

## SYNDICATE REPORTS

### **Do welfare assessment results reflect the animals' subjective experience?**

**Rapporteurs: Patricia Hartley, Lesley King**

Satisfactory animal welfare can be defined as 'fit and feeling good'. It may be relatively straightforward to make observations and measurements that relate to physical elements of welfare such as comfort, body condition, health and injury. These syndicates were asked to address the more difficult question: 'Is it possible to assess how animals feel, especially in the circumstances of an inspection made of animals in groups on farm or in the laboratory?' The short and simple answer to this question was 'No'. No individual can truly assess the subjective state of any other individual. Nevertheless, any welfare assessment of sentient animals has to take account of how they feel.

Participants first sought to identify what elements of subjective state were most likely to be important to animals and how they might be assessed by inspection of groups of animals in commercial units rather than (eg) through studies of motivation and aversion on small numbers of trained animals under laboratory conditions. There was general agreement that pain and fear were very important subjective experiences, though not universal acceptance that they were necessarily more important than less obvious feelings such as boredom or depression.

Consideration was given to the methodology for assessing elements of subjective experience for animals in groups. This may involve telemetry and other remote sensing devices to obtain recordings from undisturbed animals in their natural environment. It should also concentrate on focal animals as representative of the group. Nevertheless, there was general agreement that behaviour, on its own, cannot be considered a sufficient measure of subjective experience. Examples were cited of stoicism in the presence of pain as an adaptive mechanism in prey species, and the difficulty in distinguishing 'normal' inactivity in an animal lacking environmental stimulus from abnormal inactivity associated with depression or learned helplessness. This implies that the study of subjective experience is best conducted at the laboratory level rather than the 'farm and group' level. It is then necessary to interpret this understanding in terms of our treatment of animals in commercial units on the basis of scientific knowledge and ethically appropriate value judgements.

There was also general discussion of the importance of understanding the cognitive abilities of animals and the relevance of cognitive ability to the capacity of animals to experience both good and bad welfare. There was near unanimity that sentience implies feelings, and therefore an emotional categorisation and interpretation of sensations from the external and internal environment. This implies that any failure to cope with environmental stresses, either because they are too severe or because the animal is given little opportunity for effective action, is a source of suffering due to emotional distress. There was a majority, though not unanimous, view that animals with higher cognitive abilities may be at greater risk of experiencing suffering, particularly associated with boredom and frustration in barren environments, because they have the cognitive ability to devise coping mechanisms but lack the tools.

### **Should assessment of animal welfare at farm and group level be animal-based or resource-based?**

**Rapporteurs: Julie Fitzpatrick, Marc Bracke**

The welfare of animals reared in commercial units is critically defined by the quality of husbandry provided by those responsible for them. Good husbandry includes the provision of appropriate resources of food and shelter, effective management and sympathetic stockmanship. These things are necessary to promote good welfare. Yet they cannot guarantee it and ultimately

it is the welfare of the animal that counts. This syndicate was asked to consider whether, or to what extent, welfare assessment of animals on farms or in groups should be based on assessment of resources or the welfare state of the animals.

The syndicates considered that the best method of assessment was likely to depend on the purpose of the assessment. This may be for 1) research, 2) legislative requirements, 3) voluntary certification schemes, 4) advisory/management tools. Furthermore, any assessment scheme could only attract broad approval if it met the criteria of feasibility, validity, reliability, repeatability and objectivity. It is clearly easier to meet these criteria when assessment schemes are based on measures of resource rather than direct assessment of welfare outcomes. For this reason, resource-based approaches are more likely to satisfy the requirements of legislation and certification schemes where the aim may simply be to establish compliance or non-compliance with the standards. For research or for advisory purposes, more searching questions need to be addressed and these should involve animal-based measurements of welfare state.

Animal-based measurements should include observations that relate to fitness (eg body condition, evidence of injury or ill health) and behaviour (eg social interactions, tameness or fear). Although there is a danger in making broad conclusions on welfare from observations made at a single visit, many such observations (eg evidence of injury) can reflect the quality of husbandry over a prolonged period. Animal-based measurements should also include records and reports from the farmer/stock person, although these (especially the latter) may lack reliability and objectivity. To meet these criteria for animal-based measurements will require expert, well trained assessors and excellent records.

Assessments of resources and management are central to all quality assurance schemes designed to meet a wide range of consumer concerns relating to food safety, provenance, biosecurity, organic standards, and animal welfare. The participants considered that in the specific context of animal welfare, quality assessment schemes should only give emphasis to those resources that would be likely to have a direct impact on welfare. Thus 'Provision of an adequate diet' defines a resource but defines it in terms of an outcome, since 'adequacy' is better assessed from the health and body condition of the animals than from (eg) records of the quantity of food provided. However, if the animal-based measure (eg body condition) suggests that the provision of food has been inadequate it is then necessary to assess the resources to discover where things have gone wrong.

### **Can we and should we attempt to integrate welfare indices?**

**Rapporteurs: Moira Harris, Emily Patterson-Kane**

Integration was interpreted as the combination of various measures to achieve some broader assessment of animal welfare. The level of integration can vary from no integration of individual measures, partial integration of groups of associated measures, through to complete integration of all measures into a single overall value or simple ranking (eg satisfactory or unsatisfactory). Partial or complete integration can be achieved by selecting and then weighting individual welfare-relevant parameters. This requires expert opinion and scientific exploration. Participants believed that this exercise should be conducted to the best of our current knowledge but that this process should not be static and it should evolve with improved knowledge.

In discussion, three types of integration were considered:

- 1) 'External integration': Here an external expert panel would be used to weight the importance given to different measurements in defining animal welfare.
- 2) 'Internal integration': This would involve the development of protocols whereby single expert observers could identify and assess various parameters necessary to produce an

integrated assessment of overall welfare, or some broad element of overall welfare (eg comfort, social interactions).

- 3) 'Within-animal integration': This would involve the identification of a single welfare indicator (or a very small number of indicators) that would reflect several parameters in a specific species within a specific environmental context.

The level of support for integration differed among the participants although there was a general acceptance that some integration was unavoidable. There was a general reluctance to integrate very different measures (eg production, resources, behaviour). Participants were unhappy at the prospect of 'trade-offs' between various measures. Integration may hide problems especially with individuals and may encourage simplistic welfare assessments. Several participants did, however, recognise the potential benefits of integration. Some integration that involves systems for weighting importance may aid interpretation. It was also considered useful for tracking progress in relation to pre-determined goals and may, therefore, be useful for encouraging competition. There was some debate about the necessity for integration in assessing compliance with legislation and farm assurance schemes. Integration in this context was considered necessary to ensure compliance with a minimum standard rather than to promote improvement.

There was a general consensus that if an integrated score was used it would also be important to provide a breakdown of this integral score by category (eg behaviour, comfort, resources). The potential value of defining minimum acceptability thresholds for categories, or individual parameters, was discussed. Threshold values for individual measures could prevent good scores in one area compensating for very poor (unacceptable) areas. Some thresholds may be slightly arbitrary (eg space allowances) but if scientists do not supply answers then others less knowledgeable will.

Finally, it was agreed that any decisions as to appropriate weighting systems or thresholds of acceptability would inevitably involve value judgements (ie ethical decisions). It is therefore critical that the process is transparent.

### **How should animal welfare assurance be integrated with other elements of quality assurance?**

**Rapporteurs: Melissa Albentosa, Susanne Waiblinger**

This discussion centred on the premise that animal welfare assessment and assurance cannot be considered in isolation but must be incorporated fairly into a broader assessment of quality that takes proper account of the interests, views and demands of all stakeholders in the business of managing animals for human use, whether on the farm or in the laboratory.

The farmer has an absolute need to generate an income and a desire to retain control and independence. Any farm assurance scheme is more likely to motivate a farmer if it is seen as friendly, produces appropriate recognition for participation, is easily understood and is not too time consuming. Similar criteria would apply to any commercial user of animals; eg in the pharmaceutical industry.

Almost all consumers of animal products have an interest in the eating quality, appearance, affordability, consistency, safety and health-related aspects of food from animals. In addition, many consumers are motivated by concerns relating to production methods. These may be expressed by a demand for husbandry systems that are perceived to be 'high-welfare' or, more commonly, by products that possess the characteristics of 'naturalness' (eg organic produce).

The ability of the product to meet ethical expectations concerning animal welfare and environmental issues is obviously very important for farm assurance schemes.

The participants also considered that future generations must be included as stakeholders. Issues of concern here were maintaining biodiversity and preserving scarce resources by adopting sustainable practices, and minimising pollution and potential health harms. Finally the animal's interest as a stakeholder related to all aspects of good animal welfare including a good human–animal relationship. Some participants expressed the wish that this should include consideration of the integrity (telos) of the animal. This has particular relevance to the application of new biotechnology to manipulate the phenotype of animals used for commercial purposes.

The participants considered that there were some examples of conflicts between these stakeholder interests. For example, certain extensive conditions that may be of benefit to the animal may carry a higher risk of zoonotic disease. Also, the use of straw in intensive systems may promote welfare but its disposal can pose an environmental problem. However, some conflicts perceived by consumers or farmers were not always valid. There is a particular need to explore husbandry improvements that can both improve animal welfare and improve profitability by reducing stresses that impose costs on both the animals and the farmer.