

# Assessing animal welfare at farm and group level: Introduction and overview

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Animal welfare science is a relatively young scientific discipline. It is a formidable challenge for this scientific field to meet expectations from policy-makers, funding agencies, and society. They often ask scientists to provide clear-cut, unambiguous, and indisputable conclusions about specific and relevant welfare issues, for example, whether or not animal welfare is better in one type of housing/management system than in another one. People that expect scientists to provide such evidence often do not realise the complexity of this type of research question. Frequently, answers to these questions are urgently needed and solutions ought to be delivered within relatively short time-frames. Research grant applications in which it is promised that these expectations will be fulfilled quickly and cheaply, are often more likely to attract funding. Given the limited budget and time allocated to these research projects, the animal welfare problems are often investigated using a limited set of 'standard' welfare indicators known to be reliable for the species involved. There is rarely opportunity for developing and validating new measures that perhaps are better suited for addressing the research question concerned, nor for developing complex methodologies for integrating these different measurements into an overall assessment of animal welfare – let alone for checking that these measures and integration methods truly reflect the public's understanding. The latter, though, has been convincingly advocated to be essential for socially-constructed concepts such as 'animal welfare' (Fraser 2003).

Lawrence (2008) has warned that animal welfare science may not yet have developed sufficiently to be able to sufficiently deal with some animal welfare issues, especially where indicators of physical and mental health give contradictory conclusions. Fraser (2003) has also documented how different views about the concept of animal welfare may result in contradictory recommendations by different groups of scientists, potentially leading to confusion among policy-makers or the general public.

These issues illustrate the danger for animal welfare science of not adequately developing its fundamental and strategic theoretical as well as methodological framework. The need for animal welfare scientists to discuss methodological aspects of welfare assessments, resulted in the organisation of the 1st International Workshop on the Assessment of Animal Welfare at Farm and Group Level (WAFL) in Copenhagen in 1999 (Sørensen & Sandøe 2001). As the title of the workshop indicates, the focus of the meeting was on the assessment of animal welfare at the level of the population instead of the individual animal. For advising farmers on how to house and manage their animals, for drafting and implementing legislation and codes of practice for the keeping of laboratory animals, for improving the living circumstances of zoo animals, for labeling consumption products according to the animal welfare status during production, scientifically robust methods for assessing the welfare of a group of animals are needed. The validity, reliability, applicability, strengths and weaknesses of these methods ought to be discussed, peer-reviewed and – hopefully – agreed upon by the relevant scientific community. The continued demand for meetings to address these issues is illustrated by the increasing popularity of WAFL, which has evolved from an international workshop to a 3-yearly scientific congress. The number of congress participants increased from about 40 in 1999, to 100 in WAFL 2002 (Webster 2003) and 195 in WAFL 2005 (Winckler *et al* 2007).

The 4th WAFL was held in 2008 in Ghent, Belgium, and counted 242 participants present. In the tradition of the earlier meetings, the central theme of the congress focused on three general topics: a) development, validation and automated measurements of indicators of animal welfare; b) development and improvement of welfare assessment protocols and c) application of welfare assessment protocols. In addition, contributions were invited on four specific topics: d) assessing emotional state and human-animal relations; e) improving animal welfare by adapting animals to their environment; f) assessing health status of groups of animals in relation to welfare and g) stakeholders' views on animal welfare. Abstracts of the 5 keynote lectures, 41 other oral presentations, 5 workshop sessions, and 102 poster presentations can be found in the book of abstracts (Koene *et al* 2008). The keynote speakers, the three poster prize winners, a selection of other oral/poster presenters, and the workshop organisers, were invited to submit a full paper for publication in this special issue of *Animal Welfare*.

International research consortia may also provide great opportunities for further developing the much-needed theoretical and methodological framework of animal welfare science. A commendable example, is the EU-

funded Welfare Quality® project (2004–2009, see [www.welfarequality.net](http://www.welfarequality.net)) of which many research results were presented at WAFL 2008. It has produced protocols for welfare assessment of the major types of farm animals in commercial conditions. The ambition is that these protocols will now be used as European/International standards. By combining analyses of citizens' perceptions with existing knowledge from animal welfare science, an operational definition of animal welfare was constructed, which consists of 12 criteria grouped into 4 principles: 'good feeding', 'good housing', 'good health' and 'appropriate behaviour' (Veissier & Evans 2007; Botreau *et al* 2007, 2008a). To produce an overall assessment of animal welfare, a reasoned hierarchical aggregation procedure based on multicriteria decision-making methods has been developed. This is a huge achievement that will hopefully prove to provide not only a solid basis for animal welfare science in the future, but perhaps also the long-awaited tool for this scientific field to contribute (even) more to improving animal welfare in practice.

However great the boost and catalytic effect of the Welfare Quality project®, the work is far from finished. The performance of the Welfare Quality® protocols will need to be validated under different circumstances. There remain many concerns or uncertainties that need to be addressed. The measures and operational definition of animal welfare will need to be continually and critically evaluated and perhaps updated. For example, it seems contradictory that the welfare criterion that is given by far the highest relative weight ('absence of prolonged thirst'; Botreau *et al* 2008b) is a criterion for which presently only rudimentary resource-based measures – of which the sensitivity and validity can be questioned (Sprenger *et al* 2009) – are included. The other 11 criteria are assessed almost exclusively by animal-based measures. Perhaps the aggregation method that was used for allocating relative weights to the different criteria did not sufficiently take into account how exactly it is measured in practice. Another example, concerns the extent to which the Welfare Quality® protocols are applicable to production systems that differ from the European ones. This is far from a trivial issue with the globalisation of the food industry and the continuing trend for the less industrialised countries to produce most of the world's meat (Fraser 2008).

There is little doubt, therefore, that the need for international meetings, such as WAFL, will continue for quite a while. With great pleasure we can announce, therefore, that professors Tina Widowski and Cate Dewey have agreed to organize the 5th WAFL in 2011. For the first time, it will be held outside Europe, namely at the University of Guelph,

Ontario, Canada. The meeting promises to maintain the distinct focus on measuring welfare on-farm and in groups of animals with a European emphasis blended with research results from around the world.

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