

# **Animal welfare:**

## **Who cares & what do we do about it?**

Alistair Lawrence

SAC



**Who cares?**  
**Looking back:**

# Origins: Moral philosophy

- Philosophy (17th-18th centuries):
  - David Hume (1711-1776):
    - Scottish philosopher
    - sceptic/ atheist influenced by the 'science revolution':
      - » "there is nothing to be learned from a Professor, which is not to be met with in books."
    - created a 'naturalist philosophy':
      - » 'animals undoubtedly **feel**... though in a more imperfect manner than men'.



# Origins: Moral philosophy

- Philosophy sentience = the capacity to experience/ feel
  - David Hu
  - Scot

.. animals seen as sentient organisms..

books."

– created a 'naturalist philosophy

» 'animals undoubtedly **feel**... though in a more imperfect manner than men'.

# Origins: Moral philosophy

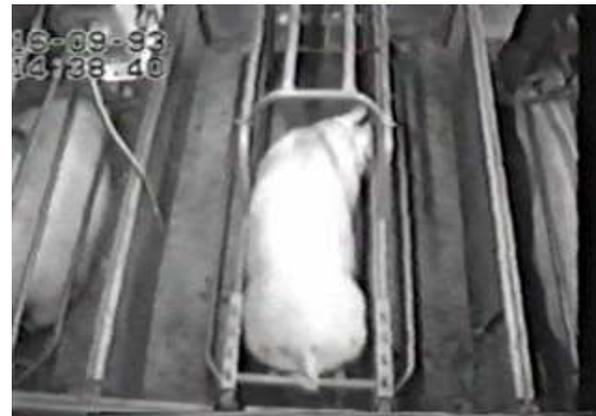
- Jeremy Bentham (1748-1832)
  - ‘the question is not, can they reason nor can they talk but can they **suffer**’.

**Hume & Bentham were both influenced by emerging scientific evidence of the biological similarities between animals & humans (Radford, 2001)**



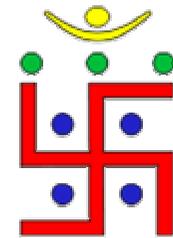
# Origins: The modern era

- 1964:
  - ‘Animal Machines’:  
Ruth Harrison
    - an ‘expose’ of the changes in livestock industries since WWII
    - an ‘**emotional**’ concern that intensive production methods lead to **animal suffering**



# Origins: Culture

- Religions provide an example of the influence of culture on human attitudes to animals
- Wide (confusing) variety of religious views on animals:

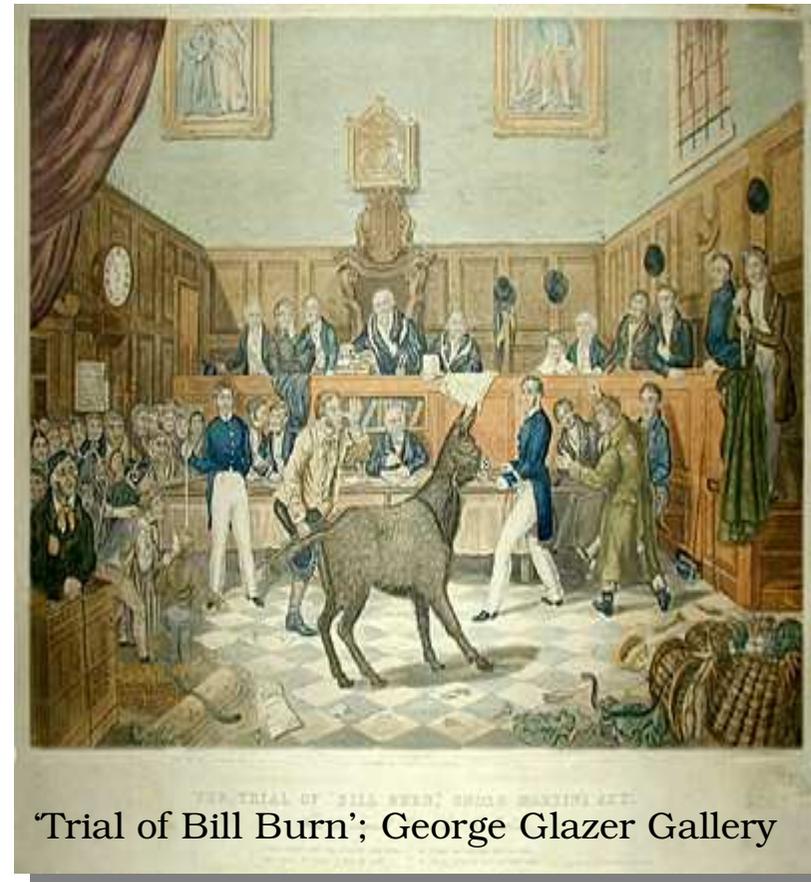


# Relationships between religious beliefs, attitudes to animals and behaviour to animals are complex

- positive religious beliefs to animals do not prevent animal cruelty (Raj, 2004, OiE Proceedings)
- religions that treat animals as soulless (e.g. Islam/Judaism) also preach compassion to animals (Alboga, 2003)
- religion does not influence levels of distress on the death of a pet (Davis et al., 2003)
- no difference between religious and non-religious workers in attitudes and behaviour to dairy cattle (Rabbie, 2000)
- variation in moral status given to animals appears related to differing views on animal sentience (capacity to suffer)
  - although not necessarily without a human 'interest' (e.g. reincarnation)

# Outcomes of animal welfare concern

- 1822: The 1st Cruelty Legislation
  - protection of animals at markets
  - (R)SPCA
- 1911: Protection of Animals Act
  - protection against **'..unnecessary suffering..' (cruelty)**



# Animal welfare: Modern era

- 1964:
  - 'Animal Machines':  
Ruth Harrison
    - an 'expose' of the changes in livestock industries since WWII
- 1965:
  - The Brambell Report
- 1979:
  - Farm Animal Welfare Council



Report of the  
Technical Committee to Enquire into the  
Welfare of Animals kept under  
Intensive Livestock Husbandry Systems

*Chairman : Professor F. W. Rogers Brambell, F.R.S.*

*Presented to Parliament by the Secretary of State for Scotland and the  
Minister of Agriculture, Fisheries and Food  
by Command of Her Majesty  
December, 1965*



Cmd. 2836

# '5 Freedoms'

<http://www.fawc.org.uk/>

- **FREEDOM FROM HUNGER AND 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 OR 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.

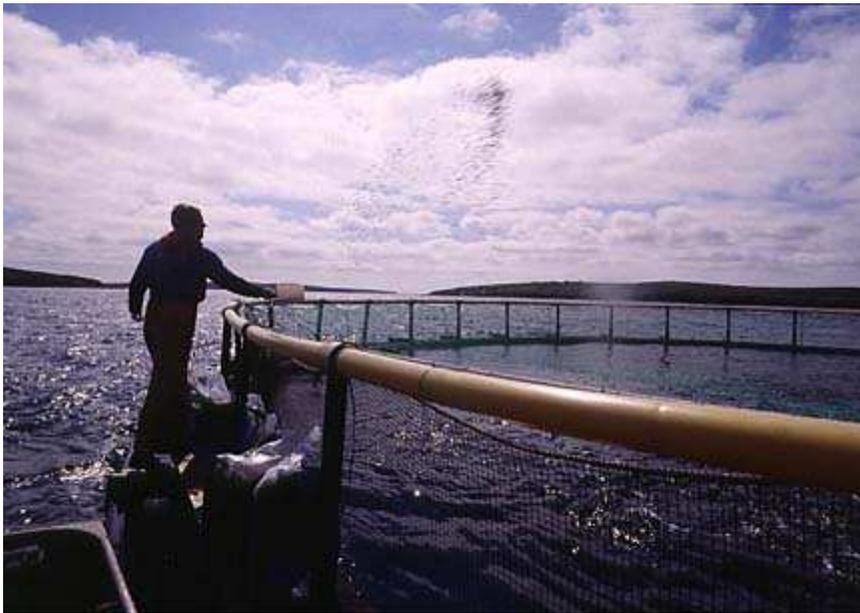
**Who cares?**

**And now:**

# Animal welfare is growing: New species



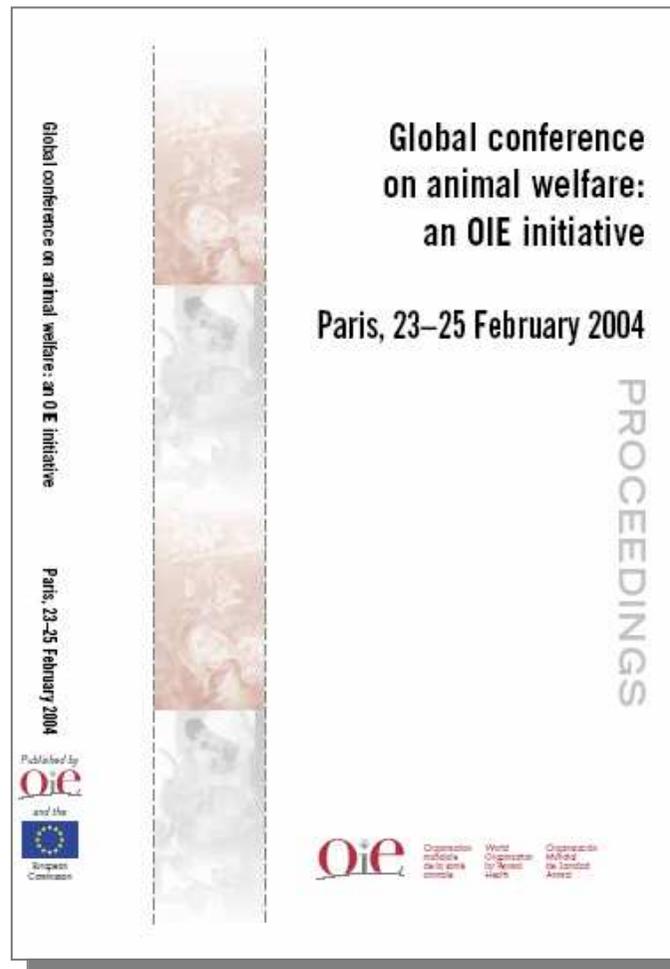
# Animal welfare is growing: New species



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Tel: +44 (0)1856 811316 email: Doug@galaha.demon.co.uk



# Animal welfare is growing: Global activity



# Animal welfare is growing: Global activity

The screenshot shows the OIE website interface. At the top left is the OIE logo. To its right is a search bar with the text "Search for" and a "Help" link. A red navigation bar contains the text "Health standards". Below this, there are language links for "[Français]" and "[Español]". A left sidebar contains a "Site Map" with various categories like "The OIE", "The Veterinary Services", "Press releases/Editorials", "International meetings", "World animal health situation", "Official animal health status", "Animal diseases data", "OIE Expertise", "Certification of diagnostic assays", "Health standards", "OIE Publications", "Jobs/Internships/Services", and "Links". The main content area displays the "International Animal Health Code - 2006" structure, including "PART 3.", "SECTION 3.7.", and "ANIMAL WELFARE". A list of chapters under SECTION 3.7. is provided, such as "CHAPTER 3.7.1. Introduction to the guidelines for animal welfare" and "CHAPTER 3.7.6. Guidelines for the killing of animals for disease control purposes". At the bottom left, there is a copyright notice: "Copyright © 2006 OIE World Organisation for Animal Health http://www.oie.int/".

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**Health standards**

[\[Français\]](#) [\[Español\]](#)

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- The OIE
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International Animal Health Code - 2006

[PART 3.](#)    [SECTION 3.7.](#)    [Contents ? - Index](#)

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SECTION 3.7.

**ANIMAL WELFARE**

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[CHAPTER 3.7.1.](#) Introduction to the guidelines for animal welfare

[CHAPTER 3.7.2.](#) Guidelines for the transport of animals by sea

[CHAPTER 3.7.3.](#) Guidelines for the transport of animals by land

[CHAPTER 3.7.4.](#) Guidelines for the transport of animals by air

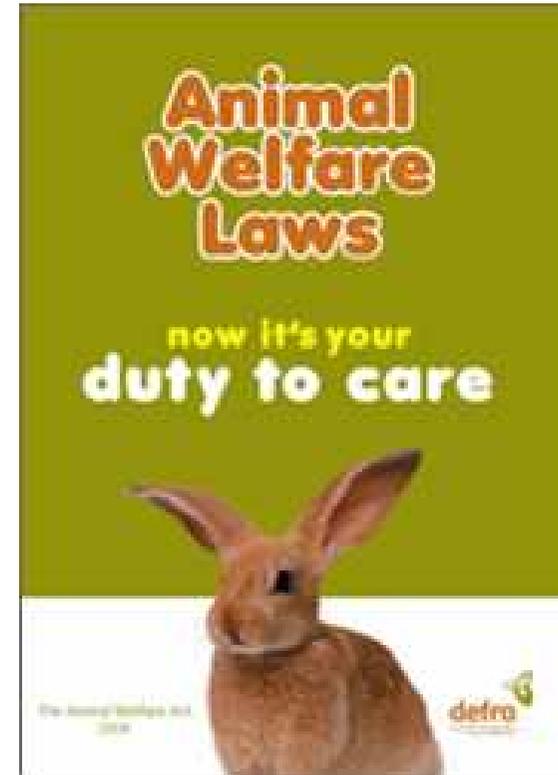
[CHAPTER 3.7.5.](#) Guidelines for the slaughter of animals

[CHAPTER 3.7.6.](#) Guidelines for the killing of animals for disease control purposes

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for Animal Health  
<http://www.oie.int/>

# Outcomes of animal welfare concern

- The Act is predicated on animal sentience
- The Act extends the **concept of a 'duty of care'** to responsible persons (owners/ keepers)
  - previous legislation only covered farm animals and tended to focus on preventing cruelty



## When does the new law come into effect?

From 6 April 2007 (and in Wales from 27 March), animal welfare law is being improved.

Not only is it still against the law to be cruel to an animal, you must now ensure that all animals' welfare needs are met.



## What does the new law do?

To find out how the new law affects you, visit [www.defra.gov.uk](http://www.defra.gov.uk)

Makes owners responsible for ensuring that their animal's welfare needs are met.

### These include the need:

- for a suitable environment (place to live)
- for a suitable diet
- to exhibit normal behaviour patterns
- to be housed with or apart from other animals (if applicable)
- to be protected from pain, suffering, injury and disease

The new law also increases the minimum age a person can buy an animal to 16 and prohibits giving animals as prizes to unaccompanied children under this age.

Anyone who is cruel to an animal or does not provide for its welfare needs, may be banned from owning animals, fined up to £20,000 and/or sent to prison.



**Yet: Clouds on the horizon?**

# Animal welfare: Competing agendas?

- Other agendas/ issues:
  - Climate change
    - major shift in government policy terms – still to be played out
    - animals (e.g. livestock) are often seen as part of the problem
      - will vegetarianism become government policy?
    - the 'space' for animal welfare in the CC debate is unclear
      - some evidence that AW has retreated as a government policy recently



# Animal welfare: Competing agendas

- Other agendas/ issues:
  - Food supply
    - the future may see a greater acceptance of more intensive forms of agriculture in order to maintain food supplies

# A possible silver lining?

- A properly developed food policy should cover all aspects of the food chain

WEALTHIER & FAIRER   SMARTER   HEALTHIER   SAFER & STRONGER   GREENER

## Everyone's Business

Food is everyone's business. It's one of the few things that none of us can do without. Any vision of Scotland's future prosperity must include a well-nourished population and profitable food industry. So how do we guarantee a future for Scotland where our food is wholesome, healthy and produced in an environmentally and welfare friendly way?

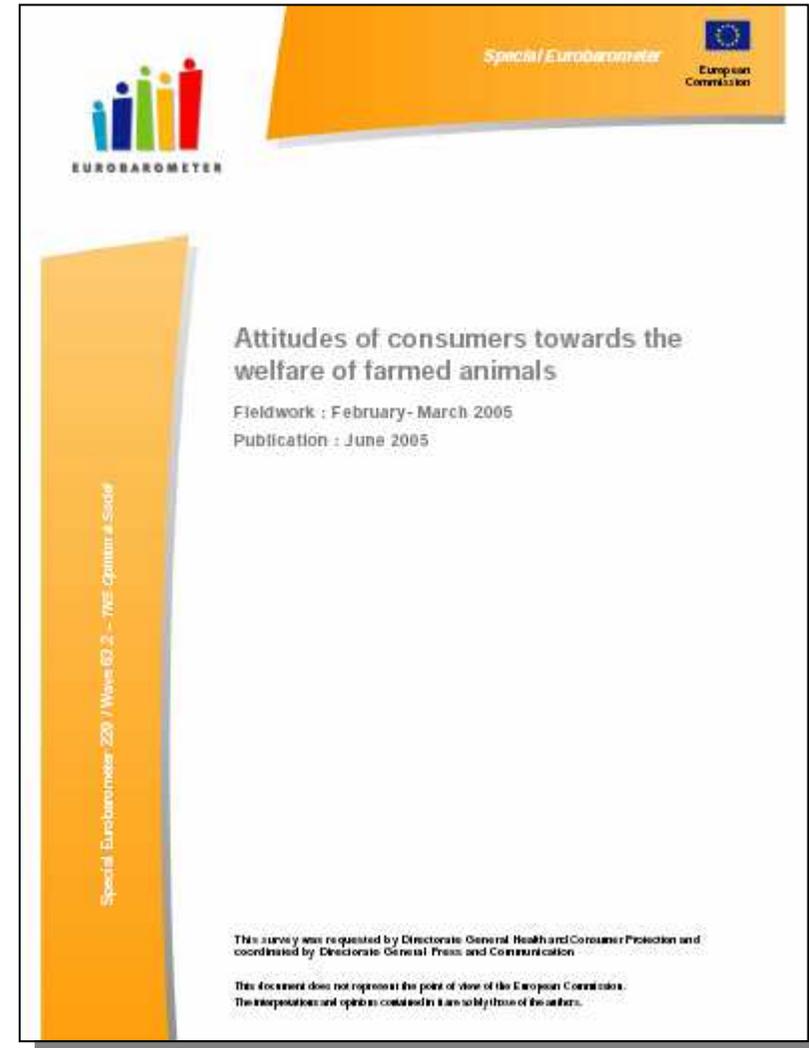


•••food is wholesome, healthy and produced in an environmentally and welfare friendly way•••

**Animal welfare: What is the true extent/  
nature of public concern?**

# Animal welfare: How positive is public opinion?

- General awareness of animal welfare issues
  - farm visits help improve understanding of issues
- 3/4 believe that consumer behaviour can influence animal welfare
- **But large variations between countries & species**



# **Animal welfare: How positive is public opinion?**

- **US: Gallup Poll, 2003:**
  - 71% agreed that animals needed some protection of their welfare
  - 25% agreed that animals should have same rights as humans
- **62% support passing strict laws concerning treatment of farm animals**

# **Animal welfare: How positive is public opinion?**

- **US: Farm Bureau Federation project 2007**
  - animal welfare ranked low compared to other social issues
  - most believe that animals can suffer but that human suffering is much more important
- **61% believe farm animal welfare should be addressed – but is this overstated?**

# Who cares?

- Animal welfare is a long-standing concern based on:
  - reason, emotion/ empathy, culture...
- This concern has resulted in steadily increased protection for animals
- Animal welfare appears to be developing globally, covering more species & issues
- At the same time there remains uncertainty as to the true international position/ status of animal welfare

# What do we do about it?

## **The 3 chefs campaign illustrates:**

- what can be discussed
- how to disseminate using mass media

## **But it also:**

- opens up conflicts
- is inevitably a superficial assessment of animal welfare

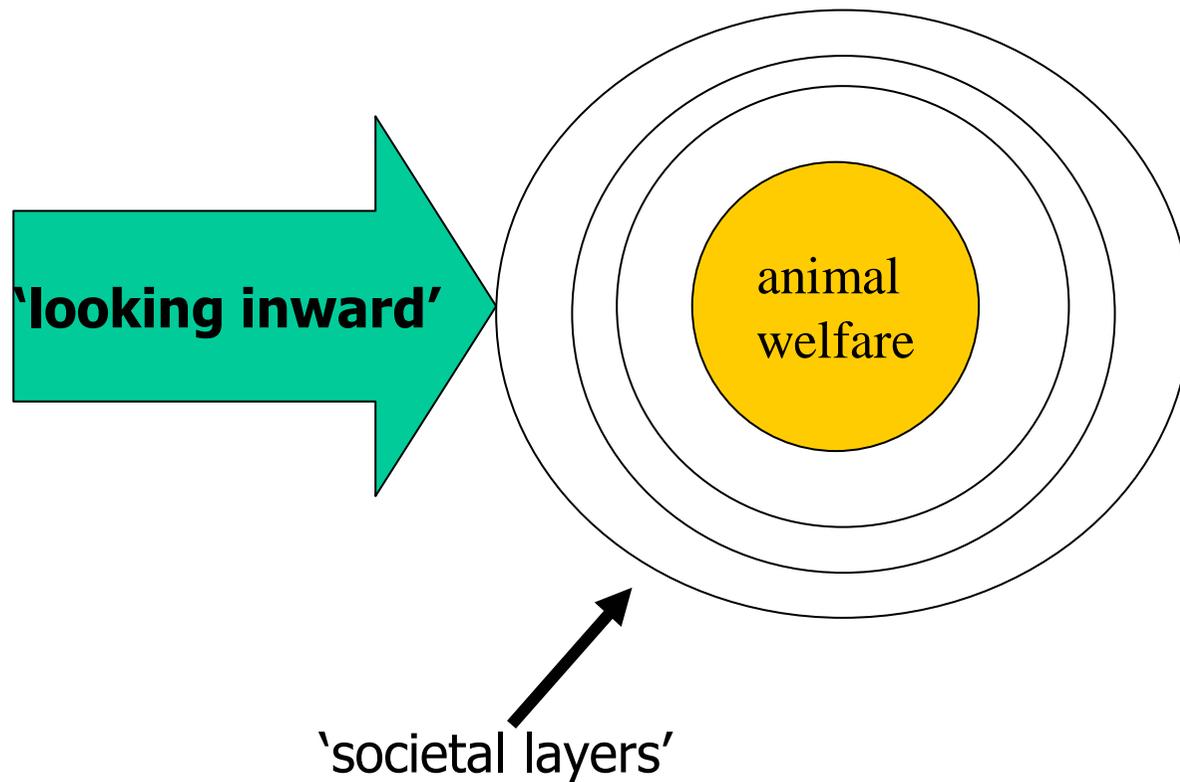
# Laying hen production systems: Weighing them up (LayWel, 2006)

Indicator	Cage type				Non cage		Outdoor
	Conventional	Furnished cage			Single level	Multi level	
		Small	Medium	Large			
Mortality (%)	Orange	Orange	Red	Red	Red	Red	Red
Mortality due to feather pecking and or cannibalism	Green	Orange	Orange	Orange	Orange	Orange	Orange
	Green	Orange	Orange	Orange	Orange	Orange	Orange
	Green	Orange	Orange	Orange	Orange	Orange	Orange
Red mite	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Bumble Foot	Green	Orange	Orange	Orange	Red	Red	Red
Feather loss	Orange	Orange	Orange	Orange	Orange	Orange	Orange
Use of nest boxes	Red	Green	Green	Green	Green	Green	INS
Use of perches	Red	Orange	Orange	Orange	Orange	Orange	Orange
Foraging behaviour	Red	Orange	Orange	Orange	Green	Green	Green
Dustbathing behaviour	Red	Orange	Orange	Orange	Orange	Orange	Orange
Air quality	Green	Orange	Orange	Orange	Red	Red	Green
Water intake	Green	Green	Green	Green	Green	Green	Orange

green = good welfare; orange = moderate risk to welfare; red = high risk to welfare

# What do we do about it?

## The role of science



# Animal welfare: Better understanding of societal concerns

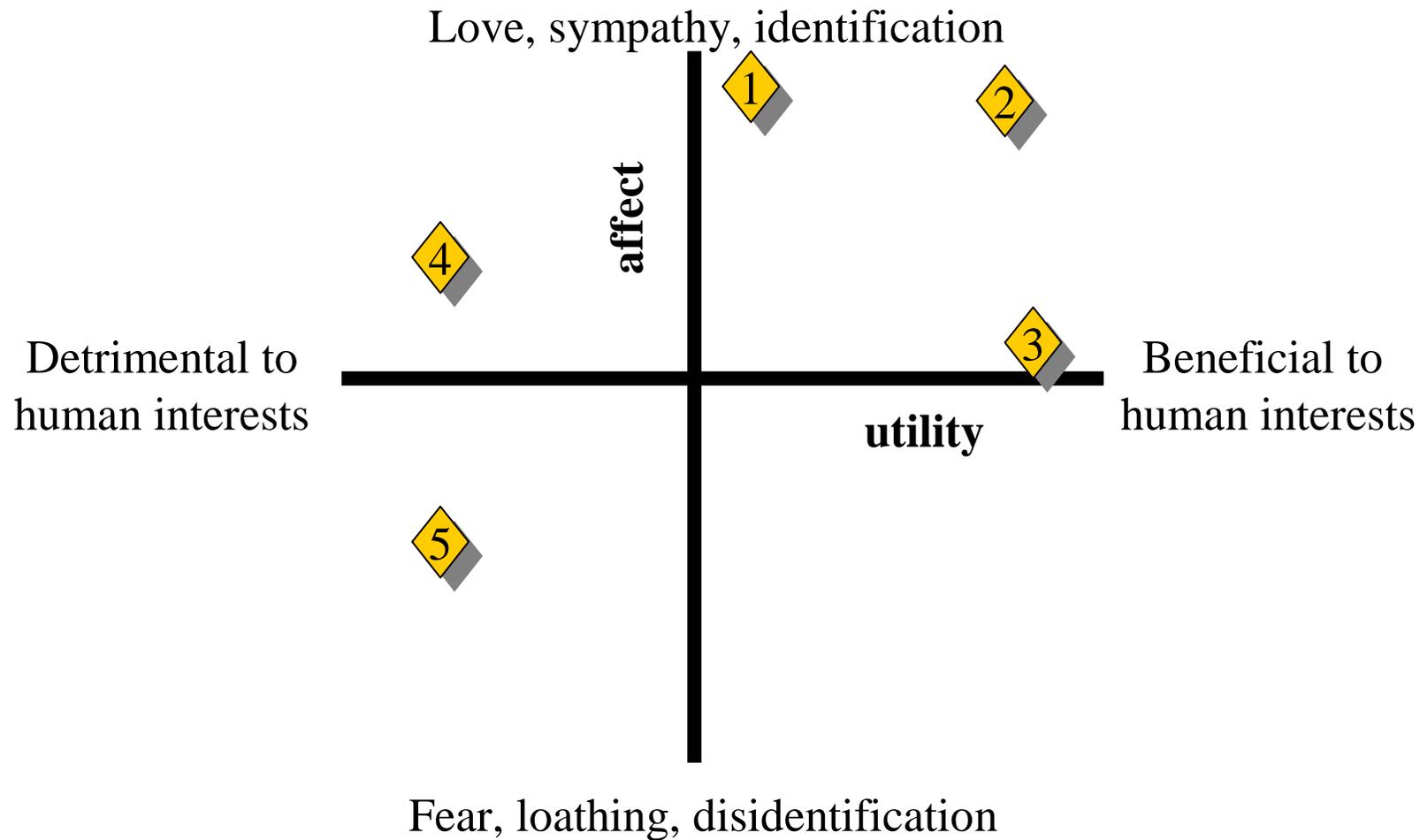
- Welfare Quality is a major EU project
- Main aim is to develop scientifically based approaches to address societal concerns over animal welfare
- Main societal views identified by consumers/ citizens:
  - animals should not **suffer**
  - **natural** environments were preferred
  - **holistic** approaches to AW including linkage to other 'green' issues



<http://www.welfarequality.net/>

# **What influences attitudes to animals?**

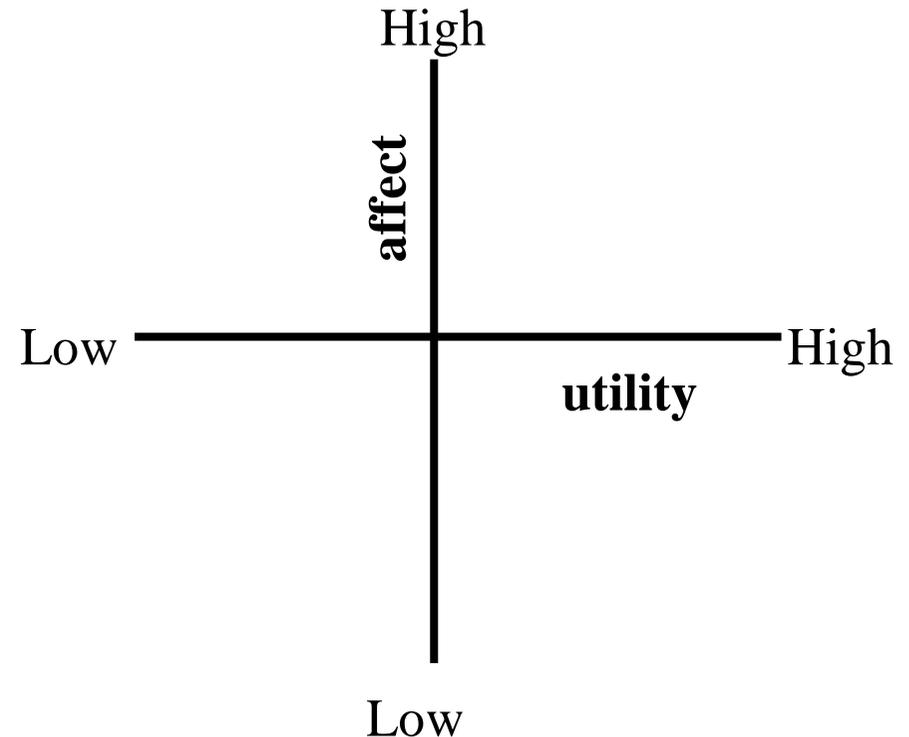
# What influences attitudes to animals?



**Serpell, 2004**

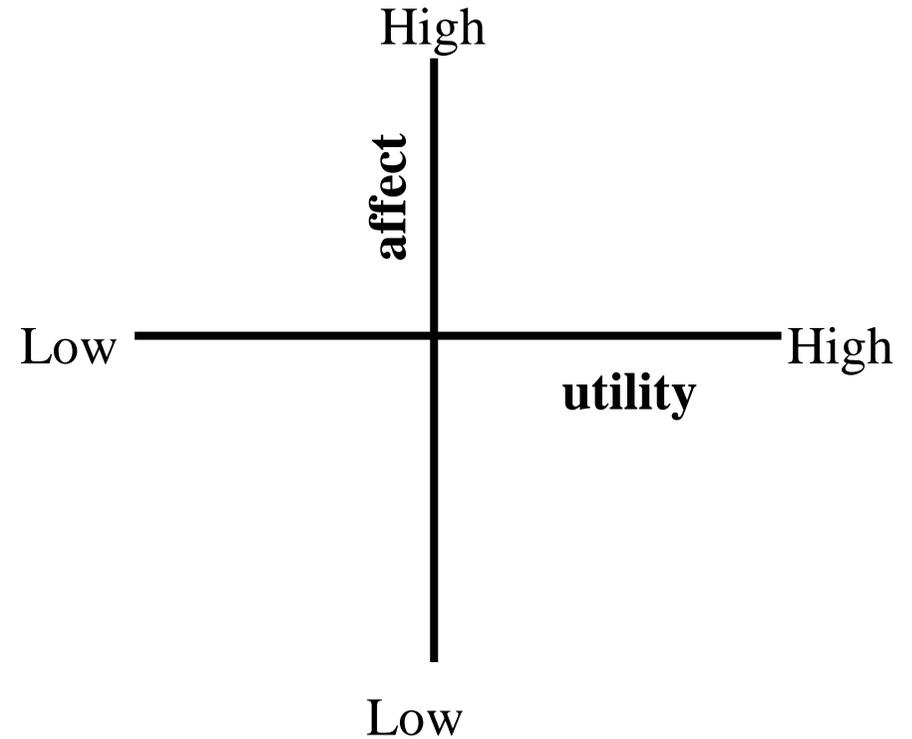
# What influences attitudes to animals?

- Understanding what influences attitudes can be used to create a balanced approach to animal welfare:
  - e.g. do professionals perhaps need more emphasis on the 'affective' dimension?



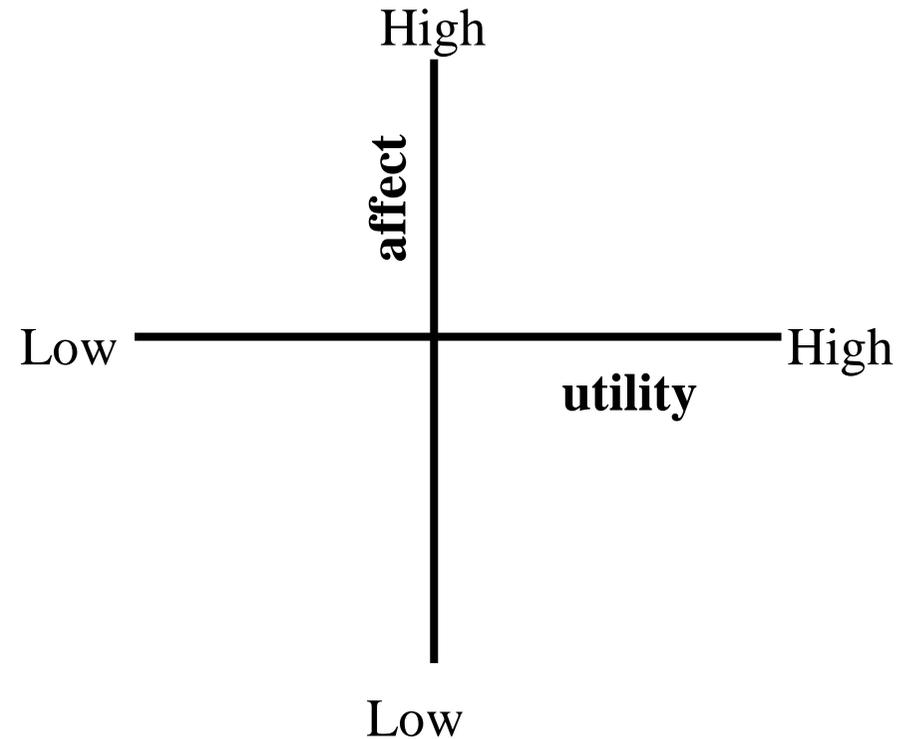
# What influences attitudes to animals?

- Individual modifiers increasing affect:



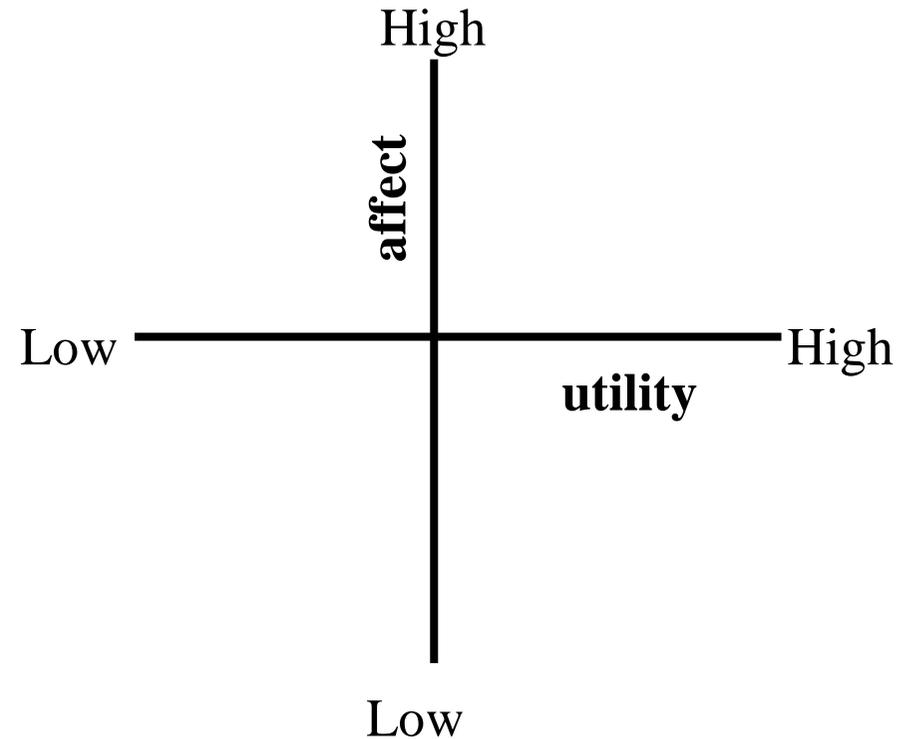
# What influences attitudes to animals?

- Individual modifiers increasing affect:
  - female
  - young
  - educated
  - urban
  - early exposure to animals



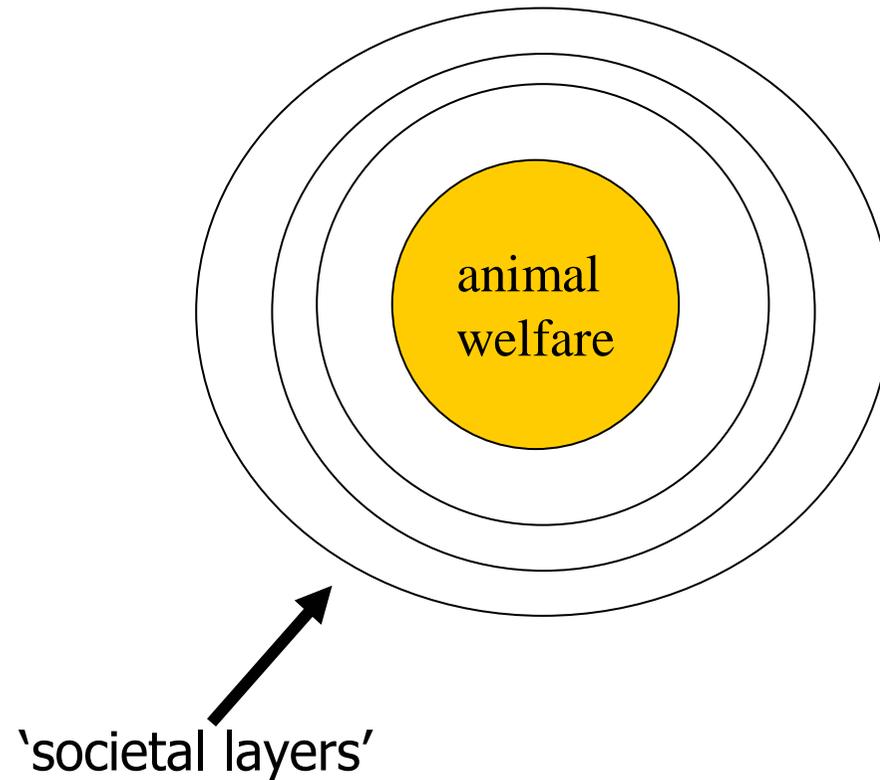
# What influences attitudes to animals?

- Cultural modifiers
  - religion
  - secularism
  - **science**



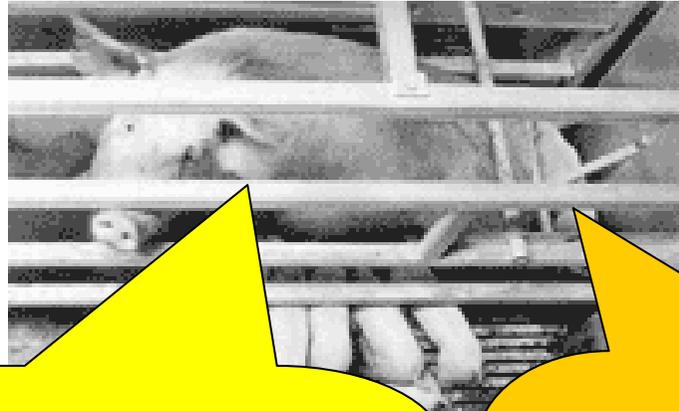
# What do we do about it?

## Understanding the biology of animal welfare



# What do we do about it?

## Case study: The farrowing crate



### **Pros:**

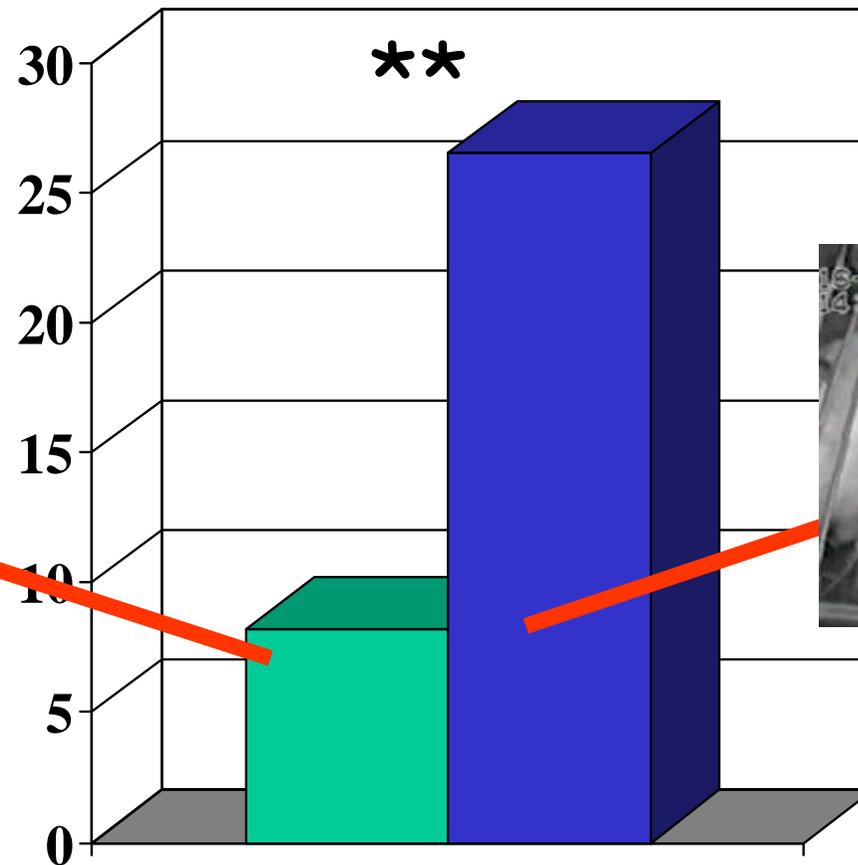
- protects piglets from crushing
- ease of management
- building costs

### **Cons:**

- 'frustrates' sows natural nesting behaviour
- can trigger abnormal maternal behaviour

# Stress in the nesting sow

Cortisol  
(ng/ml)



# What do we do about it?

## Case study: The farrowing crate

### Dilemma:

-how to meet the sows and piglets needs?

-many previous attempts to design alternative farrowing systems/ none yet in commercial practice

-we are interested in using breeding to help resolve this dilemma

-protected

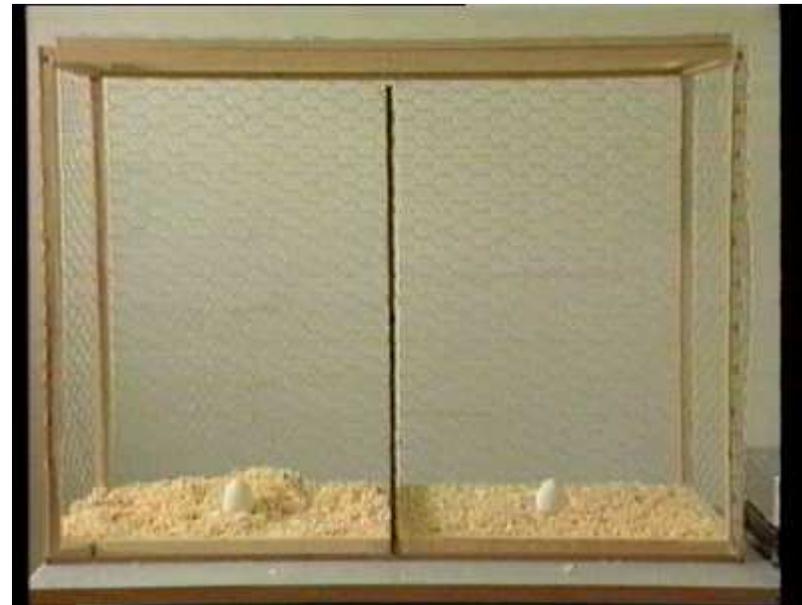
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maternal behaviour

- Animal breeding is often seen as a part of the problem



# Improving welfare through genetics

## Neonatal survival



- Progress: Pigs

- Genetics:

- unique (<22k records) selection experiment for piglet survival (High vs. Control) on a Scottish outdoor unit
    - results indicate that genetic selection could be an effective route to improving piglet survival in outdoor conditions
      - possibly also other non-crate farrowing systems



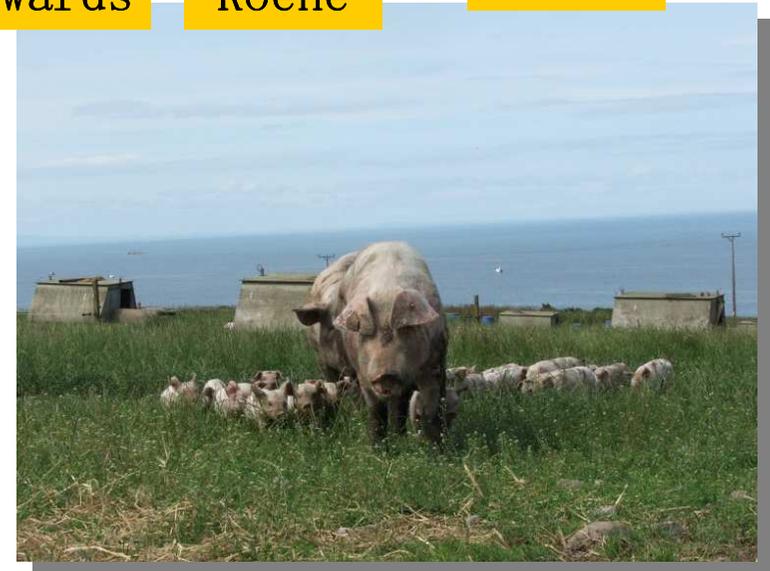
Sandra Edwards



Rainer Roehe



Emma Baxter



- Phenotypic study:

- corroborated genetic study
    - High Survival gilts were more careful with less crushing behaviour during farrowing

# Improving welfare through genetics

## Neonatal survival



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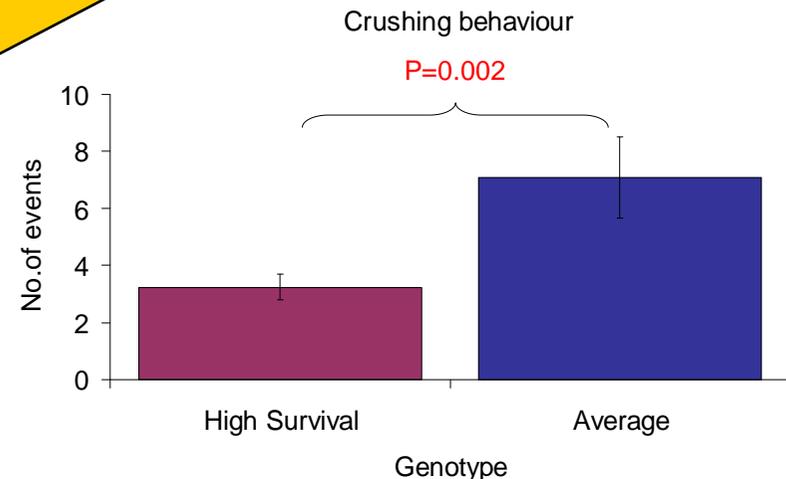
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- Phenotypic study:

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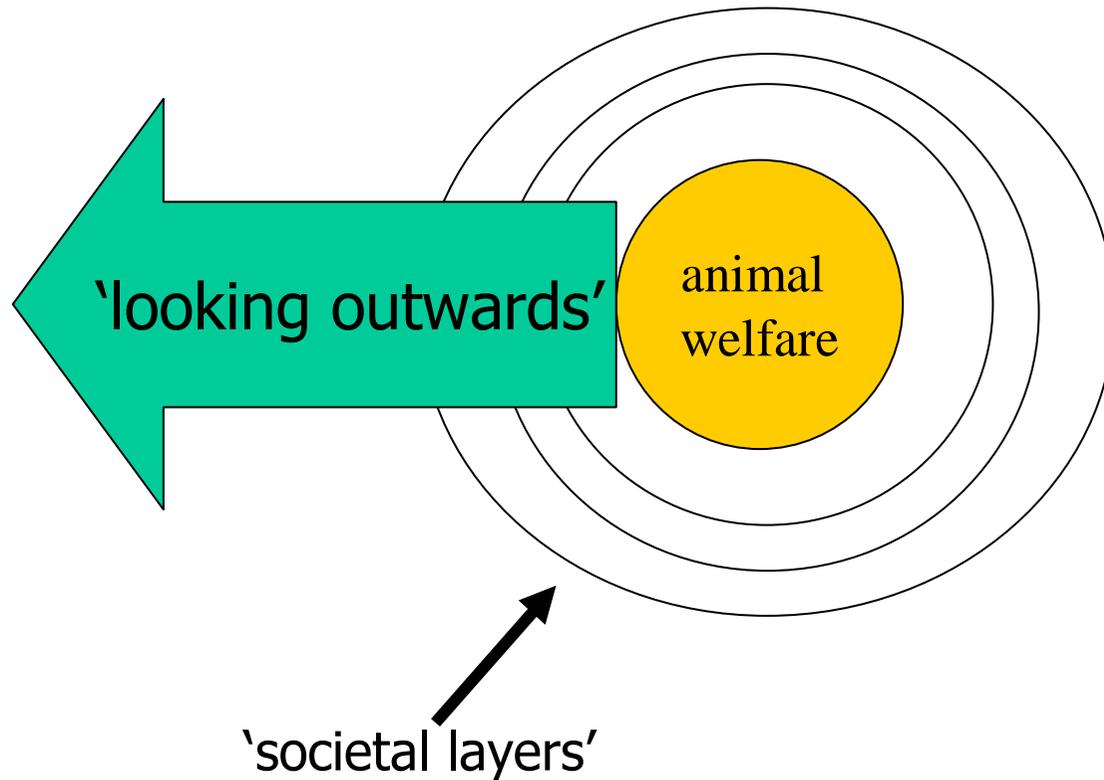


Total mortality =  
High Survival: 12%  
Controls: 18%



# What do we do about it?

## Connecting science to public concerns



# Science as a 'cultural modifier'

- the study of animal behaviour attracts public attention
- has the capacity to engage positive public interest in animals

- Assessing welfare
  - qualitative behavioural assessment



Françoise  
Wemelsfelder



# Qualitative assessment of behaviour

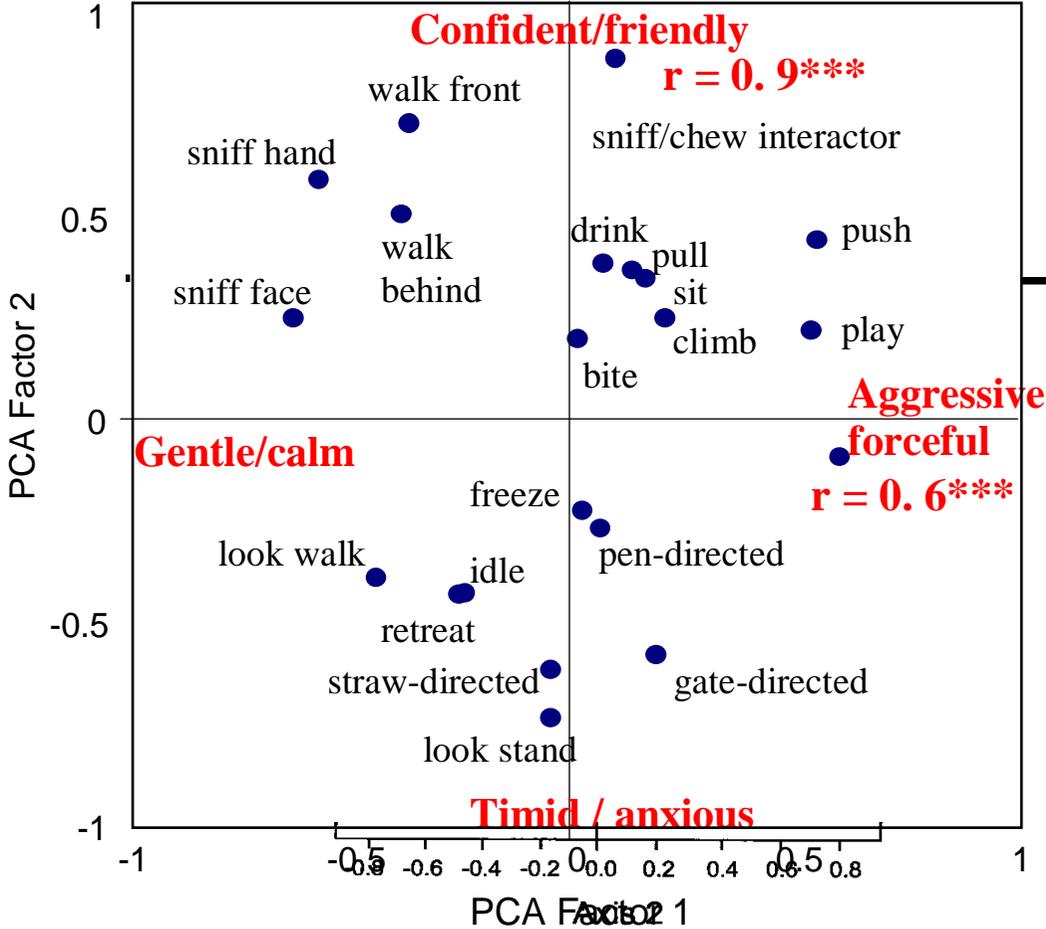


**'timid' / 'anxious'**



**'pushy' / 'aggressive'**

# Qualitative assessment of behaviour



Wemelsfelder, 2008 in press

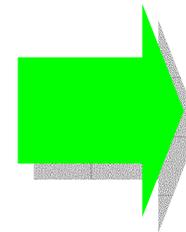


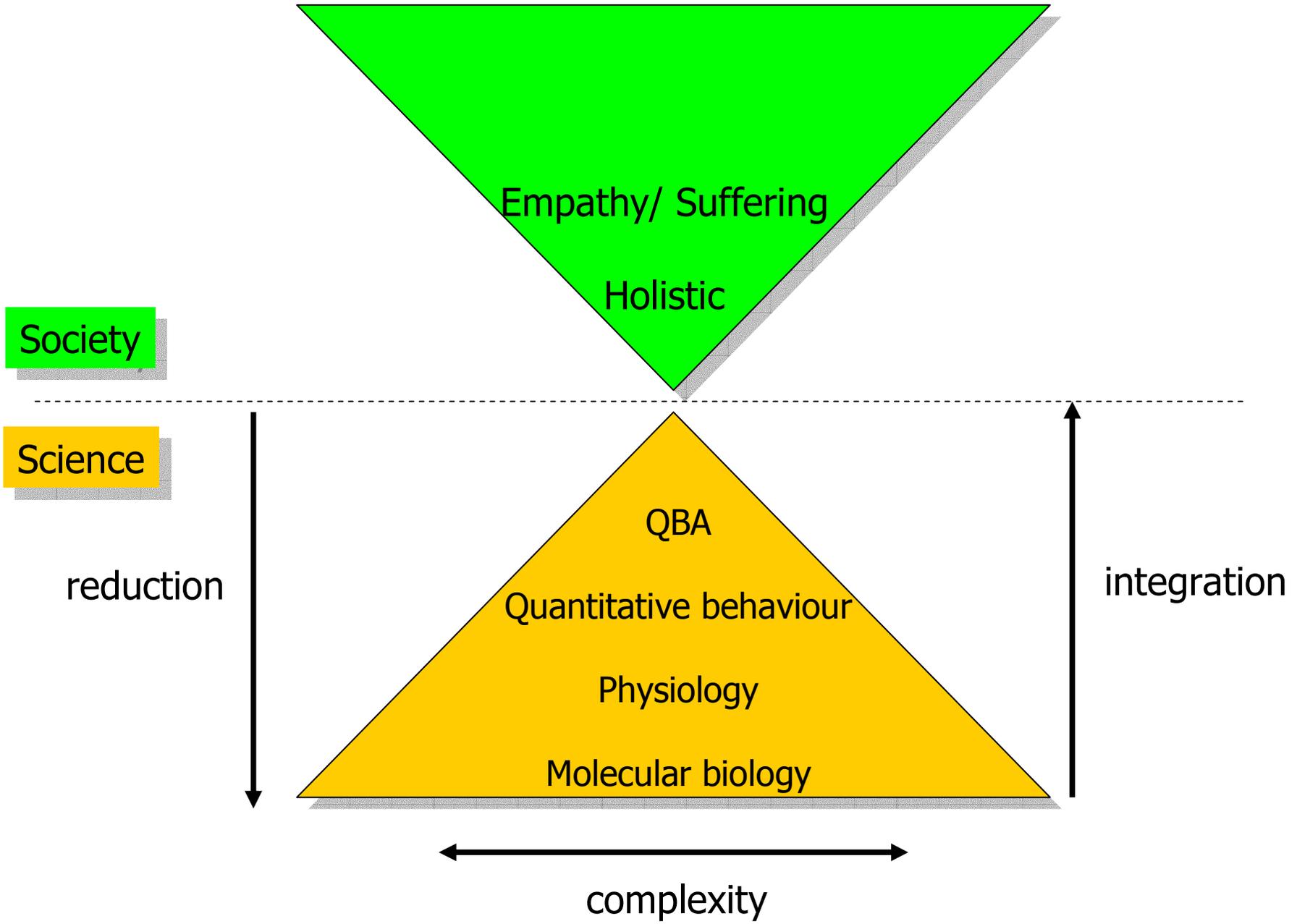
- Qualitative behavioural assessment (QBA) methodology:

- Scientific validation ongoing:
  - e.g. MLA funded research at Murdoch University
- Currently trialling QBA in farm assurance
  - EU and Scotland



Françoise  
Wemelsfelder





**What do we do about it?**  
**Combining biology & economics**

- We need to be able to reconcile different public concerns/ agendas



## Consumer Attitudes to Animal Welfare



A Report for Freedom Food by IGD

March 2007

Telegraph.co.uk



feed your passion  
call into Greggs today  
try our best ever cheese & onion pastry

Home News Sport Business Travel Jobs Motoring Property SEARCH

News home  
Law reports  
Obituaries  
Picture galleries

### Growing demand for biofuels 'could lead to food shortages'

By Charles Clover, Environment Editor  
Last Updated: 2:23am BST 19/04/2007

Britain could face food shortages within 25 years as a result of growing demand for biofuels and a rising world population, a leading adviser to industry and the Government said yesterday.

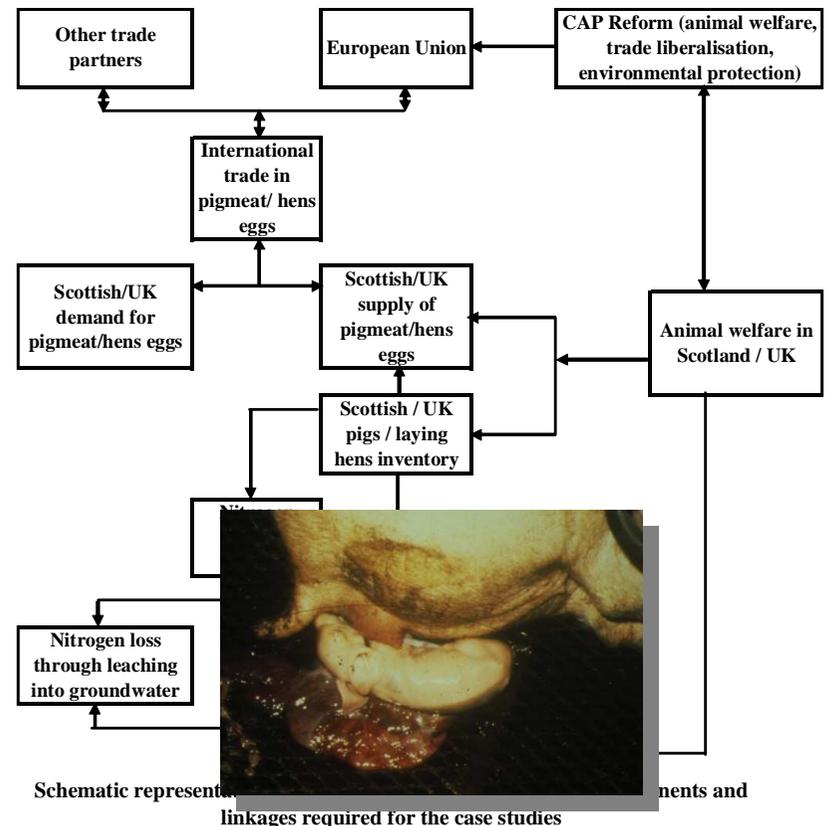
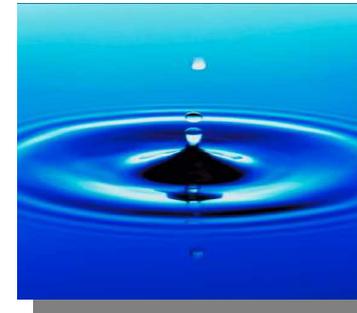
Competition for land between fuel and food crops, expanding populations in developing countries, and climate change were all going to put pressure on world food supplies, said Prof Bill McKelvey, chief executive of the Scottish Agriculture College in Edinburgh.



# What do we do about it?

## Combining biology & economics

- A key aspect to animal welfare policy is to understand the wider effects of animal welfare improvements
- We are developing economic models to explore
  - the impacts on trade and the environment of specific animal welfare improvements
- One case study is looking at the effects of improving piglet survival



- Case study 1:

- use of high fibre diets to improve piglet survival



- preliminary results suggest a win-win scenario:

- **Impact on trade:**

- a clear positive impact compared to baseline scenario

- **Impact on environment:**

- slightly lower environmental impact on environment compared to baseline scenario

Higher environmental impact of high fibre crops counterbalanced by reduced piglet mortality, lower replacement rate for sows and, implicitly, reduced emissions from manure.

# Conclusions

- The origins of animal welfare are a long-standing concern for animal suffering
- It is important to:
  - understand & characterise these human/ societal aspects of animal welfare
  - develop an animal centred (biological) perspective on animal welfare
  - lastly find approaches that can combine these animal and human perspectives to be able to represent & promote animals' interests in a modern society

# The people:

- Biologists:

- Alistair Lawrence
- Cheryl Ashworth
- Rainer Roehe
- Colin Morgan
- Francoise Wemelsfelder
- Cathy Dwyer
- John Rooke
- Bert Tolkamp
- Vicky Sandilands
- Rick D'Eath
- Susan Jarvis
- Marie Haskell
- Simon Turner
- Emma Baxter

- Economists:

- Alistair Stott
- Luiza Toma
- Habtu Weldegebriel
- Boudha Ahmadi
- Sian Ringrose

- Consultants:

- Iain Riddell
- Gavin Hill
- John Vipond
- Brian Hosie/ Barti Synge