

# ANIMAL LIBERATION



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Submission on

Bobby Calf Time-Off-Feed Standard

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on behalf of

Animal Liberation Inc (SA)

## Main Recommendation:

**It is the contention of Animal Liberation (SA) that 30 hours time off feed for bobby calves is an outer limit which fails to take into account the deviations from ideal practice and conditions that will inevitably occur, and therefore places calf welfare in jeopardy. A 24 hour TOF legal limit is achievable with small improvements by industry, and is less perilous for calves.**

### ***Introduction***

Before presenting evidence to support our contention, we wish to record our concern that that the study on which Animal Health Australia is largely basing its time off feed limit for bobby calves (Fisher *et al.*, 2010):

- has not yet been scrutinised by peer review;
- is only available for public inspection as an executive summary.

The most striking feature of proposed Australian standards for bobby calf transport is how poor they are relative to standards in the EU. There young calves must be provided with bedding, which provides insulation against temperature extremes and encourages young animals to lie down to reduce exhaustion. Animals must be fed at least every 24 hours and watered every 12 hours.

A limit of 24 hours TOF is supported by results of the Fisher *et al.* (2010) study, which found that plasma glucose declined steadily in calves after 18-24 hours and 3-hydroxybutyrate, a measure of fat mobilisation during starvation, increased after this time. The authors comment: “*Our interpretation of these results is that best practice in calf management would have a feed withdrawal period of not more than 24 h.*” (p.16). So not only is Animal Health Australia placing a lot weight on one relatively small study, but it is also selective as to which parts of the conclusions are highlighted.

The Regulatory Impact Statement (RIS) acknowledges that: “*The vast majority of bobby calves are slaughtered at less than 24 hours TOF according to industry guidelines ...*” (p.vii). Therefore it is perfectly feasible to enforce the 24 hour TOF that the Fisher *et al.* (2010) study refers to as ‘*best management practice of transported calves*’ (p.18), rather than just allowing the lowest possible standard to prevail. With low legal standards there is no incentive to improve and to achieve best practice.

The RIS accepts the conclusion of the Fisher *et al.* study “... *that 30 hours with good practice*

*in other aspects of calf management and transport is defensible as an outer 'legal' limit for time off feed for bobby calves” (p. 8).* This statement assumes that feeding regimes, transport methods and calf health will all be optimum because 30 hours TOF is an absolutely outer limit with no room for error. Such an assumption in the real world (as opposed to experimental situations) is not defensible.

Indeed Fisher *et al.* acknowledge this problem when they state: “*In making these recommendations from the results of our study, we acknowledge that such animal studies are conducted carefully, with unforeseen events unlikely to occur, and with optimum animal handling. As a consequence, some criticism is often voiced against using the results of such as this for determining maximal permissible limits in animal welfare regulations. This argument states, correctly, that in the real world, situations are not always so ordered, and limitations on personnel time and facilities mean that the highest standards of animal care and handling are not always present” (p.18).* Which is exactly why an outer limit of TOF determined in this study should not be made law.

Already there is substantial mortality during transport. A Victorian study at abattoirs over 3 years recorded a death rate of 0.64% for transported bobby calves. So, of the 600,000 calves sent to slaughter each year in Victoria, an average of 3840 die en route (Cave *et al.*, 2005).

It was also noted that 12% of calves in the Fisher *et al.* (2010) study were below the reference value for plasma glucose after 30 hours. In other words, they were hypoglycaemic, and this in an experimental situation where all the protocols were followed. This result again shows how borderline the 30 hours TOF is, placing calf welfare at risk.

In the real world, less than optimum conditions will certainly arise in:

1. calf health
2. temperature extremes
3. transport conditions

### ***Calf health***

When bobby calves were first collected from NZ farms for an experiment, Todd *et al.* (2000) noted that 63% had fluid faeces, ie diarrhoea, and only 2% had normal, solid faeces. If such calves are off feed for 30 hours, they will be highly susceptible to dehydration and depletion of energy reserves. It is all very well to state that scouring calves should not be loaded, but to imagine that it won't happen is completely unrealistic, especially since there are unlikely to be any routine inspections of calf health.

In the Fisher *et al.* (2010) study, 22% of the calves had very low levels of serum gamma-

glutamyl transferase, indicating that they had received inadequate colostrum and hence had low passive immunity. One of 60 calves was excluded from the study due to ill health, but the authors note that if the study had continued for longer more calves would probably have become sick. This was in spite of the fact that: "*We were working with a well-run farm, with dedicated staff who were also aware of our needs*" (p.18). It is likely that the situation would be worse on less well-run farms that were not participating in an experiment.

### ***Temperature extremes***

Animals of a particular species, age and condition have a particular thermo-neutral zone (TNZ), which sustains optimum health and performance and, from the animals' perspective, maximum comfort. Below the lower limit of the TNZ increased heat production is needed to maintain body temperature, whereas above the upper limit greater evaporative heat loss must occur maintain body temperature (Ames, 1980).

The lower limit for young calves has been assessed as 15 °C (Borderas *et al.*, 2009) or 13 °C (Gonzalez-Jiminez and Blaxter, 1962), and the upper limit as 25 °C (Spain and Spears, 1996). A cold response appears rapidly in calves and they show first piloerection and then shivering as the temperature drops from 19 °C to 11 °C (Gonzalez-Jiminez and Blaxter, 1962). Additional energy is needed in these conditions to avoid hypothermia.

Todd *et al.* (2000) observed that their calves developed hypoglycaemia by 24 hours off feed, but energy reserves were still adequate to prevent hypothermia. However, they noted: "*Had the air temperature of 7 to 13 °C been lower during the present study, hypothermia, due to a more rapid depletion of carbohydrate reserves and/or excessive cold exposure may have occurred.*" Knowles *et al.* (1997) reported that there was greater fluctuation in body temperature when calves were transported in winter, as they had difficulty regulating their body temperature. Thus, in cold temperatures the 30 hours TOF extreme is unacceptable. There is no information given by Fisher *et al.* (2010) as to what the temperature range was when their study took place. Again it is possible that if the temperature had been lower their calves would have shown more adverse effects.

When given a choice, young calves seek out areas with a temperature over 20 °C (Borderas *et al.*, 2009). However, once the temperature is above the upper critical level, respiration rate increases (Spain and Spears, 1996), ultimately to the point of panting. Increased respiration results in increased loss of water vapour and increased risk of dehydration, especially if some degree of diarrhoea is also present (see previous point). Knowles *et al.* (1997) recorded increased plasma osmolality with increasing journey time even in the UK during summer, indicating increased risk of dehydration.

The majority of calves are transported in spring, which in southern Australia is a highly variable season. There can be periods of late frost or early heat. The extreme limit of 30 hours off feed is not acceptable in these conditions.

### ***Transport conditions***

Large-scale farmers and transporters are more likely to follow transport protocols. However, it is the case that small farmers transport calves to saleyards, or from saleyards for fattening, in the back of utes or open trucks where they are exposed to the elements and extremes of climate. The outer limit of 30 hours off feed fails to take into account all these deviations from best practice that will inevitably arise in the real world, as opposed to the controlled environment of experiments. It is therefore not defensible to adopt an extreme outer limit for TOF based on results of experiments in which best practice was followed.

### ***Concluding comment***

The RIS frequently refers to science-based decision making. However, to extrapolate an outer limit for TOF from a small, carefully controlled study to a whole industry is anything but scientific. It is an expedient decision and shouldn't be disguised as science.

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