

The performance of farm animal assessment

E Roe[†], H Buller^{*‡} and J Bull[§]

[†] School of Geography, University of Southampton, University Road, Southampton SO17 1BJ, UK

[‡] School of Geography, University of Exeter, Amory, Rennes Drive, Exeter EX4 4JS, UK

[§] Forskare, Centrum för Genusvetenskap, Box 634, 751 26 Uppsala, Sweden

* Contact for correspondence and requests for reprints: H.Buller@Exeter.ac.uk

Abstract

This paper argues that the current drive towards greater use of animal-based measures for welfare assessment raises important issues for how farm visits by welfare assessors are performed. As social scientists, we employ a number of contemporary social science ideas to offer a new approach to examining the practice and performance of farm animal assessment. We identify key findings from a recent study of contemporary farm assessment and speculate upon what some of the challenges of introducing animal-based measures may be. We conclude by arguing for a greater awareness of how sets of knowledge are made, circulated, practiced and become an integral component of the procedures, practices and discourses around farm animal welfare assessment in farm assurance.

Keywords: animal-based measures, animal welfare, assessment, assurance schemes, farm inspections, practice

Introduction

As the welfare of farm animals becomes an increasingly important part of foodchain regulation, process or system validation and product differentiation, ever greater scientific and practical attention is now being paid to the improvement of welfare indicators and to the more accurate animal-based measurement of positive and negative welfare states. Within the agro-food industry and retail sector, on-farm assessment of animal welfare is a rapidly growing and necessary component of the many industry, private and retailer farm assurance schemes that have emerged in recent years to promote quality food markets and respond to consumer concerns over husbandry methods.

Yet, despite widespread recognition of the value and importance of farm assurance schemes as vehicles for delivering farm animal welfare assessments and improving farm animal welfare, very little research focuses explicitly on the farm assessment visit itself and the on-farm practice of assessment. We argue that this encounter between a farm assessor, the farmers and their animals is an 'event' that deserves far greater attention because it is the place where qualitatively different standards and referentials of farm animal welfare are identified and assessed by trained individuals operating with variable farming contingencies. Moreover, this is a practice that is increasingly highly valued in the market place by retailers and their consumers.

We hold that the current drive towards the greater use of animal-based measures for welfare assessment (Botreau *et al* 2007; Main *et al* 2007), in addition to more conven-

tional resource-based measures, raises important issues for how farm visits are performed and, more specifically, how issues of judgement are negotiated. We contend that the judgement of the assessor reflects both interpersonal interaction with farmers and impressionistic factors, such as the 'look and feel' of the farming operation. We consider how the capacity for interpersonal interaction and impressions of the farm are a valid contribution to assessment and can be considered a good thing. Critically, we believe that such an investigation of the rich resource of sets of knowledge and insights derived from the analysis of on-farm assessment practices can help shape and determine how this new style of farm animal assessment can be introduced.

In approaching this from a social science perspective, we respond to Lund *et al*'s (2006) call for interdisciplinary animal studies and draw upon a number of contemporary social science ideas to offer a new approach for examining the practice and performance of farm animal assessment than is currently offered by animal science (Wood *et al* 1998; Whay *et al* 2003). After identifying key findings from a recent study of contemporary farm assessment, we speculate upon what some of the challenges of introducing animal-based measures may be. This paper concludes by arguing for a greater awareness of how sets of knowledge are made, circulated, practiced and become integral within the procedures, practices and discourses around farm animal welfare assessment in farm assurance. We assert that the informal knowledge-making processes, which inform assessor judgement, have a positive value and key role to play in formal animal-based observations.

The place of welfare in farm assurance

Farm assessment is an increasingly valuable component of the agro-food industry for creating quality-driven food markets; in some countries the majority of farms in some product sectors are farm assured. Farm assurance generally entails an independent assessor visiting the farm and inspecting farm management and infrastructure against a set of certified criteria. If a farm fails to meet some of the criteria there is generally a window of 60 days for them to remedy the identified problem and provide evidence that it has been accomplished. As it stands, farm assurance is the most important tool the agro-food industry holds for ensuring that certain production standards are met on-farm since, increasingly, farms that are not certified to a set of production standards cannot sell their product into sectors of the food retail market. The market for higher animal welfare-friendly food products is dependent upon the success and sustainability of the assessment framework to maintain trust and integrity in supply chains. It is for these reasons that farm assessment procedures and practices are central to negotiating the varied forms of human (as stockperson, as retailer, as consumer)/animal (both as living animal and as future meat) relations within the agro-food industry.

Farm animal welfare assessment is managed and carried out by farm and retailer assurance schemes on member farms. The process of food quality assurance is described by Early (1995) as “a strategic management function concerned with the establishment of policies, standards and systems for the maintenance of quality”. Establishing itself as a response to the food safety legislation across European Nations (for example, the 1990 UK Food Safety Act and the 1993 Hygiene of Foodstuffs Act), industry-based farm assurance is increasingly used by retailers as the primary ‘gate-keeping’ device, not only for safe food, but also for instilling brand-recognised commodity traits. As Ponte and Gibbon describe, “the market saturation of goods with ‘commodity traits’ [...] has stimulated product proliferation and differentiation. It has been also accompanied by an increased importance for issues of quality control and management, traceability and certification” (2005). In this regard, farm assurance has emerged as the primary vehicle for carrying out farm animal welfare assessments on-farm (Veissier *et al* 2008). Moreover, the certification that results from those assessments is gaining an ever-higher profile since animal welfare appeals to a particular sector of the consumer and retail market (Manning *et al* 2006).

Accompanying this shift in the profile of farm assurance schemes and thereby in the increasingly private governance of on-farm welfare has been an important development in the way in which farm animal welfare is being both defined and assessed. As has been well documented in animal welfare literature, contemporary animal welfare science seeks increasingly to account for the animal’s feelings and emotions as well as broad aspects of physiology, ethology and health in making an assessment. The translation of this significant cultural shift from perceiving farm animals as ‘production machines’ to farm animals as ‘sentient beings’

into welfare legislation has been slow. Veissier *et al* (2008) comment on a survey of contemporary European animal welfare legislation:

“Almost all of the legislation described is based on measurable resources, space allowances, stocking densities, transportation times, finite measures of the availability of a commodity or resource for the animal, or a defined limit to the duration and severity of a process, many of which were mentioned in the Brambell report”.

Within assessment, approaches for measuring farm animal welfare drawing upon “a measurement of the resources supplied to the animal” (Whay *et al* 2003) still dominate. Yet, there has been growing criticism of the validity of environmental or the resource-based approach for measuring farm animal welfare from different quarters. Firstly, from the animal welfare scientists who have argued that animals may be poorly managed within environments that meet legislative requirements and that currently conditions, such as malnutrition, obesity, physiological disorders are not identified within current procedures (Webster *et al* 2004). Secondly, as the quality food market has increasingly sought to differentiate product lines based on resource-based measures of animal welfare, such as an increase in space, as the foundation of their higher animal welfare claims, there has been a backlash by the more intensive farming community who claim that their animals can have better welfare than those who have more space to roam and live outdoors (Roe & Higgin 2007). Animal-based measures of farm animal welfare are increasingly seen as offering a more valid account of the welfare of individual animals. Yet, as we argue below, animal-based measures are still heavily questioned in terms of their broad utility within farm assurance schemes. They mark a major turning point in assessment methods away from long-established norms towards taking up innovative new techniques that require new practices and skills in farm assessment.

Currently, the developments in animal science that aim to measure an animal’s welfare state, “defined as how well that animal is able to survive and remain fit within the particular constraints of the husbandry system in which it lives” (Whay *et al* 2003) have minimal integration within contemporary farm assessment criteria. UK Farm Assurance Schemes operate membership criteria that require compliance with predominantly resource-based standards (Wood *et al* 1998), and our recent study indicates that this is still the case (Buller & Roe 2010a,b). One reason has been the lack of concerted effort towards converting animal science findings into techniques for assessing farm animal welfare (though exceptions are the recent EU Welfare Quality® project 2004–2009 which has made major steps in remedying this situation [Botreau *et al* 2007]), see also the work of Main *et al* (2007). Hence, there have been recent calls for the need for more experimentation with the utility of animal-based approaches in the field (for example, Keeling 2009). A second reason is that non-scientific farm assessors currently carry out farm assessment measures. They operate on a farm where it can be difficult to

reproduce the characteristics of laboratory conditions, often necessary to make animal-based assessment techniques repeatable, valid and reliable. Thirdly, existing resource-based measures have successfully been used within farm assurance assessment schemes because of their ‘durability’ (Latour 2005), their ability to work and to be accepted as reliable, on multiple occasions in heterogeneous conditions. Existing resource-based measures work as a tool across varied farm spaces and are used by different assessors. They thereby meet the satisfaction of the farming community and industry that objectivity is achieved and thus the assessment is fair and valid. Units of counting and measurement are rarely contested making, for example, the size of a pen, or the number of feeders or drinkers in a shed, a more repeatable measure. Nevertheless, animal scientists are increasingly arguing that these are ultimately a poor measure of an animal’s welfare state.

The use of physical resources as a measure of welfare is attractive because these tend to remain constant and can be measured objectively (Whay *et al* 2003).

Animal-based measures clearly have a lot of work to do to reach this level of confidence and respect from a frequently sceptical farming community. However, within a number of farm assurance schemes and other assessment mechanisms, such approaches are beginning to be incorporated and tested. The BWAP (Bristol Welfare Assessment Protocol) is the first attempt to create a comprehensive approach to measure farm welfare; it uses five outcome-based measures (Whay *et al* 2004). This approach has been experimented with by some of the UK-based farm assurance bodies, such as RSPCA Freedom Food and the Soil Association. To-date, it is not firmly embedded within any assurance schemes, but rather instead it is used to address particular welfare issues or certain measures have been used in isolation, such as lameness indicators. The EU Welfare Quality® project is the second attempt to produce a farm assessment tool; it uses twelve assessment criteria and draws on a complex number of interdependent animal-based measures to create a welfare score (Botreau *et al* 2007). Critical, though, is an understanding of how these new animal-based measures can operate within the current practice of on-farm assessment procedures for, we maintain, the shift in the approach to assessing farm animal welfare from resource-based to animal-based will alter considerably the role and activities of the farm assessor.

While animal scientists focus upon the accurate material identification and measurement of animal welfare, we, as social scientists, seek to enrich understanding of the actual social practice of assessment on the farm. How will farm assessment adapt to changes in the focus of animal welfare assessment? What characterises the animal-based assessment as different from resource-based assessment? Critically, how will the reorientation of the focus of assessment procedures from physical and measurable objects and materials of husbandry to the bodies and behaviours of the individual animals themselves, engender new practices and oblige the negotiation of new forms of agreement. Although their focus is the animal itself, animal-based measurements

of welfare prompt a renewed emphasis on the stockperson or farmer as responsible for the animal’s well-being, in other words, for the animal or animals ‘making the grade’ or ‘passing’ during the short and occasional visit of the assessor. Hence, our emphasis is on the triadic relationship between assessor, farmer and animals and how responsibilities, (un)acceptable judgements and ‘objective’ measurements are presented, negotiated and agreed in current assessment practices. From these findings we consider what can be learnt from this when planning for the introduction of animal-based measures.

Social science and the practice of welfare assessment

In this paper, we are arguing that social science can contribute greatly to an improved understanding of the practice of on-farm welfare assessment and of the impact of an increasingly animal-based focus in welfare measurement on that practice. In particular, we maintain that three contemporary areas of social science debate allow us to explore and analyse assessment practice in an innovative manner. The first of these is the notion of the farm assessor as ‘actor’. Flowing from this, the second idea we take from social science are the concepts of ‘performance’ and ‘embodied practice’. Finally, we employ the associated idea of ‘relationality’, allowing us to acknowledge and explore possible transgressions of the more formal subject/object, person/thing divide and how they contribute to the constitution of both evidence and knowledge.

In their analysis of farm pollution and on-farm pollution inspection, Lowe *et al* (1997) draw upon the pioneering work of the French sociology of science school and their invitation to ‘follow the actors’ (after Callon *et al* 1985). This entails:

Studying the worlds built by actors on their own terms. Actors construct their worlds from what is around them, that is by designating and associating entities which they select, define and link together’ [...] To be successful, other actors’ worlds must be colonised. Some actors will be in a better position to accomplish this than others, owing to their control of resources, both cultural and economic. However, success also depends on what other actors do (Lowe *et al* 1997; p 11).

Our starting concern in this paper is then to ‘follow the inspectors’, to place them, their actions, their choices and their feelings in the centre of the analysis. In this, we extend existing animal welfare science research to take an interest not only in farm animal monitoring schemes as the meeting, or otherwise, of criteria but also in the process of inspection itself, which has featured much less in the literature. We investigate how the demands of carrying out a farm assessment visit shape the criteria selected to be included in the assessment report booklet, but equally how the assessment criteria have themselves been shaping what is feasible to do in a commercially limited assessment timeframe.

One of the few studies on inspection is Keeling (2009), she argues that analysis of inspection reports can be used to identify deficiencies in current inspection methods. Her

Swedish study pointed towards significant difference between inspectors in identifying specific requirements for change when using resource-based measures. She identifies this as a concern and goes on to say:

while concern about variation between inspectors is justified, the belief that the problem lies in the assessment of animal-based measures was not supported. Rather, it appears that inspectors were cautious about making specific requirements based on animal-based measures, tending instead to rely on resource-based measures (Keeling 2009).

This is a rare study into the farm inspection process. It reveals how little is understood about what happens in practice, ie what gets recorded on the reports. This paper responds to Keeling's last point that her findings "reflect a need for a re-evaluation of research priorities or a consideration of why much of what is thought to be already solved by researchers is not implemented in practice" (p 397). This lacuna stretches to the animal. We believe that little or nothing is known about the human-animal relation between the inspector and the farm animal, how the animal as a subject of assessment is perceived and read and related to both as a being in itself and as a being that the farmer/stockperson is responsible for.

Our focus on the actors, on the inspectors themselves, leads us to ideas about performance and embodied practice (Harrison 2000). It may seem that embodiment, emotions and feeling have little to do with the work of farm assessors, after all it is a system that prides itself on objectivity. However, the social sciences have a long interest in studying the subjective experience of farm work (Whatmore 1991; Despret 2008). An assessor may be frustrated at the time spent sifting through the farm paperwork rather than walking around the farmyard or fields and actually seeing the farm and its animals; or may feel concerned having identified a problem with particular animals and yet sympathetic about the lack of control contracted farmers might have over a particular aspect of the animal's life. Inspection report sheets reveal little or nothing of the practices, negotiations, feelings and experiences that are generated and performed during inspection, yet it is these that, we maintain, contribute significantly to the success or otherwise of the enterprise of inspection and ultimately to the welfare of the farm animals and the process of husbandry and are, arguably, doubly significant when considering the effects and affects of introducing a different mode of assessing farm animal welfare.

Thirdly, and reprising Lowe *et al*'s (1997) earlier observation that "success also depends on what other actors do", we draw upon the important concept of relationality in the social sciences, the idea of understanding things, knowledges and artefacts as produced by sets of relations. Clearly, a critical set of relations exist between inspector and farmer, relations that are not solely enacted and revealed through language and text but equally through embodied performance; such as at the arrival of the inspector on the farm, the greeting between farmer and inspector, conversations

between both, the purposeful avoidance of topics likely to offend or antagonise or the care taken to relate comments about the well-being of animals as to physical infrastructure rather than to any direct failing on the part of the farmer.

Although there is remarkably little social science work on farm assessment, Wilkie's (2005) investigation of stockpersons' attachment and detachment to different livestock or to use her phrase 'sentient commodities' is a valuable contribution as it openly discusses the emotional landscape of livestock farming, thus providing a rich, background from which to acknowledge the sentiments stirred during the farm assessment event. Wilkie situates her study in the 2004 UK Policy Commission on the Future of Farming and Food's call for farmers to reconnect with their animals and asks whether the socio-affective component of husbandry might, in fact, mitigate against such a reconnection. She identifies four categories — based upon the extent to which the farmer relates to the animal as an individual, or treats them as a commodity — that position a farmers' attitudes to their livestock: 'concerned detachment', 'concerned attachment', 'detached detachment' and 'attached attachment'. In doing so, her work forces us to acknowledge the dynamic relationship between farmers and their farm animals as it is filtered through subjective experiences of working with them over the animal's life-course.

A number of studies of farmers have focused explicitly on their relationship to, and desire to be a member of, quality assurance schemes. Commonly, such studies find that farmers' views and attitudes are economically driven either by the perceived necessity of belonging to quality assurance schemes to gain access to the market infrastructure of the agro-food industry (FAWC 2001, 2005; Fearne & Walters 2004) or by their active role in the market for higher welfare products (Hubbard *et al* 2007). Few, if any, studies show how membership of a scheme can be a mechanism for validating good husbandry practice and acknowledging higher levels of welfare. Hubbard *et al* (2007) remark there is "relatively little attention paid to those who implement the associated [welfare] measures and practices on farm". One exception is the work of Hemsworth *et al* (2009) who have made significant contributions to the literature on the animal/stockperson relationship as significant to attempts to improve farm animal welfare. Although we would argue that this work fails to fully account for the lived, practical engagement of stockpersons with farm animals on a daily basis, it nonetheless demonstrates that the relations between farmers and their animals is highly significant for the fostering of good animal welfare. With this in mind, a farm assessor may be privy to evidence of both positive and negative relations between humans and animals. While the traditional resource-based measures, with their focus on material infrastructure and environment, divert attention away from the animal's body and disposition, which can be directly affected by the human, the shift towards animal-based measures places inter-relations between animals and humans increasingly centre stage.

Materials and methods

The research upon which this article is based, took place in the spring and summer of 2008 and involved two research methods. First, nine in-depth interviews were carried out with farm assessors and certification bodies in the UK and we attended two agricultural standard committee meetings of two major assurance schemes. Second, the researchers accompanied and shadowed assessors on five farm assessments covering different species and different assurance schemes, adopting the ‘follow the actor’ methodology described earlier. Work-shadowing enabled an ethnography to be written from both *in situ* observation and discussion of the activities involved in performing the farm assessment (for example, reading through documents, visually assessing the state of the farm yard, walking through the animals, inspecting the milking parlour, looking through the medicine cupboard). This method accompanied the in-depth semi-structured interviews which provide space for open discussion and reflection around relevant topics. In the interviews, a range of experiences of assessing farms may be recalled and talked about and expertise shared from countless practical experiences can be recorded. In summary, together these methodological approaches interrogate how things get done, how things happen, and foregrounds a willingness to engage with the affective, emotive experiences of human subjectivities in the workplace (McDowell 2009), through studying how knowledge is created and conveyed through talk and practice.

Results

We begin by narrating short descriptions of two different farm assurance assessments. We invite the reader to be attentive to how the performance of the farm assessment event exposes the flexibility of assessment procedures to work within variable farming contingencies. With this insight, we go on to discuss and speculate on the problems envisioned with the introduction of animal-based measures.

The assessment (or ‘inspection’ as it is thought of by many farmers) begins immediately the car pulls up: “Ah ... clean, tidy yard, a good sign. This tells me what we might find when we look through the paperwork and see the animals” (Assessor P).

The assessor tells us that he has never been here before and so has not met the people that run this particular dairy farm. The reason for his visit is that these farmers are changing the milk co-operative that they supply to, and need their farming and dairying practices to be recognised as compliant with the National Dairy Farm Assured Scheme. They have been assessed before, but this change is what motivates today’s farm assessment.

As we get out of the car, a man and a woman come outside to greet us. Their reserved smiles convey their nervousness and apprehension. We shake hands and introduce ourselves. For them, understandably, this experience is stressful; it is an exam. Pete tells them that he’d like to do the paperwork first, so this means going indoors before seeing anything further of the farm or any of the dairy

cattle. We are ushered into the farmhouse and into a spartan yet large kitchen where we sit around a large table and are offered a cup of tea. The atmosphere is formal and chatter is quickly brought to a halt as the folders of paperwork, carefully lined-up on the kitchen surfaces, are brought over to the table. The folders are opened and the assessor is now in the full-swing of the assessment — reading and surveying documents relating to pharmaceuticals, feed-stuffs, health and safety, milk statistics, jotting things down in his assessment booklet, interspersed with questions of clarification to the man and woman.

The couple have agreed to a couple of researchers coming along so we can witness at first hand the practical performance of how a farm is assessed. We are particularly interested in how the assessment of the livestock fits into the overall time and attention placed on different parts of the assessment visit. Pete has given us a copy of the booklet that he must complete, or know how to complete, at the end of what he hopes will be only a 90-minute visit. As an employee rather than as a contracted assessor he is not paid per visit — which is the case for the majority of assessors. Whatever the different farm circumstances assessors may encounter, they get a flat fee of £60 or £70 per farm assessment.

The company the assessor works for created the assessment booklet he is using now. The company converted the National Dairy Farm assurance scheme requirements into eight different criteria — hygiene and food safety, housing and facilities, plant and equipment, feedstuffs and water, herd health, stockmanship and training, contingency procedures and environmental measures. A number of sub-criteria are detailed under each heading and under each of these are questions to answer either: comply, non comply or n/a. A box for jotted comments sits next to each question. In total, there are 173 questions in this 16-page booklet. They include for example:

- Is the dairy free from birds, vermin, cats and dogs?
- Is there a procedure to ensure cows whose milk is unfit for human consumption is clearly identified?
- Are bulls able to see and hear other cattle or general farm activity?
- Do all cattle have the opportunity to avoid draughts and exposure in extremes of temperature or weather?
- Are there access lights to facilitate the safe collection of milk?

In this instance, it is this final question that turns out to be the one that is most contentious on the farm visited.

Throughout the visit, impressions are a powerful component of the assessment process which is why the assessor begins his visit with the data collection. “Have you got the Defra Codes of Practices?” is one question he asks amongst the other requests for clarification. “Well it’s err... on the computer.” “On your hard-drive?” It turns out no, they are still on the website, and that the farmers need to download and print them out. This is one of the non-compliances for which the two farmers will be asked to show

evidence of compliance within 60 days — perhaps by submitting photos, invoices and so on. They are told that it's no good having them on a computer hard-drive if there is a power-cut. After 45 minutes of checking the paper work, downloading a hard copy of Defra codes of practice stands at that point as their only non-compliance. We leave this example as the walk around the farmyard, the milking shed, the barns and a field of cattle begins.

Turning to a second example, we arrive at another farm — an intensive pig unit. The same assessor knows the people farming here. They have an outdoor-reared unit but today it's their intensive fattening unit that is being assessed. The farmers admit during the paperwork stage, as questions are raised about the herd health plan, that they have a problem with tail-biting and are trying to address it. Following, again, 45 minutes spent studying the paperwork, we leave to begin a walk around the pig sheds. For biosecurity reasons, it is the youngest animals on the unit that we visit first. We start with very young pigs which arrived the night before. These pigs are huddling, clambering on top of each other to get away from us as we enter the shed. They are not playing or inquisitive, and appear frightened of humans. Then, we are told they only arrived that morning, travelling overnight on a lorry where they no doubt got cold — it was a cold night last night. This information is seen as important by the farm-assessor; his reporting will take into account for this contingency, stated as 'fact'.

We walk through rooms with pens and pens of pigs. We start to see indicators of tail-biting, and scratches, bite marks on the pigs' flanks. None of the severely injured pigs are here — we see them later in the hospital pen. The assessor and the farmers discuss many different potential reasons for the tail-biting; the farmers explain, with the help of their veterinarian, what they are doing to try and stop it. Again, the cause — like the frightened young pigs — is not solely related to what the farmers are doing. For example, the feed comes from the contractors; perhaps that's why they are biting tails, because the feed has the wrong mineral mix — the price of grain is high at the moment. The inspection reveals problems that would at first appear to constitute a non-compliance, but which are understood to be not easily remedied, indicating how challenging the process of farm assessment becomes.

In the end, this particular pig farm with tail-biting did get its farm assurance stamp because it demonstrated in the 60-day window that the farmers, veterinarians and contractors had produced a management plan aimed at addressing the issue. (NB Further research into the role of the veterinary surgeon in supporting farmers through the assessment process is needed. How veterinarians help farmers tackle animal health issues may be crucial to the roll out of outcome-based measures). In conversation, this assessor contrasted it with another farm where he immediately removed certification. On that farm, milking dairy cows had inexplicably poor body condition which indicated to him a big cattle-feeding problem. To understand why cases of poor welfare can be treated differently we must recognise how farm assessment procedures work to perform an 'objective' assessment within highly varied farming contexts. In the

following section we will analyse details of how farm assessment is performed to appreciate how it is flexible enough to allow inter-related events and sets of knowledge to be utilised to form and record a judgement.

Discussion — a fair and flexible procedure

The two vignettes presented above form only a small part of the wider survey of assessment practice yet they are entirely illustrative of the discursive practices that characterise the actual event of the farm assessment. They bring attention to the many practices that situate a standardised, 'objective' assessment within different farming contexts, and these practices help us to acknowledge how current farm assessment procedures are flexible enough to be adapted to different farm contexts and evolving situations. Pursuing our objective of examining farm assessment practice in the light of a possible move towards the greater use of animal-based measures of welfare within farm assurance (and thereby as a component of assessment procedures), there are four specific points that we want to make from our analysis of that interview-based survey and the ethnographic study. These are firstly, the importance of the assessor's experienced observations, disposition and feelings during the assessment, secondly, negotiations the assessor makes between different forms of knowledge and sources and thirdly, how the assessor negotiates the time it takes to carry out the assessment against various constraints, and fourthly, a changing emphasis on responsibility in farm assessment.

The importance of 'looking' and 'feeling'

While the ideals of assurance standards suggest an objective, standardised audit, the actual process of auditing is necessarily and inevitably a highly personal and subjective process to respond and relate to the contingencies of different farm contexts. It is the embodied practices of the assessor that transfer the standardised assessment procedure presented by the objective questions in the assessment form booklet, to making a fair response to the realities of what is confronted during the on-farm assessment event. In the ethnographic study and in the interviews we were made aware of the significance of the embodied practices which produced an effective and acceptable farm assessment. These included, reading farm records skilfully and quickly, moving time-efficiently around the farmyard by foot, talking inquisitively, professionally and with assurance to farmers, familiarity with the tick-box form, precise note-taking in the form boxes, skim-reading vast quantities of farm data for key statistics, document-handling, skilled observation of animals in different postures, checking for sharp edges on cattle-handling machinery through touch, rummaging through medicine cupboards for out-of-date stock, noting health and safety stickers are appropriately placed, being attentive to details in the construction of farm buildings and animal housing. Ultimately, assessors are experts at reading, relating and synthesising the specifics of farm environments against a set of standard criteria. Each of these embodied practices are learnt skills that are guided by the need to make objective measures, to identify the facts in order to be able to pass a fair judgement on the many different assessment criteria.

In each of the three assurance schemes our research studied, a ‘general feel’ for the farm, or a first impression was identified by the assessors as key to the audit:

it’s just using your eyes and ears, your nose and talking to people really to get to know and I don’t follow the tick boxes. The paperwork documentation side of it yes, I would follow that ... but a lot of it you look and you can see (Assessor, Interview).

On one Assured Food Standards audit we were told that the audit effectively began at the farm gate. Another interviewee underlined the importance of the ‘first impression’:

It might sound a bit strange but to say to people that the first impression of a farm is important because that is where the food is coming from. So you shouldn’t be ashamed of consumers seeing these farms and if someone takes care and interest in the way their farm looks the chances are they will take more care and interest in the animals as well (Scheme Manager, Interview).

Assessors follow no specified order in their farm visit: “it’s down to them which order they want to walk round a farm effectively”, maintained an official of one major Assurance scheme.

The auditors/assessors to whom we spoke all described a need to manage the relationship with the farmer carefully. This was both to ensure that an audit could be completed and an awareness of the sensitivity of the process of auditing, especially in the animal welfare context:

It’s funny really, you go to a farm the first time as an auditor you sort of go with a bit of anticipation and really your thought process is as you are approaching the farm is what sort of reception are you going to get, on the first audit that you go to apply, and within 10 minutes of starting with the guy we need to have them onside really. If they are not onside within that 10 minutes you might as well wrap up and go home because the audit will be a tick box situation and that is no good to us (Assessor, Interview post-assessment).

From our, admittedly limited, farm audit shadowing we noted how the farmer/audit relationship during auditing is managed in three ways; through *collective responsibility*, *practical sympathy*, and *professional detachment*. We wish to point out that shifts between these three positions could be seen as skilled adjustments by the auditor as he/she reacts to the situation he/she finds herself on-farm with the need to sustain a positive encounter between farmer and auditor.

Collective responsibility

Collective responsibility is an approach which attempts to position the auditor as being ‘not the police’. Assessors encourage the farmer to discuss issues openly with the assurance scheme almost positioned as a support for the farmer:

I feel an important part of what our inspectors do, is that at the end or during our visit we give the farmer an opportunity to raise issues that he/she wants help with. As inspectors, we can’t give advice, but we’ll try and point them in the right direction to source their answers. It’s part of what we do: I see our role as trying to make successful organic farmers, we are not there just to find fault (Soil Association Assessor, interview).

Practical sympathy

The UK Soil Association Certification procedure has a Producer Advice line paid for by the Soil Association charity where they can direct farmers with problems. When employing the practical sympathy approach, the auditor or assessor draws on practical experience of farming to offer a common ground of experiences from which to understand what the farmer is trying to do and the competing pressures on a farmer:

So it’s not just a case of us being very Draconian with it [certification] and saying you can’t have it until this is sorted because that would (a) be very unfair on [the farmer] and [the farmer] trying to improve the system and (b) to some extent it would be unfair on the system itself because really farm assurance doesn’t have any legal responsibilities (Independent Certifying body Assessor, Interview).

Audit day is a nervous time for the farmer, and few of the farmers we witnessed during our audits seemed entirely comfortable with the situation.

Professional detachment

Finally, the professional detachment approach employs a very pragmatic approach. Here, the auditor/assessor just goes round the farm, does the relevant checks and then offers feedback about the non-compliances to the farmer. In this instance, the farmer may well not accompany the auditor during the inspection:

You have to maintain confidentiality, and ensure that the producer understands the non-compliances. If he’s got any queries you must respond to them and deal with, any other bits and pieces. For example, the Freedom Food RSPCA scheme runs an additional farm monitoring system, so we make them aware that they are likely to have a spot check visit (‘Freedom Food’ Assessor, Interview).

Negotiation between different sources of knowledge and information

Farmers have a number of competing demands and each has to work with a different set of contingencies, including building infrastructure, stockmanship levels, different commercial requirements, different breeds of animals, different soil types, different production systems, different climates, factors which necessarily presume that farm assessment is a process of negotiation. As was particularly clear in the second ethnographic illustration, an extended network of actors and agencies contribute to the welfare of animals on the farm, including people, artefacts and animals, including farmers, agricultural technologies and equipment, feedstuff, and contractors, all of which impact upon what constitutes a farm animal welfare assessment. This vast variation demands farm assessors adopt different approaches to the audit or assessment itself. An assessor may rigorously follow a pre-determined list of points. Another may walk round with a notebook. Increasingly, laptops and other electronic reader/writers are being employed as a mechanism by which the audit process may be made faster and more consistent in its reporting.

Given the dominance of input- and resource-based standards, the audit demands numeracy as various spaces are measured and the resources and animals are counted and accounted for as data in the farm record-keeping. This creates a more seemingly 'objective' audit as the science of resource-based animal welfare science is easily transferred to a farm scenario. It is easily identified and easily discussed with the farmer limiting the scope and space for confrontation and for argument. Both assessor and farmer can, to a degree, 'take refuge' in the accessibility and mutuality of such types of information.

In addition to the ease by which the science of resource-based standards is presented, the practicality of the audit is also an important consideration. The time constraints on auditors using resource-based assessments are relatively minimal. This can be further reduced as suppliers of housing systems offer units designed to specific standard criteria. In addition, once initial measurements are made, future inspection times are reduced if the important dimensions and densities are recorded. In both instances, the introduction of animal-based measures represents a significant complication. Assessors know that the results might seem more open to challenge from farmers unless the advantages, value and reproducibility of such measures are clearly understood by all parties concerned. This, in itself, places an additional role upon assessors.

Although animal-based measures have not generally entered existing farm assurance assessment protocols, on an *informal* basis, our research shows that auditors and assessors do regularly employ a number of relatively straightforward, animal-based measures, such as the presence of lesions, and behaviour, as indicators of potential issues that may indicate a failure to comply with an input-based standard. However, they do so with little or no scientific rigour and no method to objectively compare one site or farm with another. This is where the dynamic relationship between farmer and farm animals is placed under scrutiny as the assessor looks and feels their way to making judgements based on the informal assessment of animal-based measures. (NB From our research we have no evidence but it has been suggested to us that these outcome-based measures may antagonise farmer-animal relations).

That having been said, we note that on a more *formal* basis, feather pecking in laying hens, aggressive behaviour/tail-biting in pigs, or mastitis in cattle are all mentioned in certain species-specific standards, but there is no clear and stated way of assessing their presence scientifically (though we acknowledge that there are some exceptions for 'Freedom Food').

It's important to remember that the farm assessor is not allowed to give advice to the farmer on any problems he identifies on the farm, this is against the assessment regulations. This could lead to awkward situations between farmer and assessor, however, currently, the phrasing of many of the questions make it obvious how one could remedy the situation, and through lines of questioning the assessor can and does share practical sets of knowledge.

Negotiation of temporality

A further issue is that of the time taken to conduct the assessment. Our observations revealed a growing concern amongst farmers in general over the increasing number of farm visits, inspections and assessments and a growing pressure on certain schemes to combine visits/assessments as much as possible. Experimental assessment schemes, adopting animal-based measures, such as that developed by Welfare Quality® incorporate resource/management based measures, as well as farmer interviews, that might be covered by existing assessment procedures. Although the various reports on the current testing of the Welfare Quality® protocol all suggest that on-farm assessment was not perceived as intrusive by the farmers concerned and required little input from them, the other side of the coin is the time spent by the assessors and the costs thereof. Our research shows that assessors, often remunerated on a per-assessment basis, seek, where possible, to carry out two or even three per day. Their concern is that assessment procedures incorporating a number of animal-based assessments will significantly increase the assessment time, thereby reducing the number of assessments capable of being done in one day.

Changing emphasis on responsibility

We note from our research on assessment practice that farmers often seek to defer the responsibility for identified welfare problems to other sites, actors or other stages of production. This deferral of responsibility is notably less current in the dairy and beef industry than in the poultry or pig industry. Where there are distinct and separated stages in an animal's life over a relatively short period of time, with the result that animals move between different sites or are subject to exogenous influences, this deferral of responsibility is common in responding to non-compliances. We witnessed examples of not only farmers but also farm assessors discussing how tail-biting in pigs could be attributed to a shift from outdoor rearing to slatted floors or stress on the transport lorry. Similarly, an assessor discussed with us the high incidences of feather pecking in hens might be explained as a consequence of the birds being stressed either during transit or as a result of environmental factors, such as a particularly cold night. Different assessors suggested to us that this stress then remains with the animals as they move through the system. Farmers and assessors often expressed similar explanations for events. This could be seen as a tactic by assessors in the process of establishing rapport by showing a shared level of agreement and common understanding. Or it may be that farmers and assessors often share a similar knowledge base as they are often themselves farmers, and one wonders what access assessors or farmers have to the latest scientific findings.

Deferring responsibility to other sites or the explaining of welfare issues as a consequence of exogenous factors plays a role in the sympathy expressed for the farmer as the auditor and assessors acknowledge and recognise what they see as 'endemic issues in the system':

The guy is trying hard; the workers are trying hard because they are very clean. I have raised the non-compliance on the jars not being clean but really that's only a minor setback because the parlour is going and he is having a new one anyway, so in some ways he has been a victim of circumstance rather than a poor hygiene and in fact the hygiene record speaks for itself as he is running a bacta scan of 20 which is excellent. There are not many people can actually say that they run that on a rolling average (Assessor, interview post assessment).

However, as our research shows, these layers of sympathy and deferred responsibility are far more prominent with respect to welfare issues identified through animal-based assessment methods. This raises an important question as to the effective and just implementation of such methods and the attribution of real responsibility (and by consequence, the application of sanction). Moreover, as one assessor pointed out to us, resolving some of the causes of these welfare problems, which may be endemic and intrinsic in agro-food systems, may fall outside the conventional remediation period under most assurance schemes:

the important thing is highlighting through the system that there is a problem and we need to see the problem being resolved and that's not necessarily within the 60 day allocation (Farm Assessor, interview).

Conclusion

A farm assessment might profitably be seen and understood not as a single mechanism for recording whether things are in the right (pre-determined) places or are done in the right way but rather as an imbrication or assembly of different knowledges, practices, social and technical relations and forces, some of which originate on-farm but many others do not, that collectively construct the final conformity, or otherwise of the farm visited. Our goal in this paper has been to identify and chart some of those sets of knowledge, practices, relations and forces to show how farm assessment is, when seen through a social science lens, more complex and multivariate than one would might otherwise credit. Arriving at the farm, walking, smelling, seeing, responding to, and anticipating the feelings of the farmer are as vital a part of the assessment event as the more formal measurements, counts and recorded documentary conformities. Moreover, they invoke different forms of relational and embodied engagement with the human, the technological and the non-human world of the farm. As one assessor pointed out "You can't walk round a pig building with a laptop and muddy boots". However, our argument in this paper is that the gradual introduction of animal-based assessment methods will make these more complex assemblies of information, and their translation into the inevitable and unavoidable binary of conformity/non-conformity, all the more significant and therefore all the more important to recognise and understand. Finally, we end with some suggestions about how our four findings can inform how formal outcome-based measures in farm assessment could be rolled out.

Firstly, we would argue that the move away from assessing inputs to outputs critically necessitates processes of feedback

in cases where the latter reveal failures in the former. How that feedback takes place, how 'measurement' is translated into improvement and through what mechanisms, will fundamentally alter the assessor-producer-relationship. Secondly, some outcome-based measures are seen as more inherently 'subjective', unlike resource-based measures which lend themselves more readily to 'objective' and numerical assessment procedures. Part of the role of the assessor will be the need to shift towards one of justifying the practices and responding to criticisms of the method. Thirdly, critical to the success of outcome-based measures is correctly identifying those areas over which the farmer has responsibility and can therefore address any problems and those which are seemingly beyond his or her effective control. Thus, building upon the first point, where outcome-based assessments reveal failures, or unacceptable scores, then assessors are going to need to respond extremely sensitively. Finally, we propose that there will be a shift from collective responsibility where farmer and assessor are working towards a shared goal in the promotion of a scheme or type of farming, to a greater sense of individual responsibility, under which farmers are charged with delivering welfare outcomes (though we acknowledge that this may well have implications for the farmer-assessor-animal relationship).

References

- Botreau R, Veissier I, Butterworth A, Bracke MBM and Keeling LJ** 2007 Definition of criteria for overall assessment of animal welfare. *Animal Welfare* 15: 225-228
- Buller H and Roe E** 2010a Certifying welfare: integrating welfare assessments into assurance procedures: a European perspective. In: Miele M (ed) *Welfare Quality Report Series No 13*. University of Cardiff: Cardiff, UK
- Buller H and Roe E** 2010b Integrating animal-based measures of welfare: 25 points. In: Miele M (ed). *Welfare Quality Report Series No 13*. University of Cardiff: Cardiff, UK
- Callon M, Law J and Rip A** 1985 How to study the force of science. In: Callon M, Law J and Rip A (eds) *Mapping the Dynamics of Science and Technology* pp 3-17. Macmillan: London, UK
- Despret V** 2008 The becomings of subjectivity in animal worlds. *Subjectivity* 23: 123-139
- Early R** 1995 *A Guide to Quality Management Systems For The Food Industry*. Blackie Academic and Professional: London, UK
- FAWC** 2001 *Report on the Animal Welfare Implications of Farm Assurance Schemes*. Farm Animal Welfare Council: London, UK
- FAWC** 2005 *Report on the Animal Welfare Implications of Farm Assurance Schemes*. Farm Animal Welfare Council: London, UK
- Fearne A and Walters R** 2004 The Costs and Benefits of Farm Assurance to Livestock Producers in England. *Final Report for the Meat and Livestock Commission, Centre for Food Chain Research*. Imperial College London: Wye, UK
- Harrison P** 2000 Making sense: embodiment and the sensibilities of the everyday. *Environment and Planning D: Society and Space* 18: 497-517
- Hemsworth PH, Barnett JL and Goleman GJ** 2009 The integration of human-animal relations into animal welfare monitoring schemes. *Animal Welfare* 18: 335-345
- Hubbard C, Bourlakis M and Garrod G** 2007 Pig in the middle: farmers and the delivery of farm animal welfare standards. *British Food Journal* 109(11): 919-930

- Keeling L** 2009 Animal welfare inspection reports in Sweden. *Animal Welfare* 18: 391-397
- Latour B** 2005 *Reassembling The Social: An Introduction To Actor Network Theory*. Oxford University Press: Oxford, UK
- Lowe P, Clark J, Seymour S and Ward N** 1997 *Moralising the Environment*. UCL Press: London, UK
- Lund V, Coleman G, Gunnarsson S, Appleby MC and Karkinen K** 2006 'Animal welfare science. Working at the interface between the natural and the social sciences'. *Applied Animal Behaviour Science* 97(1): 37-49
- Main DCJ, Whay HR, Leeb C and Webster AJF** 2007 Formal animal-based welfare assessment in UK certification schemes. *Animal Welfare* 16: 233-236
- Manning L, Baines RN and Chadd SA** 2006 Quality Assurance Models in the food supply chain. *British Food Journal* 108(2): 91-104
- McDowell L** 2009 *Working Bodies*. Routledge: London, UK
- Ponte S and Gibbon P** 2005 Quality standards, conventions and the governance of global value chains. *Economy and Society* 34(1): 1-31
- Roe E and Higgin M** 2007 The presence of animal welfare-friendly bodies: an organised or disorganised achievement in the food supply chain. *Unpublished paper to the European Food, Ethics and Agriculture Conference*. June 2006, Oslo, Norway
- Veissier I, Butterworth A, Bock B, and Roe E** 2008 European approaches to ensure good animal welfare. *Applied Animal Behaviour Science* 113(4): 279-297
- Webster AJF, Main DCJ and Whay HR** 2004 Welfare assessment: indices from clinical observation. *Animal Welfare* 13: S93-S98
- Whatmore S** 1991 *Farming Women: Gender, Work and Family Enterprise*. Macmillan: Basingstoke, UK
- Whay HR, Main DCJ, Green LE and Webster AJF** 2003 Animal-based measures for the assessment of welfare state of dairy cattle, pigs and laying hens: consensus of expert opinions. *Animal Welfare* 12: 205-217
- Whay HR, Main DCJ, Green LE and Webster AJF** 2004 Assessment of the welfare of dairy cattle using animal-based measures. *The Veterinary Record* 153(7): 197-202
- Wilkie R** 2005 Sentient commodities and productive paradoxes: the ambiguous nature of human-livestock relations in Northeast Scotland. *Journal of Rural Studies* 21.2: 213-230
- Wood JD, Holder JS and Main DCJ** 1998 Quality assurance schemes. *Meat Science* 49: S191-S203