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Committee Secretary
Senate Standing Committee on Rural Affairs and Transport
P.O. Box 6100
Parliament House
CANBERRA ACT 2600



Dear Secretary

Re RSPCA supplementary submission (no 333) to the inquiry into live animal exports

Further to the question of the possible basis for animals showing nervous signs in Indonesian slaughter houses:

From personal experience, I have to admit that I have never witnessed a ruminant "shaking" with fear (even when doing research on responses of Droughtmaster heifers to a number of stressors). I also cannot recollect any mention of such a response in ruminant livestock, where it would appear to be contrary to evolutionary survival imperatives. I hasten to add that I do have a long standing interests in the nexus of animal behaviour, welfare and management, having taught and published in these areas over a long period (including a chapter on Cow/Calf Welfare Considerations in "Beef Practice; Cow-calf Production Medicine", Eds Chenoweth/Sanderson, Blackwell 2005)

After searching "Scopus" online, as well as consulting the texts listed below, I did not find any linkage between "stress", "fear" and "distress" and "shaking", "shivering" or trembling" in cattle. Further, none of these responses are mentioned in reviews of cattle welfare that I have consulted, nor in any descriptions of "emergency reactions" (fight or flight) or either acute or chronic stress responses. It is noteworthy that such reactions (or similar) are not included in Temple Grandin's checklist for animal welfare auditing at slaughter plants (see Grandin 2011 attached).

I also consulted with Raf Freire, PhD, Lecturer in Animal Behaviour and Welfare at Charles Sturt University. To his knowledge, the symptoms listed above have never been linked with the fear response in cattle in texts, papers or proposals.

However, to the contrary, shaking, shivering, trembling are well accepted certainly as physical signs associated with Hypomagnesemia/Grass Tetany (synonym "tetany").

Here signs are as listed in a respected international text (Blackwell's 5 Minute veterinary Consult: Ruminant. Haskell 2008 p382)

- Twitching,
- Erect ears,
- Muscle fasciculation
- Head tremors

- Nystagmus, fluttering of eyelids
- Chronic convulsions
- Opisthotonus
- Tetanic muscle convulsions

Differentials include:

- Hypocalcemia
- Ketosis
- Salt poisoning
- Toxicities (eg lead)
- Viral encephalitides

Texts consulted.

The Behaviour of Domestic Animals, 3rd ed. ESE Hafez. Williams and Wilkins 1975

Cattle Behaviour and Welfare – Clive Phillips . Blackwell 2002

The Well-being of Farm Animals. G Benson and Bernard Rollin. Blackwell 2004

Humans-Livestock Interactions. Hemsworth and Coleman. CAB International 1998

Sincerely

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cc.

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