
<td>0.270</td>
<td>-</td>
</tr>
<tr>
<td>60</td>
<td>0.800</td>
<td>0.315</td>
<td>-</td>
</tr>
<tr>
<td>80</td>
<td>1.000</td>
<td>0.405</td>
<td>-</td>
</tr>
</tbody>
</table>

1. The ASEL v2.3 applies the stocking density rates for sheep to alpacas.

Table 17 minimum space allowance per head for buffalo

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL</td>
<td>IATA LAR</td>
</tr>
<tr>
<td>200</td>
<td>0.690</td>
<td>0.640</td>
<td>-</td>
</tr>
<tr>
<td>250</td>
<td>0.77-0.79</td>
<td>0.740</td>
<td>-</td>
</tr>
<tr>
<td>300</td>
<td>0.86-0.89</td>
<td>0.840</td>
<td>2.000</td>
</tr>
<tr>
<td>350</td>
<td>0.98-1.01</td>
<td>0.950</td>
<td>2.000</td>
</tr>
<tr>
<td>400</td>
<td>1.05-1.09</td>
<td>1.060</td>
<td>2.000</td>
</tr>
<tr>
<td>450</td>
<td>1.13-1.18</td>
<td>1.170</td>
<td>2.000</td>
</tr>
<tr>
<td>500</td>
<td>1.23-1.28</td>
<td>1.270</td>
<td>2.000</td>
</tr>
<tr>
<td>550</td>
<td>1.34-1.40</td>
<td>1.380</td>
<td>2.000</td>
</tr>
<tr>
<td>600</td>
<td>1.47-1.55</td>
<td>1.480</td>
<td>2.000</td>
</tr>
<tr>
<td>650</td>
<td>1.63-1.73</td>
<td>1.590</td>
<td>2.000</td>
</tr>
</tbody>
</table>
Table 18 minimum space allowance per head for camels

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL¹</td>
</tr>
<tr>
<td>Less than 250</td>
<td>0.915-0.976</td>
<td>-</td>
</tr>
<tr>
<td>250-300</td>
<td>1.046</td>
<td>-</td>
</tr>
<tr>
<td>300-350</td>
<td>1.126</td>
<td>-</td>
</tr>
<tr>
<td>350-400</td>
<td>1.220</td>
<td>-</td>
</tr>
<tr>
<td>400-500</td>
<td>1.464</td>
<td>-</td>
</tr>
<tr>
<td>500-600</td>
<td>1.627</td>
<td>-</td>
</tr>
<tr>
<td>600-700</td>
<td>1.830</td>
<td>-</td>
</tr>
</tbody>
</table>

1. The ASEL v2.3 states: IATA Live Animal 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.

Table 19 minimum space allowance per head for deer

<table>
<thead>
<tr>
<th>Mean live weight (kg)</th>
<th>Minimum floor area (m²/head)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LTS</td>
<td>ASEL</td>
</tr>
<tr>
<td>50</td>
<td>0.300</td>
<td>0.290</td>
</tr>
<tr>
<td>75</td>
<td>0.400</td>
<td>0.420</td>
</tr>
<tr>
<td>100</td>
<td>0.500</td>
<td>0.530</td>
</tr>
<tr>
<td>150</td>
<td>0.750</td>
<td>0.630</td>
</tr>
<tr>
<td>200</td>
<td>1.000</td>
<td>0.700</td>
</tr>
</tbody>
</table>

1. The IATA Live Animal Regulations do not specify space allowance for deer.
Appendix D maximum water deprivation and minimum rest times

In addition to the Land Transport Standards requirements, the following maximum water deprivation time and minimum rest times must be observed for all land transport of animals:

Table 20 maximum water deprivation time and minimum rest times

<table>
<thead>
<tr>
<th>Class</th>
<th>Maximum journey duration&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Maximum water deprivation time</th>
<th>Minimum rest Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and buffalo&lt;sup&gt;1&lt;/sup&gt; (normal time)</td>
<td>36 hours</td>
<td></td>
<td>12—24 hours</td>
</tr>
<tr>
<td>Cattle and buffalo (extended time)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Less than 14 hours</td>
<td>36—48 hours</td>
<td>36 hours</td>
</tr>
<tr>
<td>Sheep – less than 6 months</td>
<td>20 hours</td>
<td></td>
<td>12 hours (unweaned)</td>
</tr>
<tr>
<td>Goats – less than 12 months (normal time)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep – over 6 months</td>
<td>32 hours</td>
<td></td>
<td>12 hours&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Goats – 12 or more months (normal time)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep – less than 6 months</td>
<td>Less than 14 hours</td>
<td>28 hours</td>
<td>12 hours</td>
</tr>
<tr>
<td>Goats – less than 12 months (extended time)&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep – over 6 months</td>
<td>Less than 14 hours</td>
<td>38 hours</td>
<td>12 hours&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td>Goats – 12 or more months (extended time)&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camelids</td>
<td>72 hours</td>
<td>Transport should allow for daily watering and feeding</td>
<td>If tied for transport, camels should be released and allowed to stand at least every 4 hours</td>
</tr>
</tbody>
</table>

<sup>1</sup> Buffalo must not be held off water prior to transport, no curfew is permissible

<sup>2</sup> Extended water deprivation times are only permissible if all of the following conditions have been met:
- animals are travelling well and not showing signs of fatigue, thirst or distress
- adverse weather conditions are neither prevailing nor predicted
- the extension will allow the journey to be completed within the extended time, and
- the total time the animals travel on the transport vehicle is less than 14 hours.

<sup>3</sup> For journeys longer than 28 hours; sheep and goats between weaning and 12 months must have a rest period of at least 12 hours after every 20 hours of transport.

<sup>4</sup> When counting journey time, the time begins upon the loading of the first animal onto the mode of transport (i.e. truck) and finishes when the last animal is discharged (i.e. into the registered premises).