

# The Canadian approach to science-based regulation of the long distance transport of animals

Gordon Doonan & Martin Appelt

## Summary

Government regulators face numerous challenges when considering economic necessities (real and perceived), societal expectations on how animals should be treated, scientific research into the needs of various animal species and daily transport practices in the 'real world'. Do we regulate to promote economic competitiveness, to appease animal welfare interest groups and satisfy industry lobbying organisations, or to meet the needs of the animals? In Canada, a recipe to blend regulatory intervention with voluntary, industry-derived standards is the approach of choice.

## Keywords

Animal, Animal welfare, Canada, Canadian Food Inspection Agency, Livestock, Regulation, Transport, Welfare.

## L'approccio canadese alla normativa science-based sul trasporto di animali a lunga distanza

### Riassunto

*I legislatori sono costretti ad affrontare numerose difficoltà dovendo tener conto delle esigenze economiche (reali e percepite), delle aspettative della società per un trattamento umano degli animali, delle ricerche scientifiche sulle esigenze peculiari di ogni singola specie e sulle pratiche di trasporto quotidiane nel "mondo reale". All'atto della regolamentazione bisogna cercare di mantenere la competitività economica, soddisfare le richieste dei*

*gruppi a tutela del benessere animale, quelle delle lobby dell'industria, oppure tutelare i bisogni degli animali? In Canada l'approccio corretto è quello di cercare di trovare una legislazione mediata che tenga conto degli standard derivanti dalle organizzazioni industriali e volontarie.*

## Parole chiave

Animali, Benessere, Benessere animale, Bestiame, Canada, Canadian Food Inspection Agency, Norme, Trasporto.

## Introduction

Relocation of animals inevitably has an impact on their well-being. Transport practices must minimise the risk of adverse effects on animal health and welfare that will result in serious or irreversible harm to live animals. The public has high expectations that all animals will be treated with respect and with appropriate consideration for their well-being. On the other hand, people involved in long distance transportation of animals frequently argue that regulatory intervention is unnecessary. It is, after all, in the best interests of their business to deliver their live cargo in good health and avoid any actions that would result in undue suffering, injury or death of animals in their care. Yet, the results of transport inspections conducted by the Canadian Food Inspection Agency (CFIA) indicate that negative outcomes of animal transportation do occur, albeit in a minority of shipments. Sub-standard practices that may or may not contravene transportation regulations are most often the cause. Low-value animals are more frequently

affected than expensive animals. Subsequently, the regulator is caught in a complex maze of conflicting societal values, competitive market pressures, entrenched practices, ingrained expectations of regulated parties and published research on topics relevant to transportation. Added to this is the need to follow the general approach of the government to regulating the lives of Canadians (7) and to harmonise the Canadian approach with international guidance, for example transportation recommendations given by the World Organisation for Animal Health (*Office International des Épizooties*: OIE) (20).

Successful animal transportation depends upon several factors, all of which are linked and influence each other throughout the relocation process.

### **Animal-related factors**

---

These can best be defined as the status of the animal prior to loading. Included are species, sex, age, body condition, health and reproductive status and other factors affecting an animal's 'fitness for transport'.

### **External factors**

---

The point of origin, destination, climate and weather, means of transport, handling practices, space allocation and transport duration are the most important elements in this category. With respect to long distance transport, protection from adverse weather, space allocation and animals' needs for feed, water and rest are key external factors.

On the same trip, animals may be exposed to weather extremes ranging from hot and humid to freezing, exacerbated by wind chill, as they pass through different geographic regions. Weather forecasts and tools such as a Livestock Weather Safety Index (9) can be used to assist in planning to avoid surprises and to prepare for appropriate adjustments en route. The loading density may have to be reduced on longer trips. As an example, cattle need extra floor space to lie down on long trips. In addition to loading density, headroom and maximum feed, water and rest intervals,

operator competence and vehicle design can be regulated to meet minimal acceptable standards. The most controversial issue concerning the regulation of long distance transportation of animals in Canada centres on maximum feed, water and rest intervals.

### **Feed, water and rest**

---

A balance must be found between minimising the stress to animals associated with frequent unloading and reloading and the consequences of exposing animals to excessive intervals without feed, water and rest. In attempting to find the proper requirements for a given species and class of animals, we quickly approach what seems to be a landscape full of quicksand patches. Economic arguments stemming from an ongoing reduction of slaughter facilities and concentration of the industry in fewer locations, the size of the country and live animal trade ties to the United States make long distance transportation of livestock a necessity. What is seen as improved standards better meeting physiological needs of animals by one group is viewed to be additional, unnecessary expense with a negative impact on competitiveness by others.

### **Interdependence of transportation factors**

---

Within reason, shortcomings in one area can be compensated by improving other parameters. An example would be the relocation of an animal with reduced capacity to withstand the stress of transportation, referred to in Canada as a compromised animal (3). In this case, the shortcoming is an animal-related factor that can be offset by external factors, such as reducing the transport duration, scheduling transport in mild weather, segregation from other animals and offering water and feed more frequently.

### **Challenges**

---

Regulated parties want assurances that regulations will not remove the flexibility

needed in today's economy. Some argue that they are the most qualified to develop and implement their own standards. On the other hand, part of society does not trust self-regulation, fearing lack of oversight, displacement of animal and societal interests by the profit motive, and difficulty in identifying and correcting the actions of those who do not follow the voluntary standards.

The Canadian approach is a blend of voluntary and mandatory requirements. Voluntary standards, such as those contained in industry codes of practice, seek to identify good management practices. Mandatory standards take the form of industry-derived rules imposed by some marketing boards or by the retail sector, or government regulations. The federal Health of Animals Regulations, Part XII, enforced by the CFIA, govern the transportation of animals in Canada (8). These regulations set out minimally acceptable standards and apply to all species of animals transported into, within or out of Canada by any mode, land, air or water.

Mandatory regulations have an impact on the livelihood of regulated parties and must be justified by factual information. To the extent possible, this is achieved through scientific research. Standards should be guided by the results of independent research, objectively evaluating the needs of animals. Results and reports published in peer-reviewed journals are the scientific community's stalwart against intrusion of purportedly scientific analyses or claims which are mostly driven by political, financial or other questionable motives.

## International versus domestic research

The ideal is to base regulations on research conducted under the conditions of the country in which the regulations will apply (6). For this reason, internationally published research is not always readily accepted by regulated parties. Nevertheless, the need for public scrutiny requires the regulators to explore the science base of regulations very carefully. To illustrate this point, cattle transportation is taken as an example.

Researchers in Europe have to perform transport duration-related research within the constraints imposed by current transportation regulations. The European maximum trip length is 30 h before offloading, with feed and water being provided on the vehicle during at least one one-hour stop (5). The corresponding maximum permissible interval for cattle is 52 h in Canada (8). While Euro-research provides some valuable insights for application in Canada, it can reveal little about physiological changes in Canadian cattle during the final 22 h of their journey.

Some Canadian studies on long distance transport have been reported (1, 2, 10, 15, 16). However, a much larger body of research is available in the scientific literature from around the world. When reports from different countries representing a range of transport conditions yield compatible results, they become relevant to the production of Canadian regulations (6, 11, 12 13). For the most part, the Health of Animals Regulations are 'outcome based' rather than 'prescriptive', in order to accommodate the dual need for government regulations and industry flexibility. As an example of an outcome-based requirement, an animal must not be loaded in a manner that would subject it to undue suffering or injury. Alternatively, a few of the requirements must be prescriptive to provide added clarity, or to prevent predictable negative outcomes. Examples include the need for maximum loading densities to clarify what is meant by 'overcrowding', and the need to ban the transportation of horses on a double-deck trailer. In the latter case, research conducted in the United States and a Canadian analysis have revealed a high risk of injuries among horses transported on such trailers (17, 18, 19).

Working in regulatory veterinary medicine has the aura of being dusty and slightly dull. In the face of a wide range of positions and views, the reality of the role of the government regulator is one of a professional mediator among groups involved in all aspects of live animal transportation. The dynamics are such that dust hardly finds a quiet spot to settle.

Meaningful regulations do not impede one's ability to transport animals. They attempt to

strike a balance among established animal needs, economic requirements and the humane treatment of animals. Somewhere between the ideal of 'no impairment of animal well-being' and the worst possible transport outcome, death, regulations set a threshold at a level of animal 'discomfort' that attempts to meet the above-noted balance. As a result, animal transportation regulations should be considered to be the minimum for acceptable practices in animal transportation. They neither require regulated parties to use 'best practices' nor provide advice or guidance on better standards. It is the responsibility of the regulated industries to elevate their practices above the barely adequate minimum by encouraging voluntary compliance with industry codes and standards.

## Accidents

By definition, an accident is something that happens suddenly or by chance without an apparent cause (14). While the majority of negative transport outcomes are not accidents in that they could have been avoided, it is a reasonable expectation that the regulator require whoever is involved in animal transportation to practice diligence in planning

and conducting a live animal shipment. This includes contingency planning in the event of a transport emergency.

## Future

At the time of writing, CFIA is proposing to modernise Canada's federal Health of Animals Regulations pertaining to animal transport. The proposal would clarify wording, provide standards of care and performance that reflect the current state of knowledge based on valid animal transportation research, and recognise social and economic necessities at the local, national and global levels (4). There is growing interest in conducting transport-related research in Canada. New information gained on how to improve practices and simply do a better job when relocating animals could well shorten the life-cycle of the regulations and justify future amendments. With assistance from the scientific community, the veterinary profession, industry and other stakeholders, the CFIA will continue to monitor the evolving body of knowledge and practices with a view to formulating, maintaining and enforcing meaningful regulations governing the transportation of animals.

## References

1. Bach S.J., McAllister T.A., Mears G.J. & Schwartzkopf-Genswein K. 2004. Long-haul transport and lack of preconditioning increases fecal shedding of *Escherichia coli* and *Escherichia coli* O157:H7 by calves. *J Food Prot*, **67** (4), 672-678.
2. Bergeron R., Scott S.L., Émond J.-P., Mercier F., Cook N. & Schaefer A.L. 2002. Physiology and behavior of dogs during air transport. *Can J Vet Res*, **66** (3), 211-216.
3. Canadian Food Inspection Agency (CFIA) 2004. Transportation of animals program. Compromised Animals Policy updated December 22, 2004. ([www.inspection.gc.ca/english/anima/heasan/transport/polie.shtml](http://www.inspection.gc.ca/english/anima/heasan/transport/polie.shtml) /accessed on 7 January 2008).
4. Canadian Food Inspection Agency (CFIA) 2005. Advance notice of possible changes to animal transportation regulations in Canada. CFIA, Ottawa ([www.inspection.gc.ca/english/anima/heasan/transport/notavie.shtml](http://www.inspection.gc.ca/english/anima/heasan/transport/notavie.shtml) accessed on 7 January 2008).
5. European Commission (EC) 2005. Council Regulation (EC) No. 1/2005 of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No. 1255/97. *Off J, L* **3**, 5/01/2005, 1-44.
6. European Parliament 2004. Recommendations to improve welfare of cattle during long distance transport. European Parliament, Strasbourg, 3 pp ([www.europarl.europa.eu/hearings/20040121/agri/hartung\\_en.pdf](http://www.europarl.europa.eu/hearings/20040121/agri/hartung_en.pdf) accessed on 7 January 2008).
7. Government of Canada 2005. Summary report of the public workshops on the draft Government directive on regulating. Privy Council Office, Ottawa ([www.regulation.gc.ca/consultation/summary-sommaire/summary-sommaire00-eng.asp](http://www.regulation.gc.ca/consultation/summary-sommaire/summary-sommaire00-eng.asp) accessed on 7 January 2008).

8. Government of Canada 2007. Transportation of animals. *In* Health of animals regulations, Part XII. CRC, c. 296, updated 17 January 2007 ([laws.justice.gc.ca/en/showdoc/cr/C.R.C.-c.296/bo-ga:l\\_XII/en/#anchorbo-ga:l\\_XII](http://laws.justice.gc.ca/en/showdoc/cr/C.R.C.-c.296/bo-ga:l_XII/en/#anchorbo-ga:l_XII) accessed on 7 January 2008).
9. Grandin T. 1981. Recommended trucking practices – safety tips for workers (updated 1999). ([www.grandin.com/behaviour/rec.truck.html](http://www.grandin.com/behaviour/rec.truck.html) accessed on 7 January 2008).
10. Haley C.A. 2005. The factors associated with transport loss of market weight swine in Ontario. PhD thesis, University of Guelph, Guelph, Ontario.
11. Hartung J., Marahrens M. & Holleben K. 2003. Recommendations for future developments in cattle transport in Europe. *Dtsch Tierarztl Wochenschr*, **110**(3), 128-130.
12. Honkavaara M., Rintasalo E., Ylönen J. & Pudas T. 2003. Meat quality and transport stress of cattle. *Dtsch Tierarztl Wochenschr*, **110** (3), 125-128.
13. Primary Industries Standing Committee 2002. Model code of practice for the welfare of animals – land transport of cattle. CSIRO Publishing, Primary Industries Report Series 77, Collingwood, 30 pp ([www.publish.csiro.au/nid/22/pid/2483.htm](http://www.publish.csiro.au/nid/22/pid/2483.htm) accessed on 7 January 2008).
14. Princeton University Cognitive Science Laboratory 2007. WordNet® 3.0. Princeton University, Princeton ([wordnet.princeton.edu/](http://wordnet.princeton.edu/) accessed on 7 January 2008).
15. Scott S.L. & Schaefer A. 1999. Effect of transportation on animal welfare and meat quality. *Cahiers Agricultures*, **8** (6), 451-459 ([www.jle.com/en/revues/agro\\_biotech/agr/e-docs/00/04/29/CB/article.md?type=text.html](http://www.jle.com/en/revues/agro_biotech/agr/e-docs/00/04/29/CB/article.md?type=text.html) accessed on 7 January 2008).
16. Stewart M., Webster J.R., Schaefer A.L., Cook N.J. & Scott S.L. 2005. Infrared thermography as a non-invasive tool to study animal welfare. *Anim Welfare*, **14** (44), 319-325.
17. Stull C.L. 1999. Responses of horses to trailer design, duration, and floor area during commercial transportation to slaughter. *J Anim Sci*, **77**, 2925-2933.
18. Stull C.L. 2001. Evolution of the proposed federal slaughter horse transport regulations. *J Anim Sci*, **79** (E. Suppl.), E12-E15.
19. Whiting T.L. & Sauder R.A. 2000. Headroom requirements for horses in transit. *Can Vet J*, **14** (2), 132-133.
20. World Organisation for Animal Health (Office International des Épizooties: OIE) 2006. Terrestrial animal health code. OIE, Paris ([www.oie.int/eng/normes/mcode/en\\_index.htm](http://www.oie.int/eng/normes/mcode/en_index.htm) accessed on 7 January 2008).