Using 4 E’s to improve welfare
Overview

• Welfare assessment
• Welfare improvement
• Link with certification schemes
Welfare concepts

Freedom from hunger & thirst by ready access to fresh water and a diet to maintain full health and vigour.

Freedom from discomfort by providing an appropriate environment including shelter and a comfortable resting area.

Freedom from pain, injury and disease by prevention or rapid diagnosis and treatment.

Freedom to express normal behaviour by providing sufficient space, proper facilities and company of the animal’s own kind.

Freedom from fear and distress by ensuring conditions and treatment which avoid mental suffering.

Quality of life

A good life

A life worth living

A life not worth living

Poor Welfare

Good Welfare

Mental states

Physical states

Naturalness
Evidence-base welfare assessment in farm animals

Inputs vs Outputs

Stockman
- training
- experience
- personality

Environment
- e.g. diet
- housing
- Social groups

Animal
- breed
- genetics

Behaviour
- e.g. social interactions
- play
- occupation
- choice

Physical condition
- e.g. health
- body condition
- wounds

Records
- e.g. abattoir data
- treatment records
Welfare Quality®
Assessment protocol for pigs

Welfare Quality®
Assessment protocol for cattle

Welfare Quality®
Assessment protocol for poultry
What is best sampling strategy? : Body lesions

- Indicator of "social unrest"
- Sampled every pig in every pen on 6 typical farms
- Model effect of sampling 1 – 100% of pens
Welfare improvement: 4 approaches

- Economics  ➢ Financial incentive
- Education   ➢ Provide knowledge
- Encouragement ➢ Positive motivation
- Enforcement ➢ Insist on action
Change system or management?

- **System**: e.g. Cage vs free range
  - Number of animals
  - Indoor / Outdoor
  - Stocking density
  - Behavioural confinement

- **Management**: e.g. Cattle lameness
  - Stockperson knowledge, skills
  - Stockperson attitude
  - Veterinary involvement
  - Day to day attention to detail
Economics & animal welfare

Win – Win : Management issues  
Improve welfare & improve productivity

Win – Lose : System issues  
Reduce welfare & improve productivity

ANIMAL WELFARE, ECONOMICS AND POLICY
John McInerney, University of Exeter 2004
Which approach is more important?

System issues
1. Economics
2. Enforcement
3. Encouragement
4. Education

Management issues
1. Encouragement
2. Enforcement
3. Economics
4. Education
Does education work?

- Lameness in dairy cattle
- Tail biting in pigs
- Injurious pecking in hens

Knowledge of disease process

Knowledge of husbandry risks

Farm specific diagnosis

Farm specific risks

Suggested control measures

Action on farm?
Take home message from intervention studies

😊 If farms reduced risks during intervention
   ➢ Associated with reduced prevalence
   ➢ Advice was valid

😢 But providing advice on risks
   ➢ Not associated with more risk reduction
   ➢ Compliance was poor
Education? Lack of knowledge: not major barrier

- But need detailed technical knowledge to solve
- Knowledge needs to be available in right format

Fig. 6. Percentage of farmers considering the suggested barriers to lameness control “extremely important” to “not important”.

University of BRISTOL
Encouragement example

• Facilitation
  – People are more likely to change their behaviour if they think it is their own idea.

• Benefits and Barriers
  – Knowing the benefits and barriers underpins the approach.

• Norms
  – People are more likely to change behaviour if they know others have done the same.

• Commitment
  – Commitment is key to sustaining behaviour change

• Prompts
  – Prompts act to remind people of agreed activities and help sustain the new behaviour.

Evaluating an intervention to reduce lameness in dairy cattle. Main, DCJ, Leach, KA, Barker, ZE, Sedgwick, AK; Maggs, CM Bell, NJ Whay, HR JOURNAL OF DAIRY SCIENCE 95 : 2946-2954 2012
Encouragement – More husbandry changes

Veterinary Advice

Facilitated discussion

Monitored only

Number of changes per farm

Visit 1  Visit 2  Visit 3  Visit 4

- Monitored only
- Monitored and supported
Case Example: Lameness in Dairy Cattle

Healthy Feet Project
Working together to reduce cattle lameness

- 73% reduced lameness
- 52% reduced lameness by more than 10%
- Additional support reduced lameness if initial lameness problem

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Farms monitored with no additional support
Farms monitored and received additional support
Welfare improvement

System issues

1. Economics
2. Enforcement
3. Encouragement
4. Education

Management issues

1. Encouragement
2. Enforcement
3. Economics
4. Education

- Enforcement will have a role on farms that are resistant to change
Prioritising intervention

Initial Lameness Prevalence (Dairy Co Score 2 & 3 %)

Change in lameness prevalence over study (%)
AssureWel : Using outcomes to improve welfare

➤ Background :

➤ “Animal welfare outcome safeguards should be incorporated into industry, private and other assurance and certification procedures associated with animal welfare claims.” FAWC (2011)

➤ Welfare Quality ® - standardised outcome assessment

➤ AssureWel project goals for all major species : Hen, Dairy, Pig

➤ Deliver optimum welfare assurance within RSPCA Freedom Food and Soil Association certification schemes

➤ Promote uptake of outcome-based assurance within UK and European farm assurance schemes.

AssureWel is a collaborative project led by University of Bristol, RSPCA and Soil Association
Welfare outcomes assessment in laying hen farm assurance schemes

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Abstract

Most farm assurance schemes in the UK at least, in part, aim to provide assurances to consumers and retailers of compliance with welfare standards. Inclusion of welfare outcome assessments into the relevant inspection procedures provides a mechanism to improve animal welfare within assurance schemes. In this study, taking laying hens as an example, we describe a process for dealing with the practical difficulties in achieving this in two UK schemes; Freedom Food and Soil Association. The key challenges arise from selecting the most appropriate measures, defining sampling strategies that are feasible and robust, ensuring assessors can deliver a consistent evaluation and establishing a mechanism to achieve positive change. After a consultation exercise and pilot study, five measures (feather cover, cleanliness, aggressive behaviour, management of sick or injured birds, and beak trimming) were included within the inspection procedures of the schemes. The chosen sampling strategy of assessing 50 birds without handling provided reasonable certainty at a scheme level but less certainty at an individual farm level. Despite the inherent limitations within a time and cost sensitive certification assessment, the approach adopted does provide a foundation for welfare improvement by being able to highlight areas of concern requiring attention, enabling schemes to promote the use of outcome scoring as a management tool, promoting the dissemination of relevant technical information in a timely manner and increasing the scrutiny of standards important for the welfare of the birds.
Egg labelling / information in UK

• **Mandatory** method of production (EU directive)
  - Caged = 50% (furnished cage from 2012)
  - Barn = 5%
  - Free Range = 42%
  - Organic = 3%

• **Voluntary** assurance schemes (EN45011 / ISO Guide 65)
  - Lion code incl. salmonella vaccination: >85% all eggs
  - RSPCA Freedom Food = >90% of non-caged eggs
  - Organic scheme e.g. Soil Association

http://www.egginfo.co.uk/page/eggfacts
Standards assessed by outcomes

Example of standard that can be assessed:

“If behavioural problems occur, which manifest themselves in injurious feather pecking; they should be tackled immediately by appropriate changes in the system of management.”

DEFRA Code of recommendation for the welfare of livestock – laying hens para. 72
AssureWel: new assessment procedures

- Freedom Food and Soil Association schemes
  - >95% of non-cage laying hen units in UK
  - All farms assessed every year for compliance with scheme standards

- Before August 2011: “informal” assessment
  - e.g. “birds seen were in good body condition with limited feather loss”

- After August 2011: “formal” assessment
  - 50 birds are scored for selected outcome measure (based on Welfare Quality® measures where possible)
**AssureWel : hen protocols & training**

**Feather loss : assessor guidance**

**Sample size:** 50 birds

Assess and score 5 birds in each of 10 different areas of the house and/or range. Visually assess the head/neck area and back/vent area of the bird (without handling birds).

Score separately for head/neck area and back/vent area.

**Method of assessment:**

**Scoring:**

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
</table>
| 0     | No/Minimal feather loss  
No bare skin visible, no or slight wear, only single feathers missing |
| 1     | Slight feather loss  
Moderate wear, damaged feathers or 2 or more adjacent feathers missing up to bare skin visible < 5cm maximum dimension |
| 2     | Moderate/Severe feather loss  
Bare skin visible ≥ 5cm maximum dimension |

Plus guidance for:

- Bird dirtiness
- Beak trimming
- Antagonistic behaviours
- Flightiness
- Management of sick or injured
- Mortality

✓ On-line training tool

✓ On-farm discussion
Schemes can promote change

“assess **compliance** with a standard" AND "actively promote **best** practice”

Assessors must not (if accredited to EN45011 / ISO Guide 65):
- Give specific prescriptive advice
- Provide instruction on possible solutions

But assessors can:
- Encourage interest and awareness of the problem
- Provide technical guides approved by the scheme
- Advocate the value of advice (from others)
- Explain benefits of solving the problem

Schemes can also use outcome results to report non-compliance on those farms where there are significant problems
Encouragement • Advice guide & benchmarking

MANAGING A FEATHER LOSS PROBLEM

PREVENT. Try all preventative measures (use the advice in this guide).

INVESTIGATE. Find out the possible causes. Have there been any changes to your set-up, routines or feed? How is this flock different from previous flocks? Do the hens have enough to keep them occupied? Keeping records of feather loss helps you compare between flocks.

GET ADVICE. Ask your vet, feedstock, feed rep. and for Soil Association or Freedom Food members, contact the Welfare Outcomes Advisor: 0172 344 3524. animalwelfare@assoenvol.org

IN AN EMERGENCY. Consult your vet. As a last resort, consider lowering light levels, using coloured light bulbs and painting existing light bulbs (green has been shown to help).

Brake feather loss. Producers are urged to keep hens without brake trimming by 2021 (Defra proposed date for a legal ban) and preferably as soon as possible. Use of this advice guide and other resources should help achieve good feather cover and welfare with non-brake trimmed birds. After 10 days of age hens can only safely be brake trimmed under the authorisation of a veterinary surgeon for emergency welfare reasons due to severe feather pecking or cannibalism. Routine brake trimming is not allowed under organic standards.

MORE ADVICE RESOURCES:
- Featherwell – putting research knowledge into practice to prevent bird welfare www.featherwell.org
- AssureWell – assessment systems and advice on farm animal welfare measures: www.assoenvol.org
- RSPCA welfare standards for laying hens & pullets: www.rspca.org.uk/welfarestandards
- Guide to the practical management of feather pecking & cannibalism in the free range laying hens: www.defra.gov.uk
- SAC Organic technical summary – Preventing & coping with feather pecking www.sac.ac.uk

Produced by the AssureWell project led by the RSPCA, Soil Association (and University of Bristol) and Featherwell, and developed by the University of Leeds, using information from the British Poultry Project. Supported by the British Egg Industry Council.

Feather cover

WHY IT MATTERS
Feather cover is important for:
- Temperature regulation, protection from sunburn, dustbathing and preening.
- Feather loss can be associated with:
  - Stress, pain, injury, cannibalism, increased feed requirements and reduced productivity.

CAUSES OF FEATHER LOSS

INJURIOUS FEATHER PECKING (distinct from aggression)
Pulling out of feathers, wing pecking and cannibalism.
Can cause feather loss in any body area, particularly the back and rump
- Most common cause of feather loss
- Abnormal behaviour, believed to be redirected foraging behaviour
- Can be a sign of stress or disease in the flock
- May indicate lack of foraging opportunities or inadequate diet

Follow the advice in this guide. Once started, injurious feather pecking can be difficult to stop, so all efforts should be made to prevent and control it.

AGGRESSION
Fighting, aggressive pecking, chasing other birds. Often signalled by loud vocalisation. Particularly causes feather loss around the head area
- Normal behaviour to establish pecking order, but problem at high levels
- Can increase risk of injurious pecking, including cannibalism

Follow the advice in this guide, in particular reduce competition and encourage stable groups.

Other causes of feather loss can include damage to feathers by equipment in the house, especially on the head and neck, high levels of egg production.

Feather loss can be prevented by:
- Ensure hens do not come into lay too early or late – manage lighting appropriately.
- Actively encourage all birds to range, by providing more varied natural and artificial cover equal to about 1:400 of range area, with many dustbathing and foraging opportunities.
- Consider providing clean drinking water on the range, but be careful not to attract wild birds.
- The most common cause of injurious pecking is CANNIBALISM – make any changes gradually to avoid causing stress and fear. Pay close attention to birds to avoid sudden changes in the weather, sudden noises or bright light.

The most successful proven strategy is QUANTITY – the more of those different solutions used in combination, the lower the chances of injurious pecking and feather loss.

Members of farm assurance schemes, including organic, should also check standards requirements with the relevant scheme.
Welfare improvement:
Using outcomes in certification schemes

- Economics ➢ Emphasise Win - Win
- Education ➢ Provide technical support
- Encouragement ➢ Use data positively
- Enforcement ➢ Non-compliance (last resort)
Conclusions: New skills needed

- Technical skills / knowledge
  - Standardised welfare assessment (Welfare Quality®)
  - Husbandry solutions i.e. managing welfare risks
- Communication skills
  - Promote uptake of best practice
  - Increase “awareness” / “ownership”