

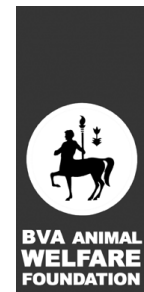
Dr David Main BVetMed PhD CertVR DWEL Dip ECAWBM (AW) MRCVS

BVA Animal Welfare Foundation Reader in Animal Welfare

RCVS Recognised Specialist in Animal Welfare Science, Ethics and Law

Foundation Diplomat European College of Animal Welfare and Behaviour Medicine (AWSEL)

Using 4 E's to improve welfare



Overview

- Welfare assessment
- Welfare improvement
- Link with certification schemes

Welfare concepts

Farm Animal Welfare in Great Britain:
Past, Present and Future : FAWC, 2009



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

Good Welfare



Poor Welfare

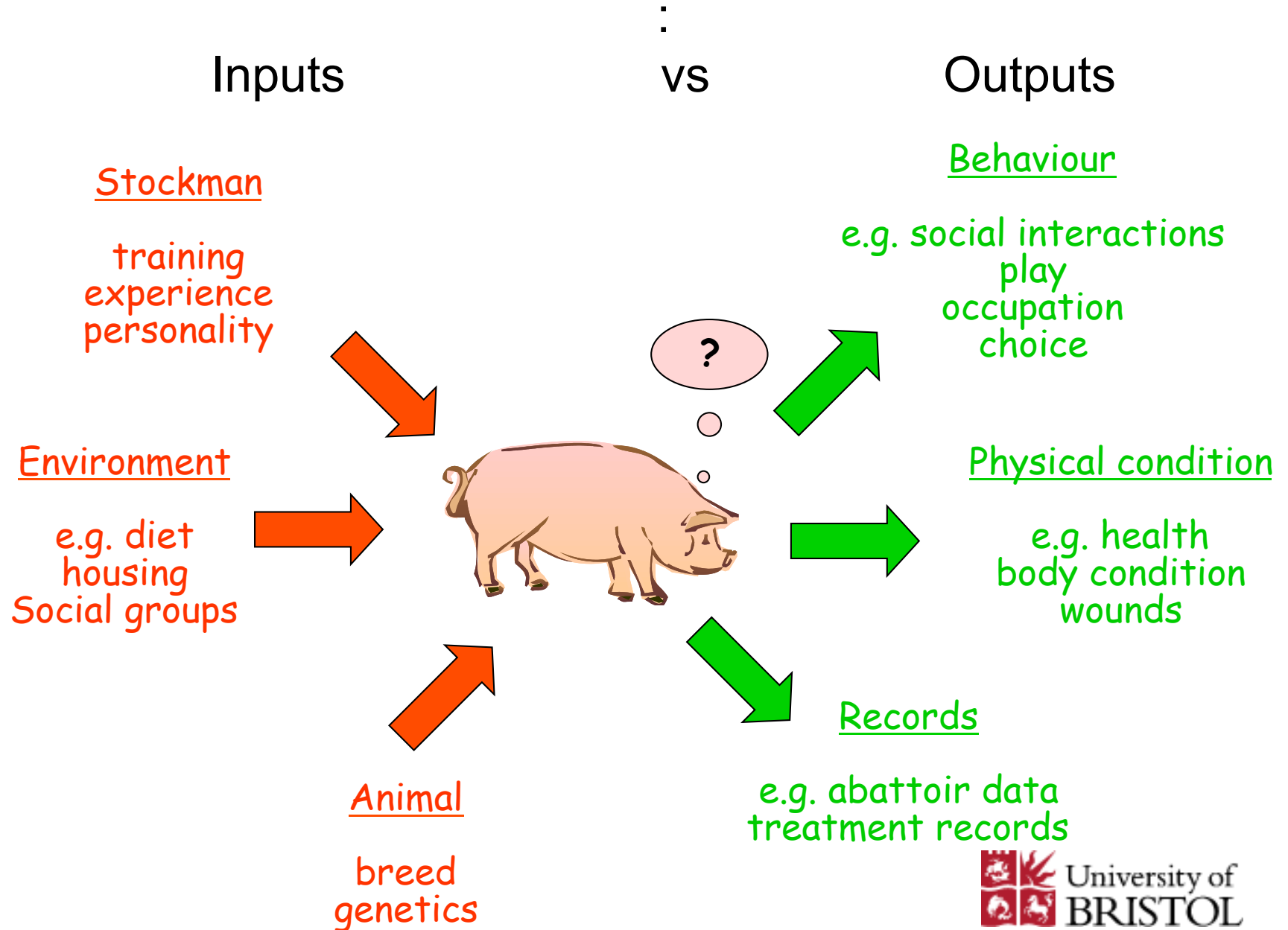
Mental states

Physical states

Naturalness



Evidence-base welfare assessment in farm animals



Welfare Quality

Science and society improving animal welfare



Welfare Quality®
Science and society improving animal welfare

NEN



Welfare Quality®
Science and society improving animal welfare

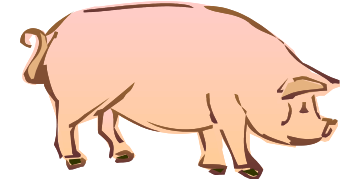
NEN



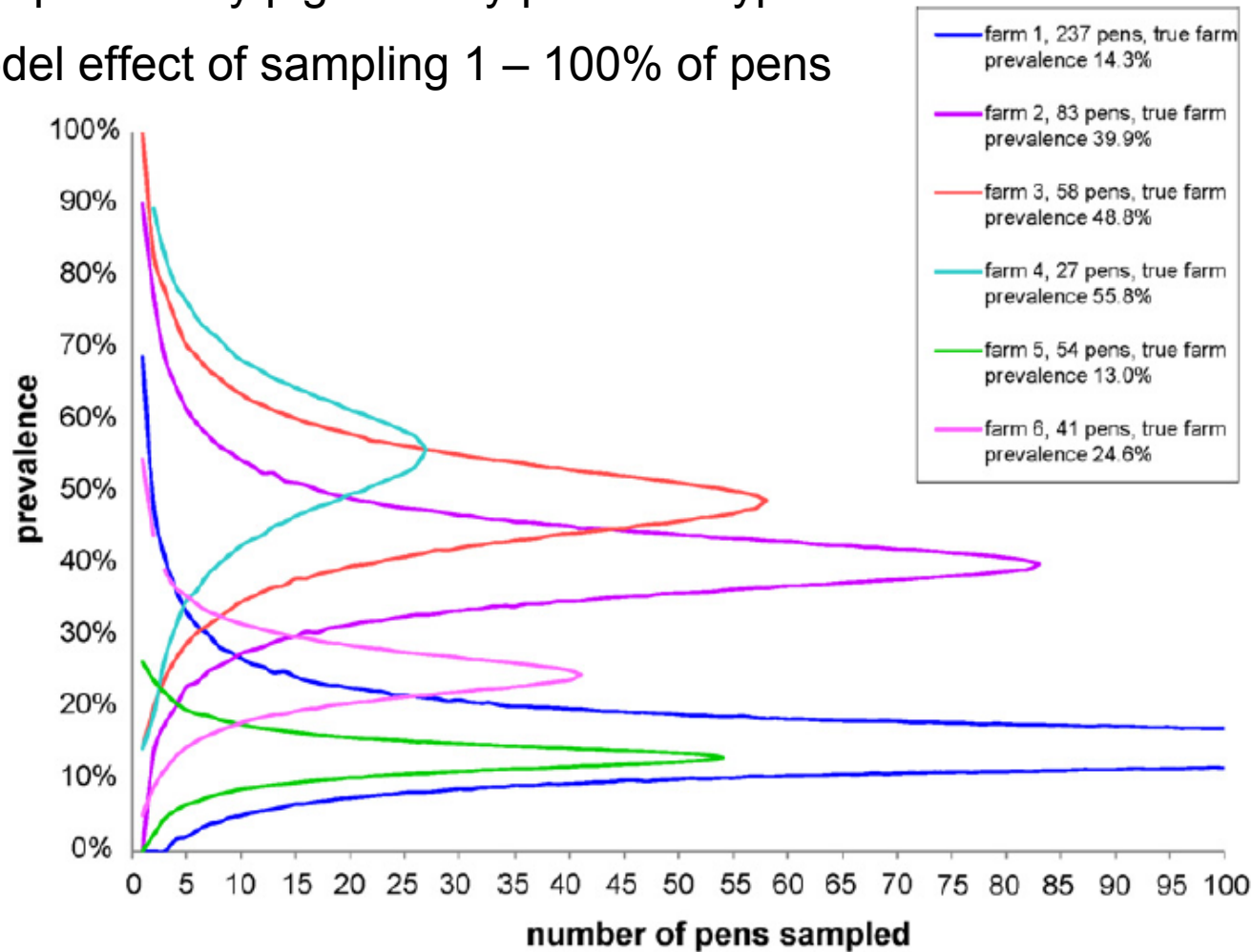
Welfare Quality®
Science and society improving animal welfare

NEN

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

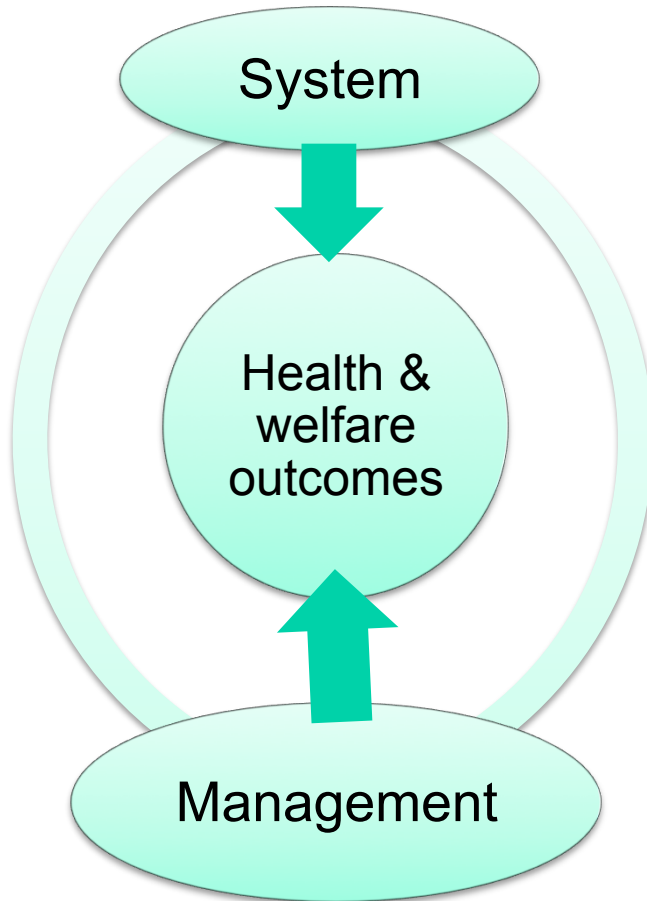


The effect of sampling strategy on the estimated prevalence of welfare outcome measures on finishing pig farms Mullan, S; Browne, WJ; Edwards, SA, Butterworth A Whay HR Main DCJ : APPLIED ANIMAL BEHAVIOUR SCIENCE 119 : 39-48 : 2009

Welfare improvement : 4 approaches

- Economics ➤ *Financial incentive*
- Education ➤ *Provide knowledge*
- Encouragement ➤ *Positive motivation*
- Enforcement ➤ *Insist on action*

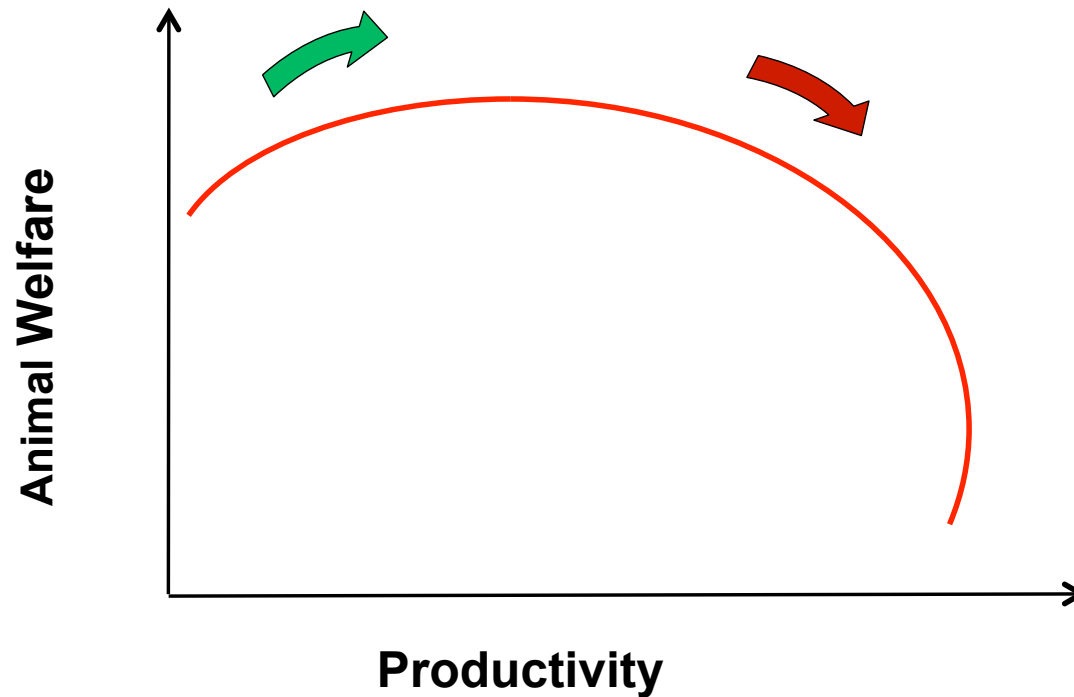
Change system or management ?



- **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

ANIMAL WELFARE, ECONOMICS AND POLICY
John McNerney, University of Exeter 2004



Win – Win : Management issues
Improve welfare & improve productivity



Win – Lose : System issues
Reduce welfare & improve productivity

Which approach is more important ?

System issues

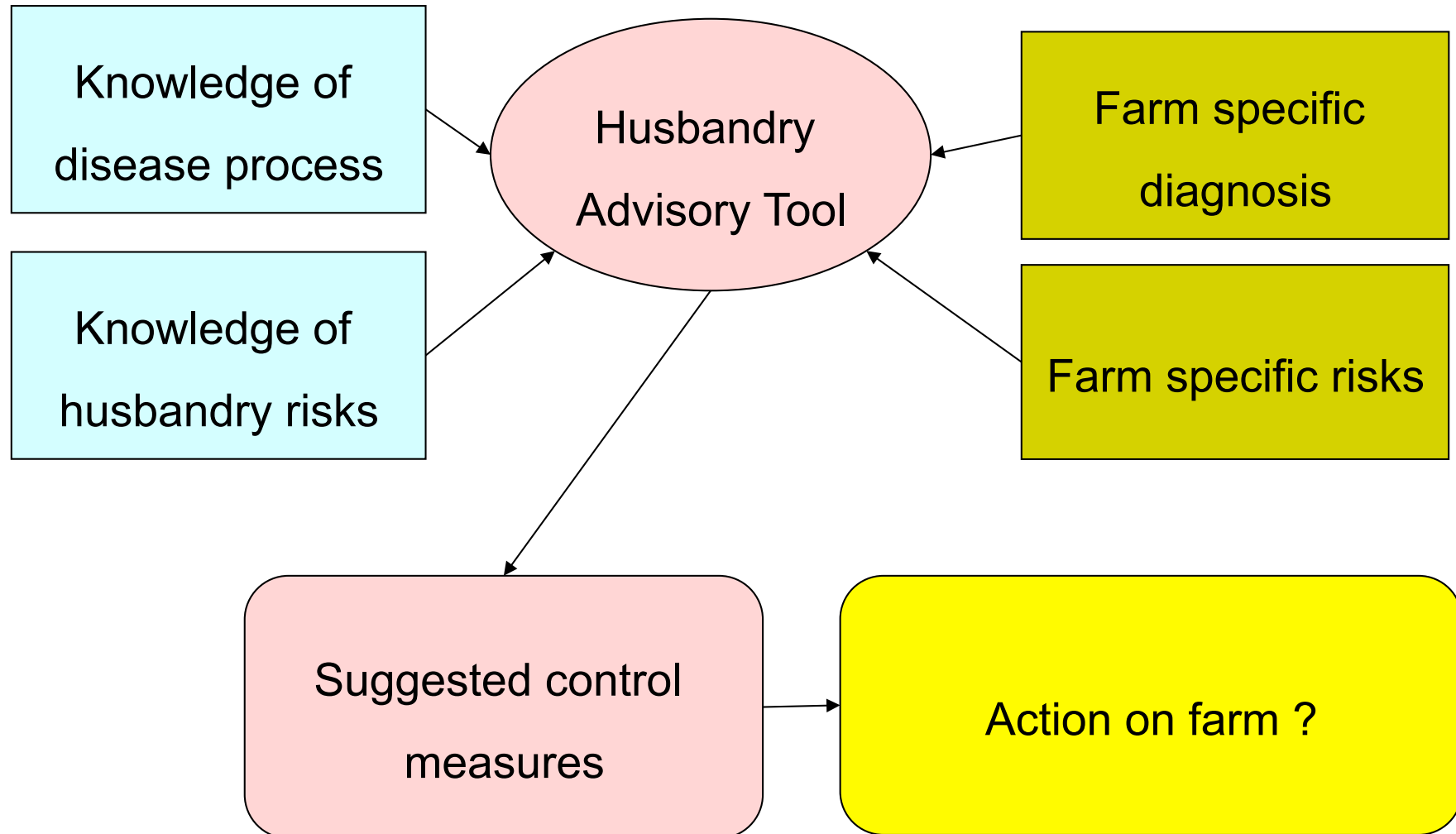
1. Economics
2. Enforcement
3. Encouragement
4. Education

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



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

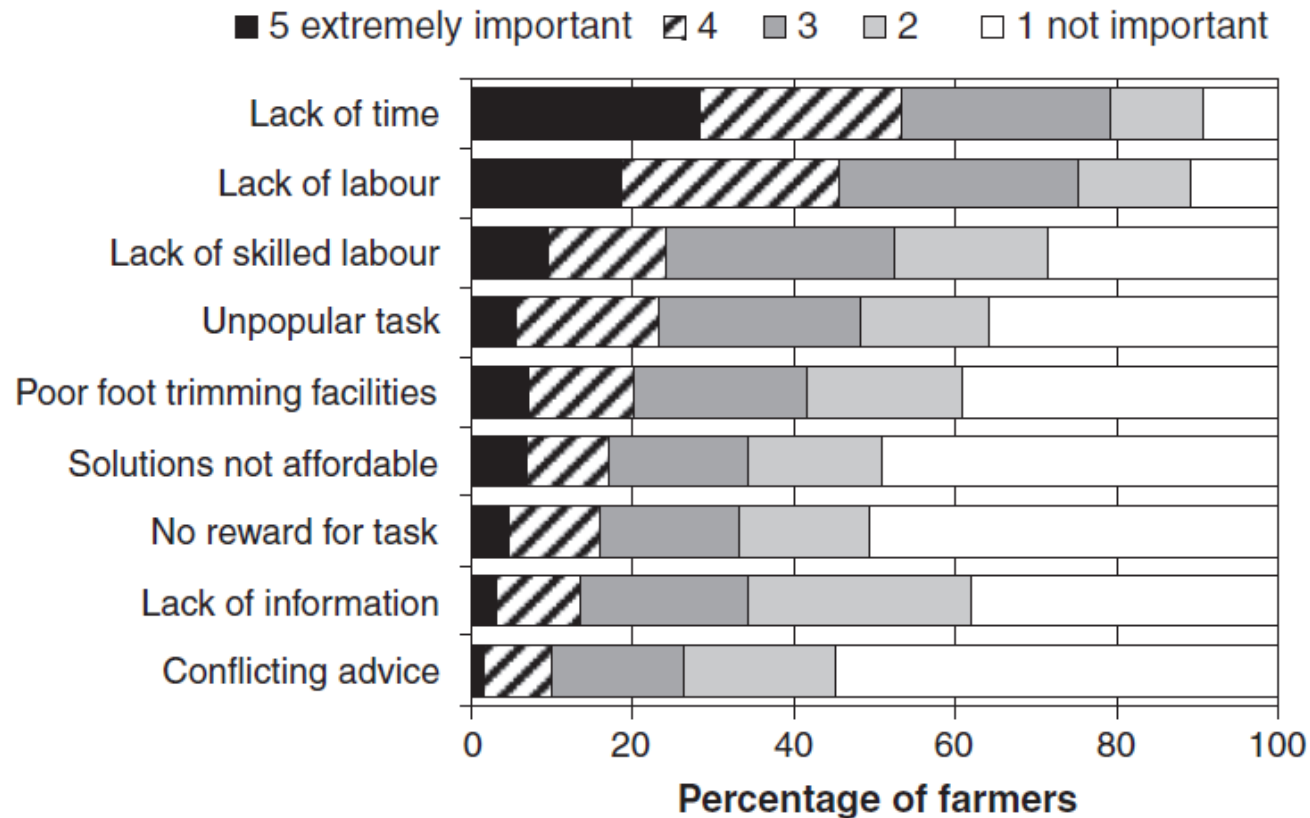
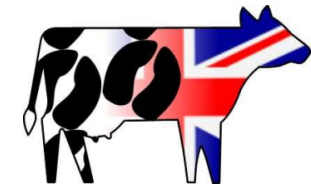


Fig. 6. Percentage of farmers considering the suggested barriers to lameness control “extremely important” to “not important”.

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

Encouragement example



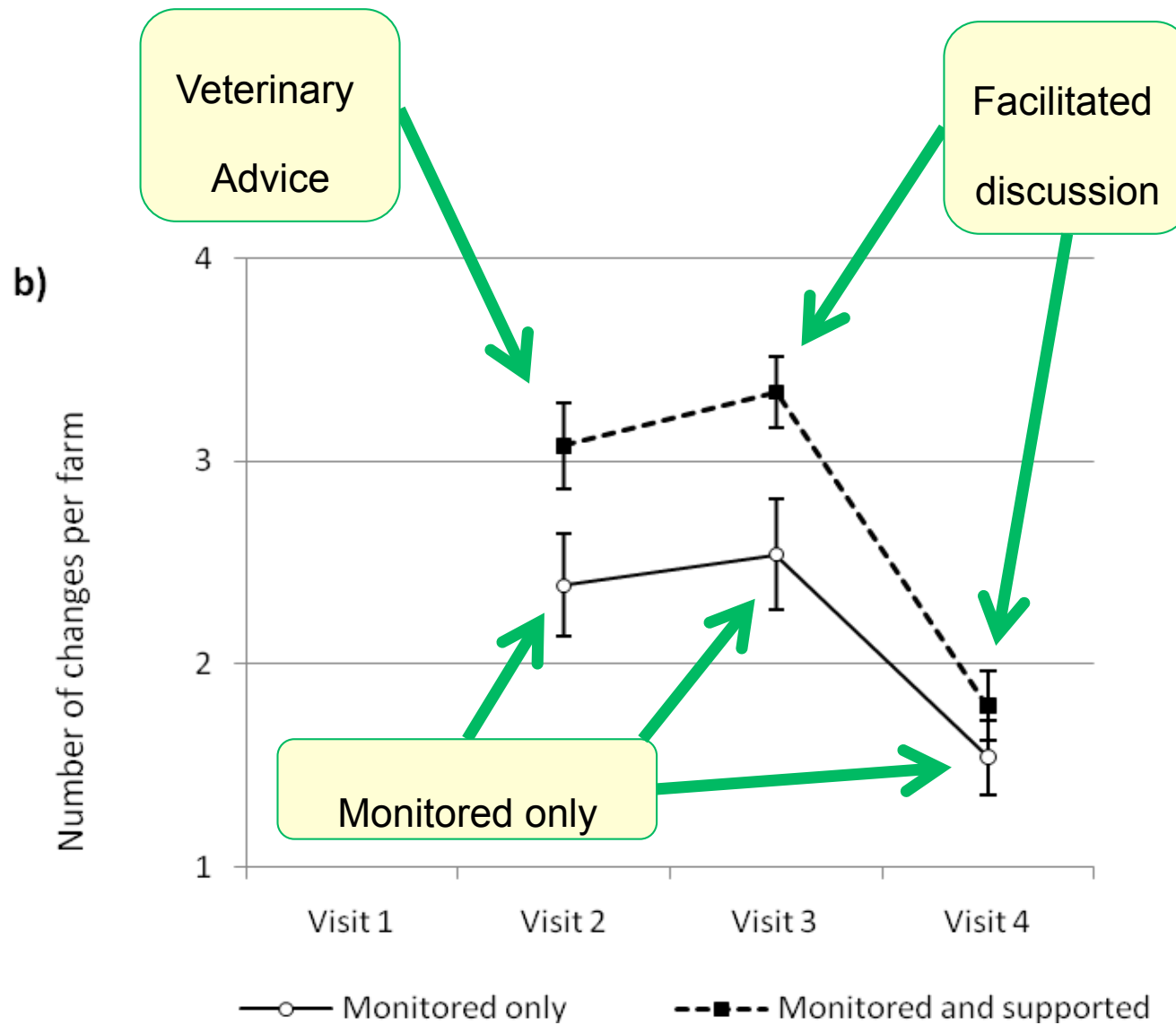
Healthy Feet Project

Working together to reduce cattle lameness

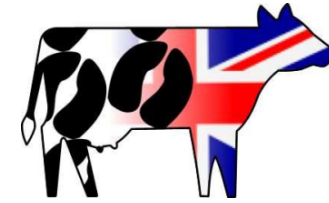
- **Facilitation**
 - *People are more likely to change their behaviour if they think it is their own idea.*
- **Benefits and Barriers**
 - *Knowing the benefits and barriers underpins the approach.*
- **Norms**
 - *People are more likely to change behaviour if they know others have done the same.*
- **Commitment**
 - *Commitment is key to sustaining behaviour change*
- **Prompts**
 - *Prompts act to remind people of agreed activities and help sustain the new behaviour.*



Encouragement – More husbandry changes

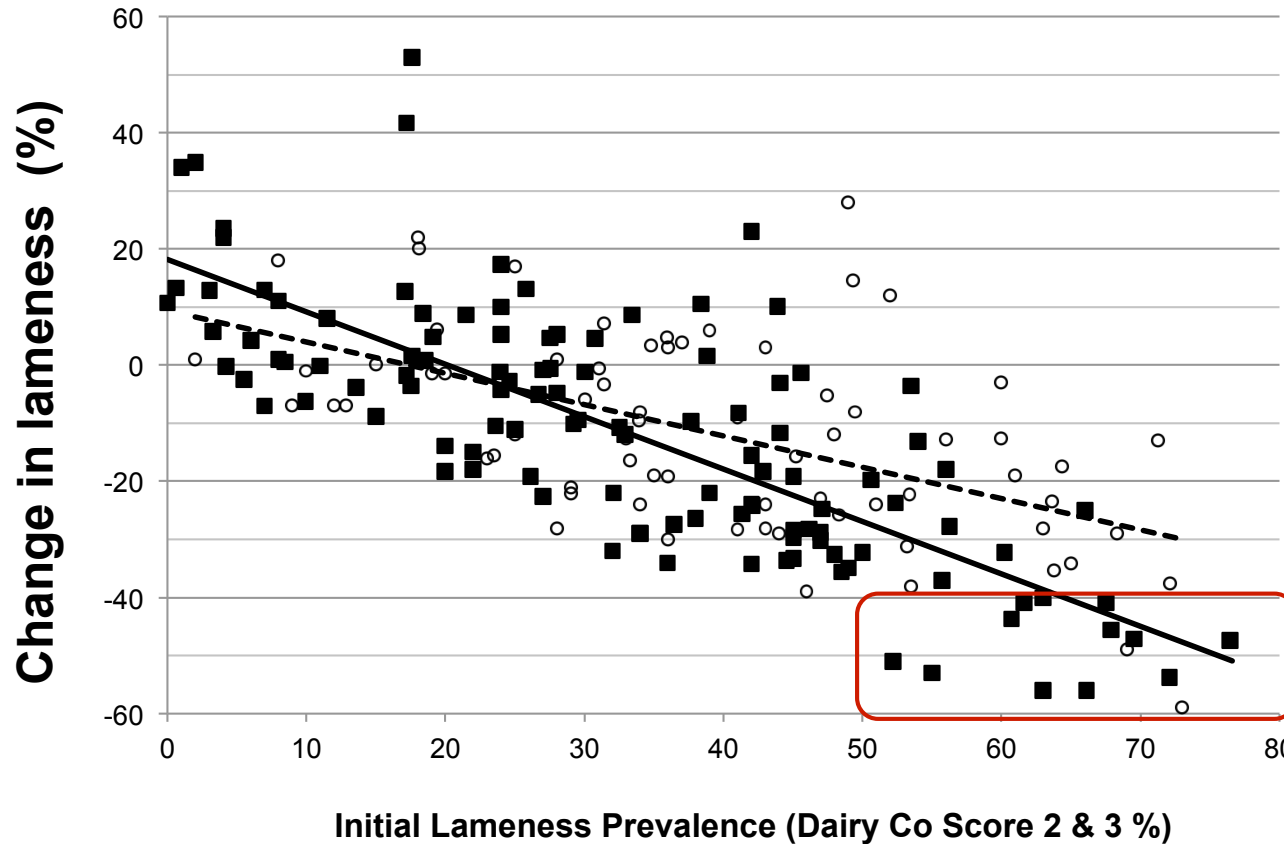


Case Example : Lameness in Dairy Cattle



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

○ ----- Farms monitored with **no additional support**
 ■ ——— Farms monitored and **received additional support**



Welfare improvement

System issues

1. Economics

2. Enforcement

3. Encouragement

4. Education

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

Management issues

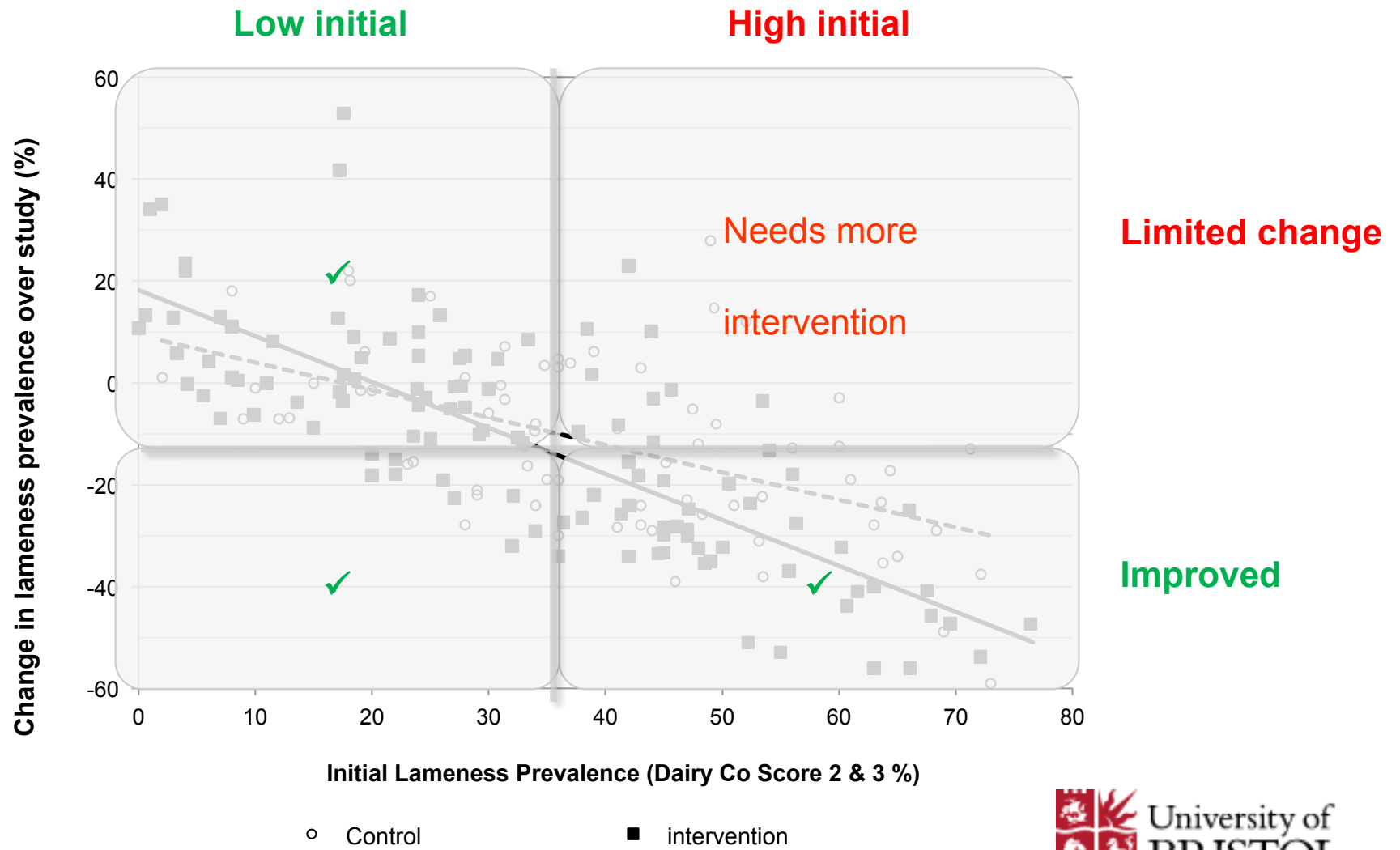
1. Encouragement

2. Enforcement

3. Economics

4. Education

Prioritising intervention



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.



Welfare outcomes assessment in laying hen farm assurance schemes

DCJ Main^{*†}, S Mullan[†], C Atkinson[‡], A Bond[‡], M Cooper[§], A Fraser[§] and WJ Browne[†]

[†] University of Bristol Veterinary School, Langford BS40 5DU, UK

[‡] Soil Association, South Plaza, Marlborough Street, Bristol BS1 3NX, UK

[§] Royal Society for the Prevention of Cruelty to Animals, Wilberforce Way, Southwater, Horsham, West Sussex RH13 9RS, UK

* Contact for correspondence and requests for reprints: d.c.j.main@bristol.ac.uk

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



Standards assessed by outcomes



laying hens
code of recommendations for the welfare of livestock



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

Method of assessment:

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.

Scoring:

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

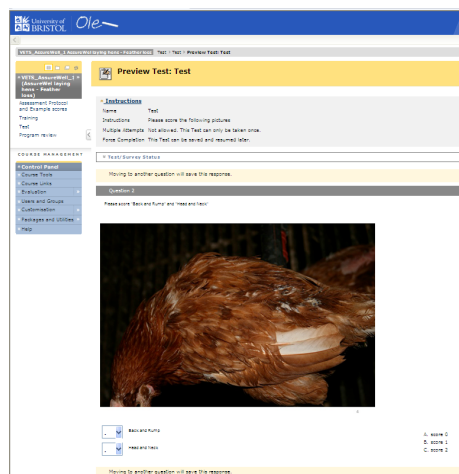
2 = Moderate/Severe feather loss

Bare skin visible \geq 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

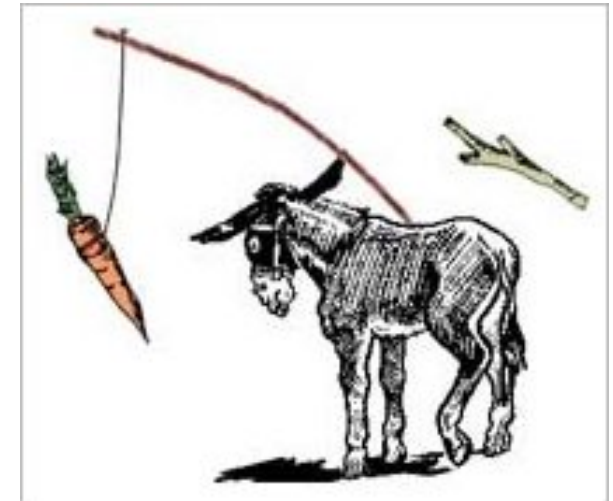
“assess **compliance** with a standard” AND “actively promote **best practice**”

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, fieldstaff, feed rep. and for Soil Association or Freedom Food members, contact the Welfare Outcomes Advisor: 0117 314 5174 animalwelfareadvisor@assurewel.org
-  **IN AN EMERGENCY.** Consult your vet. As a last resort, consider lowering light levels, using coloured light bulbs or painting existing light bulbs (green has been shown to help). This should be for a short time only, with ongoing use of other possible solutions.

Beak trimming: Producers are urged to keep hens without beak trimming by 2016 (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-beak trimmed birds. After 30 days of age hens can only legally be beak trimmed under the authorisation of a veterinary surgeon for emergency welfare reasons due to severe feather pecking or cannibalism. Routine beak trimming is not allowed under organic standards.

ASSESS YOUR FLOCK

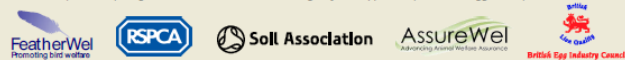
Regularly monitor and record feather cover and aggression as part of your Veterinary Health and Welfare Plan. Review with your vet, assurance scheme and company field-staff.

- SCORE FEATHER COVER** Score at least 50 birds from different areas of house/range for two areas:
- the **back/rump** (generally associated with injurious pecking)
 - the **head/neck** (can be aggression or equipment damage)
- | | |
|--------------------------|---|
| 0 No/Minimal | = No bare skin visible, no or slight wear, only single feathers lacking |
| 1 Slight | = Moderate wear and damaged feathers or two or more adjacent feathers missing with bare skin visible of up to 5cm dimension |
| 2 Moderate/Severe | = Bare skin visible of 5cm or more in dimension |

MORE ADVICE RESOURCES:

- FeatherWel – putting research knowledge into practice to promote bird welfare: www.featherwel.org
- AssureWel – assessment systems and advice on farm animal welfare measures: www.assurewel.org
- RSPCA welfare standards for laying hens & pullets: www.rspca.org.uk/welfarestandards
- Soil Association standards for laying hens & pullets: www.soilassociation.org/organicstandards
- Guide to the practical management of feather pecking & cannibalism in free range laying hens: www.defra.gov.uk
- SAC Organic technical summary – Preventing & coping with feather pecking: www.sac.ac.uk

Produced by the AssureWel project led by the RSPCA, Soil Association and University of Bristol, and FeatherWel, developed by the University of Bristol, using information from the Bristol Pecking Project. Supported by the British Egg Industry Council.



The RSPCA helps animals in England and Wales. Registered charity no. 240999
Soil Association campaigns for humane and sustainable food and farming. Registered charity no. 206862

>>> ADVICE GUIDE LAYING HENS

FREE-RANGE, BARN & ORGANIC



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.

ALL LAYING HENS CAN AND SHOULD ACHIEVE GOOD FEATHER COVER THROUGHOUT THEIR LIFE

CAUSES OF FEATHER LOSS

INJURIOUS FEATHER PECKING (distinct from aggression)

Pulling out of feathers, vent 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/neck, and high levels of egg production.

TO DO TODAY

Litter
Maintaining dry, friable litter at all times is absolutely vital – rotovate, rake, add fresh litter, use super absorbent bedded bedding for problem areas. Ensure good drainage outside. Use stones or grids to wipe hens' feet and prevent rain driving in.

Health and biosecurity

Prevent and control disease and pest challenges including red mite. Avoid dirty puddles on range and use clean boot dips.

Enrichment

Provide items inside to keep birds interested – pecking blocks hanging/ on the slats, knotted rope/string, vegetables, plastic bottles, dustbathing boxes, bales of straw/shavings. For barn systems in particular consider a range of natural light and ventilation. Provide safe refuges, resting areas and visual barriers – perches, partitions, areas of varied heights, straw bales.

Diet

- Increase foraging – use mashed feed, scatter pellets/whole grain/grit evenly on litter
- Provide extra fibre in consultation with a feed rep. or nutritionist
- Check nutrient content – particularly levels of sodium and balance of essential amino acids
- Minimise, and make gradual, any changes to diet in content, taste, texture, energy level, changing from high to low protein

Air quality

- Maintain good air quality, low dust and humidity

Inspection and management

- Inspect calmly and frequently with a varied routine to help to reduce stress and fearfulness
- With good stock keeping skills problems can be recognised and managed as quickly as possible
- Talk to your vet about preventing feather loss and review as part of your Veterinary Health & Welfare Plan

- Ensure hens do not come into lay too early or late – manage lighting appropriately



- Actively encourage all birds to range, by providing more and varied natural and artificial cover equal to about 20% 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 **CHANGE** – make any changes gradually: in housing, facilities and feed. Pay close attention to birds after sudden changes in weather, sudden noises or bright light.

>>> The most successful proven strategy is **QUANTITY** – the more of these 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”