

Time off feed is necessarily linked to the time a calf spends travelling. Compassion reported on the long distance transportation of animals, including calves, in a 2008 report:¹

Young calves are particularly poorly adapted to cope with transport, resulting in high mortality rates. Their immune system and stress response are not yet fully developed.

Compassion cites Knowles (1995), who notes that calves often “succumb, usually within four weeks, to secondary disease as a consequence of their inability to respond appropriately to transport”. He reports mortality rates of between 1 percent and 23 percent in a review of the literature on mortality of young calves following transport. Bobby calves usually don’t live long enough to develop secondary disease, but they should be expected to be affected by transportation, nonetheless.

Compassion cites Weeks (2007)² who states:

Scientific evidence indicates that young calves are not well adapted to cope with transport. Their immune systems are not fully developed and they are not able to control their body temperature well, thus they are susceptible to both heat and cold stress. Weight loss following transit is indicative of exposure to a variety of stressors and is greater for longer journeys or greater stress. Therefore transport should be avoided where possible, particularly as morbidity and mortality following transport can be high.

The EU’s Scientific Committee on Animal Health and Animal Welfare (SCAHAW) recommended in its 2002 Report on the welfare of animals, including cattle/calves, during transport that “**journeys exceeding 8 hours should be avoided in the case of calves being transported for slaughter**”.³

The EU subsequently approved a Regulation⁴ that states:

- Calves of less than ten days of age may not be transported, unless they are transported less than 100km.
- Calves of less than six months of age shall be provided with appropriate bedding material or equivalent material which guarantees their comfort.
- Unweaned calves must, after nine hours of travel, be given a rest period of at least one hour sufficient in particular for them to be given liquid [and if necessary fed]. After this rest period they may be transported for a further nine hours.
- Long journeys are only permitted for calves older than fourteen days, or accompanied by their mother
- Small calves travelling by road should have space of .3 - .4 sqm per animal

¹ Long distance animal transport in Europe: a cruel and unnecessary trade, a report by Peter Stevenson for Compassion in World Farming, March 2008.

² Weeks, C., 2007, *UK calf transport and veal rearing*. A report for Compassion in World Farming

³ SCAHAW (200), cited by Compassion (2008).

⁴ Council Regulation (EC) No.1/2005 of 22 December 2004, on the protection of animals during transport and related operation and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No.1255/97, OJ 5. 1.2005 L 3/1

Weeks refers to evidence that dairy calves reared on the bucket as opposed to being suckled by their dam respond differently to transport of one hour during the first three weeks of life. Steinhardt and Thielscher (2005) concluded that “physiological variables of young calves were significantly influenced by husbandry system already within the first three weeks of postnatal life and that caused different reactions in calves of different breeds at specific periods of a transport process”.⁵ Although bobby calf transport will be restricted to dairy breeds there are likely to be differences among individuals on larger transportation vehicles which will affect their ability to cope with transportation and TOF.

A subsequent report by the European Food Safety Authority (EFSA) recommends further research on the impact of journey time and thermal environment in the vehicle on the welfare of calves.⁶

Finally, as an introductory point, such young animals may not, for one reason or another, exhibit measurable scientific or clinical effect but this should not discount the simple but painful sensation of hunger, which they are likely to feel at some variable point. Very young animals, including new-born humans, would normally eat frequently. It is unreasonable to expect young, immature animals to cope with a period of transportation and food withdrawal that even adult humans are likely to find distressing if not debilitating.

Scientific studies

Thirty hours TOF apparently has scientific backing but we do not consider it to have a scientific basis. Our understanding is that the study commissioned by Dairy Australia⁷ (DA) was carried out at the request of DA to substantiate a recommendation for 30 hours TOF, to the Bobby Calf Forum, to comply with a PIMC requirement in 2009 for a science-based TOF Standard. A Standard of 30 hours TOF would serve to formalise what is known to occur in practice, primarily in some dairy regions more remote from abattoirs. It could also be argued that a Standard of 30 hours TOF will encourage greater leniency with greater reliance upon a 30 hour upper legal limit than is now practised.

Similar in concept and findings to the 2000 New Zealand study by Todd *et al*, the Fisher *et al* study, commissioned by Dairy Australia, nevertheless lacks much of the scientific rigour of the New Zealand study.

AHA provides a summary of the study as presented by Dairy Australia (DA), for the benefit of members of the public who may wish to offer comment on 30 hrs TOF. We note that the Conclusion provided in the DA Summary⁸ varies slightly, but we consider critically, from that of the original report, considering the AHA-provided Summary is the only insight the majority of the public will have into the study. According to Fisher *et al*:

“...it is our conclusion that 30 h 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.”

⁵ Weeks, C (2006) citing Steinhardt and Thielscher (2005a) Steinhardt, M. and Thielscher, H. H. (2005a) Transport stress in young calves. Effects of animal breed and husbandry system on heart rate, haematological values, blood lactate and acid-base balance. *Tierärztliche Praxis Ausgabe Grosstiere Nutztiere*, 33 (1), 28-36

⁶ Welfare of Animals During Transport, EFSA 2011

⁷ Determining a suitable time off feed for bobby calf transport under Australian conditions. Dairy Australia Project No.TIG 124. Andrew Fisher *et al*. May 2010 University of Melbourne, Vic Dept of Primary Industries.

⁸ http://www.animalwelfarestandards.net.au/shadomx/apps/fms/fmsdownload.cfm?file_uuid=0768923D-5056-8A5D-8761-C8DD4090ED25&siteName=aahc

whereas DA present this finding as:

“ ... the Australian study’s authors concluded that 30 h with good practice in other aspects of calf management and transport was **suitable** as the maximum time off feed limit for bobby calves.”

Despite the DA study aiming to determine “a suitable time off feed for bobby calf transport *etc.*” the authors do not actually do this i.e. it is not presented in their findings or conclusion, merely as their principle aim. We consider the more positive expression ‘suitable’, as inserted by DA, to be a misrepresentation of the more cautious term of ‘defensible’, and capable of misleading those consulting the summary provided by DA via AHA in order to make comment.

Additionally, DA makes no mention of the important subsequent statement by Fisher *et al*, that:

“Best practice management of transported calves would involve time off feed not longer than around 24 hrs.”

Other observations of the DA (Fisher *et al*) study include (but are not exhaustive):

The absence of:

- indicators such as temperature and weather conditions; these would vary considerably throughout Australia and thus effects of both transportation and feed withdrawal upon calves could be expected to vary. The study aims to report time off feed for bobby calf transport under Australian conditions, but the conditions are not mentioned.

Weeks (2006) notes that young calves are thermally comfortable only between 13C and 26C (Hemsworth *et al* 1995) and “when not on feed ... tolerate cold even less well”.⁹

- feed specifications, i.e. of liquid feed given to calves prior to transport
- a control group that continued to receive feed, so that the effect of feed withdrawal could be comparatively measured;
- a study of other periods of feed withdrawal, notably the other options offered for support under the consultation process: 18 hours and 24 hours;
- an allowance for the fact that many calves normally consigned to slaughter and thus who may be subjected to 30 hrs TOF will be under 5 days old, and even less developed and able to cope with the effects of feed withdrawal combined with transportation than the animals measured within the DA study.

⁹ Weeks, C (2006)

Todd *et al* (2000)¹⁰ report that following their study of 30 hours TOF in New Zealand, that hypothermia may have occurred among calves had the air temperature been below 7C and 13C. As the Australian study does not mention temperature the possibility of hypothermia among transported calves cannot be gauged. It is likely that temperatures in some dairying areas in Australia would drop to these levels in Spring and Autumn, adding risk to the health and welfare of transported/TOF calves.

Additional concerns relate to:

- a) authors indicate that plasma glucose concentrations were the most altered biochemical variable; a drop in glucose levels “below the lower reference value” at 30 hours TOF for 12 percent of calves was recorded, which we consider to be a significant proportion and the authors state to be more than the 2.5% that would otherwise be expected. We also note that plasma glucose concentrations “declined more steadily after about 18 hours off feed” fairly consistently among all groups, mean glucose at 30 hours declining “close to, but not below published reference levels for dairy calves less than two weeks of age”. (Executive Summary p.3, variously again in Results and in Discussion).

Our concerns relate particularly to calves which may be weaker at the outset and/or not ideally prepared. As “a small but significant proportion of calves were crossing into hypoglycaemic levels at [the 30hr] point”, this result is of major concern.

Also of significance is the observation that calf glucose concentrations declined steadily from the 18 – 24 hour period (p.16) substantiating our claim that TOF should not exceed 18 hours.

- b) Fisher *et al* report that around 22 percent of calves had low passive immunity, suggesting “sub-optimal” intake of colostrum. The authors found this “interesting”, but apparently were not involved in the preparation of the calves and were not aware of the extent or detail of calf preparation, in this case the amount or quality of colostrum calves had received, although staff were on a well-run farm were aware of their needs.¹¹

Anecdotally, I am aware of the poor preparation of calves before they leave the farm of their birth in situations where careful preparation, including conscientious feeding of colostrum, has been requested for related experimental purposes. This, and comments by Fisher *et al* raise concern that ‘good practice’ upon which the welfare of calves is dependent, will not routinely take place to protect calves that may be subjected to 30 hours TOF. It may not be known at the beginning of a journey that 30 hours TOF would be reached and extra preparatory precautions taken.

An additional concern that is not novel and not restricted to the Australian study is the presumption that if calves had not been sent to slaughter soon after the experiment “an increased level of morbidity would have been seen”.

¹⁰ Effects of food withdrawal and transport on 5- to 10- day-old calves, S.E. Todd *et al*, Massey University, Palmerston North, New Zealand. *Research in Veterinary Science*, **68** 125-134.

¹¹ Todd *et al* (p.126) explain the benefits of feeding calves colostrum, for gut protection and enhanced postnatal development of the gastrointestinal tract. NZ calves received 0.5 litres of electrolyte solution on arrival at the experimental site and 0.5 litres of cold, stored colostrum 12 hours later.

The final words of Todd *et al* are relevant here also:

“The results of this [N.Z.] study suggest that food withdrawal for up to 30 hours and transportation for up to 12 hours have no detrimental effects on the metabolism of healthy and clinically normal calves destined for slaughter at that time. However, relatively high mortality and morbidity rates during the weeks following transport (Knowles 1995)¹² suggest that significant detrimental effects, presumably related to food withdrawal and transport, can develop subsequently.”¹³

Knowles (1995) upon review post transport mortality in calves also suggested that calves below at least four weeks of age should not be marketed.

This anticipated to be the case, we suggest that at least a proportion of calves could be expected to feel unwell following transportation, during ongoing feed withdrawal and while awaiting slaughter. It is not unreasonable to expect this feeling of ‘unwellness’ to be exacerbated by a protracted wait for slaughter in what is likely to be a bare, cold, dank slaughterhouse devoid of bedding. Compassion maintains it is unethical to submit such young and vulnerable animals to this level of privation and discomfort.

The finding of the Australian study, i.e. the acceptability of 30 hours TOF, are dependent upon “good practice in other aspects of calf management and transport”, but how is ‘good practice’ to be determined, in how many associated spheres? Based on this statement, poor practice in an associated aspect would appear to render the 30 hours ‘indefensible’, but by that stage it is likely to be too late for calf welfare to be maintained.

Brief response to points raised in the R.I.S.

Conclusions and Findings

4. page vii There is no science-based evidence of improvements to bobby calf welfare under 24 hrs and 18 hrs TOF as compared to 30 hrs.

Comment: There has been no effort to provide specific science-based evidence under either 24 hrs or 18 hrs TOF. However, the study by Fisher *et al* does provide some evidence of improvements to bobby calf welfare at lower time points off feed: “*In terms of energy status, plasma glucose concentrations increased after feeding, declined slowly for some hours, and then declined more steadily after about 18 hours off feed. By 30 hours off feed mean glucose was close to published reference levels for dairy calves less than two weeks of age*”. However 12 percent of calves, a higher proportion than “*would be assumed by chance*” were below the lower reference level by 30 hours off feed. The authors go on to say that best practice management of transported calves would involve time off feed not longer than around 24 hours, which indicates that bobby calf welfare would be better limited to this time point off feed, and better still limited to 18 hours.

1.2.3.2 International Standards

There may be no international Standard or Guideline dealing with time off feed for bobby calves but TOF is necessarily lined to transportation times and transportation times are regulated for these very young animals in the

¹² Knowles, T.G. (1995) A review of post-transport mortality among younger calves. *Veterinary Record* **137** 406-407 cited by Todd *et al*.

¹³ Todd *et al* (2000) p.132

EU (detailed in this submission and in the R.I.S.) Several studies have been carried out that recommend against the transportation of very young, i.e. what we term as bobby calves.

The R.I.S. considers it should be borne in mind that “transport distances are usually much shorter in the UK”. However, country to country should not alter the vulnerability of certain animals to travel and associated time off feed. Animals in Australia should not be expected to physically cope with longer distances, and possibly longer time off feed, because distances are longer. Longer journeys should be avoided.

Discussion

National Australian Codes, which provide the model for State/Territory codes, currently recommend a maximum of 10 hours off liquid feed during bobby calf transport/assembly for slaughter.¹⁴ We expect there to have been a credible and considered basis to these recommendations, and to adopt a legal limit of 30 hours TOF is a serious and we consider retrograde step away from them. Preferable would be to adopt current recommendations as the basis for a TOF upper legal limit rather than the current recommended Option B – 30 hours TOF, which will merely accommodate current dairy practice and meet the AMIC Standard that requires bobby calves to be slaughtered within 30 hours of their last feed, or to be fed at the slaughter facility.

Compassion supports the notion of a national Standard that protects the welfare of bobby calves. However, cost-effectiveness is the primary goal under the preferred plan and ‘reasonable’ does not necessary mean ‘sound’ animal welfare standards and practices. Additional Standard must meet the expectations of the Australian and International communities, but the Australian public is largely unaware of the high cost that the dairy industry imposes upon bobby calves in order to perpetuate the industry. We propose that if the public was more informed, a fairer price for dairy products, one that delivered greater returns to dairy farmers and enabled the lifting of standards for bobby calf treatment, could be viable.

The R.I.S. considers the ethical questions and value judgements of hypothetical animal ‘hunger’ and ‘discomfort’ to be beyond its scope but proposes that these may be important considerations in the wider decision making process for the social goal of addressing concern over the potential suffering of calves. The proposed new Standard “seeks to address the problem of customers not being able to reject poor bobby calf TOF practices because they don’t know about the source or history of the product”. (p.17)

The answer is not to create a Standard that will allow calves to be subjected to 30 hours without feed. It is to increase awareness among consumers who will support far greater calf welfare benefits by being willing to pay to address their potential suffering.

Summary and Conclusion

Compassion in World Farming supports the establishment of a national, legal upper limit of ‘time off feed’ (TOF) for bobby calves. We do not support 30 hours TOF because of the inherent health and welfare risks to these extremely vulnerable animals, outlined in this submission. We do not consider that the Australian study commissioned by

¹⁴ Current National Code of Practice for the Welfare of Animals – Cattle 2nd ed. PISC Report, 85, 2004; Current National Code of Practice for the Welfare of Animals – Land Transport of Cattle PISC Report 77, 1999;

Dairy Australia is convincing in its 'defence' of an upper legal limit of 30 hours TOF. However, it does succeed in pointing out the welfare advantages of lower limits of TOF, i.e. 18 hours and 24 hours.

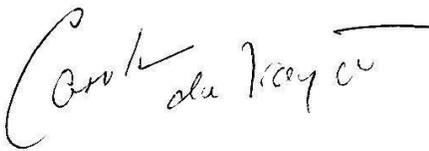
A major concern, should a legal upper limit of 30 hours TOF eventuate, is the risk that 30 hours could become 'the norm'. Fisher *et al* warn that 30 hours TOF is on the very edge of survival, without apparent major health consequences, for healthy and well-prepared calves. But many calves are not healthy and well-prepared for transportation and TOF when they leave their property of birth, and some are subjected to poor handling and additional stressors associated with transport, all of which would jeopardise their well-being. Many calves are under-age (less than 5 days old) and some are induced, thus under-developed even for this young age. These factors add to the concerns associated with extended TOF. We consider there would be grave danger in permitting a Standard of 30 hours TOF. How would "good practice in other aspects of calf management and transport" be assured?

We consider a new Standard provides the opportunity to overhaul bobby calf practices, including collection/assembly/marketing/slaughter. Lower transportation durations and TOF would necessitate a rearrangement of this section of the dairy industry, which surely could, and should be accommodated. We consider it should aim to avoid the arrival of young calves for slaughter at times that necessitate them being kept overnight in barren, cold slaughter facilities to suffer ongoing hunger.

Finally, we recognize that lower TOF will incur additional costs. To assist, the public should be informed of the costs to bobby calves that dairy products impose, and market prices reflect the need to raise welfare standards for these very young and vulnerable animals.

Thank you for the opportunity to comment. I will be happy to provide more information if required.

Yours faithfully,



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