



Investigation into the reportable cattle mortality level on sea voyage from Geraldton, Western Australia to Jakarta, Indonesia, January-February 2008.

1. Purpose

To report on the investigation into the cause of mortalities in cattle exported by sea to Indonesia, and to make recommendations with the objective of reducing the likelihood of a recurrence.

2. Summary

Overall for this vessel, there were 14 mortalities of the 724 cattle loaded as a single consignment which equates to a mortality rate of 1.93%.

The main cause of the reportable mortality rate on this voyage was euthanasia at the port due to inability to stand. In addition, six cows died suddenly during the voyage and a definitive cause of these mortalities was not established.

Background

The investigation into the mortality was carried out by reviewing the following information:

1. Stockman's end of voyage report;
2. Stockman's Daily Reports;
3. Report from the exporter;
4. Records from the registered premises;
5. Report by the master of the vessel;
6. Report from the AQIS certifying veterinarian, and;
7. Records from the AQIS Accredited Veterinarian (AAV) who prepared the animals.

Table 1: Chronology of Events

Dates	Day of Voyage	Action	Cumulative Voyage Death Total	Cumulative% Deaths
29/01/08	1	Loading of 724 cattle in Geraldton: 115 steers, 40 heifers and 523 cows, 46 bulls		0
30/01/08	2		0	0
31/01/08	3		0	0
01/02/08	4		0	0
02/02/08	5		0	0
03/02/08	6	2 cow mortalities	2	0.28
04/02/08	7	2 cow mortalities	4	0.55
05/02/08	8	Unloading in Jakarta. 10 cow mortalities	14	1.93

The reportable mortality level for a short haul cattle voyage is 0.5 per cent which for this voyage was reached on days 7, 4 February 2008.

3. Findings

3.1 Mortalities in Registered Premises

The cattle exported from Geraldton were present at the registered premises from 26 January 2008 until loading on the 29 January 2008. The records of the registered premises indicated no mortalities over the preparation period.

The record of rejects indicated there were 15 rejects. The reasons for rejection were high condition score, clinical symptoms indicative of a metabolic disorder and abscesses.

3.2 Loading

The records from the exporter indicate the cattle were loaded in accordance with ASEL.

3.3 Journey

The climatic condition for the cattle decks were as follows

Table 2: Climatic conditions:

Date	Dry bulb (°C)	Wet bulb (°C)	Humidity (%)	Daily water consumption (L)	Daily weather conditions from daily reports
29/01/08					
30/01/08	27	25	85	36	Cloudy/SES/Very rough
31/01/08	27	24	84	39	SE/Rough
01/02/08	30	27	82	40	SE/Slight
02/02/08	30	28	86	42	SE/Slight
03/02/08	29	28	93	42	NW/Very rough
04/02/08	28	26	88	42	NW/Very rough
05/02/08					

No data available for Day 1 29/01/08 or Day 8 05/02/08 as the ship was loading and unloading. The figures reported are averages across the 4 cattle decks.

Table 3: Mortalities by Cause

Cause	Injury	Euthanased	Undetermined
#	1	6	7

Table 4: Mortalities by deck

Deck	Mortalities	Number and type loaded
1	1	115 steers and 82 cows
2	9	208 cows
3	4	232 cows and 9 heifers
4	0	31 heifers and 46 bulls
Total	14	115 steers, 522 cows, 40 heifers, 46 bulls*

* Note: the above numbers provided by the exporter add to 723 cattle in total. The cattle that died were all cows.

The bridge log book indicates the vessel experienced bad weather on 4 February 2008 where the sea conditions were reported as very rough seas and moderate to heavy swell with near gale force winds (force 7). According to the stockman’s report, the 2 cattle that died on that day showed no signs of stress or visual injury.

Six out of the 724 cattle loaded were rejected at the port of discharge due to inability to stand. Seven cattle died of unknown causes. The stockman described the cattle as showing no clinical signs prior to death. No post mortems were performed as there was no veterinarian on board and therefore a definitive cause of these mortalities was not obtained.

Other potential issues raised were the flooring and heat stress. Most of the mortalities were located on deck 2. Deck 2 was loaded only with cows.

Table 5: Comparison of Deck 2 temperatures to other decks

Date	Dry Bulb		Wet Bulb		Humidity	
	Deck 2	Average other decks	Deck 2	Average other decks	Deck 2	Average other decks
29/01/08						
30/01/08	27	27	25	24	85	85
31/01/08	27	27	24	24	85	84
1/02/08	30	30	28	27	86	80
2/02/08	30.5	30	28.5	28	86	86
3/02/08	29	29	28	28	93	93
4/02/08	28	28	26	26.5	85	89

No data available for Day 1, 29/01/08 or Day 8, 05/02/08 as the ship was loading and unloading. The figures reported are averages across the 4 cattle decks.

4. AMSA evaluation of the vessel upon return to Australia

The AMSA evaluation of this vessel concluded that the vessel did not appear to suffer any failure of the livestock services during the voyage.

The only defect noted on the vessel was a low flow rate of fan 3-E and that the inlets on decks 1, 2 and 3 for fan 3-E were about 20% on the approved air test. However the vessel still has in excess of 40 air changes per hour. AMSA subsequently recommended a reduction in stocking density in pens immediately adjacent to the inlets on decks 1, 2 and 3. The requirement remained in effect until the fan was brought back up the original capacity or the ventilation of the space is re-measured to ensure the desired capacity is met.

5. Conclusion

All the mortalities were in the cows, mainly on deck 2.

The vessel experienced heavy swell and near gale force winds

There were two syndromes of mortalities of the cows during the voyage. Rough weather caused leg injuries in a number of cows. The heavier cows experienced difficulty standing due to their injuries which led to their euthanasia at the port due to inability to stand. The remaining mortalities were cows that experienced sudden death for which a definitive cause was not established.

6. Recommendations

Additional conditions are placed on the exporter until satisfactory results are achieved. The Livestock Export Standards Advisory Committee review the conditions relating to the export of cows and explore the possibility of limiting the weight of cows for export.

Actions

The following conditions were placed on the approval of the next consignment exported:

- . Cattle for export must be resident for 5 clear days in the registered premises immediately prior to export.
- . Each individual animal must weigh less than 550 kg.
- . The cattle must be provided with 10 per cent additional space over and above the requirements of the Australian Standards for the Export of Livestock.
- . In addition to the accredited stockman required by the Australian Standards for the Export of Livestock, an AQIS accredited veterinarian will be required to travel with, and report on the voyage.

The following conditions were placed on a second consignment:

- . Cattle for export must be resident for 5 clear days in the registered premises immediately prior to export.
- . Each cow must weigh less than 550 kg.
- . The cattle must be provided with 10 per cent additional space on board over and above the requirements of the Australian Standards for the Export of Livestock.
- . In addition to the accredited stockman required by the ASEL, an AQIS accredited veterinarian will be required to travel with, and report on the voyage.

8. Results

The results of the two consignments with additional conditions are as follows:

Table 6: Mortalities on subsequent consignments

Date	Destination	Number loaded	Mortalities	Mortalities (%)
February 2008	Mauritius	616	0	0
September 2008	Indonesia	2054	1	0.05