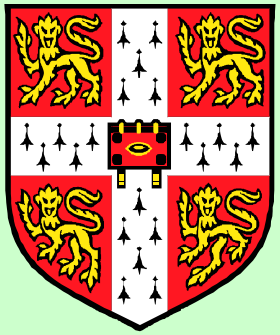
Legally accepted pain and other poor welfare in animals



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The welfare of an animal is its state as regards its attempts to cope with its environment.

Welfare includes positive and negative feelings and other mechanisms for coping.
It can be assessed scientifically, for example by measuring behaviour, physiology, injuries, systems for coping with disease etc.

Pain and fear are important aspects of suffering and poor welfare and measurement of these in farm animals has been the subject of the recent E.U. funded Animal Welfare Indicators project.

awin
ANIMAL WELFARE
INDICATORS

There is clear scientific evidence for pain and fear systems in all vertebrate animals, including fish, and some invertebrate animals such as some molluscs - Cephalopoda (*Octopus, Loligo, Sepia)* and some crstaceans - Decapoda (*Cancer, Homarus, Palaemon*) . All of these are sentient.

How can we identify and assess pain?

Recent Cambridge AWIN work on sheep.

If a sheep is "standing" like this, pain in the feet is very likely.

Indicators of pain during foot-rot, mastitis, pregnancy toxaemia: when a sheep is in pain, it shows measureable changes in facial expression.

Normal sheep

Sheep in pain:
orbital tightening,
cheek tightening,
ear turned down,
mouth and nose change.

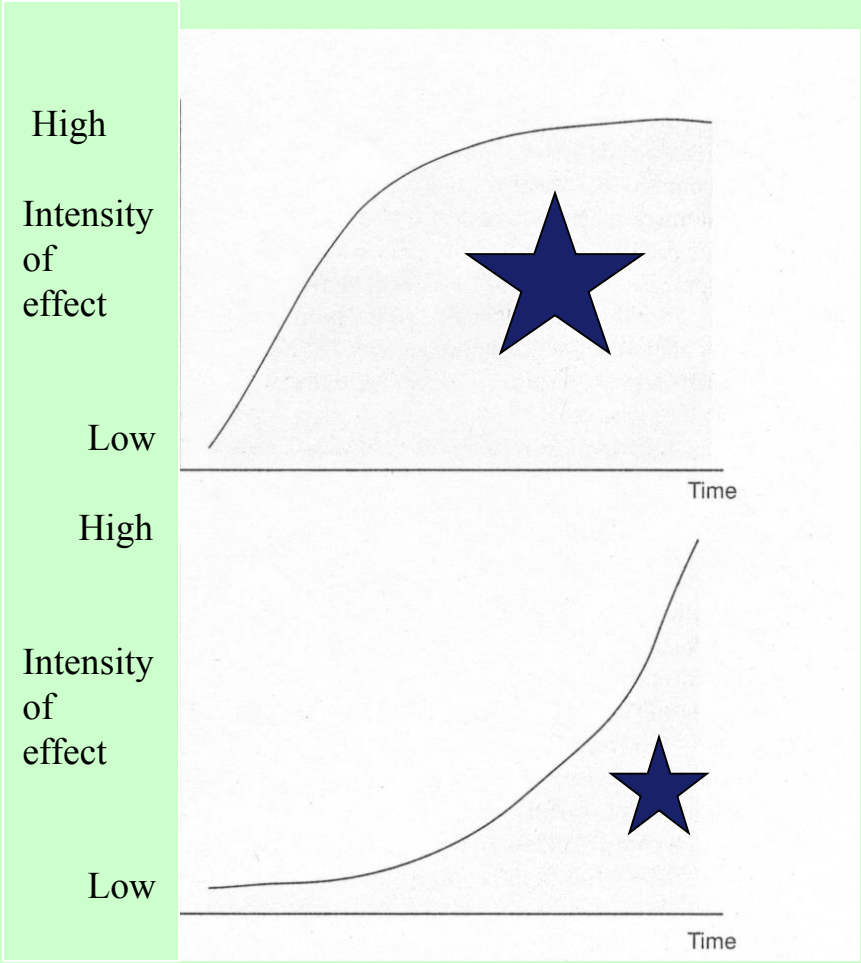
The "grimace scale" can also be used for horses, mice, etc.

Pain is also indicated by inflammation as measured by thermography in sheep with foot-rot and blood chemicals.

How much pain and other poor welfare is caused? There are many indicators of good and poor welfare. When welfare is evaluated, the relationship between intensity and duration should be taken into account (Broom 2001).

Where there is an adverse impact, the area under the plot of intensity against time is the magnitude of poor welfare.

Where the effect is a benefit, the intensity of positive effects is measured and the magnitude of good welfare determined.



In general, our laws prohibit treatment of animals that causes pain or other poor welfare.

Reasons for exceptions in laws: veterinary treatment,
tradition,
financial cost,
training of animals,
gastronomic preference,
entertainment (sport),
convenience in management,
breeding,
keeping animal that injures others.

Examples:
veterinary treatment
analgesic use

entertainment (sport) some also **tradition**
Bull-fighting: bull pierced by numerous lances in the corrida,
Hunting with dogs: deer chased by dogs and by humans on horseback,
Dog-fighting, cock-fighting: dog or cock forced to fight.

These "sports" have major negative effects for the animal.
Deontological – many say it is wrong to cause such poor welfare/pain.
Consequentialist – cost for animal, entertainment benefit for humans.

convenience in management financial cost

Castration, disbudding, or beak-trimming, without anaesthetic or analgesic
- causes pain for many hours,
- often leads to more prolonged pain because of neuroma formation.

Neuroma behind cut bill of hen

Tail removal prevents normal defence against:
flies in cattle and
social signalling in pigs and dogs.

Tail-biting by pigs and injurious behaviour by hens can be prevented by giving the animals manipulable materials and more space.

This costs more but the painful procedures can be avoided.

tradition gastronomic preference convenience in management

Foie-gras production necessitates confined rearing conditions,
aversive force-feeding often with injuries to the oesophagus,
failure of the detoxifying function of the liver – toxins can cause pain,
malaise and early death.

"The welfare of ducks during foie gras production"
a December 2015 report by Dr Irene Rochlitz and me of the
Cambridge University Animal Welfare Information Service.

Eating capons: caponising is a major operation that is painful and the wounds cause pain for some days.

In all these cases, the main beneficiary is human and the cost is borne by the animal.

training of animals

Pain as a reinforcer.

Beat dog.

Shock collars.

Electric fences.

breeding

Meat chickens selected for fast growth – leg pain, hock burn and breast blister.

Dog breeds – disorders resulting from breed selection

hip dysplasia,

brain too large for skull,

breathing problems.

keeping animal that injures others

Dangerous dog – protect property, used as weapon.

Cat allowed to kill wildlife

(animals not kept for pest control.)

Humane: treatment of animals in such a way that their welfare is good to a certain high degree.

Generally accepted principles of E.U./U.K. legislation (E.U. Regulation 1099/2009), humane killing implies:

1. the treatment of the animals just before the stunning or killing procedure does not cause poor welfare *and*

2. the actual stunning or killing procedure results in instantaneous insensibility.

or

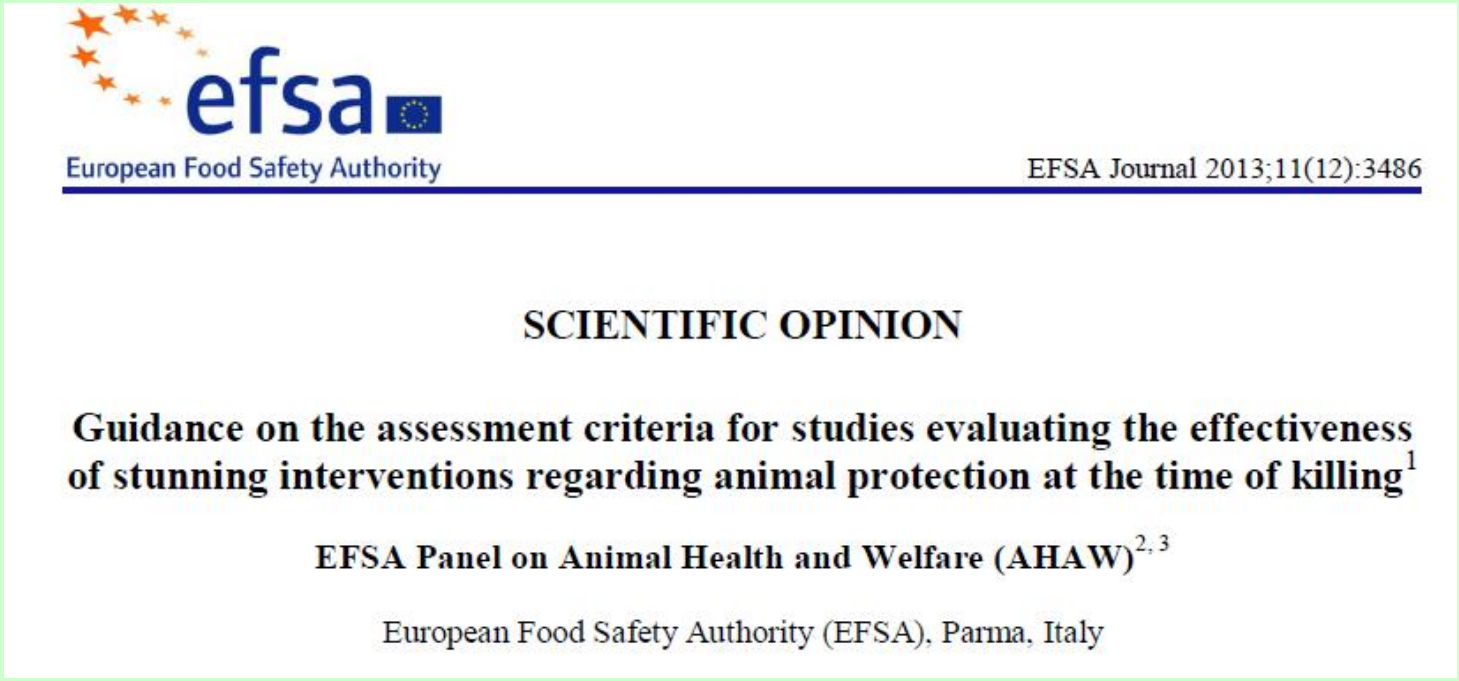
3. if the agent causing insensibility or death is a gas or injectable substance, whether or not it is detectable by the animal, there is no poor welfare before insensibility.

Seal killing on ice-floes

4. During insensibility, a killing method is carried out so that recovery of consciousness does not occur before death.

This is normally cutting the throat so that the animal dies from blood loss.

EFSA Guidance on stunning methods



European Food Safety Authority

EFSA Journal 2013;11(12):3486

SCIENTIFIC OPINION

Guidance on the assessment criteria for studies evaluating the effectiveness of stunning interventions regarding animal protection at the time of killing[1]

EFSA Panel on Animal Health and Welfare (AHAW)[2, 3]

European Food Safety Authority (EFSA), Parma, Italy

tradition Interpretation of holy book, idea that blood, blood vessels and some other tissues should not be consumed.
In some countries, killing by cutting the throat without stunning is permitted – halal (Muslim) or shechita (Jewish).
In other countries stunning is legally required.

During some halal slaughter, the animal is stunned at the same time that the throat is cut.

Do the stunning procedures work?

If applied properly, yes insensibility is instantaneous. Gibson et al. (2009) recorded electroencephalogram (EEG) in calves stunned with a captive-bolt gun. The total power of the EEG (Ptot) decreased sharply at the point of the stun, verifying that stunning had occurred.

How often are animals not stunned properly?
Captive bolt gun in mammal slaughterhouse: 0.1%
Time for repeat stun: normally 10-15 seconds.

If shechita or halal is used, does the animal suffer and how much?

The cut does not anaesthetise the animal.
Evidence (i) people whose throats were cut and who lived report extreme pain.

Evidence (ii) record from the brain plus behavioural responses – consciousness after the cut for about 20 seconds (sheep), 120 seconds (chickens) and 126 seconds (cattle). Fish in cold water: up to 20 minutes (Daly et al 1988, Gregory 2007, Broom and Fraser 2015).
Evidence (iii) no evidence of suppression of pain by endogenous opioids.

Gibson et al. (2009) recorded EEG while the throat was cut by a ventral-neck incision.
The response was consistent with the cut causing severe pain.
The EEG indications of pain were also present if the neck tissues were cut but not the blood vessels.
Much of the pain results from the neck tissue damage.

If stunning with a captive-bolt gun was carried out within 5 s of the throat being cut, the EEG flattened, indicating unconsciousness.

Whilst stunned animals do not suffer, the welfare of animals killed without prior stunning is always very poor for 20 to 126 seconds.

Stunning at the time of cutting the throat would be widely accepted on animal welfare grounds.

Many halal slaughterhouses now do this in the U.K. and it is accepted by most Muslims and some Jews in countries where cutting the throat without prior stunning is illegal.

Is the stunned animal alive when the throat is cut?
The EEG shows that the properly stunned animal is still alive at the time that the throat is cut. If left, the animal will recover. Exceptions: some animals stunned by wrongly adjusted equipment, some head to body stuns.

Is the blood removed from the body after slaughter?
It is thought by some that leaving blood in a carcass is unclean and that blood is not lost efficiently from the hindquarters of an animal. As a consequence, some Jews consider that meat from the hindquarters is not Kosher and will not eat it. It is put on the general market without labelling.

Most of the blood is exsanguinated whether the animal is conscious, unconscious or recently dead.

However, no animal is ever completely exsanguinated from any part of its body.
The forequarters and hindquarters still have a little blood in them.
This small amount of blood does not cause any disease problems so, scientifically, the carcass is not unclean because of it.

Most consumers do not wish to eat meat unless the animal has been properly stunned. **Can they avoid such meat?**

In countries where religious slaughter is allowed, it is possible for members of the public to avoid eating meat in restaurants or other places where the animals have been killed in this way.

However, it is necessary to label meat from animals killed in these inhumane ways without stunning at the time of slaughter, in order that restaurant owners and the public can make this choice.

At present this is seldom done. It is particularly important to label the hindquarters of animals killed by shechita.

If there is video-recording in a slaughterhouse, bad treatment of animals pre-stun is much reduced and inadequate stunning is reduced.

Consumers can ask questions, demand labelling and refuse to buy products from restaurants or retailer shops who cannot provide guarantees.

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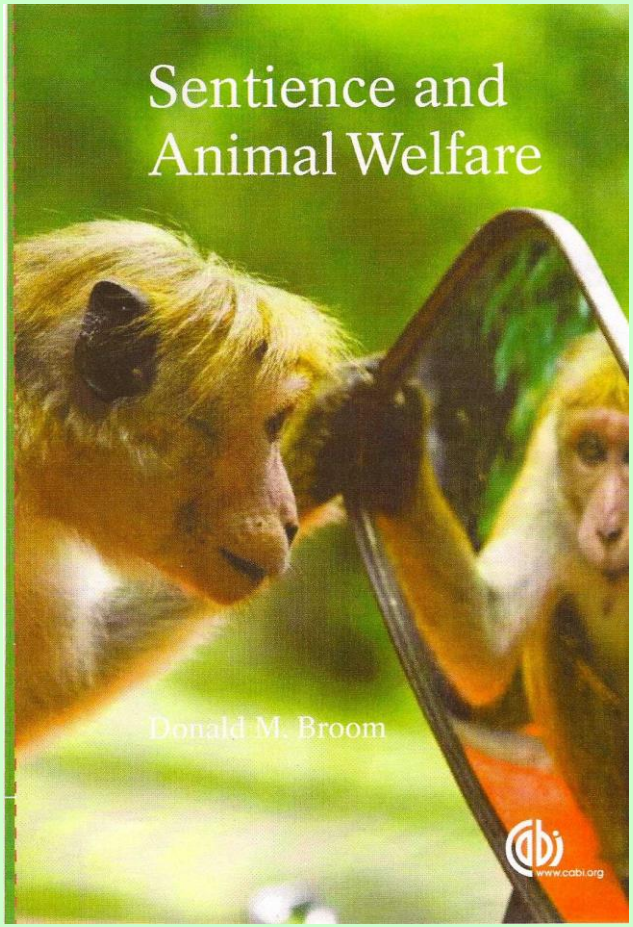

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