THE ASSUREWEL APPROACH TO IMPROVING FARM ANIMAL WELFARE: THE DEVELOPMENT AND USE OF WELFARE OUTCOME ASSESSMENTS IN FARM ASSURANCE

Chapter 1: The AssureWel Project

The AssureWel approach to improving farm animal welfare: the development and use of welfare outcome assessments in farm assurance.

THE ASSUREWEL MANUAL

The AssureWel approach to improving farm animal welfare: the development and use of welfare outcome assessments in farm assurance.

RSPCA

Soil Association

University of Bristol
AssureWel partners:

Royal Society for the Prevention of Cruelty to Animals (RSPCA): Established in 1824, the RSPCA is the UK’s leading animal welfare charity. The Society is concerned with the welfare of all animals, including farm animals, and has a dedicated Farm Animals Department. In addition to working to improve farm animal welfare via various mechanisms including the provision of information, advice and support, the Farm Animals Department develops detailed welfare standards for the main farm animal species. These standards are used internationally but are primarily delivered in the UK through RSPCA Assured, the Society’s farm assurance and food labelling scheme, which audits farms, hauliers and abattoirs that are scheme members.

Soil Association: The Soil Association was founded in 1946 and is the UK’s leading organic organisation. As an educational charity it acts to increase awareness of organic food and farming and campaigns to improve animal welfare and our environment. Animal welfare is a central organic principle and the organisation drives improvement through education, advice, project involvement and its pioneering organic standards, which are enforced by its certification subsidiary, Soil Association Certification.

University of Bristol: The University of Bristol Animal Welfare and Behaviour Group is a centre of excellence in animal welfare science. It has a strong focus on innovation, implementing research findings and seeking real world solutions. It has played a major role in developing and promoting the concept of welfare outcome assessment both here in the UK and further afield.

Collaborating schemes:

RSPCA Assured: Launched in 1994, RSPCA Assured (formerly Freedom Food) is the UK’s only farm assurance scheme dedicated entirely to farm animal welfare. Having grown significantly since it was established, the scheme currently covers around 90% of all non-caged laying hens in the UK, 70% of salmon and 30% of pigs and turkeys – as well as other species, including broiler (meat) chickens, dairy and beef cattle, and sheep. RSPCA Assured farms, hauliers and abattoirs receive an annual audit from an RSPCA Assured assessor to ensure compliance with the RSPCA welfare standards. In addition, they are monitored by Farm Livestock Officers from the RSPCA’s Farm Animals Department, providing consumers with an additional level of assurance.

Soil Association Certification: Soil Association Certification was founded in 1973 and is the UK’s leading organic certifier. The scheme covers a wide range of sectors including livestock, horticulture, health and beauty, catering mark and food processing. With respect to livestock, the scheme certifies 282,000 sheep, 226,000 laying hens, 203,000 table birds, 69,000 beef cattle, 57,000 dairy cattle and 10,000 pigs to Soil Association organic standards. To be certified, farmers must have an inspection at least annually on all aspects of their organic operations, including animal welfare. Certification by the Soil Association is accompanied by access to a range of technical information and support resources, including the Soil Association’s farmer support and advisory services. The scheme also offers inspection services for many other schemes, such as the British Retail Consortium and Red Tractor Assurance.
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Introducing the AssureWel Manual

The AssureWel Manual has been developed from the experiences of the AssureWel Project (2010–2016) which set out to improve farm animal welfare by pioneering the use of welfare outcome assessments in farm assurance. Back in 2010, at the start of the project we, the AssureWel team, were a little apprehensive about achieving this ambitious task. Fast forward eight years, however, and today, as a result of the AssureWel Project, bespoke welfare outcome assessment protocols – designed specifically for use during a farm assurance scheme audit – have been developed for six of the main terrestrial livestock species, and these protocols are now used, or their use is recommended, by a number of leading farm assurance schemes in the UK and US.

We have created this Manual – which outlines the key elements of the AssureWel approach to improving farm animal welfare through the development and use of welfare outcome assessments in farm assurance – so that others looking to undertake similar work can learn from our experiences.

Who is the AssureWel Manual aimed at?

Although the AssureWel Project focused on the development and use of welfare outcome assessments in farm assurance, this Manual is aimed at a much wider audience than just farm assurance schemes; including, for example, retailers, processors, farming industry bodies, academic institutions and NGOs. In fact, it has relevance to any supply chain member or industry stakeholder that is interested in assessing farm animal welfare or using the results of these assessments to drive improvements in animal welfare on farm.

How to use the AssureWel Manual

The first chapter of the Manual introduces the AssureWel Project and explains what welfare outcome assessment is and why it is important. The second chapter outlines the key elements of the AssureWel approach to improving farm animal welfare and gives guidance on how farm assurance schemes and other interested parties can implement the AssureWel approach. The third and final chapter provides information on how we can help and support others in doing this.

Throughout the Manual:

- **FOCUS ON THEORY** boxes provide information about key theoretical concepts or considerations underlying the AssureWel approach.
- **ASSUREWEL CASE STUDY** boxes expand on important practical aspects of the approach by giving specific examples of work undertaken as part of the AssureWel Project.
- **ASSUREWEL TOP TIPS** boxes summarise the key lessons learned during the AssureWel Project and offer advice to those looking to implement the AssureWel approach themselves.
The project aimed to improve farm animal welfare by encouraging and facilitating the use of welfare outcome assessments in a number of UK farm assurance schemes, starting with the RSPCA Assured and Soil Association Certification schemes.
1.1. Introducing the AssureWel Project

The AssureWel Project was established in 2010 as a collaborative initiative between the RSPCA, Soil Association and University of Bristol. The project aimed to improve farm animal welfare by encouraging and facilitating the use of welfare outcome assessments in a number of UK farm assurance schemes, starting with the RSPCA Assured and Soil Association Certification schemes, and it had the following three specific objectives:

- Develop bespoke welfare outcome assessment protocols, suitable for use during a farm assurance scheme audit, for six of the main terrestrial livestock species: laying hens, dairy cattle, pigs, broiler (meat) chickens, beef cattle and sheep.
- Fully embed the process of welfare outcome assessment into the RSPCA Assured and Soil Association Certification schemes, by training the schemes’ assessors to use the assessment protocols and developing mechanisms to facilitate the use of the assessment results collected to improve animal welfare on farm.
- Encourage the use of welfare outcome assessments by other farm assurance schemes in the UK and beyond.

1.2. What is welfare outcome assessment and why is it important?

To provide consumers with assurances about the welfare provenance of the food products they purchase, farm assurance schemes require their members to adhere to certain welfare standards and undertake on farm audits to assess their members’ compliance.

Traditionally, scheme welfare standards have been based on 'welfare inputs', which are aspects of farm management that can influence animal welfare, for example the animals’ diet, environment and handling. In addition to auditing members’ compliance with welfare input-based standards, it is important farm assurance schemes understand the effect the inputs are having on the animals’ welfare and this requires an assessment of the animals’ ‘welfare outcomes’, which are characteristics of the animals themselves such as their health, physical condition and behaviour.

Welfare outcomes are considered to provide the most direct and accurate picture of animal welfare (Rushen & de Passille, 1992; Knierim & Winckler, 2009) and by assessing welfare outcomes as part of their audit process, schemes will be able to draw more informed conclusions about the level of animal welfare on their members’ farms. This will strengthen the overall robustness of the audit process, which should lead to a range of benefits for schemes, their animals, members and consumers.
The inclusion of welfare outcome assessments in farm assurance scheme audits has the potential to:

**Improve scheme standards**
Schemes can use the information collected during their welfare outcome assessments to review and refine their welfare standards. For example, if a scheme’s assessment results reveal levels of lameness on their broiler chicken farms to be higher than expected they can put in place plans to review and strengthen their lameness control standards for this species.

**Improve farm management**
Schemes can feed back the results of their welfare outcome assessments to their members and, if appropriate, provide associated advice. This information can then be used by the farmers to inform the review and refinement of their own management practices. For example, if an individual broiler chicken farm was found to have a high level of lameness in its flock, the scheme could alert the farmer to this and talk to them about refining their lameness control plan. Additionally, scheme welfare standards prescribe many aspects of farm management and so if schemes improve their standards on the basis of their welfare outcome assessment results (as discussed above), this should lead to the implementation of improved farm management across their memberships as a whole.

**Improve animal welfare**
If schemes use their welfare outcome assessment results to improve their welfare standards and their members’ farm management this should lead to widespread improvements in animal welfare.

**Improve farm productivity and profitability**
Improvements in animal welfare are likely to be associated with improved farm productivity on scheme members’ farms, as well as improved farm profitability as a result of a reduction in the direct and indirect costs associated with poor animal welfare.

**Improve consumer assurance**
Improved scheme standards, farm management and, most importantly, improved animal welfare should enhance the credibility of schemes and in turn provide consumers with greater assurances about the provenance of their food.

In light of these many benefits, farm assurance schemes’ use of welfare outcome assessments is recommended by a number of key organisations and reports:

- The UK’s Farm Animal Welfare Committee (FAWC, 2005)
- The UK’s Farm Animal Welfare Forum (FAWF, 2011)
- The European Food Safety Authority (EFSA, 2012)
- The International Organisation for Standardization’s Animal Management Standard (ISO, 2016)
- The Good Scheme Framework (Main et al 2014) which has been developed by AssureWel – see pages 9 and 10 for further details.
FOCUS ON THEORY:
What is the Good Scheme Framework?

The Good Scheme Framework (Main et al, 2014) was developed by AssureWel and provides best practice guidance on how farm assurance schemes can deliver good animal welfare across their membership. Its central notion is that schemes should aim to move beyond simply certifying their members’ compliance with sets of minimum standards, by instead adopting a continuous improvement approach to ensure they promote an increasingly good level of animal welfare on their members’ farms. The framework consists of the following four best practice principles which schemes should aim to implement to achieve this continuous improvement goal:

PRINCIPLE 1: Schemes should put in place a ‘dynamic welfare management system’ to coordinate all of their activities related to achieving continuous improvement

Continuous improvement can be delivered through the appropriate application of key scheme activities such as their welfare standards, routine assessment activities, and additional supporting strategies which help their members take action to improve animal welfare on their individual farms. In order to maximise the effectiveness of these activities in promoting continuous improvement, however, schemes will need to put in place a dynamic management system to oversee and coordinate their development and combined implementation. This management system should be based on quality management principles and incorporate the following key steps: PLAN > DO > CHECK > IMPROVE.

In the first instance schemes should develop key objectives and clear plans for how they intend to achieve them (PLAN). The key objectives should include expectations related to both the animals’ welfare inputs and their welfare outcomes, which can then be used to inform the development and implementation of their welfare standards, assessment activities and supporting strategies. The schemes’ plan related to these three key activities should then be implemented (DO) and monitoring should be undertaken to evaluate both the application and outcome of the plan, i.e. are the assessment activities being implemented as intended and are the schemes’ expectations related to the animals’ welfare outcomes being met? (CHECK). Finally, schemes should review and refine their objectives and plan on the basis of this internal monitoring to improve performance (IMPROVE).

PRINCIPLE 2: Schemes should use progressive welfare standards

Schemes should make use of progressive welfare standards to underpin the promotion and maintenance of good animal welfare on farm. Schemes’ welfare input-based standards should, as a minimum, incorporate relevant animal welfare legislation and codes of practice. They should also seek to go beyond this and, in particular, encourage the provision of ‘good life’ opportunities by providing animals with valued resources (see page 16 for further information), as well as the use of proactive health and welfare planning activities, which follow the PLAN > DO > CHECK > IMPROVE steps, to promote continuous improvement at the individual farm level. Welfare outcome-based standards could be used alongside (or in place of some of) the input-based ones to allow members more flexibility and to encourage innovation to better achieve the schemes’ key objectives. Finally, the standards should be regularly reviewed as part of the dynamic management system to ensure they remain relevant and able to support the delivery of good animal welfare, and this review process should be informed by the results of the schemes’ assessment activities.

PRINCIPLE 3: Schemes should undertake assessments to determine whether good animal welfare is being achieved in practice and provide their members with appropriate support to help them deliver this

Schemes should develop effective assessment activities, which include welfare outcome assessments, to determine whether or not good animal welfare is being achieved in practice. Supporting strategies should be used alongside the schemes’ welfare standards and assessment activities to encourage and enable their members to implement best practice management and in turn achieve good animal welfare. This could involve, for example, the provision of feedback of assessment results to members, ensuring sufficient technical advice is available to members on managing animals for higher levels of animal welfare and setting up farmer discussion groups to facilitate the exchange of good practice, etc.

PRINCIPLE 4: Schemes should take an evidence-based, participatory and transparent approach and embrace external scrutiny and involvement

To be most effective, scheme activities related to delivering continuous improvement should be evidence-based, participatory and transparent. The schemes’ welfare standards and assessment activities, including their welfare outcome assessments, should be based on up-to-date animal welfare science and the associated supporting strategies should be based on sound social science related to human behaviour and behaviour change. A range of stakeholders should be involved in the development of the schemes’ key activities to improve their overall robustness and promote engagement with and uptake of their policies and practices, and they should aim to be transparent and allow external scrutiny of both their approach and the outcomes of their work.
Figure 1 below provides a visual summary of how the four best practice principles work together to deliver continuous improvement in animal welfare. More information about the Good Scheme Framework and its best practice principles and be found in Main at el (2014) or by contacting us at: www.assurewel.org/contactus

THE GOOD SCHEME FRAMEWORK

PRINCIPLE 1: Put in place a dynamic management system to coordinate all activities related to achieving continuous improvement in animal welfare

PLAN: Develop key objectives and plans for how to achieve them

DO: Implement the developed plan

PRINCIPLE 2: Make use of progressive welfare standards to underpin the promotion and maintenance of good animal welfare on farm

CONTINUOUS IMPROVEMENT ON MEMBERS’ FARMS

PRINCIPLE 3: Undertake on farm assessments to determine whether good animal welfare is being achieved in practice and provide members with support to help them deliver this

IMPROVE: Review and refine in order to improve further

CHECK: Monitor the application and outcome of the plan to ensure it’s working

PRINCIPLE 4: Take an evidence-based, participatory and transparent approach and embrace external scrutiny and involvement

Figure 1. Summary of the Good Scheme Framework for delivering continuous improvement in animal welfare on farm assurance scheme members’ farms.
1.3. What did the AssureWel Project achieve?

The AssureWel Project came to a close in 2016 and was successful in achieving its three key objectives. Welfare outcome assessment protocols were developed for the six species of interest and these are now in use during RSPCA Assured and Soil Association Certification audits. The schemes’ assessors have been trained to use the AssureWel protocols, and mechanisms have been developed to ensure the information collected during the schemes’ welfare outcome assessments is actively used to improve animal welfare. For example, the assessors now provide members with feedback and advice on their assessment results, and scheme level welfare outcome review processes have been put in place to monitor and facilitate the continuous improvement in animal welfare across the schemes’ membership.

AssureWel has also provided other food and farming industry organisations with information, advice and training on welfare outcome assessment, and the AssureWel protocols are currently used, or their use is recommended, by a number of other farm assurance schemes, including Red Tractor Assurance in the UK and the US schemes Animal Welfare Approved and Global Animal Partnership.

One of the biggest successes of the AssureWel Project was the improvement in laying hen welfare observed on farms over the course of the project (Mullan et al, 2016). Laying hens were the first species to be tackled as part of the project and data analysis has revealed that feather cover – a key welfare outcome measure for this species – improved in the five-year period following the inclusion of the AssureWel protocol for laying hens in RSPCA Assured and Soil Association Certification audits (Figure 2).

![Figure 2. The percentage of assessed hens with ‘slight’ and ‘severe’ feather loss on two body areas on RSPCA Assured and Soil Association Certification farms. Year 1 refers to the data collection period 1 September 2011 to 31 August 2012 and year 5 refers to the data collection period 1 September 2015 to 31 August 2016. An average of 766 farms were assessed each year.](image-url)

Results such as these demonstrate what can be achieved as a result of including welfare outcome assessments, and associated improvement mechanisms, in farm assurance. In the following chapter we describe the key elements of the approach we took during the AssureWel Project, so that other schemes and interested parties can undertake similar work to improve farm animal welfare.
The AssureWel approach features four key elements – all of which are needed in combination to improve animal welfare on farm.
On the basis of our experiences during the AssureWel Project we have developed the AssureWel approach to improving farm animal welfare through the development and use of welfare outcome assessments in farm assurance. The AssureWel approach features the following four key elements – all of which are needed in combination to improve animal welfare on farm.

Developing welfare outcome assessment protocols that are fit for purpose
Schemes’ welfare outcome assessment protocols should be fit for purpose and designed specifically to meet their own unique needs. For example, the protocols must be able to generate information about animal welfare that is sufficiently valid and reliable and they must be feasible enough to be used as part of the existing audit process.

Using assessment results to refine farm management and improve animal welfare
In order to improve animal welfare in practice, schemes should develop mechanisms to facilitate the use of their assessment results in reviewing and refining their welfare standards and members’ farm management. This includes, for example, providing members with feedback and advice following their assessments and ensuring they have suitable systems in place to collate, store and analyse the assessment results.

Training and standardising assessors to ensure competence and consistency
The schemes’ assessors should receive appropriate training in how to use the developed protocols so they are both competent and confident in implementing the protocols on farm, and to ensure the protocols are applied in a consistent way.

Engaging with industry to maximise impact
Schemes should take steps to engage with their members and wider stakeholders (farm advisors, farming industry bodies, etc.) at every stage of the protocol development and implementation process. This will help ensure their developed protocols are fit for purpose and the assessment results are acted on in practice.

These four key elements will be expanded on in turn throughout this chapter. Chapter sub-sections have been colour coded (using the above colours) for ease of use, and information on how we can help and support others in applying these elements can be found in Chapter 3: How AssureWel can help on page 50.
2.1. DEVELOPING WELFARE OUTCOME ASSESSMENT PROTOCOLS THAT ARE FIT FOR PURPOSE
Chapter 2: The AssureWel approach

Selecting welfare outcome measures

Selecting welfare outcome measures

In theory there are a very large number of welfare outcome measures to choose from. For example, measures range from those related to different aspects of animal health and physical condition, such as the presence of different forms of disease, injuries or the animals’ fertility, to those related to different aspects of animal behaviour, such as the amount of time they spend feeding, socialising or resting. The first step in the protocol development process, therefore, is to decide which measures to include.

A wide range of factors will influence this decision. In order for the protocols to be fit for purpose we recommend schemes select their measures on the basis of the following six key considerations.

1. Measures should focus on key welfare concerns
   It is sensible to choose measures that provide information on the most pressing welfare issues in the species of interest. To ensure they are evidence-based, key welfare concerns should be determined on the basis of scientific research into factors such as the severity and duration of different welfare problems, as well as the number of animals affected. Examples include injurious pecking in laying hens, lameness in dairy cattle and tail biting in pigs.

2. Measures should align with the schemes’ goals and priorities on animal welfare
   If schemes make claims or have targets about a particular aspect of animal welfare, then this should be assessed as part of their welfare outcome assessments. It is also a good idea to select measures on the basis of wider industry goals regarding animal welfare. For example, if there is an industry wide initiative in place to tackle a particular welfare issue, it would be worthwhile to include this in the assessment.

3. Measures should be sufficiently valid and reliable
   Welfare outcome measures differ in their degree of validity and reliability. A highly valid measure is one that successfully measures what it is meant to be measuring, which, in the case of welfare outcome measures, is the animals’ actual welfare state (Scott et al, 2001; Knierim & Winckler, 2009). A highly reliable measure, alternatively, is one that produces consistent results when applied repeatedly under the same conditions. There are a number of different types of reliability. Intra-observer and inter-observer reliability refer to the level of consistency achieved within and across different individual assessors, respectively. Test-retest reliability refers to the level of consistency achieved across repeated assessment sessions (Scott et al 2001; Knierim & Winckler, 2009).

   It is very important schemes know how valid and reliable their welfare outcome measures are. This is because there are many different ways of using the information collected during a welfare outcome assessment, and, crucially, some uses require this information to be more valid and reliable than others. For example, if the results are to be used for certification purposes, or to identify farms in need of further support, the measures will need to be more valid and reliable than if the information collected is simply going to be used to supplement general discussions about animal welfare between the schemes’ assessors and members.

   Ideally, schemes should always aim to include the most valid and reliable measures in their protocols. This may not always be possible to achieve in practice, however, as other factors may constrain their use. What’s important in these instances is that the measures are sufficiently valid and reliable for the purposes in which the schemes plan to use the information they have collected – and if they are not, they will need to adjust how the information subsequently gets used.

   The validity and reliability of a measure is influenced by the exact assessment methodology used; for example, the number of individual animals assessed. This is discussed in more detail in the following section, Deciding how the measures will be assessed, on page 19.
4. Measures should be feasible enough to be used within the schemes’ existing audit process

Feasibility is an important consideration when developing any welfare outcome assessment protocol and this is especially true when the protocol is designed for use during a farm assurance scheme audit. This is because scheme audits are often already lengthy in nature due to the number of welfare input-based standards that need to be checked, and because scheme assessors are often required to travel to and assess more than one farm per day. This means scheme welfare outcome assessment protocols cannot take a long time to complete.

It is also useful for schemes to consider the amount of expertise or training required to use the measures, whether any specific equipment/technology is needed, and the applicability of measures to be used in different situations (e.g. at different times of year or on different farm system types), as these factors will all influence the ease with which the measures can be used within their existing audit process.

As with validity and reliability, a measure’s feasibility is heavily influenced by the exact assessment methodology used — see page 19 for more information on this.

5. Measures should provide information on a range of different aspects of animal welfare

Ideally, welfare outcome assessment protocols should contain measures of a range of different aspects of animal welfare — for example, behavioural as well as health-related measures, and measures of positive as well as negative welfare — as this will help ensure the protocols provide a more comprehensive assessment of the animals’ welfare state. This can sometimes be challenging to achieve in practice, however, as, for example, there are currently relatively few validated measures of positive welfare that are feasible enough to be used during a farm assurance scheme audit.

6. Measures should be considered acceptable by the schemes’ key stakeholders

The measures and the information generated by their assessment will only be used/acted on in practice if they are considered acceptable by the schemes’ key stakeholders. It is particularly important to consider the opinions of the intended end users of the protocols — i.e. the schemes’ assessors and members — when developing the protocols. For example, it is crucial the assessors feel the protocols are feasible to use and the members believe the information collected is sufficiently valid and reliable. More information on stakeholder acceptability can be found in the Piloting and refining the protocols section of this Manual on page 24, as well as in the Engaging with industry to maximise impact section on page 46.

In light of these many varied considerations, we recommend schemes take a highly systematic, evidence-based and participatory approach to selecting welfare outcome measures for inclusion in their protocols. For instance, lists of candidate welfare outcome measures should be developed for possible inclusion on the basis of the key six considerations discussed above, and these lists should then be further refined, and eventually finalised, on the basis of consultation with a wide range of relevant stakeholders and extensive on farm piloting.

We also recommend schemes focus on developing protocols that contain a small number of high-quality measures, as opposed to as many measures as possible. It can be tempting to want to include a large number of measures in the protocols to ensure they are sufficiently comprehensive. In reality, however, this can result in long and not very feasible protocols, and can drain time and resources as unsuitable measures may be taken forward to the later stages of development. If, for example, it is clear that a candidate measure is too time consuming to assess it may be better to exclude this measure sooner rather than later. This may feel a little premature, but such measures can always be retained for possible future use should circumstances change, for example if technology becomes available that improves the measure’s feasibility of being assessed.

FOCUS ON THEORY: Positive welfare and the Resource Tier Framework

It is now widely accepted that for an animal to be classed as having ‘good welfare’ they must experience positive psychological states, such as pleasure, as well as an absence of negative states, such as fear, and, because of this, welfare assessments should measure whether animals are experiencing these positive states (Boissy et al 2007; Yeates & Main, 2008).

In light of this, it was our aim at the start of the protocol development process to include measures of positive welfare in the AssureWel protocols. Unfortunately, however, suitable measures were simply not available and it was not possible to develop and validate such measures as part of the AssureWel Project. The decision was taken, therefore, to instead focus on how farm assurance schemes might be able to promote positive welfare through the refinement of their welfare input-based standards, using what we have termed the Resource Tier Framework (Edgar et al, 2013).

The framework is based on the Farm Animal Welfare Committee’s ‘good life concept’, which suggests that resources, such as comfortable bedding or enrichment items, could be used to deliver ‘good life’ opportunities for animals by allowing them to fulfil their species-specific behavioural preferences (FAWC, 2009). Resources likely to be capable of delivering positive experiences in laying hens were identified on the basis of scientific evidence and expert opinion, and then organised into three tiers of increasingly positive resource provision, labelled Welfare+, Welfare++ and Welfare+++ (Edgar et al, 2013). Further research is needed to fully validate the resource tiers, but the developed framework is likely to be a useful tool for schemes that wish to promote positive welfare on their members’ farms. For more information see Edgar et al (2013), or contact us at: www.assurewel.org/contactus.
ASSUREWEL CASE STUDY: Selecting welfare outcome measures for inclusion in the AssureWel protocol for sheep

STEP 1: Developing a ‘long list’ of candidate welfare outcome measures

We began the process of creating the AssureWel protocol for sheep by drawing up the following ‘long list’ of candidate welfare outcome measures:

- Lameness/hoof health
- Body condition
- Dental health
- Faecal egg count
- Dirtiness
- Fleece loss/condition
- Skin irritation/itching
- Skin lesions
- Mastitis
- Ocular/nasal discharge
- Respiratory problems
- Dystocia
- In growing horns
- Ear integrity
- Tail docking/castration
- Lamb behaviour/health
- Qualitative behaviour assessment
- Response to stockman
- Flight distance
- Expression of normal behaviour
- Sheep needing further care
- Mortality/culling

These candidate measures were selected for inclusion in the ‘long list’ on the basis of:

- Key welfare concerns in sheep, as identified in the existing animal welfare science literature (e.g. EFSA, 2014) and key industry reports (e.g. SHAWG, 2016)
- Consideration of the following stakeholders’ goals and priorities in relation to sheep welfare: the RSPCA and Soil Association, the RSPCA Assured and Soil Association Certification schemes, and the wider sheep industry
- Scientific knowledge and our own practical experience of the validity, reliability and feasibility of different welfare outcome measures for sheep, which included a review of the content of existing welfare assessment protocols for sheep (e.g. Phythian et al., 2011, 2012, 2013; AWIN, 2015), as well as relevant industry guidance and resources, such as that produced by the Agriculture and Horticulture Development Board (AHDB) Beef & Lamb Better Returns Programme (e.g. Reducing Lameness for Better Returns; AHDB, 2014).

STEP 2: Reviewing the ‘long list’ of candidate welfare outcome measures

In order to ensure the protocol was fit for purpose and in particular considered acceptable by a range of key stakeholders, the ‘long list’ was reviewed by our species-specific multi-stakeholder expert group for sheep, which was formed of: sheep specialists within the RSPCA and Soil Association; representatives from the RSPCA Assured and Soil Association Certification schemes, including scheme assessors; animal welfare scientists and veterinarians with specialism in sheep; and representatives of the sheep industry, including AHDB Beef & Lamb, the National Sheep Association and sheep farmers.
STEP 3: Refining the ‘long list’ to create a ‘short list’ of candidate welfare outcome measures

The ‘long list’ was refined on the basis of feedback from the expert group and further consideration by the AssureWel team, to produce a ‘short list’ of candidate welfare outcome measures. A number of the health-based measures (hoof health, dental health, ocular/nasal discharge, respiratory problems and in-growing horns) were excluded during early discussions as they were not considered feasible enough for use during the RSPCA Assured and Soil Association Certification audits. Assessment of these measures would require either handling the sheep or being able to observe them very closely. Handling was considered too time consuming a task for the scheme assessors and would likely require penning the animals. Penning could be undertaken by the scheme members prior to the assessment, however this would be a time consuming and potentially impractical task for them also, and could result in a non-random selection of sheep. Close observation was also thought to be too logistically challenging due to the flighty nature of sheep and the very extensive conditions in which some sheep are kept. Furthermore, it was noted that these health issues could still be captured by the protocol to a certain extent, despite the exclusion of these measures, as severe cases that can be identified without handling or close observation could be captured by the ‘sheep needing further care’ measure.

A number of the behaviour-based measures (flight distance, expression of normal behaviour and qualitative behaviour assessment [QBA]) were also excluded early on due to concerns about feasibility and reliability. There was a strong desire to include QBA within the AssureWel protocol for sheep as it aims to capture both negative and positive aspects of animal welfare. Unfortunately, however, existing protocols such as AWIN (2015) use a 20-minute observation period for QBA and this was considered too lengthy to include in addition to the time taken to assess the other measures. It was also felt that, due to its relatively novel nature, it could be potentially quite challenging for the assessors to feed back the results of the QBA to members, so for these reasons the measure was excluded. This measure has, however, been retained for possible future inclusion on our list of ‘aspirational measures’ for sheep.

Finally, dystocia was excluded due to concerns about the consistency of the recording of this event on farms, and measures of lamb behaviour/health were excluded as the assessors do not tend to conduct audits during lambing time. However, due to their perceived importance, a measure of lamb behaviour/health was also added to the list of aspirational measures for sheep. In light of these exclusions, the ‘short list’ featured the following candidate welfare outcome measures:

- Lameness
- Body condition
- Fleece loss/condition
- Faecal egg count
- Dirtiness
- Skin irritation/itching
- Skin lesions
- Mastitis
- Ear integrity
- Tail docking/castration
- Sheep needing further care
- Mortality/culling

These measures were taken forward for on farm piloting and the final protocol can be viewed at: www.assurewel.org/sheep
Deciding how the measures will be assessed

As part of the process of selecting welfare outcome measures, it is important to think about how exactly they will be assessed, i.e. the measures’ specific assessment methodology. This is a key part of the protocol development process as there are many different ways of assessing a particular measure. For example, with respect to lameness in dairy cows, a number of different mobility scoring systems could be used, and all the cows on the farm could be assessed for mobility or just a sample. It is necessary to think carefully about this issue because, as noted previously, a measure’s assessment methodology can influence its validity, reliability and/or feasibility of assessment. For example, the number of cows scored for mobility will influence the reliability of the lameness prevalence estimate that is obtained for the farm, as well as how long it takes to complete the assessment.

We will now discuss a number of key points that schemes should think about when choosing how to assess their selected measures. It is beyond the scope of this Manual to cover all potential issues; for example, we will not discuss the frequency with which assessments should be undertaken, or how long animals should be observed for. If further information and advice on these issues is needed, contact us at: www.assurewel.org/contactus

Should the measures be assessed at the individual animal, group or whole farm level?

Measures can be assessed at a number of different levels. For example, the assessment can focus on:

- Individual animals, whereby a certain number of animals on the farm are selected and assessed for the measures in question, e.g. a sample of animals is observed and their behaviour or condition is scored
- Groups of animals, whereby a particular group or groups of animals are selected and assessed, e.g. the group is observed for a particular length of time or a visual ‘scan’ of the group is undertaken, and the number of animals displaying certain behaviours or in a particular condition is tallied
- The whole farm, which is very similar to the group level assessment, except that it focuses on assessing the herd or flock as a whole.

A range of both theoretical and practical factors will influence the level at which measures should – or can – be assessed. When developing the AssureWel protocols, we usually aimed to assess our selected measures at the individual animal level, because animal welfare is a personal, individual experience. In practice, however, it may not always be possible to do this and many of the AssureWel measures are in fact assessed at the group or whole farm level. This is because it can be very time consuming to select, observe and score individual animals – particularly if a large number of individuals need to be assessed. It can also be logistically rather difficult to single out individual animals to assess them if, for example, the animals are very flighty or kept in very extensive environments. Group and whole farm assessments are often much more feasible, as multiple animals can be assessed in relatively short time periods and individuals do not have to be singled out in the same way. However, depending on the exact assessment methodology used, the information generated in these assessments may not be as detailed or valid and reliable as with individual animal assessments, and therefore schemes should carefully consider how the collected information will be used when deciding on their measures’ level of assessment.

ASSUREWEL CASE STUDY: Assessing lameness in sheep

We piloted the following two methods of assessing lameness in sheep:

1. Randomly selecting 20 focal animals and scoring them for lameness on the basis of our chosen lameness scale
2. Tallying all lame and non-lame animals observed walking in a selected group, plus any additional lame sheep observed across the whole farm (on the basis of the same lameness scale)

We decided to use the second method in the final protocol as we found that the diverse and extensive nature of sheep farms, as well as the large size of some flocks, meant that it was very difficult to single out and score specific focal individuals.

We are aware there is the potential for some bias in this chosen method, as only walking sheep can be scored and scores are potentially more likely to be obtained for sheep that are closer to the scheme assessor as these animals are easier to assess. To help overcome this, the assessors have been trained to encourage slow movement of the flock to facilitate scoring and to observe them systematically (i.e. by scanning from one side of the field to the other) in order to avoid only scoring the closer individuals.

How many animals or groups of animals should be assessed?

If measures are to be assessed at the individual animal level it is very important schemes think about how many animals should be assessed, as this can have a big impact on the measures’ reliability and feasibility. In order to make an informed decision about sample size, steps should be taken to understand both the level of reliability
FOCUS ON THEORY:

How does sample size influence the reliability of measures and how can the information collected subsequently be used?

Broadly speaking, the information collected during a welfare outcome assessment will be more reliable when a larger proportion of animals have been assessed. Sometimes, however, practical constraints such as the amount of time available will limit the number of animals that can be assessed. This is not necessarily a problem – provided the impact of using a smaller sample size on the reliability of the information collected is known and adjustments are made to the way the information is used.

As a general rule, a larger sample size will likely be required to undertake the following activities, as these activities require schemes to have a very reliable estimate of the level of animal welfare on their individual farms:

- Tracking farm performance across time or in response to an intervention
- Ranking farm performance, for example benchmarking farms so they can see how they compare to each other
- Assigning farms to specific risk categories, for example the ‘poorest performing’ farms so they can be provided with additional support, or the ‘best performing’ farms so they can be rewarded for their good performance
- Determining farm compliance with a welfare outcome-based standard, such as, for example, ‘the prevalence of injuries on the farm must not exceed 5%’.

Alternatively, a smaller sample size could potentially be used to undertake the following activities, as the requirement to have a very reliable estimate of the level of animal welfare on individual farms is less important in these instances:

- Supplementing scheme assessor-member discussions about animal welfare, for example, to raise awareness about the welfare outcome measure being assessed and to facilitate general discussions about managing this aspect of welfare.
- Helping to support assessor judgement of member compliance with a welfare input-based standard, for example, if it was found that a pig farm was not providing the required amount of enrichment items during its audit, and some of the pigs assessed during the welfare outcome assessment were found to have tail lesions, this could be used as supporting evidence that the farm needs to alter its management practices with regard to enrichment.
- Evaluating the level of animal welfare across the scheme as a whole. During the development of the AssureWel protocol for laying hens we found that a small sample size was able to generate a highly reliable estimate of the percentage of laying hens with feather loss across our two collaborating schemes’ membership as a whole (see page 21 for more information). This means the schemes’ overall performance with respect to feather loss in laying hens can, for example, be reliably tracked across time or in response to interventions.

It should be borne in mind that these are general rules of thumb. For instance, the reliability of the measures and the sample size required will also be influenced by how prevalent the behaviour/condition of interest is. If the behaviour/condition is very common then fewer animals will need to be assessed in order to obtain a reliable estimate of its prevalence; whereas, if it is very rare, a much larger number of animals will need to be assessed. So, to be sure of whether a particular sample size is appropriate, schemes should always aim to investigate this statistically.
ASSUREWEL CASE STUDY:
Selecting the sample size for assessing feather loss in laying hens

It was decided that in order to be feasible enough to be used during RSPCA Assured and Soil Association Certification audits – which typically take between a few hours and a day to complete – the AssureWel protocol for laying hens must take no more than around 20 minutes to complete. Flock size can be large (up to 16,000 birds) on some scheme farms, and so it was never going to be possible to assess all, or even a large proportion, of the birds for measures such as feather loss as part of the protocol.

To understand the potential implications of using different sample sizes of birds on the reliability of the data collected, we modelled the confidence interval around the estimate of the percentage of birds with feather loss generated using different sample sizes and various true prevalence values, at both the individual farm and whole scheme level.

Individual farm level:

It was clear from the modelled data that, in order to get a farm level prevalence estimate of feather loss with a good level of reliability, a very large number of birds would need to be assessed. For example, 2,000 birds would need to be assessed in order to obtain a prevalence estimate that 95% of the time is within ±3% of a true prevalence value of 50% (Figure 3, a), or is within ±2.5% of a true prevalence value of 20% (Figure 3, b) – and a sample size as large as this would take significantly longer than 20 minutes to assess. A more feasible sample of 50 birds, alternatively, would generate a prevalence estimate that 95% of the time is within ±14% of a true prevalence of 50% (Figure 3, c), but this is a less reliable estimate.

Whole scheme level:

This smaller sample of 50 birds could, however, be used to obtain a good level of reliability at the overall scheme level. For example, this sample size would be able to generate a scheme level prevalence that 95% of the time is within ±0.45% of a true prevalence of 50% for the RSPCA Assured scheme (Figure 4, d), and is within ±0.9% of a true prevalence of 50% for the Soil Association Certification scheme (Figure 4, e).
How should individual animals or groups of animals be selected?

As well as making sure the right number of animals and groups of animals are going to be assessed for the schemes' needs, it is also important to consider which individual animals/groups to select. Ideally the aim should always be to select animals/groups randomly, as this will help to protect against bias and in turn enhance the reliability of the information collected. To achieve this, individual animals and/or groups of animals could be selected using a random number generator or a systematic rule, such as 'assess every fifth animal/group seen'. Sometimes, however, it may be necessary to restrict the use of truly random sampling. In some cases it may be most appropriate to assess, or avoid assessing, animals of a particular type. For instance, some welfare issues are more or less common at particular ages or stages of production and therefore the assessment may need to focus on a particular age group or production stage. In the AssureWel protocol for beef cattle, for example, the assessment of body condition is restricted to adult cattle only, and in the protocols for laying hens, broiler chickens and finishing pigs there is a requirement to select animals from within the oldest group(s) on the farm.

Random sampling may also have to be restricted for practical reasons. It may not be practical to locate specific animals chosen by a random number generator and it can be time consuming to apply the 'every fifth animal/group seen' rule across large groups of animals. To make this rule more feasible to use, it could be applied in certain areas of the animals’ housing rather than across the group as a whole.

What type of scoring system should be used?

Alongside the above considerations, schemes should think carefully about their selected measures' 'scoring system', i.e. the exact way in which the individual animals, group of animals, or the herd or flock as a whole, is scored during the assessment. The AssureWel protocols feature two main types of scoring system: either the animal/group/whole farm is assigned to a particular category (e.g. ‘clean’ vs. ‘dirty’), or a tally system is used to record the number of times a particular behaviour or condition is observed. Overall, in order to be suitable for use during a scheme audit, the measures’ scoring system should be:

- **Simple and easy to use:** They should not require specialist knowledge or equipment or extensive training to be able to use, and if different scoring categories are used the number of these should be kept to a minimum. The AssureWel protocols, for example, usually feature a maximum of three scoring categories (e.g. ‘thin’, ‘moderate’, ‘fat’).
As objective as possible: In order to aid assessor training and improve intra- and inter-reliability, the scoring category descriptions should be anchored on concrete, clearly defined criteria, and the use of vague or subjective terms should be avoided. For example, different categories of cleanliness should, ideally, be distinguished on the basis of the actual size of the area of dirtiness present or the proportion of the animals affected, rather than whether the animals appear more or less dirty.

Harmonised with those already in use: Where possible, it is advisable to use scoring systems that are already in use, or planned for use, by other industry stakeholders. If a different system is used, it is likely to be confusing for the schemes’ members, and it will make it difficult for the schemes to compare their welfare outcome data with that collected by other sections of the industry or national figures. Achieving harmonisation will involve consultation with industry and this is discussed in more detail on page 47.

ASSUREWEL CASE STUDY:
Developing a scoring system for the assessment of cleanliness in beef cattle

We considered the following two alternative scoring systems for assessing cleanliness in beef cattle:

1. A four-point scale scoring system which was already in use across the industry, developed as part of a drive to reduce the number of dirty animals being sent to slaughter. The advantage of this system was that most beef cattle farmers in the UK were familiar with it. The disadvantage was that it contained relatively few objective descriptions and instead relied mostly on photographs to illustrate each scoring category on the four-point scale.

2. A newly developed measure by AssureWel for assessing cleanliness in dairy cattle, which used a two-point scale, and distinguished between the two different scoring categories on the basis of the size of the area of dirtiness. The advantages of this system were that it was more objectively defined, and the RSPCA Assured and Soil Association Certification schemes’ assessors were already familiar with it. The disadvantage was that scheme members would likely be less familiar with it – although those with mixed dairy and beef enterprises would have encountered it during their dairy assessments.

The two scoring systems were taken forward for on farm piloting. As part of the pilots, both the schemes’ assessors and members were asked their opinion on the two systems and, alongside this, an analysis was undertaken to determine whether the systems classified cattle in the same way, i.e. were similar farm prevalences of dirty cattle obtained using both systems?

The assessors who carried out the pilot tests were in favour of using the same scoring system as that used in the AssureWel protocol for dairy cattle. As expected, the members surveyed were more familiar with the industry system, but they were also not averse to the newly proposed AssureWel system. Broadly speaking, the two systems categorised cattle in a similar way on the vast majority of pilot farms (Figure 5). In light of these findings, and the greater objectivity of the category descriptions used in the AssureWel system, we decided to use the AssureWel scoring system to assess cleanliness in beef cattle.
Piloting and refining the protocols

Once welfare outcome measures have been selected and their assessment methodology considered, it is time to trial their use on farm. On farm pilots are a key part of the protocol development process. They help inform decision making with regard to the selection of measures and the measures’ potential assessment methodology. They enable the overall feasibility of the protocol to be tested, both in terms of the time it takes to implement and how well it integrates into the schemes’ existing audit process, and, finally, they also allow the end users of the protocols (e.g., the schemes’ assessors and members) to test them out and provide valuable feedback.

As with the initial selection of measures, it is helpful to take a systematic approach to on farm piloting as there are a range of different issues that need to be considered and investigated. On the basis of our own experiences during the AssureWel Project, we would recommend schemes take at least a two-stage approach.

In the first instance, it is useful to focus on investigating and refining the individual measures. For example, the suitability of different candidate measures can be assessed and any alternative assessment methodologies being considered can be compared. Because of the detailed, investigative nature of this stage of piloting it can be quite time consuming. A relatively large amount of time will need to be spent on the individual pilot farms recruited, testing out alternative measures and assessment methodologies, and so it is important to recruit pilot farms that are able and happy to accommodate this. We would recommend using a relatively small, targeted sample of farms at this stage, which includes a range of different system types and farm sizes so the feasibility of the measures can be fully evaluated.

Once the list of measures has been narrowed down and their assessment methodology refined, it is useful to undertake another more extensive stage of piloting which focuses on evaluating the protocol as a whole and gathering feedback from the schemes’ assessors and members on its acceptability. We would recommend this second stage of pilots is undertaken on a larger – ideally randomly selected – sample of farms, and that the protocol is trialled by the assessors as part of their routine audits.

Even after sufficient piloting and the eventual finalisation of the protocols it is beneficial to review their use and continued suitability. Over time new measures and assessment methodologies may become available and the schemes’ or wider industry’s needs and priorities with respect to animal welfare may change. In light of this, as part of the process of embedding the use of welfare outcome assessments into the schemes’ working practices, mechanisms should be put in place to routinely review and, if necessary, refine the developed protocols.

ASSUREWEL CASE STUDY:
Piloting and refining the AssureWel protocol for laying hens

STAGE 1: Small scale piloting of the ‘short list’ of candidate welfare outcome measures

Our initial measure selection process resulted in the following ‘short list’ of candidate welfare outcome measures for laying hens:

- Feather loss
- Cleanliness
- Skin injuries
- Beak length and shape
- Qualitative behaviour assessment
- Management of sick or injured birds

A draft protocol, which contained a number of alternative assessment methodologies for some of the measures, as well as an associated score sheet, was drawn up on the basis of this list. The protocol was trialled by members of the AssureWel team and four assessors from the RSPCA Assured and Soil Association Certification schemes, on a total of 10 farms which had been recruited to include a wide range of flock sizes (2,000 – 16,000 birds). The ‘short list’ of measures was then refined on the basis of our and the assessors’ experiences of using the different measures and assessment methodologies.
STAGE 2: Extensive piloting of the refined ‘short list’ of candidate welfare outcome measures as part of the schemes’ routine audits

The refined draft protocol and score sheet was piloted by the schemes’ assessors as part of their routine audits of laying hen farms for a period of six months. Following this, discussion workshops were held with seven of the RSPCA Assured assessors and eight of the Soil Association Certification assessors to gather their feedback on the protocol. They were asked their thoughts on the protocol’s ease of use, how long it took to carry out the assessments, whether the assessment helped them engage with the schemes’ members, and whether the members found the assessments interesting and useful. This feedback was then used to develop the final version of the AssureWel protocol for laying hens, which can be viewed at: www.assurewel.org/layinghens

The table below demonstrates how the ‘short list’ of measures evolved over the course of the on farm pilots:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Stage 1 pilots</th>
<th>Stage 2 pilots</th>
<th>Final protocol</th>
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<tbody>
<tr>
<td>Feather loss</td>
<td>Feather loss was initially assessed on a sample of 100 birds, selected at random from 10 areas of the house and/or range. It was assessed for one body area (the birds’ ‘back and rump’) using a three-point scale. It was hoped that the assessment could be undertaken by simply observing the individual birds as opposed to handling them, as this would be quicker and less stressful for the birds. To check whether this would influence the scoring, every tenth bird was scored twice, first on the basis of an observation and then following closer inspection via handling. The scores obtained from these two alternative assessment methodologies were then compared.</td>
<td>Sample size analysis (discussed on pages 21 and 22) indicated it was possible to reduce the total number of birds assessed from 100 to 50 and, as there was good agreement between scores obtained from handling vs. observation only, it was decided it was not necessary to handle the birds. The assessment methodology was also adapted at this stage to include the assessment of an additional body area (‘back and rump’ plus ‘head and neck’) to allow for the more accurate identification of the causes of feather loss.</td>
<td>The measure’s assessment methodology was adapted once more before the publication of the final protocol. The body area ‘back and rump’ was changed to ‘back and vent’ to harmonise with existing industry/research protocols and to ensure the risk of cannibalism was better identified.</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>The same birds were assessed for cleanliness as for feather loss and scores obtained by handling vs. observing the birds were similarly compared.</td>
<td>Sample size was reduced from 100 to 50 in line with the above and comparison of scores indicated that it was again not necessary to handle the birds. The measure’s name was changed from ‘cleanliness’ to ‘dirtiness’. It was initially felt it would be helpful if this measure had a positive sounding name and it was for this reason ‘cleanliness’ was used. Feedback received from the schemes’ assessors and members indicated, however, this was not necessary, and ‘dirtiness’ was actually considered more appropriate as the measure’s scoring system focused on the amount of dirt/soiling on the birds.</td>
<td>No further changes were made at this stage.</td>
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</table>
### Skin injuries

The same birds were assessed as for feather loss and scores obtained by handling vs. observing the birds were similarly compared.

Pecking wounds and other injuries on the head/comb were scored on a three-point scale. Additionally, a record was made against any birds that were found to have broken skin or injuries elsewhere on their body.

Assessor feedback indicated it was difficult to assess this measure without handling the birds and if light levels were poor. The focus of this measure was therefore changed to detecting the cause (i.e. injurious pecking behaviour) rather than the resulting injuries. Assessors were required to observe/listen to the flock during their visit and tally the number of incidents of aggressive behaviour observed or heard. In light of this the measure was renamed ‘aggressive behaviour’.

The measure’s assessment methodology was further adapted to cover both aggressive pecking and injurious pecking, as these behaviours have different causes and so require different actions to control them. The measure’s name was once again changed to ‘antagonistic behaviour’ to reflect this. Finally, a one-minute observation period was added to standardise the assessors’ observation time.

### Beak length and shape

The same birds were assessed as for feather loss and scores obtained by handling vs. observing the birds were similarly compared.

Both beak length and shape were scored on a three-point scale.

The introduction of the infra-red treatment method of beak trimming meant there was now a lower risk of poorly trimmed beaks in flocks and we felt the likelihood of finding affected birds in our small sample would therefore be low. Because of this we decided to focus on assessing overall flock (rather than individual bird) beak trimming status on the basis of flock records, discussion with the scheme member and whole flock observation. The measure’s name was therefore changed to ‘beak trimming’.

No further changes were made at this stage.

### Qualitative behaviour assessment

This shortlisted measure was not included in the first stage of our on farm pilots. The mechanisms for feeding back results to scheme members were considered to be too underdeveloped at the time to include it in the final version of the protocol and, therefore, it was decided pilot work would not be worthwhile.

There was still a desire to include a behavioural measure in the protocol that could provide information on the birds’ demeanour and a new ‘flightiness’ measure was therefore added at this stage. The measure was recorded at flock level using a three-point scale.

No further changes were made.
**Chapter 2: The AssureWel approach**

### Management of sick or injured birds

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<tr>
<th>Stage 1 pilots</th>
<th>Stage 2 pilots</th>
<th>Final protocol</th>
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<tr>
<td>The whole flock was assessed and any sick or injured birds seen that would benefit from hospitalisation or euthanasia were tallied.</td>
<td>No changes were made to this measure at this stage.</td>
<td>Prior to the finalisation of the protocol this measure’s name was changed to ‘birds needing further care’ to better reflect what the measure was assessing. An additional requirement to record the type of sickness/injury seen was also added as this would aid assessor-member discussion.</td>
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### Mortality

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<th>Stage 1 pilots</th>
<th>Stage 2 pilots</th>
<th>Final protocol</th>
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<td></td>
<td></td>
<td>Finally, an additional measure – mortality – was added to the protocol following the second stage of on farm pilots. This was introduced to help identify high risk situations and to enable the schemes to investigate potential relationships between this measure and the others already included in the protocol.</td>
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To conclude, there are a lot of different factors to consider when developing welfare outcome assessment protocols and, because of this, it can be difficult to know where to start. However, by breaking the protocol development process down into the three more manageable phases discussed in this chapter – and by following our top tips below – schemes should be able to develop protocols that successfully meet their own unique needs and help them improve animal welfare on their members’ farms.

**ASSUREWEL TOP TIPS:** Developing welfare outcome assessment protocols that are fit for purpose

**WE RECOMMEND SCHEMES:**
- Use a systematic and evidence-based approach when selecting their welfare outcome measures. This will help ensure only the most appropriate measures are included in the final protocols and will also improve the overall efficiency of the development process.
- Focus on developing protocols that contain a small number of good quality measures, rather than as many measures as possible – especially if resources or assessment time is limited.
- Take steps to understand how valid and reliable their measures are – for example, does the selected sample size allow a reliable estimate of the level of animal welfare on individual farms to be generated?
- Use simple, objective scoring systems which, ideally, are harmonised with other systems already in use. This will aid the schemes’ assessors’ training and consistency of scoring, and will also help schemes compare their assessment results with those from other organisations or national figures.
- Take a systematic approach to on-farm piloting, with clear goals about what should be considered and investigated at the different stages. For example, it is helpful to focus on refining the individual measures in the first instance, before then moving on to consider the suitability of the protocols as a whole.
- Involve a range of relevant stakeholders – including the schemes’ assessors and members – in the protocol development process from the initial selection of candidate measures right through to the piloting and refining phase. Not only will this help make sure the protocols are fit for purpose, it will also help ensure the assessment results go on to be used in practice to improve animal welfare on farm.

**HOW ASSUREWEL CAN HELP**
The AssureWel protocols and associated sheet scores are available to download in full at: [www.assurewel.org](http://www.assurewel.org). Alternatively, those looking to develop their own welfare outcome assessment protocols can contact us at AssureWel Consultancy for additional information and advice – see page 51 for further details.
2.2. TRAINING AND STANDARDISING ASSESSORS TO ENSURE COMPETENCE AND CONSISTENCY
Chapter 2: The AssureWel approach

It is essential the schemes’ assessors are appropriately trained to implement the developed welfare outcome assessment protocols. Training is needed to ensure the assessors deliver the protocol competently and that they feel confident about doing this. It is also needed to ensure the protocols are implemented in a standardised (i.e. consistent) way by the different assessors. Standardisation is necessary because it enhances the reliability of the information collected and increases the confidence key stakeholders (such as the schemes’ members, wider industry and consumers) have in the results of the welfare outcome assessments.

In light of this, we developed the AssureWel Assessor Training Programme as part of the AssureWel Project and this programme continues to be used by RSPCA Assured and Soil Association Certification to train their assessors today.

The training programme includes six species-specific training packages, one for each of the AssureWel species. Each package features four key training elements (displayed below) and we recommend schemes use these four elements when training their assessors.

The AssureWel Assessor Training Programme includes:

1. **INITIAL TRAINING**, which features both a classroom session to cover the theoretical aspects of training and an on farm session to cover the practical aspects

2. **ACCOMPANIED ASSESSMENTS** with a member of the AssureWel team or a senior assessor to provide additional training and in turn increase the assessors’ competence and confidence

3. **THE ASSUREWEL WEBTOOL**, which is an online platform that provides refresher training and ensures continued standardisation of the assessors’ scoring

4. **WITNESS ASSESSMENTS**, which are formal assessments conducted by a senior assessor that ensure all aspects of the audits are undertaken to a high standard.
Initial training

The first key element of the AssureWel Assessor Training Programme is the assessors’ initial training day, which is led by members of the AssureWel team and senior RSPCA Assured or Soil Association Certification assessors. The session is usually undertaken with a small group of assessors – ideally no more than 10 assessors to one trainer – to facilitate group interaction and enable the best learning experience for the assessors.

The training day is held on a host farm that:
- Has classroom facilities on site or at least nearby
- Has the appropriate number and type of stock for the AssureWel protocol(s), for example, the AssureWel protocol for broiler chickens requires birds to be assessed in the final seven days of life
- Is able and happy to accommodate having multiple assessors on site observing and interacting with their animals.

Classroom session

It is important the assessors understand the theory and technical detail underlying the AssureWel protocols and, because of this, we begin the training day with a classroom based training session. The assessors are provided with the AssureWel protocols, score sheets and explanation of measures guidance documents, as well as any farmer support/advisory materials they may need. They are then given a presentation which provides information on:
- What welfare outcome assessment is and why it is important
- The relevance of each welfare outcome measure included in the protocols, with respect to both animal welfare and farm productivity/profitability
- How to carry out the protocols, including detailed information on the measures’ assessment methodology (e.g. sample size, scoring system, etc.)
- How to fill out the score sheets and input the data collected into their scheme’s central database
- How to talk to the scheme members about the protocol and their assessment results – see pages 38 to 43 for more information on this.

Scoring exercises, which involve the assessors scoring photographs and videos of animals for the different measures, are included in the presentation to assist them in understanding the measures’ scoring systems. The assessors score the animals individually in the first instance and then the scores are discussed as a group.

On farm session

The second half of the training day is undertaken on farm as this gives the assessors the opportunity to practise using the protocol. To begin they are reminded of the measures’ assessment methodology and given a practical demonstration of their use. They are then given time to try out the different measures and, following this, there is the opportunity to ask questions and discuss the protocol as a group to ensure they fully understand and feel confident about using it.

Accompanied assessments

If they would like, the assessors can request that a member of the AssureWel team or a senior assessor accompanies them on one of their routine audits to trial using the protocols. Accompanied assessments are very useful as they provide an extra level of training to those that want or need it. Unlike the initial training day, they provide assessors with an opportunity to practise using the protocol within the wider audit. This can help ensure they understand how the protocol integrates into the audit as a whole and that they feel comfortable talking to the scheme members about their welfare outcome assessment results. They also provide more scope for one-to-one discussion, which aids learning and confidence.

AssureWel Webtool

It is very important the assessors are provided with refresher training to enable them to continue to implement the protocol correctly and consistently. It is often not practical for this training to be carried out on farm, as the schemes’ assessors are based all across the country. To overcome this problem we developed the AssureWel Webtool, which is an online platform for delivering refresher training and achieving continued standardisation.

The Webtool contains detailed guidance information on all of the AssureWel protocols, and features both practice and formal standardisation tests for a number of different measures. The schemes’ assessors are required to complete the standardisation tests six months after their initial training and then repeat them annually. The Webtool also contains links to relevant AssureWel resources, such as the full protocols and all of the associated documents.

Witness assessments

Both RSPCA Assured and Soil Association Certification, like all farm assurance schemes, are required to conduct formal assessments called witness assessments with all of their assessors. These are required on an annual basis, as part of the accreditation process, to ensure the schemes’ audits are being undertaken to a high quality. The assessments follow a strict protocol and are undertaken by a senior assessor, who will observe the assessors carrying out their audit in full and then provide feedback. As welfare outcome assessment is now a standard part of the schemes’ audit process, it is also covered in the witness assessment.
ASSUREWEL CASE STUDY:
Standardising the use of the AssureWel protocol for dairy cattle

Before the development of the AssureWel Webtool we measured the consistency of the assessors’ scoring during the initial training day using live animals. Twenty cows were selected and scored by one of the team prior to the start of training. At the end of the on farm session these cows were then scored by all of the assessors and their scores were compared to both the mean for the group and that of the trainer. There were, however, several limitations to this approach:

- It was time consuming to locate the 20 cows for re-scoring and compare the assessors’ scores manually
- The individual cows sometimes became agitated by the presence of multiple assessors
- The cows’ welfare outcome scores – particularly for cleanliness – could potentially change over the course of the day and could differ depending on which randomly selected side of the animal was assessed
- It wasn’t always possible to find cows demonstrating the full range of welfare outcome scores
- It could only be undertaken on farm, which was problematic with respect to measuring standardisation on an ongoing basis.

With this in mind, the decision was taken to develop a photograph/video based standardisation test that could be used at the end of the initial training day. However, while this was a much improved approach, it still had a number of drawbacks. It still required the assessors’ scores to be compared manually and it didn’t address the issue of measuring standardisation on an ongoing basis.

We created the AssureWel Webtool in direct response to this. As an online platform, it is able to provide immediate feedback on the assessors’ scoring and, crucially, it can be used remotely at a time and place that is convenient for the assessors. It is worth noting here that we had to wait until we had collected a sufficiently large number of high quality photographs/videos, of the full range of possible scoring categories (e.g. both ‘clean’ and ‘dirty’ cattle), before we could launch the Webtool for each species, and this was one of the main challenges associated with its development.

As noted previously, the Webtool provides refresher training in the form of detailed guidance on the AssureWel protocols, practice scoring tests and links to key AssureWel resources, and it delivers continued standardisation of the assessors’ scoring via formal standardisation tests. It is accessed through the AssureWel website at: www.assurewel.org/training where there is a secure login page and two levels of access are available: ‘user’, which is used by the assessors; and ‘supervisor’, which is used by the senior assessors to monitor test completion.

Detailed guidance

The Webtool contains full instructions for assessing the different welfare outcome measures as per the AssureWel protocol for dairy cattle. For example, how many cows should be assessed for cleanliness and the different cleanliness category descriptions. In addition to this, it also provides the assessors with more detailed guidance on scoring. For instance, example photographs are shown of cows in different cleanliness categories, with explanations for why they have been scored in that way.

Examples of the scores

Finally, this Guernsey cow would receive a Score 2. The large area of dirt on her hindquarters is large enough on its own. There are also patches of dirt on the lower hind legs but these are smaller and as they are separate, they would not contribute to the score.
Practice tests

The practice tests can be undertaken at any time as a general refresher, or as a practice run ahead of completing the standardisation test.

In the practice tests, the assessors are given a set of photographs to score and immediate feedback is provided on their scoring. For example, if the assessor scores a cow’s cleanliness incorrectly, the correct answer will be highlighted along with an explanation of why the cow has been assigned that particular score. To aid the assessors’ learning further, top tips on scoring are also provided.

The photographs used in these tests have been scored by at least three members of the AssureWel team and complete agreement has to be obtained in order for them to be included. The order of presentation is randomised by the supporting software and not all of the available photographs are used in each test, making each test different.

Standardisation tests

The standardisation tests formally monitor the assessors’ scoring. The assessors are presented with sets of 10 photographs and they must score 80% of these correctly in two successive tests in order to pass. As with the practice tests, the photographs have all been previously scored by the AssureWel team and they are shown in a randomised order. If the pass rate is not achieved, guidance is provided on how the assessor can improve their scoring (e.g. refer back to the AssureWel training materials), and feedback is provided on which questions were scored incorrectly, allowing them to understand where they may be going wrong and adjust their scoring appropriately. In these tests the assessors’ scoring is stored by the supporting software and this can be accessed and monitored by the senior assessors with ‘supervisor’ access.
Assessor training is a key step in embedding the process of welfare outcome assessment into schemes’ working practices. It ensures the protocols will be implemented as intended and that the schemes’ assessors feel confident about using them. We recommend schemes use the following top tips to design an effective training programme for their assessors.

**ASSUREWEL TOP TIPS:** Training and standardising assessors to ensure competence and consistency

**WE RECOMMEND SCHEMES:**
- Make sure their assessors’ training includes both theoretical and practical aspects to ensure they understand the rationale for using welfare outcome assessments, the theory underlying the development of the protocols and how to use the protocols when on farm.
- Train their assessors in small groups. This will encourage them to ask questions if they need to and will promote a more interactive and effective learning experience.
- Establish good working relationships with suitable host farms. Ideally, training farms will have classroom facilities on site, the appropriate age and type of stock, and animals falling into a range of welfare outcome scoring categories.
- Take photographs/videos of animals in different scoring categories during the on farm pilots – with the farmers’ permission – to help develop the most useful and comprehensive training resources.

**HOW ASSUREWEL CAN HELP**
For further information and advice on training and standardising scheme assessors, or to learn more about the AssureWel Assessor Training Programme, any of our species-specific training packages, or the AssureWel Webtool, contact us at: [www.assurewel.org/training](http://www.assurewel.org/training). As part of our bespoke training service, we can customise our training packages and resources to suit individual needs and circumstances – see page 51 for further details.
2.3. USING ASSESSMENT RESULTS TO REFINE FARM MANAGEMENT AND IMPROVE ANIMAL WELFARE
Welfare outcome assessment can lead to improvements in animal welfare because the information collected during the assessments can be used to inform the review and refinement of scheme welfare standards and members’ farm management. In order to achieve improvements in animal welfare on farm, therefore, as well as developing welfare outcome assessment protocols and incorporating them into their audits, schemes also need to think about how they can promote the use of their assessment results in this review and refinement process.

In the first instance, schemes should think about how to collate and store the information they have collected during their welfare outcome assessments. Next, consideration should be given to how the assessment results should be summarised and analysed to establish whether the schemes’ expectations or targets about animal welfare are being met and, following this, the outcome of these analyses should be used to inform the development of a strategy to improve animal welfare moving forward.

Collating and storing welfare outcome data

Schemes should ensure they have a system in place for collating and storing their welfare outcome assessment results prior to starting their assessments, and this system should be both simple to use and secure. Databases are ideal for this as they allow data to be inputted and extracted quickly and easily – for example, queries can be created and run to generate summary reports which may help with reviewing the data. Schemes will likely already have a central database for storing their members’ audit information and this can be expanded to store their welfare outcome assessment results.

Alongside this, schemes should ensure those using their central system are appropriately trained to do so. For example, if the schemes’ assessors are responsible for inputting their own welfare outcome assessment results, we would recommend they include a section on this in the assessors’ initial training. Similarly, if other personnel are responsible for data input, they will need to be familiar with the assessment protocols and score sheets to ensure the assessors’ recorded information is interpreted and entered into the central system correctly.

Finally, it is worth pointing out that data/database management can at times be a complicated task. To get the most out of their system and to ensure their data is being stored appropriately (i.e. in line with data protection requirements), it is a good idea for schemes to consult with the relevant experts. For example, we worked very closely with our own IT departments and our collaborating schemes’ database support services over the course of the AssureWel Project to achieve this.

Summarising and analysing welfare outcome data

The rationale for including welfare outcome assessments in farm assurance scheme audits is that the assessment results can be used to help determine whether the schemes’ expectations about animal welfare are being met in practice. In order to determine this, however, schemes will first need to generate appropriate summary statistics for their membership for their various welfare outcome measures – such as the average prevalence or incidence of different welfare issues on their members’ farms.

There are a number of different things to think about when summarising welfare outcome assessment data. Firstly, schemes should check and if necessary clean the data before summarising it, as it may contain input or extraction errors or data points that may need to be excluded for other reasons (e.g. the assessment wasn’t conducted according to the protocol or another source of bias is known to be present). Secondly, it is likely there will be a number of different ways in which the data could be summarised (i.e. average prevalence or incidence) and we would always recommend schemes consult a statistician or another relevant expert to discuss what may be the most appropriate summary statistic(s) to use. This is also advisable if schemes wish to undertake more sophisticated analyses, such as investigating the relationship between different welfare outcomes, or the impact of different aspects of the schemes’ welfare standards or their members’ farm management on the animals’ welfare outcomes. This is because these types of analyses require a good understanding of statistics and specialised statistical software.

Ideally, schemes should generate summary statistics for their measures on a regular basis so they can check their progress and adapt their strategy (see below) if necessary. We summarised our collaborating schemes’ welfare outcome data on an annual basis during the AssureWel Project and this approach continues to be used by the schemes today.

Developing a strategy for improvement

Once schemes have established how their membership is performing with respect to their different welfare outcome measures, they can set about developing (or in future years, refining) their strategy for improvement. Having such a strategy is essential for delivering continuous improvement in animal welfare which, as discussed on page 9, should be a key goal for farm assurance schemes.

It is important to restate here that improvement in animal welfare comes about through the review and refinement of scheme standards and members’ farm management. Refinement of farm management relies on members adjusting their practices and this means the improvement strategies developed by schemes need to be informed by research into human behaviour change (e.g. which factors limit and promote changes in human behaviour), as well as animal welfare science.

There are, of course, many different things to consider when developing or refining a strategy for improvement. As a starting point, however, we recommend schemes think about the following:

- Which welfare outcome(s) should the strategy focus on?
- What are the targets for improvement (e.g. reduce average lameness prevalence by 5%)?
- What specific aspects of farm management need to be refined in order to achieve these improvements?
What are the key factors influencing these aspects of farm management, i.e. what are the key barriers to and motivators for refinement?

What are the best methods or approaches for targeting these key motivators/barriers and promoting behaviour change?

How will progress and the overall impact of the improvement strategy be monitored?

It is beyond the scope of this Manual to discuss all of these different considerations, so we will focus instead on one of the key areas of our improvement work during the AssureWel Project, which is how scheme assessor-member discussion of welfare outcome assessment results can be used to promote the review and refinement of farm management to improve animal welfare.

In order for refinements in farm management to occur, members need to understand the relevance of their assessment results and, in particular, whether or not improvement is necessary. They also need to know what refinements to make. It is essential, therefore, that they are provided with clear and easy to understand feedback on their welfare outcome assessments and that they have access to the necessary technical information and advice to implement any required improvements. We developed a number of mechanisms, as part of the AssureWel Project, to facilitate the process of providing members with feedback and associated information and advice and recommend schemes make use of similar mechanisms.

Providing members with feedback on their assessment results

We wanted our collaborating schemes’ assessors to be able to provide members with feedback on their welfare outcome assessments that was clear and comprehensive, but also concise due to the time constraints of a scheme audit. We also wanted the feedback to be written down, so that both the member and the scheme could refer back to it. In light of this, we developed special feedback forms to summarise the results for the members. The assessor talks through the form with the member and it is then left on farm for their records.

The forms feature a number of different feedback mechanisms which are designed to help the assessor explain and the member understand whether or not improvement is necessary.

In the first instance, a general summary of the assessment results are provided for every welfare outcome measure to ensure the member understands exactly what the assessor has assessed and found. For example, for dirtiness in laying hens, the assessor will record the total number of birds scored as ‘clean’, ‘moderate’ and ‘substantial’ in the relevant summary box, as shown below.

<table>
<thead>
<tr>
<th>Score 0</th>
<th>Score 1</th>
<th>Score 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean</td>
<td>Moderate</td>
<td>Substantial</td>
</tr>
<tr>
<td>50 birds</td>
<td>0/50 birds</td>
<td>0/50 birds</td>
</tr>
</tbody>
</table>

Selected thresholds called ‘action trigger points’ may then be used to signal the level at which the schemes require further investigation and/or action to be taken to improve the animals’ welfare. With respect to dirtiness in laying hens this is two or more dirty birds, and this is displayed on the feedback form as shown below.

Provisioning members with feedback on their assessment results

We believe benchmarking is a particularly useful feedback mechanism. It can be used to recognise and acknowledge good performance where it is occurring (for instance, those members falling in the top 25% of farms) and, alongside this, it can be used to promote improvement where it is needed. For example, it assists with target setting, in that members can aim to move up the ranking. It also reinforces what is possible in terms of performance, i.e. what the top performing members are achieving, and instils an element of peer-to-peer competition which can help to inspire and motivate. It should be noted, however, that farm assessment results cannot always be benchmarked in this way. As discussed on page 20, a sufficiently reliable farm level estimate of the welfare outcome measure of interest is needed to compare and rank individual farms. More information on our benchmarking graphs can be found in the case study box on pages 39 and 40.
ASSUREWEL CASE STUDY:
Benchmarking feather loss in laying hens

Feather loss in laying hens was the first welfare outcome measure to be benchmarked during the AssureWel Project.

As part of the AssureWel protocol for laying hens the flock is assessed for feather loss on two key body areas (the ‘head and neck’ and ‘back and vent’) using a three-point scale (no/minimal [score 0]; slight [score 1]; moderate/severe [score 2] feather loss). This means farm performance with respect to feather loss can be evaluated on the basis of four different feather loss parameters:

- Total feather loss (% birds score 1 and 2) for the ‘head and neck’
- Moderate and severe feather loss (% birds score 2) for the ‘head and neck’
- Total feather loss (% birds score 1 and 2) for the ‘back and vent’
- Moderate and severe feather loss (% birds score 2) for the ‘back and vent’.

These parameters all provide slightly different information about the birds’ welfare and so we decided to benchmark all four.

Creating the benchmarking graphs

Following the second full year of data collection (1 September 2012–31 August 2013), four benchmarking graphs were created displaying RSPCA Assured and Soil Association Certification members’ prevalence of feather loss for each of the four parameters. The graphs were created using pooled data from a total of 743 audits. Data were cleaned prior to pooling and if farms received more than one welfare outcome assessment during the same year period only the first assessment was included. Below is an example of one of the benchmarking graphs. It displays the percentage of birds with feather loss on the back and vent plotted against flock age.

The green, amber and red lines represent the 25th, 50th and 75th percentile values respectively, and these lines split the graph into three distinct shaded areas which represent the bottom 25% (red), middle 50% (amber) and top 25% (green) of flocks.

The four benchmarking graphs have been displayed on the members’ feedback forms since October 2013, with the 25th, 50th and 75th percentiles’ values updated periodically.
Using the benchmarking graphs

Upon completing their assessment, the assessors count up the number of birds scored as having no/minimal, slight and moderate/severe feather loss and record these totals in the relevant summary box on the members’ feedback forms, which allows them to calculate the flock’s four prevalence values. They then indicate flock prevalence on the appropriate graph (at the appropriate flock age) using an ‘X’. This enables the member to see whether they fall into the red, amber or green shaded area and guides the assessor’s post-assessment conversation with them. For example, the member in the example below has fallen into the amber shaded area for total feather loss on the back and neck. Ten of the 50 birds assessed were observed to have feather loss which equates to a prevalence value of 20%. The assessor will therefore suggest there is a need to develop plans to reduce feather loss on the farm and will discuss possible improvement strategies (as well as routes for further advice) that may be available to the member.

An interactive version of the feather loss benchmarking graphs was developed and added to the AssureWel website in November 2013. This tool allows members (and their advisors) to generate their own benchmarking graphs using either data from their scheme’s welfare outcome assessment or their own additional self-assessment activities. The tool provides information and advice (as well as links to supplementary resources) for members in the red, amber and green shaded areas, and includes a facility whereby members in the green areas can share best practice with AssureWel. The benchmarking tool is available at: www.assurewel.org/layinghens/howisyourfeatherlossmeasuringup

Providing members with information and advice

It is worthwhile noting at this point that, like many farm assurance schemes, both RSPCA Assured and Soil Association Certification are accredited by the United Kingdom Accreditation Service (UKAS) to the European Product Certification Standard ISO 17065 (ISO, 2012). This standard has certain requirements relating to advice provision in the context of certification, which act to maintain the independence and integrity of the certification process. In light of this, we and our collaborating schemes met with UKAS in the early stages of the AssureWel Project to discuss and clarify what the schemes’ assessors could do in terms of providing members with information and advice to improve animal welfare.

The outcome of this meeting was that assessors could provide information and advice, providing this advice is not prescriptive and they do not give the members explicit instructions. They can, however: describe the problem at hand; encourage the members’ interest in the issue; explain the benefits of solving the problem; provide information and advice on possible solutions; discuss the acceptability of the members’ own suggestions; refer the member to other sources of information and advice; and advocate the value of seeking further advice.

Our collaborating schemes’ assessors are required to have good technical knowledge of many aspects of farm management and animal welfare, receive training on these topics as part of their continued professional development, and gain extensive on farm experience as a result of undertaking their audits. To supplement this, we decided to focus on two main routes through which the

<table>
<thead>
<tr>
<th>Totals recorded in summary box</th>
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<tbody>
<tr>
<td>Back/Vent</td>
</tr>
<tr>
<td>Score 0 No/Minimal</td>
</tr>
<tr>
<td>Score 1 Slight</td>
</tr>
<tr>
<td>Score 2 Moderate/Severe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flock prevalence of feather loss indicated on the graphs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total feather loss (Score 18%)</td>
</tr>
<tr>
<td>% of birds with feather loss</td>
</tr>
<tr>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Action required</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED Action is needed</td>
</tr>
<tr>
<td>AMBER Plan for continuous improvement</td>
</tr>
<tr>
<td>GREEN Maintain high standards</td>
</tr>
</tbody>
</table>
assessors could provide members with information and advice following their welfare outcome assessment: the collation and development of relevant technical resources, and signposting members to additional sources of information and advice. Over the course of the AssureWel Project we collated, and in some cases developed, various technical resources related to best practice farm management and the improvement of animal welfare for each of the six AssureWel species. These have been added to the AssureWel website and, as noted on page 32, are discussed during the assessors’ initial training. The schemes’ assessors can use these resources to supplement their own knowledge and training, or they can refer members to them.

We recognise that sometimes the assessors may not be able to provide the necessary information and advice themselves – for example, the issue in question may require more time than the assessor is able to give during their audit, specialist expertise (e.g. from a veterinary surgeon), or very prescriptive advice. To account for this, in addition to the members’ own advisors (e.g. their vets), the assessors can refer them to either their scheme’s own support services (e.g. the RSPCA’s Farm Animals Department or the Soil Association’s producer support team), or the AssureWel animal welfare advisor. The animal welfare advisor role was created specifically to deal with inquiries arising from the members’ welfare outcome assessments and, to date, our collaborating schemes have also used this advisor to help those members most in need of support.

### ASSUREWEL CASE STUDY: Technical resources for improving the welfare of laying hens

The AssureWel website contains a wide range of resources on the improvement of welfare in laying hens ([www.assurewel.org/layinghens](http://www.assurewel.org/layinghens)) for our collaborating schemes’ assessors and members to use, including:

#### The FeatherWel guide

This is a comprehensive guide to improving feather cover produced by the University of Bristol. It provides evidence-based advice on practical strategies for reducing the risk of injurious pecking in non-cage laying hens during the rearing and laying period. It covers a very wide range of management areas from access to the range, litter management, feed and environmental enrichment. As well as this management guide there is also a FeatherWel website: [www.featherwel.org](http://www.featherwel.org)

#### The AssureWel feather cover advice guide

This leaflet was produced in collaboration with FeatherWel and the British Egg Industry Council (BEIC). It provides a handy summary of best practice related to feather loss.

#### Other resources, such as:

- Additional technical guides to managing injurious pecking, such as those produced by Defra
- Information on other areas of management such as the use of natural cover on the range and perching provision
- A number of case studies, including a document summarising management changes made by RSPCA Assured and Soil Association Certification members to improve their birds’ welfare
- The AssureWel Benchmarking tool as described on page 40.
ASSUREWEL CASE STUDY: Addressing poor feather cover through referral to the AssureWel animal welfare advisor

The AssureWel animal welfare advisor role was created to assist our collaborating schemes’ members in improving animal welfare – in particular those in most need of support, such as those falling in the bottom 25% of farms for our benchmarked measures. For example, a dual RSPCA Assured and Soil Association Certification laying hen farmer agreed to work with the animal welfare advisor after they were found to fall into the bottom 25% of farms for feather cover on two successive assessments. The diagram below displays the next steps taken by the farmer and advisor:

**Plan:**
Following a visit to the farm and discussions with the farmer, the advisor developed a management plan that the farmer could implement in order to improve his birds’ feather cover. The plan targeted a wide range of relevant areas of management (e.g. rearing, feed, health, housing, etc) and the farmer discussed the plan with his vet, feed supplier and pullet rearer to ensure the most comprehensive and appropriate approach was planned.

**Do:**
The farmer successfully implemented many aspects of the plan:
- More enrichment items were added to the scratch area, which the advisor assisted with the sourcing of
- Extra cover was provided on the range
- The health plan was reviewed by the vet
- Feed type was reviewed with the feed supplier
- The farmer and the pullet rearer worked together to improve the transition at placement so the farmer better understood the needs and behaviour of the flocks being placed.

**Improve:**
On the basis of these assessments and the review process, the management plan was adjusted as necessary. For example, enrichment items were rotated to provide novelty and the farmer continued to work with the vet to deal with a number of health issues. Interventions were intensified if feather loss scores were seen to increase.

**Check:**
The advisor regularly visited the farm to provide continued support and encouragement. In order to track progress, assessments were undertaken of the birds’ feather cover by both the farmer and the vet, enrichment use was monitored, and the management plan was reviewed by the farmer, vet and advisor.
Chapter 2: The AssureWel approach

Optimising assessor-member discussion of the assessment results

Research into human behaviour change in other contexts suggests the way scheme assessors speak with members about their assessment results and possible refinements to farm management may influence whether or not these refinements are implemented in practice.

As noted in Chapter 2.2, our collaborating schemes' assessors are trained in how to provide members with feedback on their assessments, information and advice as part of the AssureWel Assessor Training Programme. This training is informed by human behaviour change research and helps to ensure the discussion is a positive and productive experience for both the member and the assessor. For example, the assessors are trained to:

1. Highlight the rationale and benefits of welfare outcome assessment to promote the members' interest in the assessments and engage them in the welfare outcome assessment process

2. Talk about farm performance in a positive manner – regardless of whether performance is good or requires improvement – to ensure the members do not feel demoralised or negative about their assessments. For example, good performance is congratulated and poorer performance is discussed as an opportunity for improvement

3. Take steps to ensure members do not feel helpless or that improved welfare is not possible, by referencing situations where good performance is currently being achieved and that management interventions to improve welfare have been successful elsewhere – the AssureWel benchmarking graphs are particularly useful here

4. Use motivational interviewing techniques, such as open questions and reflective listening to build empathy and encourage the members to talk actively about refining farm management.

To conclude, it is important to remember it is the use of welfare outcome assessment results – not the assessments themselves – that ultimately leads to improvement in animal welfare. This means schemes need to embed mechanisms within their working practices that promote the use of their welfare outcome assessment results. Our top tips overleaf will help schemes achieve this.

FOCUS ON THEORY: What is motivational interviewing and how does it help promote behaviour change?

Motivational interviewing is a specific style of talking with people about their behaviour that aims to make the process of changing easier and more likely. It works by eliciting and reinforcing people's internal motivation to change by encouraging them to actively talk about change in a non-confrontational way (Miller & Rollnick, 1991). It was developed in the 1980s by Miller (1983), a psychologist working in the field of addiction. Miller recognised that the way clinicians spoke to their patients about their behaviour influenced the success of their behaviour change intervention programmes. Behaviour change was more likely to occur and to be sustained when the clinician:

- Was empathetic and took steps to understand the situation from the patient's perspective
- Was sensitive to and respectful of the patient's readiness to change, i.e. they didn't try to persuade or coerce the patient into changing their behaviour, especially if they were not yet ready to change
- Encouraged the patient to engage in 'change talk' (thinking and actively talking about changing)
- Supported the patient's confidence in their ability to change.

The use of open questions and reflective listening are two techniques that are very important to the motivational interviewing approach. Open questions encourage longer, more detailed answers as compared to closed questions, which can be answered with much shorter responses such as 'yes' or 'no'. Reflective listening involves listening carefully to what the individual is saying and then showing you understand by providing a summary of what they have said. This conveys you understand their perspective and encourages them to elaborate or correct you if necessary. These two techniques are important as they help to build and convey empathy and they also elicit and reinforce change talk, which, as noted above, is known to promote behaviour change.
ASSUREWEL TOP TIPS: Using assessment results to refine farm management and improve animal welfare

WE RECOMMEND SCHEMES:

- Ensure they have a suitable system in place for collating and storing the results of their welfare outcome assessments
- Summarise and review their results on a regular basis, and use their findings to develop and then refine a comprehensive strategy, which includes clear targets, for continually improving animal welfare across their membership
- Use simple, easy to understand feedback forms to display and summarise the results of their welfare outcome assessments for their members. In particular, schemes should ensure their feedback forms clearly convey whether or not action needs to be taken to improve animal welfare
- Make sure their members feel supported in making improvements. For example, ensure sufficient technical information, advice and support is available to assist them with making changes if they are required
- Remember that, in order to achieve the best results, improvement strategies should be informed by both animal welfare science and human behaviour change research.

HOW ASSUREWEL CAN HELP

Those in need of more information or guidance about welfare outcome data management, summary or analysis, or any of the farmer feedback and advice mechanisms discussed, can contact us at AssureWel Consultancy – see page 51 for further details.

Photos: Alexander Caminada/RSPCA Assured
2.4. ENGAGING WITH INDUSTRY TO MAXIMISE IMPACT
Schemes should take steps to involve and engage both their members and the wider food and farming industry in the process of developing and implementing their welfare outcome assessments. Not only will this help schemes develop protocols that are fit for purpose, it will also ensure their key stakeholders consider them worthwhile and robust, which in turn will help ensure the assessment results are used in practice to improve animal welfare on farm.

There are many different ways in which schemes can involve and engage with the industry. In particular, we would recommend schemes take steps to keep their members and the wider industry updated of their plans and progress with respect to welfare outcome assessment, involve them in the protocol development process, and get their members to actively participate in their farm’s assessment alongside the assessor.

Keeping members and the wider industry updated of plans and progress

It is vital that scheme members and other key stakeholders are informed of any plans to introduce the use of welfare outcome assessments into scheme audits, the rationale for doing this, how this change may impact them, and the schemes’ progress throughout the development and implementation stages.

During the AssureWel Project, our collaborating schemes’ members were kept informed and up to date via direct correspondence (e.g. letters and emails) and various articles in their member magazines and e-newsletters. The schemes’ assessors were also regularly updated with progress so they could relay information to members during their routine audits and respond to any questions.

In addition to this, we also kept the wider industry abreast of our plans and progress by meeting with and giving presentations to various individual industry organisations, providing updates on the project to our own/our individual partner organisation’s multi-stakeholder expert and advisory groups, and through press releases and articles in the farming press.

Involving members and industry in the protocol development process

It is not enough for schemes to simply keep their key stakeholders informed and updated. They also need to actively involve them in the protocol development process, as this will make for better, more widely accepted protocols.

As discussed in Chapter 2.1, we created and consulted with species-specific multi-stakeholder expert groups when developing the AssureWel protocols. These were typically formed of species specialists within our own organisations, independent animal welfare scientists and veterinarians, representatives from key industry bodies, and farmers.

We also undertook a number of wider consultation exercises. We surveyed our collaborating schemes’ members, as well as other key groups (such as farm advisors), to gather their views on a range of issues including, for example, the importance of different welfare outcome measures and the inclusion of the AssureWel protocols in their audits. We also worked closely with a number of key industry organisations – in particular AHDB and Red Tractor Assurance – to promote the use of welfare outcome assessment within UK farming more generally, and this involved activities such as considering measures collectively and harmonising the assessment methodology.

ASSUREWEL CASE STUDY: Collecting member feedback on the AssureWel protocol for laying hens

We undertook a number of different questionnaires, interviews and discussion groups with our collaborating schemes’ members over the course of the AssureWel Project, to help us develop and refine our protocols and monitor how well they were being received.

For instance, one year after the introduction of the AssureWel protocol for laying hens into RSPCA Assured and Soil Association Certification audits, we conducted telephone interviews with 40 laying hen members to review its use and perceived impact. The members were asked about their experience of and opinion on the newly implemented welfare outcome assessment, including their thoughts on the assessment procedure, discussing the results with the schemes’ assessors, and whether they had made any changes to their farm as a result of the assessment.

Overall, the welfare outcome assessments were well received. The members agreed with the choice of measures and were interested in the assessments and discussing the results with the assessors (Figures 6–9).
Figure 6. Do you think the welfare outcome measures the assessor looked at are appropriate?

Figure 7. Did you find it interesting/useful to discuss your welfare outcome assessment results with the assessor?

Figure 8. In general, do you want to discuss your assessment results with the assessor?

Figure 9. Will you be more interested in the welfare outcome assessment at your next visit?

Interestingly, however, in spite of this positive response to the new assessments, only 10% of the members said they had refined their farm’s management plan or health plan as a result of their assessment, and only 18% said they had changed their management practices in some way.

In summary, these interviews helped us to assess whether the members were happy with our protocol and its implementation. They also reinforced the importance of developing mechanisms to promote the use of the assessment results in reviewing and refining farm management to improve animal welfare and, as discussed on page 38, this is now a key element in the AssureWel approach. More information on our member surveys can be found in van Dijk et al (2018).

**ASSUREWEL CASE STUDY: Working together across industry to assess and improve the welfare of farm animals**

One of the objectives of the AssureWel Project was to encourage the use of welfare outcome assessment by other farm assurance schemes. We have, therefore, strived to work with as many organisations as possible to achieve this.

In particular, we have worked closely with Red Tractor Assurance, the largest farm assurance scheme in the UK, and AHDB, to encourage and support the inclusion of welfare outcome assessment in Red Tractor audits. This collaborative work has been very fruitful and the AssureWel protocol for dairy cattle has been used in Red Tractor audits since October 2013. In addition to this, AHDB Pork’s Real Welfare Protocol has been used during Red Tractor audits since April 2013 and we worked together with the two organisations to harmonise the Real Welfare and AssureWel protocols for finishing pigs as much as possible.

This collaborative work involved consulting with Red Tractor and AHDB during the protocol development process to get their feedback on our protocols, and to ensure the measures included were harmonised across the industry where necessary and possible. It also involved training Red Tractor assessors to use the AssureWel protocol for dairy cattle and undertaking pilot work on Red Tractor farms, to ensure the protocol was suitable for use by this specific scheme.
Getting members to actively participate in their welfare outcome assessments

Scheme members need to understand their welfare outcome assessments and have confidence in how they are being implemented. A good way of achieving this is to get the members to actively participate in their assessment with the assessors.

With this in mind, an activity called joint scoring was incorporated into the AssureWel protocols, in which a small number of animals are scored by both the member and the assessor. Joint scoring promotes assessor-member discussion about the rationale for using the different measures, the measures’ assessment methodology, and how the animals have been scored. It also provides the members with the knowledge and skills to use the protocols themselves if they would like.

In summary, there is much to be gained by schemes from engaging their individual members and the wider industry in the development and use of their welfare outcome assessments. Our top tips below will help schemes achieve this.

ASSUREWEL TOP TIPS: Engaging with industry to maximise impact

WE RECOMMEND SCHEMES:

- Keep their members and other key stakeholders informed of their plans and progress related to the introduction of welfare outcome assessments into their audits and ensure they explain the rationale for and many benefits of undertaking these assessments.
- Use multi-stakeholder expert groups to inform the development of their welfare outcome assessment protocols – their experience and expertise will help make the protocols fit for purpose and will enhance their overall acceptability.
- Survey their members to get their views on the protocols and their implementation.
- Promote their members’ understanding of and confidence in their protocols by getting them to jointly score some of the animals with the assessor as part of their audit.

HOW ASSUREWEL CAN HELP

For more information about any of the engagement routes and activities discussed in this chapter, contact us at: AssureWel Consultancy – see overleaf for further details.
CHAPTER 3: HOW ASSUREWEL CAN HELP

“We have developed a range of resources, tools and services that we hope will help promote the use of welfare outcome assessments to improve animal welfare on farm”
We strongly recommend farm assurance schemes – and other organisations involved in assuring farm animal welfare – undertake welfare outcome assessments as part of their audits, to strengthen the robustness of the audit process and in turn recoup the many benefits of doing this, such as improved farm animal welfare.

We are aware, from our own experiences, that this may feel like a daunting task. At the beginning of the AssureWel Project, we did not know how to tackle some of the tricky issues involved in developing welfare outcome assessment protocols or embedding their use within our collaborating schemes’ working practices. However, through examining the science, consulting with experts and industry, some trial and error, and a lot of reflection and refinement, we have developed an approach that works.

To support others in undertaking similar work, we have developed a range of AssureWel resources, tools and services that we hope will help promote the use of welfare outcome assessments to improve animal welfare on farm.

### AssureWel resources and tools

The AssureWel website ([www.assurewel.org](http://www.assurewel.org)) is a central hub of freely available information about welfare outcome assessment, the AssureWel Project and our approach to improving farm animal welfare. It is our main point of contact and it provides easy access to all of our species-specific resources and tools, including:

- The AssureWel protocols, score sheets, and explanation of measures guidance documents for all six species
- Resources and tools related to the improvement of farm animal welfare, including various species-specific advice documents and, for laying hens, the AssureWel benchmarking tool for feather loss.

The Website also has pages dedicated to our training and consultancy services, and the annual AssureWel International conference.

### AssureWel Training

AssureWel Training is our dedicated training service, based on the AssureWel Assessor Training Programme described on page 31. It provides interested parties with access to our six species-specific training packages and the AssureWel Webtool.

The training packages can be tailored to meet specific interests and needs, but will typically cover:

- The rationale for and benefits of using welfare outcome assessments
- Classroom and on farm training in the use of the AssureWel protocols, which will include welfare outcome scoring exercises
- Welfare outcome scoring standardisation tests if required
- Information and advice on using welfare outcome data to improve animal welfare, for example providing members with feedback on their assessment results and advice on welfare improvement.

The AssureWel Webtool is our online refresher training and standardisation tool that has been developed to help maintain assessor competence and consistency (see pages 32 to 34 for more details). Subscription to the Webtool will provide schemes’ assessors with access to detailed guidance on scoring, as well as our practice scoring tests and formal standardisation tests. These standardisation tests can be used to monitor and maintain consistency of scoring and the percentage agreement pass rate can be customised to suit individual requirements.

For further information, contact us at: [www.assurewel.org/training](http://www.assurewel.org/training)

### AssureWel Consultancy

AssureWel Consultancy is our bespoke information and advice service. We can provide consultancy on a wide range of topics related to welfare assessment and improvement. For example:

- The concept of welfare outcome assessment (e.g. the underlying theory and its rationale and benefits)
- How to develop welfare outcome assessment protocols, including measure selection and on farm piloting
- How to embed the use of welfare outcome assessment into scheme working practices, including assessor training and industry engagement
- How to manage and analyse welfare outcome data effectively
- How to use the welfare outcome data collected to drive improvements in animal welfare.

For more details, see: [www.assurewel.org/consultancy](http://www.assurewel.org/consultancy)

### AssureWel International

The AssureWel International conference series has been held on an annual basis since 2014, as a knowledge sharing and networking platform for farm assurance schemes and other food and farming industry organisations who share the goal of improving farm animal welfare.

To date, delegates have included representatives from various farm assurance schemes and other food and farming industry bodies, as well as key influencers from the NGO and academic sectors. Meetings have featured talks from both the AssureWel team, and other speakers, on a wide range of issues related to assuring, assessing and improving farm animal welfare. The conference has aimed to be highly interactive and delegates have been encouraged to provide updates on their own related projects and to discuss both their successes and challenges in order to facilitate the exchange of best practice.

For more information, visit: [www.assurewel.org/international](http://www.assurewel.org/international)
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References


ISO. 2012. General requirements for bodies operating product certification systems. BS 17065.


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