## Review of the Australian Standards for the Export of Livestock Technical Advisory Committee Issues paper, February 2018

### Submission 1 from the Australian Veterinary Association.

#### Stage 1: Formatting improvements and work plan priorities

#### Issue 1: Format

Section 1A.1.1 onwards:

Use of the word 'premise' inappropriately throughout document. Should be 'premises' whether a singular location or plural.

Otherwise formatting is quite acceptable and easy to read.

#### Issue 2: Content work plan

#### Literature Review

The AVA recommends that a comprehensive and independent literature review be undertaken to inform the revision of these Standards. Ideally this will be undertaken by experts in animal health and animal welfare science. A critical review of the literature should include an assessment of the quality of the evidence examined, so that the most credible evidence is given the most weighting and poor quality evidence not included.

We have appended some of the critical literature that should underpin aspects of this review which we have identified as high priority. As further reference material comes to hand we will be pleased to provide it, to ensure that the revised standards are evidence-based and defensible.

#### **High Priority Issues**

The AVA's highest priority issues for review are based on prevention being better than cure, and animal welfare being prioritised over all other considerations. These include:

- Correct selection and preparation of animals prior to boarding
- Heat Stress
- Stocking densities
- Flooring
- Bedding
- Penning configuration
- Independent, competent ship-board veterinarians on every journey

Specific comments follow.

#### Outcome 1 – Animals are fit to export

#### 1.A.3 – Rejection criteria

#### Heat stress and Heat Stress Risk Assessment

The literature indicates heat stress is a significant animal welfare issue for the live export trade.

The Farmer Review in 2011 highlighted the risks to sheep being transported from Australia to the Middle East during their summer and the literature indicates significantly increased morbidity and mortality during this time period.

Cattle are also at significant risk of heat stress if transported during the Middle Eastern summer, particularly *Bos Taurus* cattle originating from southern Australia. Cattle from Northern Australia are at particular risk during the Australian summer (wet season).

Sections 1A.3.2(c) (iii) and (iv), and 4C.1 of the draft standards attempt to address this issue in part, however it is unclear whether the heat stress risk assessments (which permit exceptions to these requirements) are scientifically based.

Further, work by Beatty *et al.* (2006) and Caulfield *et al.* 2014, indicate that the heat-stress threshold temperatures that are permitted for sheep and cattle are too high; and that true rates of suffering due to heat stress are being under-estimated.

The AVA recommends that the body of science regarding heat stress is reviewed, and then this is used to reassess the Heat Stress Risk Assessment (HSRA) method currently in use. Similarly, stocking density readjustments for season should be reviewed in light of available science, to ensure they are appropriate.

# Outcome 2 – Animals are appropriately prepared in order to mitigate the risks to their health and welfare during export

Section 2B.4 – we query whether **stocking densities** at registered premises are appropriate: it is not clear how these stocking densities (Appendix C) have been derived, and what science underpins them?

Vulnerable animals - Animals need to be properly adapted to feed, sheep shorn, and animals should not be in the last trimester of pregnancy, or preferably not pregnant at all. Pregnancy testing of all animals must be performed by competent veterinarian. Identification of shy feeder sheep during pre-export lairage, to reduce deaths from inanition, must be part of any pre-voyage preparations.

There should be an independent veterinarian removing unfit animals at the wharf. Animals that do not meet the "fit to load" criteria under the Land Transport Standards are of course not fit to load onto export voyages, but this occurs. Shy feeders, poorly conditioned and those with diarrhoea should not leave the feedlot. Lame/hernias/orf/ringworm/late pregnant/unshorn should be left at the feedlot and slaughtered locally.

There are other animals that would be "fit to load" according to the Land Transport Standards, but not "fit to sail".

Unfit animals not to be loaded include those that are ill/ unthrifty/ injured/ body weight and/or condition score too high. Cattle in particular who are too heavy (>500kg) and/or too fat (BCS 4 or more out of 7)

Stocking densities at loading should be based on *true* numbers and live weights of stock.

We are concerned about inappropriate weight estimations, especially for cattle, at embarkation – a 400kg or 440kg beast will make a big difference to pen densities. If cattle cannot all sit down in a pen at embarkation, the only way they will be able to be journey's end is through death and removal of carcasses from their pen.

Further, animals should only be loaded with stocking densities calculated according to estimated body weights at *end* of journey – cattle will put on 1kg/head/day.

#### <u>Outcome 3 - Animals are responsibly managed in order to mitigate risks to their health and welfare</u> <u>during the export voyage</u>

#### 3A.3.3 Bedding

The requirements specified for bedding are inadequate. There should be appropriate quantities of comfortable and dry bedding for all animals, irrespective of the length of the journey. Quantities should not be token, but should be of a quantity that ensure animals can comfortably rest. There must be adequate volume and changes of bedding to mop up faeces and urine to stop caking of animals and contamination of feed and water.

It is unclear why the Standards do not require bedding for cattle and buffalo on voyages less than 10 days, or those originating from northern regions travelling to SE Asia or Japan? This is not appropriate. Cattle need periods of rest within **each** 24 hour period to ensure good welfare. Constant standing leads to extreme fatigue and attempts to lie and stand on hard surfaces lead to abrasions, joint and hoof damage.

Flooring must not be too uneven (no raised mesh) or abrasive or slippery in pens. Flooring must be improved in all ships so legs & feet are not abraded which is a significant current concern.

#### 3A.4 and 3B.1 – Stocking densities

Appendix H contains a number of tables specifying stocking densities for various classes of animals. There does not appear to be any science provided as a basis for these figures, which appear lower than typical space-allowances. There has been work done by Petherick and Phillips (2009) which looks at appropriate space requirements for confined livestock. It is essential, particularly in light of the unnatural environment that these animals are subject to on board ship, that they are able to lie down, move easily to access food and water, and avoid overheating.

As stated above, stocking densities at loading should be based on *true* numbers and live weights of stock. And animals should only be loaded with correct stocking densities according to estimated body weights at *end* of journey – cattle will put on 1kg/head/day

Penning configuration must allow observation of all livestock on every journey, and facilitate appropriate movement of animals into hospital pens or removal of carcasses as necessary.

#### 4A –Responsibility for health and welfare of animals

It is AVA policy that, where live export occurs, **an Australian-registered shipboard veterinarian must accompany each shipment** and this veterinarian must be independent and thus not employed by either the exporting company or the shipping company. Pregnancy testing of all animals for export should be performed by a registered veterinarian.

Ideally, numbers of veterinarians accompanying each shipment will be in proportion to numbers of animals so that an appropriate level of care is possible.

There must be appropriate and sufficient equipment to deal with illness/trauma/euthanasia/carcass disposal.

We feel that prevention of voyage disasters will only occur if there is independent assessment of livestock by veterinarians PRIOR to leaving the feedlot so that unfit animals can be held over for a next shipment or sent for local slaughter. This is far easier than doing so at the wharf. Scales to weigh beasts at the feedlot (or at least the truck in total) so they are counted properly and stop loading animals when maximum density is reached. If this is outside the scope of ASEL, then here should be an independent, trained, competent veterinarian on a drafting gate at the wharf removing unfit animals on-the-spot.

When a ship has been **loaded with fit animals, correctly (true densities) onto correct flooring with** adequate bedding, then their care should be put into the hands of an independent veterinarian with adequate training in treatment of shipboard diseases and injuries, & given suitable means of humane euthanasia - cutting throats can be inhumane and poorly performed, is unacceptable and unnecessary given that captive bolts are effective, cheap, safe and easy to use.

In summary, we wish to emphasise the loading of fit animals only, at appropriate densities (which infers true numbers boarding vessel and correct body weights of animals), on appropriate flooring and bedding, with appropriate veterinary care. We are able to provide photographic material to assist the Review Team and demonstrate why veterinarians should oversee the health and welfare of these animals rather than lay-operators.

The aim should be fit animals, onto fit-for-purpose vessels, with the best possible veterinary care.

#### References for inclusion in review – further can be provided

- Banney S, Henderson A, Caston K (2009). Management of Bedding during the Livestock Export Process
- Barnes, A. L., S. L. Wickham, R. Admiraal, D. W. Miller, T. Collins, C. Stockman and P. A. Fleming (2018). "Characterization of inappetent sheep in a feedlot using radio tracking technology." J Anim Sci.
- Beatty, D. T., A. Barnes, E. Taylor, D. Pethick, M. McCarthy and S. K. Maloney (2006).
  "Physiological responses of Bos taurus and Bos indicus cattle to prolonged, continuous heat and humidity." J Anim Sci 84(4): 972-985.
- Caulfield, M. P., H. Cambridge, S. F. Foster and P. D. McGreevy (2014). "Heat stress: a major contributor to poor animal welfare associated with long-haul live export voyages." <u>Vet J</u> 199(2): 223-228.

- Ferguson D, Fisher A, White B et al. Review of the Livestock Export Heat Stress Risk Assessment Model (HotStuff). Meat and Livestock Australia, North Sydney, NSW, Australia 2008
- Fleming, P. A., T. Clarke, S. L. Wickham, C. A. Stockman, A. L. Barnes, T. Collins and D. W. Miller (2016). "The contribution of qualitative behavioural assessment to appraisal of livestock welfare." <u>Animal Production Science</u> **56**: 1569–1578.
- Fleming, P. A., S. L. Wickham, C. A. Stockman, E. Verbeek, L. Matthews and F. Wemelsfelder (2015). "The sensitivity of QBA assessments of sheep behavioural expression to variations in visual or verbal information provided to observers." <u>Animal</u> **9**(5): 878-887.
- Foster SF, Overall KL. The welfare of Australian livestock transported by sea. The Veterinary Journal 2014;200:205-209
- Higgs, A.R.B., Norris, R.T., Baldock, F.C., Campbell, N.J., Koh, S., Richards, R.B., 1996. Contagious ecthyma in the live sheep export industry. Aust Vet J 1996:74, 215-220.
- Hogan, J. P., J. C. Petherick and C. J. Phillips (2007). "The physiological and metabolic impacts on sheep and cattle of feed and water deprivation before and during transport." <u>Nutr Res</u> <u>Rev</u> 20(1): 17-28.
- MAMIC (2001). Investigation of the Ventilation Efficacy on Livestock Vessels. Meat and Livestock Australia, North Sydney, NSW, Australia 2001
- McCarthy M., 2012. Investigating incidence of scabby mouth during live export. Meat and Livestock Australia Limited, North Sydney, NSW, Australia
- McCarthy M (2005). Pilot Monitoring of Shipboard Environmental Conditions and Animal Performance. Meat and Livestock Australia, North Sydney, NSW, Australia
- Norris RT, Richards RB, Creeper JH et al. Cattle deaths during sea transport from Australia.
- Australian Veterinary Journal 2003;81:156-161
- Norris, R.T., Richards, R.B., Norman G.J., 1992. The duration of lot-feeding of sheep before sea transport. Australian Veterinary Journal 69, 8-10
- Norris and Creeper 1999. Investigation of cattle deaths during sea transport from Australia. Meat and Livestock Australia, North Sydney, NSW, Australia
- Petherick JC, Phillips CJC. The Ethics of a Co-regulatory Model for Farm Animal Welfare Research. J Agric Environ Ethics 2014
- Petherick, J. C. (2006). "Animal welfare provision for land-based livestock industries in Australia." <u>Aust Vet J</u> **84**(11): 379-383.
- Petherick, J. C. and C. J. C. Phillips (2009). "Space allowances for confined livestock and their determination from allometric principles." <u>Applied Animal Behaviour Science</u> **117**: 1-12.
- Phillips, C. (2016). "The welfare risks and impacts of heat stress on sheep shipped from Australia to the Middle East." <u>Vet J</u> **218**: 78-85.
- Phillips, C. J., M. K. Pines, M. Latter, T. Muller, J. C. Petherick, S. T. Norman and J. B. Gaughan (2010). "The physiological and behavioral responses of steers to gaseous ammonia in simulated long-distance transport by ship." J Anim Sci **88**(11): 3579-3589.
- Phillips, C. J., M. K. Pines, M. Latter, T. Muller, J. C. Petherick, S. T. Norman and J. B. Gaughan (2012). "Physiological and behavioral responses of sheep to gaseous ammonia." <u>J Anim Sci</u> **90**(5): 1562-1569.
- Phillips, C. J. and E. Santurtun (2013). "The welfare of livestock transported by ship." <u>Vet J</u> 196(3): 309-314.
- Phillips, C. J. C. and J. C. Petherick (2014). "The ethics of a co-regulatory model for farm animal welfare research." <u>J Agric Environ Ethics</u>.
- Pines, MK, Phillips, CJC Accumulation of ammonia and other potentially

noxious gases on live export shipments from Australia to the Middle East. Journal of Environmental Monitoring 2011;13, 2798–2807.

- Sinclair, M., S. Zito and C. J. Phillips (2017). "The Impact of Stakeholders' Roles within the Livestock Industry on Their Attitudes to Livestock Welfare in Southeast and East Asia." <u>Animals (Basel)</u> 7(2).
- Stockman CA, Barnes AL, Maloney SK et al. Effect of prolonged exposure to continuous heat and humidity similar to long haul live export voyages in Merino wethers. Animal Production Science 2011;51:135-143
- Stolworthy, D. K., A. E. Bowden, B. L. Roeder, T. F. Robinson, J. G. Holland, S. L. Christensen, A. M. Beatty, L. C. Bridgewater, D. L. Eggett, J. D. Wendel, S. M. Stieger-Vanegas and M. D. Taylor (2015). "MRI evaluation of spontaneous intervertebral disc degeneration in the alpaca cervical spine." <u>J Orthop Res</u>.
- Wickham, S. L., T. Collins, A. L. Barnes, D. W. Miller, D. T. Beatty, C. Stockman, D. Blache, F. Wemelsfelder and P. A. Fleming (2012). "Qualitative behavioral assessment of transport-naive and transport-habituated sheep." J Anim Sci **90**(12): 4523-4535.
- Wickham, S. L., T. Collins, A. L. Barnes, D. W. Miller, D. T. Beatty, C. A. Stockman, D. Blache, F. Wemelsfelder and P. A. Fleming (2015). "Validating the use of qualitative behavioral assessment as a measure of the welfare of sheep during transport." <u>J Appl Anim Welf Sci</u> 18(3): 269-286.