Live Transport of Sheep: Animal Welfare Implications

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Introduction

Events aboard the *MV Cormo Express* in 2003 resulted in public outrage over the unacceptable treatment of live sheep bound for the Middle East. Rejected from Saudia Arabia, the *MV Cormo Express*, with its cargo of 57,937 live sheep, was stranded at sea for almost three months in search for a new customer (Wright & Muzzatti, 2007). In the view of many animal welfare organisations, it is more appropriate to slaughter animals close to their source of production and transport the carcass in order to avoid poor animal welfare associated with long journeys. However, exporters have developed a lucrative niche market with Islamic nations in Asia and the Middle East to fill their requests for live animals that are then slaughtered according to religious ritual methods (Wright & Muzzatti, 2007). Therefore, live transport is viewed as an essential sheep husbandry practice and there is ongoing investigation into strategies that may improve welfare of sheep in transit.

Discussion

When sheep are transported on long journeys there is concern about the length of time they are without food, water and adequate rest (Grandin, 2007). The implementation of feed and water deprivation (FWD) prior to transport has two main aims: first, to reduce digesta in the gastrointestinal tract and so reduce defecation; and second, to permit a more accurate prediction of carcass weight in situations where animals are sold by live weight (Hogan *et al*., 2007). Hogan *et al*. (2007) investigated the effects of FWD for approximately 12 hours before and during transport. It was found that FWD is associated with stress as indicated by increased concentrations of plasma cortisol. The development of dehydration due to FWD resulted in challenges for the animal to maintain homeostasis, particularly physiological parameters such as pH, osmotic pressure and acid-base balance.

In addition to increased plasma cortisol concentration and the stress of maintaining homeostasis, the immunosuppressive effects of prolonged transport increases a healthy animal's susceptibility to infection and may trigger the emergence of a variety of gastrointestinal and respiratory diseases caused by endogenous microorganisms that do not normally cause disease (Greger, 2007). Hogan *et al*. (2007) found that the sudden cessation of feed affects the size of the bacterial population in the rumen. This weakens the control of enteropathogenic bacteria thus increasing the likelihood of infections due to pathogens such as *Clostridium* spp., *Salmonella* spp., and various strains of *Escherichia coli*. In order to reduce susceptibility to infection, Hogan *et al*. (2007) suggests feeding low-quality forage before transportation to increase digesta load and reduce enteropathogens as well as producing drier faeces and increasing nutrient supply to tissues.

In the past, much emphasis has been placed on journey length in the transport of sheep. In the United States, the "Twenty-Eight Hour Law", first established in 1873 and revised in 2006, requires that "a rail carrier, express carrier, or common carrier … may not confine animals in a vehicle or vessel for more than 28 consecutive hours" without the animals being rested, watered and fed (Greger, 2007). Similarly, long-distance animal transport in Europe is restricted to a duration ranging from 9 to 24 hours with either continuous access to water or watering every 8 to 14 hours depending on species. In 2001, the European Parliament called for the limitation of live animal transport to a maximum duration of 8 hours but this was rejected by the European Health and Consumer Protection Commissioner. However, it is expected that further restrictions on travel times will be announced before 2010 (Greger, 2007).

Although physiologic indicators show that sheep in transit become increasingly compromised with time, journey duration may be less of a problem than travel conditions. These include loading density, vehicle design, and driving behaviour (Greger, 2007). In support of this, Cockram (2007) suggests that greater focus should be placed on the quality of the journey rather than on journey duration. Further research is needed to determine whether transportation is a continually aversive experience or whether animals are able to habituate to the novelty of transportation and are, therefore, able to cope reasonably well throughout the duration of the journey.

Driving style is an area of concern in the welfare of sheep in transit. Many drivers of livestock are unaware that rapid braking and even the lateral acceleration around curves readily accepted by humans can increase the stress and injury to sheep by throwing them to the floor (Greger, 2007). In Europe, payment schemes involving bonuses or penalty deductions have been successful in improving driving behaviour. For example, those receiving extra pay for reducing fuel usage were found to drive more slowly and with more gentle accelerations, resulting in measurable improvements in animal welfare such as decreased bruising and bone breakages (Greger, 2007).

Other factors that may improve the quality of the journey include vehicle design, space allowance, temperature regulation, ventilation and loading density (Cockram, 2007; Greger, 2007). The European Union (EU) seems to be leading the way in the welfare of sheep and livestock in transit. The latest EU regulations were implemented in January 2007 and centre on better education of animal attendants and drivers, stricter control mechanisms, such as fitting satellite positioning units to check compliance with travel times and rest periods, and mandatory improvements in vehicular design (Greger, 2007). However, if there is widespread non-compliance and inadequate enforcement of regulations that are designed to provide optimal conditions, then the argument for limiting journey time is strengthened (Cockram, 2007).

Conclusion

Animal welfare issues will always surround the live transportation of sheep, whether by road or sea. To improve welfare of sheep in transit, more research is needed to determine whether long journeys are continually aversive or whether welfare is better improved via the implementation of a better quality of journey. Nevertheless, whether welfare is improved by decreasing journey time or enhancing the quality of the journey, it is crucial that governments enforce regulations that are designed to improve animal welfare in transit.

References

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