Charity Registered in England & Wales No 1159690
Charitable Incorporated Organisation

Humane Slaughter Association

Code of Practice for the Killing of Chicks in Hatcheries

4th Edition, January 2023

Preface

Whilst the killing of day-old chicks is a sensitive issue, hatcheries are faced with the responsibility of making sure that every chick in their care is treated humanely. This includes chicks that are killed shortly after hatching.

This Code of Practice, first published in 1999 in consultation with the British Poultry Council and the Pullet Hatcheries Association, takes its outset in the legislative requirements of *The Welfare of Animals (Slaughter or Killing) Regulations (WASK) 1995 (as amended*)* and *'The Welfare of Animals at the Time of Killing (England) Regulations 2015' (WATOK*). It is based on the latest scientific evidence, and takes into account practical observations and experience.

* *The Welfare of Animals (Slaughter or Killing) Regulations (WASK) 1995* were updated in 2019 in line with *Council Regulation (EC) No 1099/2009 on the protection of animals at the time of killing'.*

This is the 4th edition of the Code of Practice for the Killing of Chicks in Hatcheries.

Humane Slaughter Association
The Old School, Brewhouse Hill
Wheathampstead, Herts AL4 8AN, UK
Phone: +44 (0) 1582 831919
Email: info@hsa.org.uk
Website: www.hsa.org.uk
Registered in England Charity No 1159690 Charitable Incorporated Organisation

ISBN 1 871561 17 5

Contents:

Disclaimer of Liability

The information, advice and opinion in this publication are given in good faith. However, neither the Humane Slaughter Association nor any member of its staff nor any of those associated with the production of the material accepts any liability in respect of any such information, advice or opinion or any application thereof, whether arising by way of negligence or otherwise.

Introduction

Every year millions of chicks are killed in hatcheries because they are either sickly when hatched or are males unwanted for the production of eggs. EU Regulation No 1099/2009 requires that no avoidable pain, distress, or suffering is caused by the method of killing, and operators must be aware of their responsibility to treat each chick with care and consideration.

Whilst the killing of chicks may be an unpleasant, or even distressing, task for hatchery staff to carry out, human perceptions must not be allowed to compromise the welfare of the chicks. Therefore, whilst screening may be used to protect staff sensibilities, this must never prevent the effective operation, inspection, and maintenance of equipment.

Every hatchery should have an up-to-date copy of this Code and all those involved in the killing of chicks should be familiar with it, whether they are directly handling chicks in the hatchery or are responsible for hatchery management, supervision, or inspection.

Scope and definitions

This Code sets minimum standards based on current legislation, scientific evidence, and best practice. It includes the humane killing of broiler and layer chicks, turkey poults, goslings, and ducklings.

The legislation includes *Council Regulation (EC) No 1099/2009, (Annex I, Chapter I, Tables 1.4 and Chapter II)* and *The Welfare of Animals at the Time of Killing (England) Regulations 2015' (Schedule 2, Part 5, Para 44). Please note that* hatchery operators in **Scotland**, **Wales** and **Northern Ireland** must refer to their respective versions of *The Welfare of Animals at the Time of Killing Regulations.*

Unless otherwise specified, `chick' is used to describe all species of poultry that are less than 72 hours of age. The term `chick' covers sickly, injured or deformed chicks and also those chicks that are healthy but unwanted (eg male chicks surplus to the egg production industry).

For the purpose of this Code, a `pipping egg' is considered a `chick' if the bird has broken away or is free from its shell. If it remains enclosed in its shell, it is considered an `embryo' and should be treated as such in accordance with the Regulations. The disposal of embryos is not covered by this Code.

1. Hatchery procedures

1.1 Every hatchery must have documented procedures in place to cover the handling and methods for the killing of chicks. These must include the effective and safe operation of equipment and its setting-up, regular maintenance and cleaning. They must also contain contingency plans for emergencies and equipment failure.

1.2 A member of hatchery staff must be appointed as the Hatchery Welfare Officer to be responsible for the chick killing operation and to ensure the welfare of each chick is protected. This person must have the skill, knowledge, training, and authority to take appropriate action, if and when necessary.

2. Hatchery Welfare Officer (HWO)

2.1 The HWO will be responsible, either directly or through personal supervision, for the

- effective operation of equipment
- regular maintenance, adjustment and setting of equipment
- daily inspections of equipment
- training of hatchery staff, in accordance with this Code

2.2 The HWO must establish documented procedures for regular inspections and cleaning of chick killing equipment, clear pass/fail criteria, corrective action in the case of equipment failure, and training. The HWO must ensure that up-to-date records are kept of:

- all inspections of equipment used in the killing of chicks
- performance against clear pass/fail criteria
- corrective action taken
- maintenance, cleaning, adjustment and setting of equipment
- staff training

3. Handling of chicks for killing

When chicks are sorted and segregated for killing they must be handled with particular care and attention. A percentage of the chicks is likely to be sickly, injured or deformed and their welfare must not be further compromised by the handling procedures.

3.1 A trained operator must separate chicks from other debris, shells, and waste prior to killing.

3.2 Chicks that are sick, injured or deformed must be killed without delay, to prevent any unnecessary suffering. In the case of an emergency, or breakdown of equipment, these chicks must be given priority

3.3 Chicks must be sorted in one of the following ways:

a) manually, directly into the apparatus for immediate killing
b) onto a continuously moving conveyor to be transferred for immediate killing
c) into trays which must be collected as soon as possible, and taken for immediate killing of the chicks

3.4 Chicks awaiting killing must be kept in a suitable draught-free, covered area, protected from extremes of temperature.

3.5 Chicks awaiting killing must not be caused injury or distress.

3.6 When chicks are carried by hand, they must be handled with care and consideration in a manner that does not cause distress. They must not be thrown or dropped.

3.7 When trays or conveyors are used for sorting chicks, these must not be overcrowded to prevent distress or suffocation.

3.8 Handling systems must prevent chicks from becoming loose in the hatchery, getting trapped, falling, or being thrown from conveyors or trays.

3.9 When chicks are carried in trays, the trays must be held horizontally to allow the chicks to maintain their balance. The containers must not be thrown, dropped, or tipped. Chicks must be unloaded from the trays in a manner that does not cause distress.

3.10 Chicks carried on a conveyor, either free-standing or in trays, must travel only at speeds that allow them to maintain an upright position throughout. Chicks must not be dropped onto or be thrown from conveyors.

4. Instantaneous Mechanical Destruction (IMD)

To be considered humane, mechanical equipment used for killing must cause immediate death. This involves depositing individual chicks, manually or mechanically, into a machine that will either macerate or crush the birds instantaneously. There are two common designs of IMD machines in use in the UK.

IMD equipment designed to crush the chicks instantaneously are designed to operate with either one roller that rotates against a solid projection, or two contra-rotating rollers. These rollers rapidly rotate and have raised, solid projections that run along their length. Chicks are crushed and immediately killed by the rapidly rotating and interlocking projections in the narrow gap between the rollers.

IMD equipment designed to macerate the chicks immediately have rapidly rotating knife-type projections, which effectively operate as blades, resulting in the instantaneous death of the chick.

Whilst it may be aesthetically unpleasant, IMD is an acceptable and humane method of killing chicks, provided the equipment is functioning correctly and operated by trained staff in accordance with the recommendations set out in this Code.

4.1 Machinery must be properly set up according to the manufacturers' specification and must operate at the optimum recommended speed. The capacity of the IMD equipment must be compatible with the throughput of the hatchery.

4.2 Equipment must be set up to allow regular, daily inspection of material leaving the machinery.

4.3 If a `crushing` design is used, the gap between the rollers or side projections, i.e. the area through which chicks are crushed, should be less than 10mm. The gap must never exceed 10mm and the rollers must not be forced apart as the chicks pass through.

4.4 To prevent blockages, chicks must enter the IMD machine at a rate compatible with the capacity of the equipment.

4.5 The entrance to the IMD machine must be designed to guide chicks directly into the working parts of the machine. Chicks must not accumulate at the entrance of the machine.

4.6 Chicks should enter the IMD machine either by a trained operator placing individual chicks into the apparatus, or via a free-standing conveyor that carries chicks, in a single layer, into the apparatus at a rate compatible with the capacity of the equipment.

4.7 The drop into the IMD machine must be kept to a minimum.

4.8 The blades or projections must be correctly positioned to kill the chicks immediately, causing no deflection.

4.9 Daily inspections must be made to ensure that the equipment is operating effectively. Checks must be made to confirm that every chick is dead on immediate exit from the IMD machine. A record of inspections and a report of findings must be kept. If any chicks are leaving the IMD machine alive, the equipment must be stopped immediately and not used again until the problem is corrected.

4.10 If the IMD machine stops, then any mechanical conveyor must also stop immediately and simultaneously.

5. Gas Killing

EU Regulation 1099/2009 and *The Welfare of Animals at the Time of Killing (England) Regulations 2015'*(WATOK) permit a variety of gas mixtures to be used for the dispatch of chicks. Similar legislation applies in Scotland, Wales and Northern Ireland, and operators in these countries should refer to their respective versions of the legislation.

The principle of gas killing is to deprive the brain of oxygen. This is achieved through inhalation of a gas mixture with very low oxygen content. Neonates, such as day-old chicks, are very resistant to oxygen deprivation. It is therefore necessary to expose the chicks to gas mixtures with very little residual oxygen for a considerable amount of time to ensure that the chick is killed, and not just unconscious (stunned).

The killing of chicks with gas mixtures does not result in an immediate loss of consciousness, therefore it is important to ensure that the induction of unconsciousness does not cause distress to the chicks. In addition to this, the type of gas used must be suitable for a commercial environment. The characteristics of an ideal, humane, and efficient gas mixture include that it must:

- be capable of killing chicks
- be non-aversive
- induce loss of consciousness as rapidly as possible
- be reasonably cheap and safe to use in industrial conditions
- be relatively easy to contain within an open container

UK legislation allows for either direct or progressive exposure of conscious animals to a gas mixture containing inert gases, such as argon or nitrogen, leading to anoxia and death; or a mixture of an inert gas with a maximum of 40% carbon dioxide. However, carbon dioxide is an acidic gas and scientific research has shown that, at concentrations over 25%, it can cause head shaking and gasping in chicks, indicating that it is unpleasant to inhale. Therefore, if carbon dioxide is used, **hatcheries are advised to use a maximum of 25% carbon dioxide in the gas mixture**. The residual oxygen content of the mixtures should never be more than 2%, and **the HSA recommends a maximum of 1% residual oxygen**. As air contains 21% oxygen, this is equivalent to <5% air in the gas mixture.

Research has shown that direct immersion into the full concentration of a gas mixture leads to a faster death and is therefore more humane than progressive exposure.

The preferred choice of gas for killing day-old chicks humanely is **95% argon** (with the remaining 5% being air, leading to residual oxygen below 1%), as evidence suggests loss of consciousness by anoxia does not cause any respiratory discomfort.

Welding gas, commonly used in hatcheries for the killing of chicks, consists of a mixture of argon and carbon dioxide in ratios ranging from 95:5 to 75:25 and, when mixed with 5% air, the gas mixture used will have a carbon dioxide content below 25%.

Following entry into the gas, chicks should lose posture (consciousness) after approximately 10-15 seconds. After loss of consciousness, they will then convulse, which is a normal reaction.

Inert gas mixtures which are not aversive to chicks are an acceptable and humane method of killing, provided the equipment is functioning correctly, operated by trained staff and that hatcheries are adopting the recommendations set out in this Code.

5.1 Chicks must be placed into the required concentration of gas. Chicks must never be placed into a container to which the gas is then added.

5.2 Appropriate gas concentrations must be continuously controlled and monitored at chick level. A documented record of gas concentration must be made at least twice a day.

5.3 Chicks must be placed in the gas in a single layer to prevent their piling up and being suffocated.

5.4 When chicks enter the gas on a conveyor, they must not be allowed to become `piled` or `bunched up` on entry to the apparatus.

5.5 Hatcheries must allow sufficient time between adding batches of chicks to ensure they are all killed by the gas and NOT by suffocation. When chicks are placed manually in the gas, the operator must ensure they are all dead before another layer is added.

5.6 Daily inspections must be made to ensure the equipment is operating effectively. Checks must be made to ensure that every chick is killed in the gas, and a record of inspections and a report of findings must be kept. If any chicks are leaving the equipment alive, the equipment must be stopped immediately and not used again until the problem is corrected.

5.7 Gas monitoring equipment must be kept in good working condition, and it must be regularly calibrated. Records of calibrations must be kept.

5.8 The level of residual oxygen is critical to ensure that the chicks do not recover in the gas mixtures. Newly hatched chicks are approximately 85% more tolerant to oxygen deficiency than adult chickens. The **HSA** therefore **recommends that a maximum level of 1% residual oxygen should not be exceeded.**

5.9 Oxygen monitoring equipment must be incorporated into the chick killing apparatus and be fitted with an alarm to warn the operator when oxygen concentration rises above 1% at chick level. If this occurs, the system must be stopped. Equipment and gas concentrations must be checked and killing must not recommence until it is certain that the apparatus is working correctly.

5.10 Chicks must remain in the gas until dead. All chicks must be checked to ensure that there are no signs of life.

5.11 The following minimum durations for immersion in the gas mixture must be adhered to:

- Chicks: a minimum of **3 minutes**
- Turkey poults, ducklings, and goslings: a minimum of **5 minutes**

6. Neck (cervical) dislocation

Research has shown that neck dislocation does not consistently concuss the brain and it is unlikely to cause immediate unconsciousness. Therefore, neck dislocation should never be used for the routine killing of chicks.

6.1 Neck dislocation should only be used for very small numbers of chicks, or in an emergency. EU Regulation No 1099/2009 requires that no person shall kill by manual cervical dislocation more than 70 animals per day.

6.2 It must be accompanied by severance of the spinal cord and blood vessels in the chick's neck.

6.3 Neck dislocation must only be carried out by a proficient and competent operator.

7. Training

7.1 Staff must be trained and competent before inspecting or operating equipment, and before undertaking chick handling and killing.

7.2 Staff directly involved with the killing of chicks should have read and understood this Code of Practice. Records must be kept showing the date that members of staff received the Code.

7.3 Records of staff training must be maintained.

8. Safety

8.1 Systems used for the killing of chicks must be safe for the operator. Regular health and safety checks must be made. Records must be maintained and be made available to staff.