In Britain, most broiler hens (birds raised to be eaten) are kept in dense flocks in large, artifically lit sheds.

CIWF

Feather-brained?

Chickens may have a greater capacity for thought, feeling and suffering than we've previously given them credit for, which has major implications for the way we farm them. **Sanjida O'Connell** reports.

As I walk over to Spot, Rover, Gem and Patch, they rush towards me, quacking madly. Patch flaps his wings and Gem fixes one bilberry-blue beady eye upon me. What, I wonder yet again, is going on inside their little duck heads? A few years ago I made a documentary for BBC2 on animal consciousness. While I certainly didn't think I'd cracked the problem of what consciousness is, I thought I'd made a reasonable attempt at trying to explain it within the limits that television affords. Now, as I look at my ducks looking at me, I have no idea what their consciousness might be like. Do they have any? Perhaps they are just complex slug-eating machines.

People have long pondered the intractable problem of animal minds, but it was the American philosopher Thomas Nagel who first bridged the gap between philosophers and scientists in a now famous paper entitled *What is it like to be a bat*? He asked what the conscious experience of another creature might be like, particularly one that, like a bat, uses different senses from our own. Thirty years after this paper was published, the Compassion in World Farming Trust (CIWF) is hosting a conference on farm animal sentience, an area usually overlooked since we don't like to think about the capacity for thought and suffering of what we are about to eat.

The short answer to Nagel's question when applied to a battery hen is this: there are over five billion 'layers', as they are called, worldwide, which produce 50 million tonnes of eggs a year. The majority live in wire cages barely bigger than the page of this magazine, without enough space to stretch out their wings. They produce an egg a day (50 years ago, domestic chickens laid half as many eggs). 50 per cent are likely to have a broken breast bone. When, at around 72 weeks old, they are no longer capable of producing eggs, they are turned into low-grade chicken meat for human consumption. Those producing eggs to raise more layers have half their chicks culled, as males are not required for egg-laying and are not meaty enough to be raised for food.

Living on a bed of excrement

Last year, we reared 877 million broiler hens in Britain. Broilers (hens raised to be eaten) are kept in vast warehouses, at densities usually exceeding the Government recommendation of 34kg per square metre (again, less than this piece of paper). The litter beneath their feet isn't changed throughout their lives, and, as a result, they end up living on a bed of excrement that decomposes to acidic ammonia, which ▶

burns their flesh (you can often see hock burns – blisters – on chicken sold in supermarkets). Because they are bred to mature fast, their muscles grow more rapidly than their skeletons, so the birds' legs are often unable to support their bodies and many turn lame. To combat this, some companies try to reduce obesity by feeding them a quarter of what they would naturally eat. Broilers are killed at 42 days old; 30 years ago, birds would have taken twice as long to reach the same slaughter-weight.

Learning tasks

Many animal lovers would argue that this is horrendous, but how do we know that such treatment causes the animals to suffer? "It is difficult to tell," says Professor Christine Nicol, from the Department of Clinical Veterinary Science, Bristol University, "Hens don't have the same emotional parts of the brain as humans and other mammals. I have much less idea of what it is like to be a hen than when I started working with them 25 years ago."

Traditionally, scientists have approached the question of what an animal is capable of feeling by looking at its capacity for thought and comparing it to our own. At first glance, this would not seem to be favourable for the bird-brained chicken, but Nicol says, "Hens are cleverer than the general public thinks. They can learn tasks that a dog or a horse could do and they can learn from each other." One test that's been carried out by Nicol and Dr Raf Freire, from the School of Biological, Biomedical and Molecular Sciences, University of New England, Australia, shows that chicks have a skill known as object-permanence – they can recognise when an object has been removed. This may sound esoteric, but it has a direct impact on what a chicken experiences. "It means that they have the ability to look for things that they cannot see," says Nicol. "They may be able to miss things, such as a perch or litter."

But research on chicken cognition may not help us understand whether hens can suffer. Professor John Webster, from the Department of Clinical Veterinary Science, Bristol University, quotes Jeremy Bentham, the utilitarian philosopher, who wrote, "The question is not 'Can they reason? Can they talk?' but 'Can they suffer?'" Webster says, "All animals have the potential for suffering but they may or may not be able to think." Dispensing with both consciousness and cognition, he defines animal welfare as "fit and feeling good." What counts is sentience; a sentient animal has feelings that matter to it and its response will be governed by its emotions. Suffering, he says, is caused by stress that becomes too severe, complex or prolonged and where the animal is unable to take action to relieve the stress.

We cannot know what is happening inside another person's head, let alone an animal's, so our approach to understanding animal sentience must be oblique. But pain can be measured to some extent: for instance, if the animal behaves abnormally, its stress hormones increase, its emotions change or it attempts to avoid the painful stimuli. In one study, lame birds were assessed on a rate of 1-5 for lameness with 0 being sound-limbed and 5 meaning immobile. Webster concluded, "Many broiler chickens are in chronic pain for approximately one third of their lives. Given that poultry meat consumption in the UK exceeds one million tonnes per annum, this must constitute, in both magnitude and severity, the single most severe, systematic example of man's inhumanity to another sentient animal." Strong words, but those sceptical that lame animals feel pain need only look at another study where hens were given access to painkillers. Able birds did not take the food laced with the analgesic, but the lame hens, no matter what the extent of their lameness, preferentially selected the painkiller. As Webster says, their pain mattered to them.

Many broiler chickens are in chronic pain for approximately one third of their lives.

So how should hens be kept? None of us are Dr Doolittle, but scientists have devised ingenious ways of asking birds what they want. Hens can be presented with a choice of two boxes, to see which environment they prefer to spend more time in – but many commercially farmed hens are already too traumatised or sore to explore a novel space. Professor Marian Dawkins, from the Department of Zoology, Oxford University, has pioneered a technique for asking how much a chicken would be prepared to work for something that it wanted.

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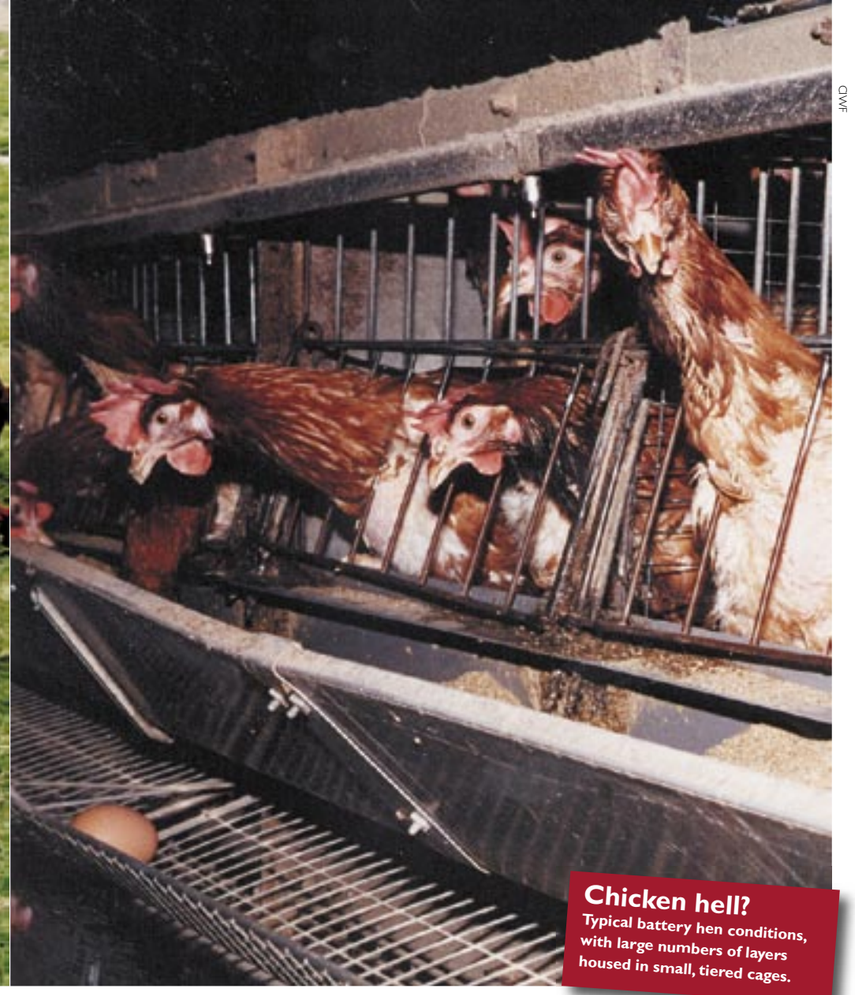
Chicken heaven? Free-range chickens, with access to the open air and the chance to forage for themselves.



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Chicken hell? Typical battery hen conditions, with large numbers of layers housed in small, tiered cages.

'Work' could be walking a long way, pecking a bar, pushing through a heavy door or squeezing through a narrow gap (which hens don't like to do). What she and other researchers have found is that hens work hard for a nest, litter to scratch in and food; ideally, they'd also like a perch. However, hens rarely 'work' to be with others. Webster says that we need to be careful interpreting these results: just because an animal will not perform unnatural tasks to see another hen, it doesn't imply that the bird would not experience distress (without necessarily understanding the cause of its distress) when separated from other animals. Hens, after all, are social creatures. He adds, "Communicating with animals is like communicating with foreigners. We should not assume that, because they fail to understand us, it is they who are thick."

Nicol, with her lawyer's head on, says that it is impossible to tell whether an animal can suffer, though it is equally impossible to state that animals cannot suffer. "But we should make that leap of faith," she adds. "It would be unethical not to." Nagel concluded in his paper that though we cannot know what it is like to be another creature, we know they have their own understanding of their reality. How Spot, Rover, Gem and Patch feel matters to them, so it matters to me, too.

Find out more

The Compassion in World Farming Trust is hosting a conference on animal sentience in London, 17-18 March. ☎ 01730 231809; www.ciwf.org.uk

Sanjida O'Connell completed a PhD on chimpanzee cognition at Bristol University. She is a journalist, novelist and documentary director, and several of her programmes have dealt with animal consciousness and intelligence.

What's in the eggbox?

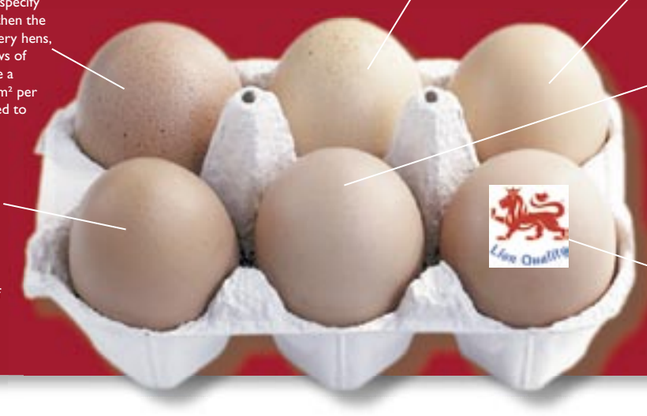
It can sometimes be difficult to judge the conditions a laying hen was kept in from a supermarket eggbox. This guide will help you make a choice based on the supermarket's labelling. But be aware that many other products, with the exception of those produced by Marks & Spencer and Waitrose, may contain eggs from battery hens.

Class A eggs

If the eggbox label does not specify barn, free-range or organic, then the eggs inside were laid by battery hens, which are usually kept in rows of tiered cages. There should be a minimum floor area of 550cm² per bird. Hens are often debeaked to prevent feather pecking and cannibalism.

Barn eggs

Hens are kept in flocks in sheds with perches. At least one third of the surface is covered with litter (usually wood shavings) with a minimum stocking density of 9-12 birds per m² and 15cm of perch per bird.



Rosenfeld/www.powerstock.com

RSPCA Freedom Foods

RSPCA welfare standards for laying hens do not insist on hens being allowed to roam outside but they demand access to more space and litter than battery hens.

Free-range eggs

Hens are kept in large sheds but have continuous access to outdoors and a maximum stocking density of 2,500 birds per hectare. This is a far better system but not problem-free. Some commercial farms house flocks of up to 12,000 birds, which can lead to overcrowding.

Organic eggs

While increasing numbers of suppliers are producing organic eggs, the EU guidelines permit organic poultry to be kept in very large numbers – up to 12,000 in a flock. The Soil Association guarantees a much higher level of welfare than this – smaller flocks, more space and more access to the open air. It also forbids debeaking.

Lion Quality Code

This symbol is not a good guide to chicken welfare as it applies to eggs from battery hens.