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THE WELFARE AT SLAUGHTER OF BROILER CHICKENS

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COMPASSION IN WORLD FARMING TRUST

REPORT BY

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January 1993

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FOREWORD

There is growing public concern about the well-being of animals in modern intensive husbandry systems. Much of this concern is well-founded, especially regarding the poultry industry where throughout the world many millions of broilers are transformed into poultry meat every day. Most people who worry about the way broilers are housed and raised are too squeamish to give any thought to the slaughter process. This report by the Compassion in World Farming Trust highlights the fact that procedures in far too many poultry slaughterhouses do not ensure that the birds are adequately stunned, leaving an unknown number alive, and some still conscious, when they enter the scalding tank. This is not a new problem, nor is it one incapable of resolution. The report summarises the latest scientific views on the current density and the arrangement of the stunners required to ensure that all birds are either dead or stunned before being bled out by severing both carotid arteries.

Six years ago a seminar on pre-slaughter stunning was held in Brussels under the auspices of the Economic and Social Committee of the European Communities and in close liaison with the European Commission. The seminar was attended by a number of veterinarians, ethologists, physiologists and other scientists along with members of organisations representing animal welfare interests, producers and slaughterers. The recommendations approved by the seminar were sent to the Commission. Those on poultry were essentially the same as the recommendations in this report by the Compassion in World Farming Trust.

This weight of evidence cannot be ignored, and it is high time that politicians and legislators, both in the UK and in the whole of the European Economic Area, put an end to practices that are unacceptable and inhumane.

The Compassion in World Farming Trust is to be congratulated on producing an unemotional and timely report that should be read by everybody who is interested in the protection of food animals. It should help to make consumers aware of what happens to their frozen chickens during the last minutes of their lives, and take steps to see that changes are made.

We should all be mindful that, where there is any doubt about the humanity of a procedure, we must always give the animal the benefit of the doubt.

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INTRODUCTION

In 1982 the Farm Animal Welfare Council highlighted the need for urgent reforms to reduce the number of birds being slaughtered inhumanely. They expressed concern that large numbers of poultry may not be stunned before slaughter in such a way as to render them insensible to pain until death supervenes. In particular, they said that they were not confident that electrical stunning of poultry is as reliable as it is claimed to be. They also stressed that when the neck is not properly cut some birds will enter the scalding tank before they are dead, and some may display obvious signs of consciousness.

Ten years on, Compassion in World Farming Trust decided to try and find out whether there are any remaining problems in UK poultry slaughterhouses which compromise the welfare of broiler chickens.

The law (the Slaughter of Poultry Act 1967, as amended by the Animal Health and Welfare Act 1984) requires poultry, subject to certain exceptions, to be stunned before slaughter so as to render them “insensible to pain until death supervenes”. The essential point is that not only must stunning render the bird insensible to pain, but it must remain insensible to pain until death occurs.

We fear that:

- **a significant number of broiler chickens are not properly stunned**
- **the overwhelming majority of broilers do not have their necks cut efficiently**
- **as a consequence, many birds may recover consciousness as they bleed to death which will result in their suffering considerable distress. Some may be alive when entering the scalding tank.**

Scale of problem

Some 600 million chickens were slaughtered in 1991. Even if only a small percentage of this total regains consciousness before death, the potential for bird suffering at slaughter must still remain.

What does poultry slaughter involve?

Modern poultry slaughter is highly mechanised. The broilers are removed from the crates in which they have been transported and are hung upside down by their legs from shackles, which are on a moving line. This takes the birds to an electrically-charged water bath through which their heads, necks and upper thorax are dragged. This is designed to stun them, i.e. render them unconscious and insensible to pain.

The shackle line then takes the broilers to the automatic neck cutters. The intention is that death will be caused by loss of blood in those birds that are not killed in the stunner.

The birds are bled for a minimum time of 1.5 minutes before they enter the scalding tank, which is designed to ease plucking. Clearly only dead birds should be placed in the scalding tank. (This is a requirement of the Ministry of Agriculture’s Code of Practice, paragraph 41).

Inadequate stunning

In many cases stunning is designed only to make a chicken unconscious, not to kill it. The danger is that the bird may only remain unconscious for a limited period and may regain consciousness during “bleeding out”(i.e. whilst it is bleeding to death after its neck has been cut).

It is generally agreed that from a welfare point of view it is best to use sufficient current to kill the birds in the stunner by inducing cardiac arrest. Inducing a cardiac arrest at stunning is the quickest method of killing a chicken (Gregory & Wotton, 1986). Even where birds are not killed in the stunner, use of a high current substantially reduces the risk of them regaining consciousness.

Dr Neville Gregory has stated that a stunning current of at least 120mA (milliamperes) per bird will induce cardiac arrest in about 90% of broilers (Gregory, 1991). In 1992 the European Parliament voted that a current of 120mA should be used.

Sadly, we fear that very few broiler slaughterhouses stun at 120mA. The Ministry of Agriculture’s Code of Practice recommends that 105mA per bird be used. Some would argue that a current of 105mA is as effective as one of 120mA. In their 1990 paper Gregory and Wotton, however, take the view that 120mA provides a more certain level of unconsciousness and conclude that stunning currents greater than 120mA give an unequivocal stun (Gregory & Wotton, 1990). They go on to write that currents greater than 105mA should provide an adequate period of insensibility provided the birds are slaughtered promptly and provided both carotid arteries are cut. We will see that this latter proviso is very rarely fulfilled.

This debate as between 105mA and 120mA must be set in the context of the fact that many British slaughterhouses probably stun with a current flow of something between 75mA and 90mA per bird. One study shows that at 90mA, 19% of broilers will not be killed in the stunner. At 75mA this figure rises to 39% not being killed in the stunner (Gregory & Wotton, 1990).

It is possible that some poultry slaughterhouses use a current as low as 60mA per broiler. At this current 78% of the birds will not be killed in the stunner. Gregory & Wotton have written that currents of less than 75mA should never be used (Gregory & Wotton, 1990).

Inadequate neck cutting

As only a certain proportion of broilers are killed in the stunner, it is vital that neck cutting should be efficient so that the other birds die as quickly as possible, thereby minimising the risk of their regaining consciousness during bleeding out. As will be seen, however, neck cutting is nearly always not efficient, and some broilers do indeed regain consciousness during bleeding out.

Dr Gregory has made it clear that a cardiac arrest should be induced at stunning to “avoid the problems associated with inefficient neck cutting, which are only too common in poultry processing plants” (Gregory, 1991).

What are these problems? The essence of the problem is that the time taken by a chicken to die varies enormously, depending on which blood vessels in the neck are cut. Neck cutting methods in use include cutting one carotid artery and one jugular vein; cutting the spinal cord; cutting both jugular veins; and cutting just one jugular vein.

Research, however, shows that of all the neck cutting methods, the severing of both carotid arteries (these are the major blood supply to the brain) is the quickest method of inducing death (Gregory & Wotton, 1986). Cutting both carotid arteries (and both jugular veins) is vital if a rapid bleed out and quick death are to be achieved. Failure to cut both carotids can add two minutes to the time taken to reach brain failure (MRI, 1984).

However, most automatic neck cutters in current use sever the back or side of the neck and very rarely cut the carotid arteries. As a consequence, unless the bird was killed at stunning (and many are not killed then), there is a real chance that consciousness can return before it dies.

Indeed, one study involving three batches of broilers shows 6.8%, 10.0% and 23.4% respectively still not dead on entering the scalding tank.

These figures are not necessarily surprising. It is possible, as a result of inefficient neck cutting, for the time taken for death to occur to be longer than the time allowed between neck cutting and immersion in the scalding tank. The law only requires 90 seconds to elapse between neck cutting and immersion in the scalding tank. In many cases this may prove to be too short a period. The time between neck cutting and loss of evoked activity of the brain (a very reliable index of brain failure) can, depending on the method of neck cutting used, vary between 163 seconds and 349 seconds (Gregory & Wotton, 1986).

Reluctance to introduce welfare improvements

The problem of broilers regaining consciousness before death could be eliminated by:

- using a current of at least 120mA for stunning, and
- cutting both carotid arteries.

The industry, however, is reluctant to introduce these improvements.

Some of the large supermarkets contend that high stunning currents cause carcass damage. Even if this were so, Compassion in World Farming Trust believes that the overriding principle must be that no bird should suffer. Research, however, shows that carcass defects can be minimised by using currents of less than 130mA (Gregory & Wilkins, 1989) and we are simply advocating the use of 120mA. Moreover, Dr Gregory has written that whilst stunning at this current is not totally free from carcass defects, these can usually be kept at a low level (Gregory, 1991).

Some members of the industry oppose killing at stunning (despite its welfare advantage for the birds). They believe a chicken's heart must still be beating when its neck is cut in order to ensure that as much blood as possible is expelled from the body.

This really is a hoary old chestnut. The scientific evidence shows clearly that the amount of blood leaving the neck cut is not reduced by the bird being dead at the time of neck cutting (Mohan Raj & Gregory, 1991).

Some within the industry argue that cutting both carotid arteries would cause complications for automatic processing of the carcass. They state that if both carotids were cut, the trachea and oesophagus would also inevitably be cut and that this would make fully automatic evisceration impossible. It is simply not acceptable for technical convenience to be accorded a higher priority than the welfare of the birds.

It is further argued that the cutting of both carotids leaves the head very loose. Loose heads tend to be wrenched off in the automatic feather plucking machine. The feathers are destined for commercial use and loose heads amongst the feathers are commercially undesirable. Compassion in World Farming Trust believes that broilers should not be exposed to extra suffering simply to ensure that feathers are not soiled by loose heads.

Multibird stunners with constant current

One particular area of concern is the use of multibird waterbath stunners with a constant voltage. It is the current not the voltage which stuns a bird. A multibird stunner with a constant voltage will only deliver the same current to each broiler if each bird offers the same electrical impedance to current flow. However in reality, bird impedance varies greatly resulting in high impedance birds receiving very little current (too little to stun them effectively) and low impedance birds receiving too much.

The industry should be encouraged to use a constant current, individual bird controlled, multibird waterbath stunner. Such a stunner would allow a current of 120mA to be set for each bird without the wide variations in individual current flow that occur in a constant voltage stunner. This would prevent some birds being improperly stunned through receiving too little current. It would also avoid some birds receiving a current flow so high that quality problems can occur.

Lack of clear information

It is clear that the adoption of certain practices considerably enhances the likelihood of broilers being humanely slaughtered.

It is reasonable to assume that information would be publicly available as to whether UK poultry slaughterhouses in fact adopt these practices.

On 2nd November 1992, Ron Davies MP asked the Minister of Agriculture what proportion of poultry are stunned with currents intended to induce cardiac arrest at stunning.

Mr Gummer replied: "The information is not available".

On 11th November 1992 Mr Davies tried again, asking what voltages are normally used for stunning poultry in British slaughterhouses. Mr Gummer did not reply to this question. He merely said that the Code of Practice recommends that a stunning current of 105mA per bird be used.

On 11th January 1993, Elliot Morley MP asked what proportion of broilers have both their carotid arteries severed at slaughter.

Nicholas Soames MP, Parliamentary Secretary at the Ministry of Agriculture replied: "The information is not available".

CONCLUSIONS

1. It is generally agreed by scientists that the risk of broiler chickens regaining consciousness during the slaughtering process is minimised by:

- * a stunning current of 120mA per bird being used
- * both carotid arteries being severed.

Neither of these practices is the norm in UK poultry slaughterhouses.

2. Compassion in World Farming Trust fears that a significant number of broilers regain consciousness during bleeding out as a result of ineffective stunning and inefficient neck cutting. Some may still be alive on entering the scalding tank.

3. Compassion in World Farming Trust believes that changes in slaughterhouse practice and slaughter legislation are necessary to stop the suffering of broilers at slaughter.

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