

Long distance transport by sea: animal welfare

Part Five

Animal Welfare in Transport and

Meat Quality



Centre for Animal Welfare and Ethics



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA



World
Organisation
for Animal
Health

Scope of Training

- What is animal welfare?
- The impacts of sea transport to animal welfare and health
 - Examples of good and bad welfare
 - How does welfare affect meat quality

OIE Definition of Animal Welfare

Animal welfare means how an animal is coping with the conditions in which it lives.

FIVE FREEDOMS OF ANIMAL WELFARE

1. Freedom from hunger, malnutrition and thirst
2. Freedom from fear and distress
3. Freedom from physical and thermal discomfort
4. Freedom from pain, injury and disease
5. Freedom to express normal patterns of behaviour



Animal welfare for a better world
4TH OIE GLOBAL CONFERENCE ON ANIMAL WELFARE
6-8 DECEMBER 2016 · GUADALAJARA, MEXICO

#OIEWelfare2016

OIE - Good Animal Welfare

An animal is in a good state of welfare if it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and not suffering from unpleasant states such as pain, fear, and distress.



OIE Guidelines on Animal Welfare

- There is a critical relationship between animal health and animal welfare.
- The use of animals carries with it an ethical responsibility to ensure their welfare to the greatest extent practicable.
- Improvements in farm animal welfare can often improve productivity and food safety, and lead to economic benefits.



Good Animal Welfare

Requires disease prevention and appropriate veterinary treatment, shelter, management and nutrition, humane handling and humane slaughter/killing.

Animal welfare refers to the state of the animal; the treatment an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment.



Animals At High Risk of Poor Welfare

- Very large or obese.
- Very young or old.
- Excitable or aggressive animals.
- Animals subject to motion sickness.
- Little experience of contact with humans.
- Females in last third of pregnancy or in heavy lactation.
- Long hair or wool length.



Impacts of Sea Transport - Stress

Stressors include:

- Loading/unloading
- Heat stress and humidity
- Social stress and lack of space
- High ammonia levels
- Ship motion and noise



Animal Welfare in Loading and Unloading

- Fear/stress high risk during loading/unloading.
- Use of goads, striking, throwing animals.
- Ramp angles and poorly lit areas causing trip risk.



Meat Quality – Poor Handling

- Poor handling can cause injuries and acute stress.
- Fight or flight reactions can result in reduced quality of meat.



Pale, Soft and Exudative Meat (PSE)

- Poor handling can cause acute stress during loading/unloading.
- Acute stress pre-slaughter can cause rapid breakdown of muscle glycogen.
- Meat becomes very pale with pronounced acidity and poor flavour.



Poor Handling – Bruising

- Bruising caused by a physical blow or fall.
- Can happen during handling and transport.
- Bruised meat is not suitable for use as food and is a major cause of wastage.



Heat Stress

- High risk for animals during sea transport.
- Can cause sheep to stop eating.
- A form of physiological chronic stress.



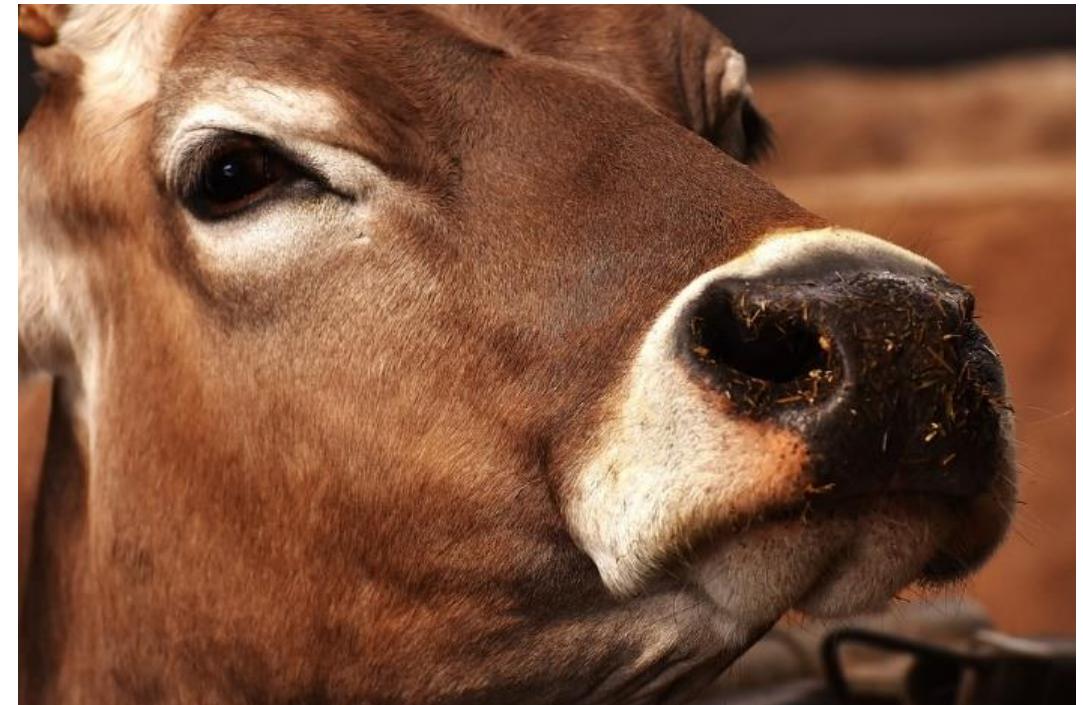
Environmental Stress

- Animals often exposed to high stocking densities and high temperatures.
- High ammonia concentration cause significant health and welfare risks.
- Noise and changes in light intensity can also cause chronic stress.



Meat Quality – Chronic Stress

- Long term chronic stress causes decreased glycogen in animal body.
- Reduced glycogen in muscles can lead to Dark, Firm, Dry meat.



Dark Firm and Dry (DFD) Meat

- DFD meat means the animal was stressed, injured or diseased before being slaughtered.
- Carcass meat is darker and drier than normal and has a much firmer texture.
- Meat is of inferior quality - less pronounced taste and dark colour and has a shorter shelf life.



High Ammonia

- Exposure of steers to high ammonia concentrations in simulated ship transport increased pulmonary macrophage activity, lacrimation, nasal secretions and coughing.
- Exposure of sheep to high ammonia concentrations increases pulmonary macrophage activity. Feed intake and bodyweight decreases and there is mucosal irritation in the nose, mouth and throat.

Health and Welfare - Inanition

- Sheep and goats are particularly at risk of inanition during sea transport.
- Liveweight loss reduces profitability.
- High ammonia levels, poor adjustment to new feed and motion sickness are all possible causes.



Sea Transport and Animal Health - Disease

- Animal transport often a significant factor in the spread of infectious diseases.
- When possible, animals should be vaccinated against diseases to which they are likely to be exposed.
- Avoid mixing groups to minimise risk of diseases spreading.



Health and Welfare – Refusal to Import

- Refusal to import has serious health and welfare implications.
- Competent Authority of the importing country should provide urgent access to an OIE-appointed veterinarian(s) to assess the health status of the animals.
- Competent Authority of the importing country should provide access to allow continued assessment of the ongoing health and welfare situation.
- If it cannot be promptly resolved, should call on the OIE to mediate.

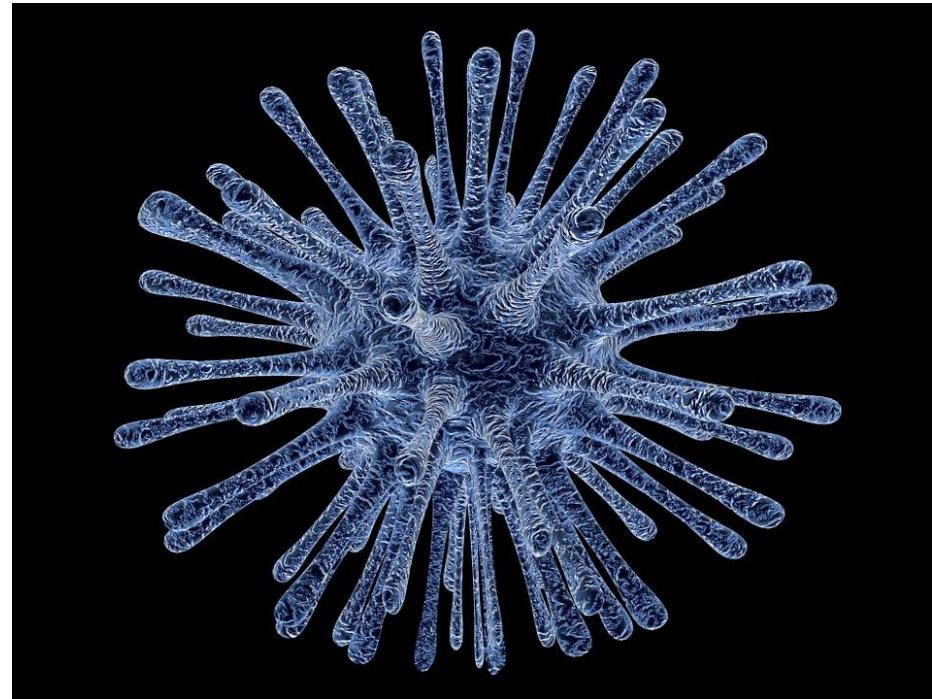
Good Practice - Animal Health

- Vessels and containers used to carry animals should be cleaned before re-use.
- Physical removal of manure and bedding, by scraping, washing and flushing with water until visibly clean.
- Disinfection when concerns about disease transmission exist.



Animal Disease and Meat Value

- Where disease has been identified, meat carcasses will not be suitable for human consumption.
- Market loss can be substantial, particularly if an airborne disease is present on a container or vessel.
- Disease outbreaks can cause trade bans.



Good Animal Welfare for Good Meat Quality

- Provide suitable rest, space feed and water and monitor consumption.
- Careful low stress handling to prevent panic, bruising and injuries.
- Ensure steady and smooth journey to reduce stress.
- Minimise ammonia and biohazards with good ventilation.
- Prevent temperature extremes.



CARING FOR THE WELFARE OF ANIMALS DURING TRANSPORT

- 1** Prepare animals well for travel with suitable feed and handling.
- 2** Do not load sick or injured animals.
- 3** Load animals, or containers with animals, into suitable vehicles carefully and calmly.
- 4** Use low stress techniques to handle and transport livestock.
Don't move animals by frightening or hurting them.
- 5** Don't overcrowd vehicles or animal containers.
- 6** Rest animals during and after long journeys.
Ensure you provide them with feed, water and somewhere to lie down.
- 7** Do not throw, drag or drop animals or containers with animals.
- 8** Ensure steady and smooth journeys to avoid injury and reduce stress.
- 9** Don't let animals suffer from heat and cold stress.
Be aware of their temperature requirements.
- 10** Provide clean and well-ventilated space for animals during transport.
Minimise ammonia, dust and biohazards.

Long distance transport by sea: animal welfare

Full guidelines for transport by sea available online

**Terrestrial Animal Code
(Section 7: Animal Welfare)**

www.oie.int