

Global Live Animal Export Trade

NON-COMPLIANCE WITH
OIE TERRESTRIAL ANIMAL HEALTH CODE

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1. EXECUTIVE SUMMARY

This report explains the findings of Veterinarian Dr Lynn Simpson regarding the transportation of livestock by sea. Issues highlighted reflect risks and potential welfare impacts for animals across all international routes.

Dr Simpson has worked in the Live Export trade of animals since 1999. She sailed for over a decade transporting livestock from Australia to many northern hemisphere ports. As such many of the issues raised will never have been done so with such authority.

Visual evidence within this report shows that current animal health, welfare and food safety outcomes on livestock ships are regularly unacceptable by OIE, veterinary, and public health standards.

Livestock transported by sea often suffer compromised welfare. Many animals suffer health issues including and not limited to disease spread, injuries from infrastructure and general unnecessary pain, stress and suffering from being transported for lengthy periods of time.

Contagious diseases most commonly seen are pneumonia (“shipping Fever”), Salmonellosis, and *Moraxella Bovis* (“Pinkeye”). These diseases are all increasingly spread due to the artificial nature of the ships environment, crowding, poor hygiene and forced ventilation; often resulting in deaths.

The ‘five freedoms’ are often challenged due to the management, infrastructure and inherent risks of shipping which include mechanical breakdowns; such as ventilation, fodder or water delivery failure and heavy seas injuring animals as they get thrown around in their confined holding areas into solid walls and railings.

Poor adaptation to on-board rations; heat stress from poor acclimatisation during long distance transit and seasonal weather changes also kills many animals at sea every year. Disease spread from poor hygiene and loading densities exacerbates these challenges and an animal’s immune system’s ability to counter their effects.

Injuries are regularly suffered; such as broken limbs and septicaemia from sustained leg abrasions from harsh flooring and insufficient bedding. These injuries often require the affected animals to be euthanised due to the extent and unavoidable nature of the injuries in this artificial environment. The bodies are then thrown into the ocean.



Many shipments between countries are undertaken without an on-board veterinarian leaving injured and sick animals without expert treatment. In addition, shipboard environments, in terms of infrastructure and stocking densities make identifying, treating and if necessary euthanizing animals problematic. As a result sick and injured animals may not be euthanized and found only on unloading in destination countries.

Food safety is a great concern as many animals are medicated during the voyage with medication that has long withholding periods (WHP's). The poor hygiene results in identification of the animals treated being difficult due to faecal coverage of ear tags. As such, any animal or animal product consumed within the longest WHP of the Veterinary medication used during a voyage should be considered at risk for containing drug residues and be a potential threat to public health. NB: many animals are medicated on the day of arrival into the unloading port.

Compliance with the OIE Terrestrial Animal Health Code could influence improved animal health and welfare outcomes. However, in my vast experience, these codes are currently not being adhered to or regulated, resulting in much unnecessary pain, suffering, stress and adverse animal welfare outcomes to animals at sea.

2. BACKGROUND

I. The global livestock carrier fleet

There are approximately 120 livestock carrier vessels registered with the International Maritime Organization from a total of over 100,000 registered ships worldwide. Livestock carriers make up only 0.12% of the world's registered shipping fleet.

Despite the recent construction of a small number of purpose-built ships, livestock carriers constitute the oldest saltwater fleet in the world, with an average age of 35 years. The older a seagoing ship is, the greater the risk of mechanical or structural failure.

The vast majority of livestock carrier vessels are decommissioned car carriers, container ships and oil tankers that have been retrofitted to transport animals after becoming unsafe for their original purpose. These are known as 'conversions'. While merchant ships are often scrapped before they have been working for 20 years, there are livestock carriers currently in use that are 50 or more years old.

The MV Danny F2 was one such conversion that sank off the coast of Lebanon in December 2009 resulting in the deaths of all 18,000 cattle and 10,000 sheep on board. More than half of the crew died or have been declared missing. The MV Danny F2's safety had already been questioned in Australia and the ship was destined to be scrapped for use as recycled steel.

Instead, however, it recommenced trading from South America and continued to carry livestock until succumbing in heavy seas.

Global reliance on live animal deliveries is dropping thanks to the increased availability of chilled or frozen meat products. This, coupled with the increasing age of the worldwide livestock carrier fleet signals the impending natural death of the mass live animal export trade.

II. The World Organisation for Animal Health (OIE) Terrestrial Animal Health Code

The World Trade Organization (WTO) encourages members to base their sanitary measures on international standards, and has assumed the World Organisation for Animal Health (OIE) as its reference organisation on welfare matters.

The OIE's Terrestrial Animal Health Code is the principle reference for WTO members transporting livestock by sea. It aims to assure the sanitary safety of international trade in terrestrial animals. The code was first published in 1968 to address animal health but later expanded to cover animal welfare in line with the expanded mandate of the OIE 'to improve animal health worldwide'.

The OIE regularly updates its international standards as new scientific information comes to light, following established transparent and democratic procedures. The only pathway for adoption of a standard is via approval of the World Assembly of Delegates meeting in May each year at the OIE General Assembly.

This report provides plentiful evidence that the current global live animal export industry fails to meet these standards in numerous ways.

3. OIE STANDARDS AND BREACHES

I. The internationally-recognised ‘five freedoms’

The following examples illustrate the complete failure of livestock carriers to facilitate freedom from hunger, thirst, thermal discomfort, pain and fear.

‘FREEDOM FROM HUNGER’

Inanition occurs when animals starve despite adequate food being available.

This happens for two main reasons during live animal export voyages:

- Sheep and cattle are rarely given enough time to acclimatise to the pelletised food available on the ships, which differs greatly to the food they eat on their origin farms. They do not adapt well to the change and this results in hunger, starvation, illness and death.

OIE 7.1.2.2

“[T]he internationally recognised ‘five freedoms’ (freedom from hunger, thirst and malnutrition; freedom from fear and distress; freedom from physical and thermal discomfort; freedom from pain, injury and disease; and freedom to express normal patterns of behaviour) provide valuable guidance in animal welfare.”



Figure 1. An emaciated steer (left) is prevented from reaching feed troughs by stronger animals.

- If pulse feeding rather than ad-lib feeding is practiced, shy feeders do not get access to feed troughs as the stronger animals consume the entire ration before weaker individuals reach it.

‘FREEDOM FROM THIRST’

Watering systems on ships are susceptible to leaks, low water pressure and mechanical breakdown of desalination plants on-board.

Some vessels rely on manual watering, despite the enormous amount of work this entails.

Keeping water clean, palatable and free from pathogens and other contaminants is an ongoing job and crew are not always successful in maintaining trough hygiene and functionality.



Figure 2. An emaciated sheep looks on as others feed.



Figure 3. Cattle search for clean water in a faeces-filled trough.



Figure 4. The far trough should contain clear drinking water – the discoloration is from contaminated mouths bringing faeces into the trough.

Many animals will experience thirst as the available water troughs have been contaminated with faecal matter. Animals contaminate water and fodder troughs with faecal contamination on their bodies from the living environment on-board.

Poor maintenance of holding tanks leads to bad water quality due to contaminants such as rust that not only contaminates troughs but also blocks them with particles. This increases crew workload and incidents of animal thirst.

Some animals are too short to reach water and fodder troughs that are permanent fixtures and cannot be adjusted.

Poor drafting means the heights of animals on boards differs greatly, so some cannot reach troughs as easily as others.

Due to the movement of ships at sea, troughs cannot be filled to the brim to make it easier for smaller animals to reach the water. Doing so would result in water wastage and wet the environment, soiling resting surfaces as well as increasing humidity and thermal discomfort.

‘FREEDOM FROM THERMAL DISCOMFORT’

Many animals die every year on live export ships due to heat stress caused by overcrowded holds, pens and decks, summer conditions and poor or failed mechanical ventilation.

Animal core body temperatures above 40 degrees Celsius have been recorded.



Figure 5. Sheep in conditions that are too crowded to allow sufficient air flow.

Animals perish quickly in overheated conditions, and if they do not die immediately, they die within a week from acute renal failure.

Crowded pens that reduce an animal's natural ability to dissipate heat from passing airflow contributes greatly to thermal distress on live export ships.

The higher the stocking density, the greater the risk of thermal discomfort and potential for death from heat stress.

Deck temperatures become very hot and readings are unreliable as they are recorded mid-morning, before the day's maximum temperature has been reached.

Readings are taken at this time to coincide with the mandatory 'noon report' required by the IMO each day for every registered ship, regardless of whether or not it is a livestock carrier.



Figure 6. Cattle in overcrowded pens.



Figure 7. This animal likely died of heat stress secondary to pneumonia (Bovine Respiratory Disease, or 'shipping fever').

‘FREEDOM FROM PAIN OR FEAR’

In addition to the noisy and unnatural environment on board, animals are also at the mercy of inherent shipping risks, such as:

- Life support mechanical breakdowns; including ventilation, fodder or water delivery failure
- Heavy seas; animals suffer injuries when sea conditions are rough as they get thrown around confined holding areas, hitting walls and railings
- Shipboard fires; a fire on MV Uniceb in August 1996 resulted in the loss of all sheep on board
- Capsizing; MV Danny F2 capsized and sank in heavy weather in 2009 with 100% loss of livestock
- Anorexia and self-harm; animals express fear and stress by running into solid objects such as walls, railings and low roof beams, often injuring themselves. They may also respond to fear and stress by becoming anorexic, resulting in death or the need for euthanasia



Figure 8. A serious fetlock injury sustained during rough sea conditions.



Figure 9. injured sheep thrown from pen in rough seas.

II. Suitability of environment including substrate

OIE 7.1.4.3

“The physical environment, including the substrate (walking surface, resting surface, etc) should be suited to the species and breed so as to minimise risk of injury and transmission of diseases or parasites to animals.”

The flooring substrate on some ships, while designed to be non-slip, is often too abrasive and does not protect animals from injury.

Leg abrasions caused by deck surfaces result in animals who cannot stand in order to eat or drink.

These animals die of dehydration or starvation or require euthanasia.



Figure 10. An animal with leg abrasions lies in a hospital pen with additional bedding to compensate for his injuries. He was eventually euthanised as he could no longer stand to eat or drink.

Figure 11. Close up the injuries of the above animal.



To carry enough bedding for OIE compliance, ships would need to reduce the amount of live animals transported.

This would likely render livestock carrier vessels commercially unviable, and ship owners/exporters would refuse to provide the required amount due to loss of profits.

To date, no animal safe flooring has been devised that combines manageability at sea and compliance with ships' maintenance and safety requirements along with commercial viability.

No matter what flooring material has been used, the substrate on most voyages quickly turns into a thick layer of faeces and urine that – while less abrasive and more comfortable – traps moisture and spreads pathogens.

Differing floor types all have animal welfare and comfort issues. Some are too slippery, some are too abrasive, all are too expensive to cover with sufficient bedding to make mass livestock transport commercially viable.

Some consignments are allocated bedding to protect cattle from slipping and abrasions and to absorb ammonia from sewerage.

However; the amount used is inadequate to meet any of those requirements well.

Bedding allocations need to be drastically increased to improve comfort and absorb moisture and ammonia from livestock sewerage.

Ammonia levels should not exceed 25ppm for livestock or crew working in the holds and or decks.

The amount of bedding currently carried is almost negligible with regard to ammonia absorption given the quantities produced once the vessel is fully loaded with animals.



Figure 12. A non-slip but highly abrasive flooring material used on some ships.



Figure 13. An area with extremely uncomfortable and inappropriate flooring is used as a temporary hospital pen for an ill animal.



Figure 14. Sheep lie on a solid layer of faeces and urine which exudes high level of ammonia in humid conditions.

III. Safety to perform natural behaviours

The reality aboard all current livestock carriers is that the physical environment does not allow comfortable resting.

As demonstrated in the example above, the substrate does not protect animals from life threatening injuries and does not meet OIE recommendations.

OIE 7.1.4.4

“The physical environment should allow comfortable resting, safe and comfortable movement including normal postural changes, and the opportunity to perform types of natural behaviour that animals are motivated to perform.”



Figure 15. This image shows cattle suffering in unacceptably high stocking density and poor sanitary conditions.



Figure 16. Mortalities due to smothering are not uncommon. One animal was near death as a fatigued pen-mate had collapsed on top of him.



Figure 17. Depressed animal covered with faecal jacket.



Figure 18. This animal had slipped on the deck surface during washing and sustained pelvic nerve damage. He was Euthanased for his injuries.

IV. Air quality, temperature, humidity and extreme conditions

Current situation; Ammonia levels are often at levels that are believed to be above 25ppm. The only voyage on which I monitored the levels i could not get a reading as the monitoring device simply stated “toxic levels, evacuate”. These readings were being taken under “normal” shipping conditions on a sheep ship. Accurate monitoring, measurement and logging of these air contaminants should be implemented on all ships carrying livestock. This is currently not the case, however other cargo vessels such as car carriers routinely have this monitoring system.

OIE 7.1.4.6

“For housed animals, air quality, temperature and humidity should support good animal health and not be aversive. Where extreme conditions occur, animals should not be prevented from using their natural methods of thermo regulation.”

- Levels of ammonia, CO₂ and heat increase during heat stress incidents and ventilation inadequacies, either mechanical or natural/ passive (cross winds on open decks). Monitoring devices that automatically alert the bridge could help alleviate critical conditions exacerbating and reduce poor animal welfare/ health outcomes.



Figure 19. Cattle transported from Ireland to Turkey (immediately unloaded from a ship onto trucks).

- Natural methods of dissipating body heat/ core temperature through the body's surface area is often limited/ prevented, by the presence of disturbingly thick, faecal contamination on the animals coats, often referred to as a 'faecal jacket', or by unnecessarily long hair or wool.
- Faecal jackets' develop as a result of deck conditions and deck/ cattle washing restraints usually resulting in faecal contamination covering the entire animal including contamination of infrastructure such as feed and water troughs.

These animals from Ireland have thick hairy coats that trap and carry thicker layers of faeces as a faecal jacket inhibiting thermoregulation compared to the contamination a Bos Indicus type animal would carry. Neither is in the animals welfare interest. Selection of type of animal based on hair coverage and length should be considered before preparing a consignment to be transported by sea.

- Wool or hair length is manageable. To enable an animal to naturally be able to thermo regulate do not transport hairy cattle in hot weather or to hot destinations. Shear all wool/ hair sheep and goats before transporting them by sea, to or through hot environments.
- An animals wool and hair puts them under great thermal stress to acclimatise not only to the different geographical locations but to the enclosed deck heat build up as each animal generates its own heat and contributes to the ambient temperature of the deck.

V. Control of Disease – Human health risks

CURRENT SITUATION:

The vast majority of voyages of live animals do not carry Veterinarians, however; they do carry Veterinary therapeutic, medications which are to be used on the animals as soon as the need is recognised.

“Cocktails” of inappropriate amounts, types and mixtures of medications are regularly administered to animals destined for human consumption by un or poorly trained crew members due to lack of Veterinary input. This results in problems with both animal and public health/ food safety.

Animals treated or exposed to medication residue containing faecal contamination should be considered a risk of carrying drug residues.

Treatment records are meant to be kept for disease/ management, trace-back purposes. However; treatment records of individual animals is difficult if not logistically impossible to keep as individual identification numbers of animals such as ear tags are usually unreadable due to faecal contamination as discussed previously.

If these animals (the entire consignment if individual identification and isolation from others cannot be attained) are to be slaughtered for human consumption within the drug given with holding period there is a very real risk of a negative public health consequence from consumption of contaminated meat.

OIE 7.2.5.3 b)

“Medications used prophylactically or therapeutically should only be administered by a veterinarian or other person who has been instructed in their use by a veterinarian.”

VI. Regular observation

CURRENT SITUATION:

Many animals on live export shipments are found at later stages of disease and injury due to difficulty in observing individuals, especially weak animals whom are renowned to “hide” in the back corners of pens away from the traffic of troughs and people.

Often the qualified observers are overwhelmed by the sheer number of animals to be looked after and a thorough and acceptable level of welfare monitoring and management is impractical to achieve, resulting in poor animal welfare outcomes.

OIE 7.2.5.8

“Ability to observe animals during the journey- animals should be positioned to enable each animal to be observed regularly and clearly by an animal handler or other responsible person, during the journey to ensure their safety and good welfare.”



Figure 20. Upper tier of a sheep deck, the observer must climb on rails to see this angle otherwise troughs obscure visibility of most sheep except for at their knee level.



Figure 21. This animal is one of many whom was not detected in monitoring.



Figure 22. Double tiered ships are very difficult to allow observation of animals both on upper and lower tiers. This results in compromised and often poor animal welfare outcomes.

VII. Ammonia levels

CURRENT SITUATION:

Suggest 24/7 electronic data collection and monitoring be undertaken as it seems very likely that ammonia levels are regularly above 25ppm as indicated earlier in this document at OIE 7.1.4.5.

OIE 7.9.5.2.c

“Air quality... Ammonia levels in enclosed cattle housing should not exceed 25ppm.”

VIII. Space and bedding to allow resting

CURRENT SITUATION:

Animal welfare is being compromised by excessive faecal (livestock sewerage) and water accumulation in cattle pens resulting in animals not having a well-drained and comfortable place to rest.

This situation further results in animals experiencing fatigue, poor recovery from illness due to lack of rest and assumed increased risk of susceptibility to disease due to chronic fatigue and entry of pathogens into open wounds or via mucosal membrane absorption.

This faecal jacket reduces thermo regulation of animals and contributes greatly to contamination of both water and feed troughs/ supply, potentially spreading disease and inhibiting hydration and feeding.

OIE 7.9.5.2.f

“In all production systems cattle need a well drained and comfortable place to rest. All cattle in a group should have sufficient space to lie down and rest at the same time.

Outcome based measurable: morbidity rates (e.g. lameness, pressure sores), behaviour, changes in weight and body condition, and physical appearance.”



Figure 23.



Figure 24.



Figure 25. Faecal jacket picked up from resting surface, causing thermoregulation difficulties.



Figure 26.

IX. Fitness to travel – exporting of young calves.

In my experience very young animals (under 6 months of age) are extremely challenged by the hygiene deficiencies, ships movement and infrastructure as well as their immature immune systems. These factors make these young animals very vulnerable to experiencing disease, injury and or poor animal welfare outcomes. My experience has repeatedly seen young animals not fit to travel safely.

OIE 7.2.2.3.2.a)iv)

“Special considerations; ensuring compliance of the animals with any required veterinary certification, and their fitness to travel.”

Very young animals that may still have unhealed umbilical attachments or common infections of these areas are at great risk of developing terminal septicaemia as a result of lying in animal sewerage on contaminated ship decks/ bedding.

They innately have a sucking reflex; hence often will often suck on infrastructure, much of which is contaminated with faeces possibly containing pathogens/ medication residues. This leads to illness that is difficult to treat, nurse and counter during sea transportation. The other risk is that they innately look to suckle from their mothers, who are often not on the vessel with them; hence they suckle on the prepuce, tails or umbilical stumps of their pen-mates. This often results in injuries or infection/ septicaemia development, especially on nearly healed umbilical stumps.



Figure 27.

Very young animals appear to find thermoregulation on board ships of great difficulty. This occurs both as a ship transits from differing temperatures/ humidity's geographically, and also by direct challenge as decks are hosed clean and calves become wet. Neither of these situations are ideal and I do not believe they are in the animals best interests for either health or welfare.

This young calf developed pneumonia during a cold transit. Calves are commonly adversely affected by sea transportation.

Regardless of being born on-board or being transported as very young animals, calves and lambs require a higher level of hygiene and hence more space and veterinary attention to ensure their welfare and health is not compromised during sea transportation.

As a Veterinarian I do not believe it is in the best interest of very young, immune deficient animals to be exposed to the inherent and usually unavoidable risks of transportation by sea.



Figure 28. This young calf developed pneumonia during a cold transit. Calves are commonly adversely affected by sea transportation.



Figure 28.

4. CONCLUSION:

The global live animal export trade is operating on a daily basis in contravention of the 2016 OIE Terrestrial Animal Health Code resulting in much unnecessary pain, suffering, stress and adverse animal welfare outcomes to animals at sea.

All ships carrying live animals at the very least should meet the OIE guidelines as set out in the 2016 OIE Terrestrial Animal Health Code to ensure that the animal welfare impacts associated with shipboard transport are reduced.

The collaboration of the OIE and the International Maritime Organization (IMO) to make a more robust world-wide standard for the operation of Live Animal Export vessels would be a positive step forward for both animal and crew safety, health and welfare. Significant concerns remain however as to the ability of any country to regulate such standards in light of sea-based nature of this trade and the commercial factors that drive the operations of this industry.

It is important to recognise that livestock ships are an inherently stressful and risk-laden environment for animals. Even when on-board veterinarians are present, their ability to identify, reach and treat injured or sick animals is limited. In the Australian live export trade alone, over 200,000 animals had died enroute to destinations since mortality records have been kept.

In addition, an examination of the history of the global live export trade reveals that many thousands of animals have died as a result of unpredicted factors such as extreme weather events, shipboard mechanical breakdowns and trade disputes.

As an animal health professional who served on some 57 livestock shipments, the only conclusion that could be reached is that live export should be reformed significantly or replaced by a carcass only trade between countries. This conclusion takes into account not only the animal welfare implications but the human health risks posed by drug residues and the consumption of meat products produced in a stressful and contaminated environment.

