

# Bird Flu: A Disease of the Intensive Poultry Industry

*Written and researched by Clare Druce.*

**Since World War II, domestic poultry have become victims of the greed of poultry industrialists across the globe. The ever-expanding and exploitative global poultry industry is inherently sick. Worldwide, it represents a ticking time bomb of disease.**



## The UK's intensive poultry industry – a brief outline

Annually, around 100 million domestic birds (mainly broiler chickens, laying hens, turkeys, ducks and game birds) are reared in the UK. The vast majority spend short lives in close confinement, in conditions of squalor and stress.

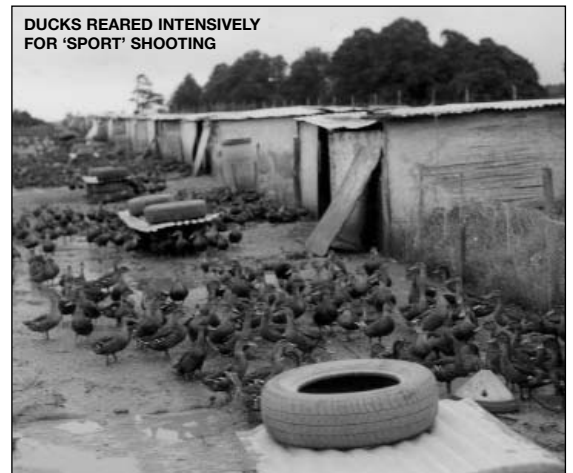
Broiler chickens are reared for their flesh, having been genetically selected over the last 50 years for 'meatiness'. Broiler chickens now grow so fast that they are as heavy as an adult bird by six weeks of age (when most are sent for slaughter). Despite their unnatural bulk, these birds are still babies: their vocalisation is still high-pitched, their eyes blue, and their bones not yet fully formed. Selection for 'super-size' has resulted in heart problems, various other diseases associated with obesity, and deformed limbs. Their relative immobility (especially in the last two weeks of their lives), caused by excessive weight, results in them squatting down on the shed floor. Litter may be damp with excreta containing high levels of ammonia, which leads to hock burns and breast blisters. According to DEFRA's code of recommendations for broiler chickens, a stocking density of 34kg of chicken to the square metre of floor space is acceptable (stocking density is not expressed per bird, but by combined body weight). Astonishingly, the draft EU Broiler Chicken Directive suggests an even higher stocking density in units where ventilation, etc. is considered satisfactory. The final week in a broiler shed sees a wall-to-wall carpet of obese and enfeebled birds, many displaying difficulty in standing and walking, their only occupation a desperate quest to try to push their way, or drag themselves, through the crowd of birds to reach food and water points. Many do not make it. (Similar conditions apply to intensively reared ducks and turkeys.)

## What is Avian Flu (AI)?

Avian flu (formerly known as Fowl Plague) is a viral disease of birds. All ages and types of birds, both wild and domestic, may be affected. Traditionally, turkeys have been considered to be the domestic poultry most susceptible to AI. Ducks can harbour the infection without showing signs of the disease or becoming ill. In poultry, AI is a notifiable disease. Symptoms include listlessness, decreased food consumption, emaciation, decreased egg production, mild to severe respiratory signs (coughing, sneezing) accumulation of excess fluid in head and face, huddling with ruffled feathers, nervous disorders and diarrhoea.

AI is readily spread by infected faeces: *'Infected birds excrete virus from the respiratory tract and faeces; thus, likely modes of transmission include both direct contact between infected and susceptible birds and aerosol [droplets]. Faecal material can be found on birds and mammals, feed, water, equipment, supplies, cages, clothes, delivery vehicles, insects, etc.'* (1)

The H5N1 AI virus can live in bird faeces for up to 35 days in very cold weather, and for at least a week in very hot weather. (1)



## The new strain of AI: H5NI

The AI strain known as H5NI was first identified in Hong Kong in 1997 when it claimed a human victim – a boy of three, who died from the infection. H5NI is causing concern around the world since by the end of March 2006 it had resulted in 106 deaths in people. Already, the H5NI virus has mutated halfway



towards bridging the gap between true bird flu and its human equivalent. (3) To date, only those in close contact with poultry have contracted the deadly strain of bird flu. However, the fear is that, should the virus mutate to a human form, a major outbreak of disease similar to the 1918 'Spanish Flu' (related to avian influenza) will erupt. That pandemic killed around 50 million people worldwide. With modern transport and international trade, a similar pandemic could spread far more rapidly. It has been predicted that half the planet's population could become infected. A million people a day could become ill in Britain alone, with those in the 25-35 age-range the most severely affected.

### **Consumers' safety – faeces harbour the AI H5NI virus**

Consumers have been assured that eating chicken is safe, even when the bird may have been infected with AI. Since faeces harbour the H5NI virus, there must be danger in handling infected, uncooked chicken in any environment, be it in the slaughterhouse, during the packing process, on the supermarket shelf or in the kitchen. There can be no guarantee that no trace of the virus – so small that 30,000 could sit on the head of a pin (22) – is present in raw poultry meat.

### **The Chinese connection – a reckless mis-use of human medicine**

According to the US Department of Agriculture (USDA) 'China is showing continuous growth in the broiler chicken market and rapidly moving up the ladder of the largest poultry producers. China's broiler production in 2004 is forecast to increase 3% to ten million tonnes.' (6)

A report in **New Scientist** revealed that Chinese poultry farmers have, since the late 1990s, been administering the human anti-flu drug AMANTADINE to their birds, both as a therapeutic medicine and as a preventative measure. Chinese pharmaceutical executives and veterinarians said the drug was cheap, readily available, and 'widely used in the entire country'. Flu expert Robert Webster of St Jude's Children's Research Hospital in Memphis, USA has blamed the widespread use of Amantadine in feed by Chinese chicken farmers for causing the virus to mutate into drug-resistant strains of H5NI (4) – a development that is likely to have occurred in 2003.

China has now banned the use of Amantadine for poultry, but, emphasises the New Scientist's News Service: '*... the controls will be too late for the 'Z' strain of the H5NI virus that has spread through SE Asia. That strain, which has so far killed 54 people [by summer 2005 – Ed.] and which health officials fear might develop into a human pandemic, is already resistant to the drug.*' (5)

### **The global picture**

In SE Asia, domestic poultry keeping is often small-scale, with birds kept outside, thus able to



mingle freely with wild birds.

Pakistan boasts a large broiler chicken industry, and has for some years been experiencing outbreaks of the avian flu virus. Though in a milder form than the H5NI strain, it has incurred 'enormous losses'. There are around 300 million birds in the country, distributed between 20,000 poultry farms. During January-February 2004 the sale price of almost all poultry products remained below the cost of production. (15) Farmers operating under such conditions are likely to cut corners rather than practise careful biosecurity.

In early 2004, Farmer George Ltd of Ghana was reported to be ready to operate the 'largest and most modern fully automated computer-controlled broiler facilities in Ghana and perhaps the whole of Africa. These newly constructed modernised buildings stand out on the farm complex, as one measures 40 ft by 400 ft... Currently with a minimum housing capacity of 540,000 per annum for both houses, the poultry facility is the first of its kind in the country.' (16) FG Ltd was reported as planning to import hatching eggs from the Netherlands – an example of the deplorable link between the global uptake of intensive farming systems and the EU. Surprisingly, the above described broiler sheds have dirt floors – promising serious problems with biosecurity.

### **Do wild birds or factory-farmed poultry provide the main reservoir of the H5NI virus?**

Wild birds are usually identified as the main vehicle for spreading the disease to domestic poultry, and ultimately to humans.

Some scientists, however, believe that modern farming practices, rather than migratory birds, account for the rapid and virtually global spread of AI. Dr Leon Bennun, Director of Science, Policy and Information for BirdLife International, wrote: '**Some of the agencies attempting to monitor and control avian flu, such as the FAO (the UN Food**



and Agriculture Organization), **seem to have been reluctant to draw attention to the role of intensive agriculture, because of the impact on national economies and on access to cheap sources of protein. For this and other reasons, the role of migratory wild birds in the transmission of the disease has been exaggerated, and further sensationalised in the press. In some countries there has been a backlash against bird conservation, leading to calls for the culling of whole populations, draining of wetlands and destruction of nesting sites... Alarming for those who fear a human bird flu epidemic, such a distorted picture also means that the right questions are not being asked, and the most effective protection measures may not be undertaken. BirdLife is calling for an independent inquiry into the spread of H5NI which gives due weight to the role of the global poultry industry, and maps both official and unofficial poultry trade routes against the pattern of outbreaks... What is striking is that countries like Japan and South Korea, which imposed strict controls on the import and movement of domestic poultry after initial outbreaks, have suffered no further infections. In fact, countries which have not yet developed a large-scale intensive poultry industry have also been largely spared. The UN Food and Agriculture Organization (FAO) reports that in Laos, 42 out of 45 outbreaks affected intensive poultry units...**

**It may also be time to take a long, hard look at the way the world feeds itself, and to decide whether the price paid for modern farming in terms of risks to human health and the Earth's biodiversity is too high.'** (7)

**Poultry World** (9) reported a joint statement from the RSPB, Birdlife International, the Wildfowl and Wetlands Trust and the British Trust for Ornithology, in which the organisations point out that highly pathogenic avian flu viruses, including H5NI, can cause high mortality in domestic poultry but are rare

in wild bird flocks. H5NI had not been recorded in wild birds before the recent outbreaks originating in SE Asia.

Speaking on **Farming Today** (8) Dr Richard Thomas of BirdLife International blamed the spread of bird flu in Europe on the practice of depositing poultry litter on fields, as fertilizer. He pointed out that mute swans and geese, lately under the spotlight in Continental Europe, commonly graze on agricultural fields contaminated with infected agricultural materials.

### **How does it spread?**

In the 1980s, an outbreak of highly pathogenic avian flu (HPAI) in the USA had an economically devastating effect on the poultry industry. Intensive, or 'factory' farming methods were by then firmly entrenched, and responsible for the massive numbers of birds raised for the USA's (now notorious) fast food industry. During the 1983-4 outbreaks, the rapid spread of the disease was caused by the movement of vehicles and people, between farms and over wide areas, and this fact has been recognised for at least half a century. (17) Specifically, garbage flies were incriminated as an important transmitter of the virus: *'Preliminary trapping evidence indicates that garbage flies in the Pennsylvania outbreak were sources of virus on the premises of the diseased flocks.'* (20) Now, the talk worldwide is of biosecurity, while the cruel poultry industry continues to expand, amid filthy conditions that invite disease.

### **Biosecurity – fact or fiction?**

Recent history shows that neither DEFRA nor the livestock industry can be trusted on matters of disease prevention. The post-foot and mouth 'biosecurity' measures were shown to be a sham by an Animal Aid investigation, published in May 2004, which revealed that livestock markets were uniformly disregarding the most basic hygiene rules. Animal Aid MarketWatchers visited 13 sales between June 2003 and March 2004 to monitor adherence to



biosecurity measures that had been introduced to prevent another outbreak of F&M disease, or similar catastrophe. Markets were shown to have played a central role in the wide and rapid dissemination of F&M, due to the large number of animals who pass through them – often to far-flung locations. As a consequence, they were shut down during the 2001 outbreak and its immediate aftermath. At all 13 sales, the most basic biosecurity rule – requiring that everyone disinfects his or her footwear on leaving the animal area – was disregarded. Non-observance of this key rule was even found at Longtown market, which a report by the Department for the Environment, Food and Rural Affairs (DEFRA) identified as the centre of the 2001 F&M outbreak.

## Have lessons been learned?

The UK Government is confident that an outbreak of H5NI can be contained. In her address to the National Farmers Union (NFU) annual conference in Birmingham on 27.2.06, Margaret Beckett, Secretary of State, said *'It is a fluid situation and our joint response [the farming industry, veterinary surgeons and 'others' – Ed.] has been, and has had to be, light-footed. I am not in the least complacent, but I am confident that this work, and our close working relationships, make us as well prepared as possible to respond swiftly and effectively to any future outbreak.'* (12)

The Government's Chief Scientific Advisor, Prof. Sir David King, was reported as reassuring delegates at the same NFU conference that an outbreak of H5NI would be easier to control than the F&M outbreak of 2001. Prof. King claimed that the poultry sector operated to high biosecurity standards and, even if the virus arrived in wild birds, it would not necessarily affect poultry flocks. (13)

Animal Welfare minister Ben Bradshaw has claimed on BBC Radio 4 that the UK poultry industry has 'extremely high levels of biosecurity'. (14) Such reassurances are difficult to take at face value considering the biosecurity performance of the

livestock sector in response to the F&M disease. Despite the danger of spreading disease by moving animals from farm to farm, between markets, etc, many UK farmers have ignored the Six Day Standstill. This rule, introduced after the disastrous 2001 F&M outbreak, states that animals must not be moved on (for whatever reason) for six days, inclusive of day six, so ensuring a quarantine period of six days, the time in which latent F&M infection would show up. In February 2006, Cumbria Trading Standards revealed on BBC's Farming Today that hundreds of Cumbrian farmers had breached the Six Day Standstill rule. According to Trading Standards' Carlisle office, the behaviour of Cumbrian farmers was typical, with similar breaches of the Six Day Standstill on record UK-wide. In view of this, and the fact that another outbreak of F&M could cost the lives of millions of animals and the livelihoods of many country dwellers, confidence in the common sense and/or honesty of a significant proportion of farmers cannot be great.

## Game bird production – throwing more birds into the mix

With the spectre of Avian Flu hovering, it is imperative that the breeding and importing of game birds stops immediately. British and French pheasants are bred outdoors, either in open-topped cages or enclosures. (At least half of the roughly 35 million pheasants and partridges produced and released for shooting every year in Britain originate in France.) During rearing, the hatched chicks are moved from heated sheds to outside enclosures for hardening off prior to release. There is no indoor way of producing a bird destined to cope in the wild until it is shot. It makes no sense for DEFRA to order the cooping-up of free-range poultry if it ignores the outdoors breeding, rearing and release of game birds. When released, they will make a significant impact on the wild bird population and increase the avian and human contagion risk.





### Recycling the disease organisms

The 850 million broiler chickens reared annually in the UK spend their short lives on litter, generally of wood shavings. The same litter remains in the poultry sheds until the flock is sent for slaughter. By the time the sheds are empty, approximately 80% of the floor covering is composed of faeces, along with all the pathogens it may contain.

The practice of spreading used poultry litter on farmland for fertilizer is common in the UK.

Approximately 30% of used poultry litter is burned and the heat fed into the national grid as renewable energy, while the rest ends up on farmland. (11) Veterinary advice to farmers experiencing AI in their flocks is robust: 'After depopulation all poultry and products, including faeces, should be buried or incinerated on site, and restocking should not take place until at least 2 weeks after thorough cleansing and disinfection.' (21) Assuming that mass on-farm culling of birds sick with AI will be carried out (as was the case during the 1988 UK salmonella crisis) the faeces left over in the sheds must be safely disposed of.

### Botulism – warning bells

The long-lived nature of disease organisms in spent broiler litter has been illustrated over the years by worldwide reports of deaths amongst cattle who have been in contact with poultry litter. Astonishingly,

cattle have been bedded on poultry litter (the used wood shavings/faeces emptied from the sheds in the 'turn around' period between flocks of chickens) and grazed on fields spread with the litter. They've been fed silage made from fields treated with poultry litter and even fed ensiled poultry litter. **'The meat from suspect cases of botulism, or from healthy animals which have been exposed to a source of botulinum toxin, should therefore be considered to be a potential health risk to human beings or animals if it has not been cooked properly.'** (23) Five years later, and NFU

North Wales representative, Emlyn Hughes commented on the deaths of 40 cattle on four different farms: '*...farmers have taken poultry manure last year, stored it, spread it on their land, cut silage off the land... the problem becoming evident when the silage was being fed this year... it must be fairly attractive to the cattle. The cattle go nuzzling into the old carcasses where there is a high concentration of bugs. They pick up this, it develops over a matter of days, and, as I've said, at the end of the day, it comes out as botulism.*' (24) A dozen years on from that, and the problem of contaminated broiler litter and severe animal suffering rumbles on: '*Penrith [a State Veterinary Service Centre] investigated three outbreaks of bovine botulism associated with poultry litter from the same chicken farm. A total of nine animals died. They were all grazing in fields adjacent to where the litter had been spread, and clinical signs had occurred within a week of the spreading... The farms were all visited and poultry carcasses were recovered from the spread litter.*' (25)

In 1989, *Chickens' Lib* campaign group issued a leaflet, supported by a photograph, warning against spreading used poultry litter on fields. The leaflet included a photograph showing so-called 'fertilizer' containing body parts of broiler chickens on grassland in West Yorkshire. Repeated attempts to interest the relevant authorities (MAFF, Environmental Health) failed.

It is still legal for used poultry litter to be spread on grassland, on which livestock will graze.

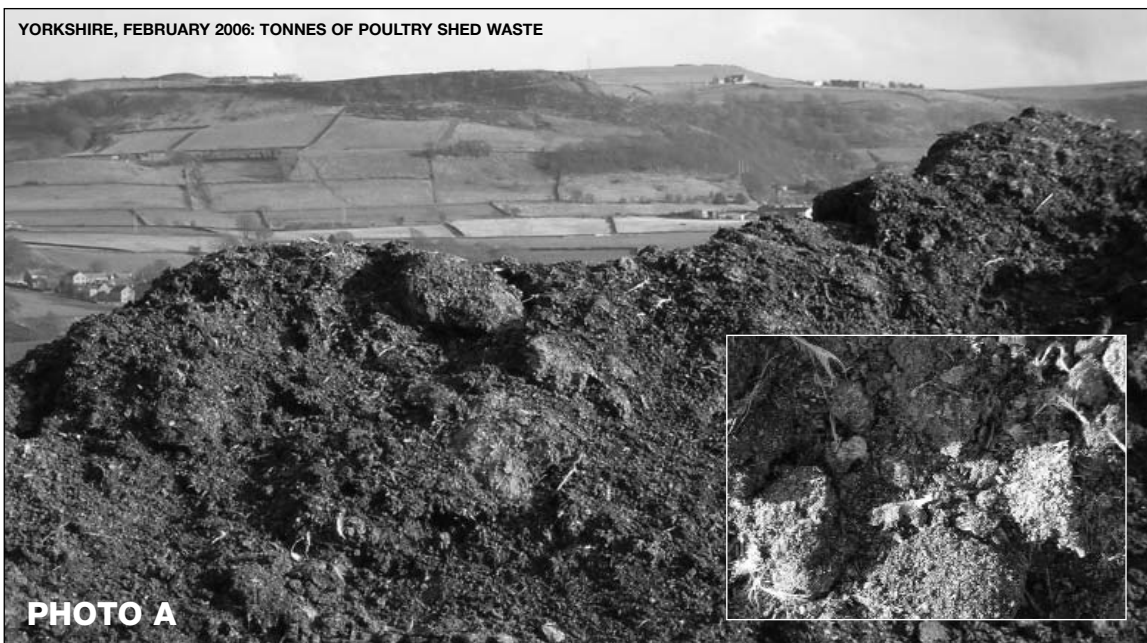


PHOTO A



PARTS OF DECOMPOSED CHICKEN CARCASS IN DUMPED POULTRY WASTE

**PHOTO B**

Apparently, the authorities remain blind to the dangers of this practice.

Any modern broiler shed is likely to contain between 40 and 50 thousand birds. Current legislation (26) demands that the birds are inspected 'thoroughly' not less than once a day to check on their health. In the real world, out there beyond the statute book, proper inspection is impossible to achieve, and it is commonplace, and virtually inevitable, that in every shed some birds die and remain decomposing in the litter.

If avian flu is present in a flock, the virus will be easily spread. Seconds before photograph A (overleaf) was taken, dozens of crows were present, pecking away at the contents of the litter.

Photo B features the leg and foot of a chicken aged around five weeks, noted by an Animal Aid investigator observing the mound of litter. The many holes in the mound were caused either by rats, or by birds investigating the litter and extracting dead animal (poultry) protein. Both photographs were taken in February 2006 in West Yorkshire. Photo B was featured on the front page of the Huddersfield Daily Examiner, under the headline JUST ASKING FOR TROUBLE. (27)

The European avian flu directive, formally adopted by the European Agriculture Council on December 20th 2005, appears not to link the spreading of poultry litter with the spread of AI. No mention is made of this danger in the new measures, as outlined in Veterinary Record of January 7th 2006. Animal Aid regards the tonnes of used litter/faeces currently spread on British farmland as a grave threat to animal and human health.

Birds suffering from H5NI incubate the disease for between two and five days before symptoms declare themselves. (19) It follows that thousands of birds could be sent for slaughter in an infected state, their sheds cleaned out, the used litter transported around the country, and the infected birds served up – in shops, restaurants and canteens – with consumers unaware of the dangers. (Testing is via faecal swabs. Clearly, only a small sample of birds will be tested in the attempt to estimate whether or not infection

exists among the 70 to 80 million broiler chickens being reared in the UK at any one time.)

### **No easy answers : vaccination**

To date, Vietnam has been the country worst affected by the deadly strain of bird flu, with 93 human cases, and 42 deaths. The World Health Organisation (WHO) regards Vietnam as having contained the disease, since no new cases have been recorded for two months. It is claimed that this apparent success with H5NI has been due to a combination of mass vaccination, some culling, and public awareness. Time alone will tell whether the present reported containment is significant.

The UK Government is against a vaccination policy, as it was in the 2001 F&M outbreak. This reluctance seems to stem from a fear that consumers will shy away from buying vaccinated birds. In fact, commercially reared poultry routinely undergo a heavy programme of vaccination, against Mareks (a form of cancer) and many other commercially significant diseases. NB Following the outbreak of H5NI in France, among a flock of turkeys, a programme to vaccinate nearly one million free-range hens is under way. (28)

Animal Aid questions the practicality of mass vaccination: At the very best, it presents a logistical nightmare. Who would carry out such a massive task? There are between 150 and 200 million birds in the UK poultry flock, and each bird would have to be vaccinated twice, with a two-week interval in between injections. Even if the task could be undertaken, a welfare nightmare would ensue. Needles become blunt very quickly, meaning already-stressed birds would be subjected to more pain and distress when being jabbed by people whose concern quite clearly would be to do the job as quickly, rather than as gently, as possible. Furthermore, using the same syringe more than once would spread various disease organisms from one infected bird to many others.

In addition, experts warn against vaccination as a solution. *'The explosion* [of different, evolving



variations of the AI virus – Ed.] *in variation coincides with the period during which Chinese farmers practised widespread vaccination of chickens against flu. In 2003, scientists who developed an improved flu vaccine for poultry, including Robert Webster of St Jude's, concluded that such vaccination 'may be a serious problem for human pandemic preparedness'. Such vaccines, they wrote, might mask disease signs while allowing the birds to continue to shed virus. In such a case, 'persistence of virus infection in the presence of a flock immunity may contribute to increased virus evolution.'* (29)

During the 2003 outbreak of HPAI in the Netherlands, the virus spread from six poultry farms to 255. Finally, control was achieved, but only after 30.7 million birds had been destroyed. (30) Following this disastrous outbreak, and those in Asia, experts from the FAO, the WHO and the OIE met in Rome in 2004 and called for a targeted strategy, including vaccination. Did these experts appreciate the problems outlined above?

### Mass culling

In the present bird flu crisis in Asia, TV news footage shows birds being burned or buried alive. Is the carnage to be repeated here? The public might expect things to be done differently in 'animal-loving' Britain. Precedent suggests otherwise. The brutality displayed by official killing gangs – who took potshots at live sheep and dumped conscious animals into burial pits and onto fires during the F&M crisis – is an indicator that expedience, rather than compassion, is the key factor during a mass cull. It is highly likely that, should the government order the slaughter of millions of birds, this will again involve gross cruelty, partly due also to the shortage of people qualified to carry out the task. Lessons should have been learned from the salmonella crisis in the late 1980s, when out-of-work coal miners were hired to kill many thousands of laying hens. With no experience or skills connected with livestock, acute suffering was caused on a massive scale.



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### Cooping up

Ireland is insisting that all poultry keepers register their flocks. DEFRA is drawing up a register of all holdings with flocks of 50 or more birds. This arbitrary figure of 50 is senseless, and points to the inadequacy of the Government's response. Flocks numbering fewer than 50 birds are those most likely to be kept outside. DEFRA warns of the need to bring all free-ranging poultry indoors, in the event of an outbreak, yet will have no way of knowing the location of thousands of the birds they regard as the most vulnerable to AI H5NI. In view of the seriousness of the threat to animal and human health, DEFRA's lax attitude is scandalous. Furthermore, the UK government is assuming that birds kept inside represent less of a threat from H5NI. Bringing all free-range poultry 'indoors' is unlikely to protect birds or other animals from the potentially fatal H5NI strain of bird flu. The sudden change, involving serious overcrowding and boredom, will lay birds open to extreme stress. Stressed animals are more susceptible to disease. Most UK poultry rearing is already carried out in windowless sheds anyway. The tactic of bringing poultry indoors will only affect a small section of the industry, and is of dubious value. NB The outbreak in a turkey flock in France, confirmed on February 25th 2006 (18) was among birds already kept indoors.





## Conclusion

**Now that the highly virulent strain of bird flu has reached Britain, Animal Aid fears an outbreak of animal abuse of huge and possibly unique proportions. The abuse may well extend far beyond poultry, to include wild birds and any mammals, domestic or wild, who have supposedly had any contact with the disease. Already the death of a non-human mammal is on record – a cat has died from H5NI avian influenza on the German island of Rugen. Because of the nature of the industry and the status of birds as ‘economic units’, there is no easy solution to the threat of avian influenza and how to handle its arrival. The government must minimise slaughter, treat sick animals, and dispense with hysteria and irrational blood-letting. The ticking time bomb of the modern poultry industry must at some point explode. It could be that this doomed industry has finally reached crisis point, having inflicted untold suffering on billions of defenceless birds, the world over.**

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