

# **Guidance for the Welfare of Meat Chickens and Meat Breeding Chickens**

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## Preface

This guidance applies in relation to Scotland only. It is issued by the Scottish Ministers under section 38 of the Animal Health and Welfare (Scotland) Act 2006 with a view to securing the welfare of chickens reared for meat including meat breeding chickens and grandparent stock under all types of husbandry systems in Scotland (“meat chickens”). This guidance is intended to help all those who care for meat chickens to provide for the welfare of such chickens.

Without good stockmanship, animal welfare can never be adequately protected. Adherence to this guidance will help owners and other persons responsible for animals to provide for animal welfare.

Those who have care of meat chickens should demonstrate:

- Caring and responsible planning and management;
- Skilled, knowledgeable and conscientious stockmanship;
- Knowledge of design of the birds’ housed environment.
- Considerate handling and transport; and
- Knowledge of humane slaughter.

The welfare of meat chickens is considered within a framework that was developed by the Farm Animal Welfare Committee (FAWC), and known as the ‘Five Freedoms’. These form the guiding principles for the assessment of welfare within any system, together with the actions necessary to safeguard welfare within the constraints of an efficient livestock industry. The Five Freedoms should be considered in conjunction with FAWC’s three essentials of stockmanship.

The Five Freedoms are:

- 1. Freedom from hunger and thirst** by ready access to fresh water and a diet to maintain full health and vigour;
- 2. Freedom from discomfort** by providing an appropriate environment including shelter and a comfortable resting area;
- 3. Freedom from pain, injury or disease** by prevention or rapid diagnosis and treatment;
- 4. Freedom to express normal behaviour** by providing sufficient space, proper facilities and company of the animals’ own kind;
- 5. Freedom from fear and distress** by ensuring conditions and treatment to avoid mental suffering.

The Three Essentials of Stockmanship are:

**1. Knowledge of Animal Husbandry**

Sound knowledge of the biology and husbandry of farm animals, including how their needs may be best provided for in all circumstances.

**2. Skills in Animal Husbandry**

Demonstrable skills in observation, handling, care and treatment of animals, and problem detection and resolution.

**3. Personal Qualities**

Affinity and empathy with animals, dedication and patience.

## Legislative background

A person can be responsible for a meat chicken for the purposes of the Animal Health and Welfare (Scotland) Act 2006 (“the 2006 Act”) and the Welfare of Farmed Animals (Scotland) Regulations 2010 on a permanent or temporary basis. A person who is in charge of a meat chicken will be a person who is responsible for it. A person who owns a meat chicken is always to be regarded as being a person who is responsible for it. A person does not relinquish responsibility for a meat chicken by reason only of abandoning it<sup>1</sup>.

The Welfare of Farmed Animals (Scotland) Regulations 2010 places certain requirements on persons responsible for protected animals (as defined in the 2006 Act) including, for example, regulation 7. In the particular context of meat chickens, this means that a person responsible for a meat chicken must not attend to it unless that person is acquainted with, and has access to whilst so attending, any relevant guidance documents which are specified in the Regulations. Failure to do so is an offence under the Welfare of Farmed Animals (Scotland) Regulations 2010.

A person responsible for a meat chicken must also take all reasonable steps to ensure that any person employed or engaged by that person does not attend to the meat chicken unless the employee or engaged person—

- is acquainted with any relevant guidance documents which are specified in the Regulations, including those specified in regulation 7;
- has access to a copy of those documents; and
- has received instruction and guidance on those documents.

Failure to do so is an offence under the Welfare of Farmed Animals (Scotland) Regulations 2010.

Activities carried out in accordance with this guidance may be regarded as good practice. This guidance may also be considered relevant by the courts in any prosecution of offences under sections 19 (unnecessary suffering) and 24 (ensuring welfare of animals) of the 2006 Act. The relevance of the guidance to any prosecution will depend on the facts and circumstances and, in some cases, the guidance may not have any bearing on the prosecution.

Section 19 of the Animal Health and Welfare (Scotland) Act 2006 states that:

(1) A person commits an offence if—

(a) the person causes a protected animal unnecessary suffering by an act, and

(b) the person knew, or ought reasonably to have known, that the act would have caused the suffering or be likely to do so.

<sup>1</sup> Note also that a person (“person A”) is to be regarded as responsible for a meat chicken for which a person who is under 16 years of age, of whom person A has actual care and control, is responsible.

(2) A person who is responsible for an animal commits an offence if—

(a) the person causes the animal unnecessary suffering by an act or omission, and

(b) the person knew, or ought reasonably to have known, that the act or omission would have caused the suffering or be likely to do so.

(3) A person (“person A”) who is responsible for an animal commits an offence if—

(a) another person causes the animal unnecessary suffering by an act or omission, and

(b) person A—

(i) permits that to happen, or

(ii) fails to take such steps (whether by way of supervising the other person or otherwise) as are reasonable in the circumstances to prevent that happening.

(4) The considerations to which regard is to be had in determining, for the purposes of subsections (1) to (3), whether suffering is unnecessary include—

(a) whether the suffering could reasonably have been avoided or reduced,

(b) whether the conduct concerned was in compliance with any relevant enactment or any relevant provisions of a licence or code of practice issued under an enactment,

(c) whether the conduct concerned was for a legitimate purpose, for example—

(i) the purpose of benefiting the animal, or

(ii) the purpose of protecting a person, property or another animal,

(d) whether the suffering was proportionate to the purpose of the conduct concerned,

(e) whether the conduct concerned was in the circumstances that of a reasonably competent and humane person.

(5) This section does not apply to the destruction of an animal in an appropriate and humane manner.

Section 24 of the Animal Health and Welfare (Scotland) Act 2006 states that:

(1) A person commits an offence if the person does not take such steps as are reasonable in the circumstances to ensure that the needs of an animal for which the person is responsible are met to the extent required by good practice.

(2) The circumstances to which, for the purposes of subsection (1), regard is to be had include—

- (a) any lawful purpose for which the animal is kept,
- (b) any lawful activity undertaken in relation to the animal.

(3) For the purposes of subsection (1), an animal's needs include—

- (a) its need for a suitable environment,
- (b) its need for a suitable diet,
- (c) its need to be able to exhibit normal behaviour patterns,
- (d) any need it has to be housed with, or apart from, other animals,
- (e) its need to be protected from suffering, injury and disease.

(4) This section does not apply to the destruction of an animal in an appropriate and humane manner.

The legal text in boxes throughout this document is not part of the guidance but highlights relevant legislation. The text in these boxes is the law as it stands on the date that this guidance is published. (Please see the final page for the date of publication.) You should be aware that any of the legal requirements quoted here could change. You should check that these are an accurate statement of the law as it currently stands. See Annex 1 for a list of other relevant legislation.

A person may commit an offence if they fail to comply with the requirements referred to in the boxes throughout this document. There may be other legislation and requirements that are not outlined in this guidance that you must also be familiar with and comply with.

During on-farm welfare inspections, inspectors appointed under the 2006 Act may have regard to this guidance when assessing compliance against legislation. Those responsible for enforcement may also refer to the guidance when issuing advice, warning letters or care notices under the 2006 Act.

This guidance does not apply to anything which occurs by virtue of, or in accordance with, a provision of the Animals (Scientific Procedures) Act 1986. The Animals (Scientific Procedures) Act 1986 makes provision for the protection of animals used for experimental or other scientific purposes.

Suggested sources of additional information are included at the end of this guidance.



## Introduction

1. This guidance (which applies in Scotland only) covers those parts of the livestock industry involved with the production of meat chickens.

2. Legal text is provided in boxes throughout the guidance and is quoted directly from the relevant legislation. For ease of reference, the table below and continued on the following page summarises the various legal provisions relating to animal welfare on farms for different types of meat chicken production systems. Unless stated otherwise, the legal provisions in the boxes apply to all meat chicken producers. Some boxes, however, set out the additional welfare requirements for keeping conventionally reared meat chickens. These additional requirements do not apply to hatcheries or when fewer than 500 chickens or breeding chickens are kept; they also do not apply where birds are reared to extensive indoor, free range or organic marketing standards. However, although not legal requirements for these systems, the additional welfare provisions for conventionally reared meat chickens, for example on lighting and litter, can help to ensure bird welfare when applied to all systems of production. The Council of Europe's recommendations concerning meat chickens and grandparent stock, where not covered by legislation, are also included in this guidance.

| Type of meat chicken production system   | Legislation in Scotland                       |  |  |
|--|---|--|--|
|  | Animal Health and Welfare (Scotland) Act 2006 | The Welfare of Farmed Animals (Scotland) Regulations 2010 Schedule 1 | The Welfare of Farmed Animals (Scotland) Regulations 2010 Schedule 2 |
| Holdings with <500 chickens  | ✓   | ✓  |  |
| Holdings with only breeding stocks of chickens   | ✓   | ✓  |  |
| Hatcheries   | ✓   | ✓  |  |
| ≥500 birds conventionally reared, stocking density up to 33kg/m <sup>2</sup>                               | ✓   | ✓  | ✓  |
| ≥500 birds conventionally reared, stocking density more than 33kg/m <sup>2</sup> up to 39kg/m <sup>2</sup> | ✓   | ✓  | ✓  |
| <sup>a</sup> Free range chickens, maximum stocking density 27.5kg/m <sup>2</sup>                           | ✓   | ✓  |  |

|  | Legislation in Scotland                       |  |  |
|--|---|--|--|
| Type of meat chicken production system   | Animal Health and Welfare (Scotland) Act 2006 | The Welfare of Farmed Animals (Scotland) Regulations 2010 Schedule 1 | The Welfare of Farmed Animals (Scotland) Regulations 2010 Schedule 2 |
| <sup>b</sup> Extensive indoor chickens, maximum stocking density 25kg m <sup>2</sup>                 | ✓   | ✓  |  |
| <sup>c</sup> Organically reared chickens in accordance, maximum stocking density 21kg/m <sup>2</sup> | ✓   | ✓  |  |

<sup>a</sup> as referred to in points (c), (d), (e) of Annex V to Commission Regulation (EC) No 543/2008 which sets out detailed rules as regards the marketing standards for poultry meat for the application of the Single CMO Regulation (EC) No 1308/2013.

<sup>b</sup> as referred to in point (b) of the same regulation.

<sup>c</sup> in accordance with the relevant EU Organic Regulations - Council Regulation (EC) 834/2007 and Commission Regulation (EC) 889/2008.

3. No person should operate or set up a meat chicken or meat chicken breeding unit unless the welfare of all the birds can be safeguarded to the fullest extent possible across all points of production. This can be achieved by ensuring that the buildings and equipment, the skills and abilities, and the numbers of keepers are appropriate to the husbandry system and number of birds to be kept.

4. The relevant animal welfare legislation applies to owners as well as any person looking after the chickens on their behalf, wherever the chickens are located. A written protocol should clearly set out for all parties their responsibilities in respect of welfare. However, the obligations imposed by the law will still apply.

Paragraph 29 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states:

29. No person may keep an animal for farming purposes unless it can reasonably be expected that, on the basis of its genotype or phenotype, it can be kept without detrimental effect on its health or welfare.

5. The strains of bird selected must be suitable for the production system. In particular, care must be taken in the production of birds with extended growing periods (e.g. organic, free range) to use suitable strains and required feeding regimes.

## Definitions

6. For the purposes of this guidance document definitions are summarised below. Some of these (marked with an asterisk) are taken directly from the relevant legislation, whilst others are included to provide an explanation for the purposes of the guidance.

**'breeding chicken'** means an animal of the species *Gallus gallus* whose progeny are either parent stock or meat chickens;

**'conventionally reared meat chickens' (\*)** means an animal of the species *Gallus gallus* that is kept for meat production, other than one:

- (a) that is on a holding with fewer than 500 such animals or with only breeding stocks of such animals;
- (b) that is on a hatchery;
- (c) in relation to which the term "Extensive indoor (barn reared)", "Free range", "Traditional free range" or "Free range – total freedom" can be used within the meaning of point (b), (c), (d) or (e) of Annex V to Commission Regulation (EC) No. 543/2008 which sets out detailed rules as regards the marketing standards for poultry meat for the application of the Single CMO Regulation (EU) 1308/2013; or
- (d) that is organically reared in accordance with the relevant EU organic regulations - Council Regulation (EC) 834/2007 and Commission Regulation (EC) 889/2008.

**'cumulative daily mortality rate' (\*)** means the sum of daily mortality rates;

**'daily mortality rate' (\*)** means the number of chickens which have died in a house on the same day including those that have been culled either because of disease or because of other reasons, divided by the number of chickens present in the house on that day, multiplied by 100;

**'flock'** means a group of chickens which are placed in a house or a holding and are present in this house at the same time;

**'grandparent stock'** means an animal of the species *Gallus gallus* whose progeny are parent stock;

**'holding' (\*)** means a production site on which chickens are kept;

**'house' (\*)** means a building on a holding where a flock of chickens is kept;

**'injurious pecking'** is redirected foraging behaviour to the feathers and skin of other birds and encompasses feather pecking, vent pecking and cannibalism;

**'keeper' (\*)** means any person responsible for or in charge of chickens in terms of contract or by law whether on a permanent or temporary basis;

**'laparoscopy'** is the examination of the abdominal cavity by insertion of an instrument called a laparoscope.

**'meat chicken'** means an animal of the species *Gallus gallus* kept for meat production;

**'mutilation'** is a procedure which involves interference with the sensitive tissues or bone structure of an animal, otherwise than for the purpose of its medical treatment;

**'owner'** means any natural or legal person or persons owning the chickens;

**'parent stock'** means an animal of the species *Gallus gallus* whose progeny are meat chickens;

**'stocking density' (\*)** means the total live weight of chickens which are present in a house at the same time per square metre of useable area;

**'total mortality rate'** is the total number of birds that died or were culled during a flock's whole rearing period, divided by the original number of birds placed on the first day, multiplied by 100;

**'usable area' (\*)** means, in relation to conventionally reared meat chickens, a littered area accessible to the chickens at any time.

## Section 1: Recommendations applying to all systems

### Stockmanship and staffing

#### All meat chickens – including breeding birds and those at hatcheries

Paragraph 1 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

1. Animals must be cared for by a sufficient number of staff who possess the appropriate ability, knowledge and professional competence.

#### Conventionally reared meat chickens

Paragraph 2 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

2 (1) A keeper must hold—

(a) a certificate recognised by the Scottish Ministers for the purposes of Article 4(3) or (4) of Council Directive 2007/43/EC laying down minimum rules for the protection of chickens kept for meat production (certificates of completion of training courses); or

(b) written confirmation from the Scottish Ministers that the keeper's experience is deemed to be equivalent to the certificate described in sub-paragraph(1)(a).

(2) The Scottish Ministers must publish from time to time, in such a way as they consider appropriate, a list of certificates recognised by them for the purposes of sub-paragraph (1).

7. Stockmanship is one of the most important influences on the welfare of chickens. It is essential that sufficient well-motivated and competent personnel are employed to carry out all necessary tasks. Staff should be well managed and supervised, fully conversant with the tasks they will be required to undertake and competent in the use of any equipment.

8. Keepers of all meat chickens, meat breeding birds and those handling birds in hatcheries, including those employed by contractors, should be appropriately trained before being given responsibility for animals. This requires the acquisition of specific stockmanship skills which may be developed on-site with an experienced person or by a suitable training provider and in some cases may include in-class training.

9. All keepers should have a full and demonstrable understanding of the welfare needs and basic biology of the birds. As a minimum, they should be able to:

- recognise whether or not the birds are in good health, and the appropriate action to take if they are not;
- understand the significance of behavioural changes in the birds; and

- appreciate the suitability of the total environment for the birds' health and welfare.

10. Whilst under the supervision of others and before being given sole responsibility for animals, keepers should have demonstrated competence and understanding, including on-farm practical ability, to ensure that they are capable of safeguarding birds under all foreseeable conditions. A good keeper will have a compassionate and humane attitude, will be able to anticipate and avoid many potential welfare problems and have the ability to identify those that do occur and respond to them promptly.

11. In order for birds to become accustomed to the stockman's presence without fear, there should be frequent, quiet but close approach from an early age so that birds are not unduly frightened.

12. Young birds should be given appropriate early experience of management practices and environmental conditions to enable them to adapt to the husbandry systems that they will encounter later in life. For example, early exposure to particular feeding, watering systems, natural light, perches and litter may be beneficial.

13. Meat chickens bred for farming purposes shall not be used to achieve any other purpose, including public spectacles or demonstrations, if such use is likely to be detrimental to their health and welfare.

14. All keepers who are given responsibility for the care of conventionally reared meat chickens at any point in time, including holiday cover, part time and temporary staff, must have a certificate attesting to completion of a recognised training course or have been granted equivalent status due to experience ('Grandfather Rights') under the Defra administrative scheme that aided the transition to training requirements (now closed for new applications). The training course must cover in particular the areas covered by Annex IV to Directive 2007/43/EC:

- Annexes I and II;
- physiology, in particular drinking and feeding needs, animal behaviour and the concept of stress;
- the practical aspects of the careful handling of chickens and catching, loading and transport;
- emergency care for chickens, emergency killing and culling; and
- preventative bio-security measures.

15. These are areas in which all flock keepers, regardless of system of production, should receive training. The minimum qualification sufficient to comply with the Welfare of Farmed Animals (Scotland) Regulations 2010 is the SVQ Level 2 Agriculture (Poultry) ensuring that the mandatory units have been completed. Qualifications approved in other administrations within the UK and in other countries may also be recognised by the Scottish Government, for example the Level 2 diploma in Work based Agriculture (Poultry Production) and the Level 3 in Northern Ireland Diploma in Work-based Agriculture (Poultry Production). Contact the

Scottish Government's animal welfare policy team, [animal.health@gov.scot](mailto:animal.health@gov.scot), if you have any training related queries that are not covered by this guidance.

16. Owners and keepers of chickens under all husbandry systems, including those with Grandfather Rights, are encouraged to take formal training regularly to keep their knowledge and skills up to date.

17. Training should continue throughout the duration of employment of all keepers, and suitable refresher courses should be undertaken regularly. Wherever possible, the training should be of a type which leads to formal recognition of competence. As welfare risks may vary according to the rearing system, such training should be specific to the system used.

## Catching and handling

18. The catching and handling of birds without causing them injury or stress requires skill. All poultry catchers should be familiar with the Humane Slaughter Association's guidance on Poultry Catching and Handling<sup>2</sup>. Catching and handling should only be undertaken by competent persons, i.e. those who have been appropriately trained for the task and have received clear guidance and instructions from the owner or keeper. Responsibility for the management of the operation should be clearly allocated. All those in contact with birds should comply with the required biosecurity as stipulated by the owner / keeper. (See also paragraph 54)

19. Mechanical bird collection systems may have advantages for welfare. Only systems that the manufacturer has shown to be satisfactory from the point of view of bird health and welfare should be used. Where they are utilised, operators must be competent in their use and be vigilant for signs of stress or smothering, just as with manual catching. Such systems should be regularly monitored and their effect on bird health and welfare regularly evaluated.

20. High standards during catching and handling must be applied irrespective of the potential economic value of the birds. Surplus meat chickens, including breeders at the end of lay awaiting disposal, should be treated as humanely as those intended for retention or sale.

21. Catching and handling should be carried out quietly and confidently exercising care to avoid unnecessary struggling which could bruise or otherwise injure the birds. Panic among the birds should be avoided in order to minimise the risk of injury. Birds should be approached calmly and quietly in order to minimise disturbance. Catching should take place in low or blue light to minimise fear responses. The light should be returned to a minimum of 20 lux without delay if any birds remain in the house after thinning. A gradual increase in light intensity at this time, similar to a dawn or dusk period, could reduce the risk of back scratching. Where there is concern that returning the lights to 20 lux will result in compromised bird welfare, a temporary reduction in lighting level is permitted on a case by case basis, but only as a result of following veterinary advice on each occasion. (See paragraph 87).

22. Birds must be caught with care and should be lifted directly into the transport module. Catching should either be by holding them round the body or, if by the legs, preferably both legs above the hock joint. If birds need to be carried this should either be by holding them round the body or by both legs above the hock joint. No catcher should carry by the legs more than three chickens (or two adult breeding birds) in each hand. Birds must not be carried by the wings, neck, head or tail. Visibly unfit or injured birds must not be loaded into a transport container but must be killed on-farm as quickly and humanely as possible by a suitably trained person. The condition of crates on the transport container should be checked prior to loading as damaged crates pose a serious welfare risk to birds.

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<sup>2</sup> <https://www.hsa.org.uk/catching-and-handling/chickens>



23. Catching and handling should always be monitored by a supervisor, who should stop the process if the correct procedure is not followed or catching teams are non-compliant with bio-security or welfare standards.

## Feed and water

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 22 to 27 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

22. Animals must be fed a wholesome diet which is appropriate to their age and species and which is fed to them in sufficient quantity to maintain them in good health, to satisfy their nutritional needs and to promote a positive state of well-being.

23. Animals must not be provided with food or liquid in a manner, nor must such food or liquid contain any substance, which may cause them unnecessary suffering or injury.

24. All animals must have access to feed at intervals appropriate to their physiological needs (and, in any case, at least once a day) except where a veterinary surgeon acting in the exercise of that profession otherwise directs.

25. All animals must either have access to a suitable water supply and be provided with an adequate supply of fresh drinking water each day or be able to satisfy their fluid intake needs by other means.

26. Feeding and watering equipment must be designed, constructed, placed and maintained so that contamination of food and water and the harmful effects of competition between animals are minimised.

27. No other substance, with the exception of those given for therapeutic or prophylactic purposes or for the purpose of zootechnical treatment, may be administered to animals unless it has been demonstrated by scientific studies of animal welfare or established experience that the effect of that substance is not detrimental to the health or welfare of the animals; and in this paragraph “zootechnical treatment” has the meaning given by Article 1(2)(c) of Council Directive 96/22/EC concerning the prohibition on the use in stockfarming of certain substances having a hormonal or thyrostatic action and of beta-agonists, and repealing Directives 81/602/EEC, 88/146/EEC and 88/299/EEC

### **Conventionally reared meat chickens**

Paragraph 6 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

6. (1) Drinkers must be positioned and maintained in such a way that spillage is minimised.
- (2) Feed must be either continuously available or meal fed.
- (3) Feed must not be withdrawn from chickens more than 12 hours before the expected slaughter time.

24. All birds, including breeding birds, must have daily access to feed. When introducing birds to a new environment, the keeper should ensure that the birds can easily find feed and water.
25. Suitable, correctly balanced nutrition, designed specifically for the age and strain of the bird, is important for rearing healthy meat chickens. Feed management practices should incorporate nutritional guidance for strain type provided by the breeder's recommendations and company supplying the birds, in addition to any veterinary advice, to avoid development of certain conditions such as ascites, sudden death syndrome and lameness.
26. Whilst environment and genetics should also be considered as part of managing the conditions listed in the above paragraph, control of growth rate by careful nutrient management, whilst not impacting overall on final body weight, may reduce their incidence. However, any changes in diet quantity or quality should be managed collaboratively with nutrition specialists and veterinary advisers.
27. Any changes in diet should be introduced gradually and with appropriate veterinary / specialist advice. Sudden changes in the type, quantity and make-up of feed should generally be avoided.
28. Feed and water should be replaced on a regular basis to ensure it does not become stale or contaminated. Suitable provision must be made for supplying water in freezing weather conditions.
29. The distance any bird should have to travel in a house to reach feed should not be more than 4 metres and to reach water should not be more than 3 metres. However, in some situations, such as some outdoor production systems, it may be necessary for the birds to travel further. In these situations, all birds must be adequately cared for with necessary adaptations made to the stocking density, feeding and drinking space, and the distribution of feeders and drinkers, to allow for such movements.
30. Feed must not be withheld from conventionally reared meat chickens for more than 12 hours before expected slaughter time. Prior to transport, water should be provided up to the start of the catching procedure, and should be made available periodically for birds waiting to be caught, depending on the length of the catching operation. Transporters of meat and breeding chickens must minimise the length of the journey and carry out transport without delay. Only journey times of under 12 hours are permitted without food and water being provided.
31. Provided chicks arrive at their destination within 72 hours after hatching and the journey time is not more than 24 hours, then feed and water need not be provided in transit. However, if any of these periods are exceeded then feed and water must be provided. Contingency plans should be in place to address any unexpected delays.
32. Where possible, water meters should be fitted to each house to enable daily monitoring of water usage. A water meter is a useful management tool; daily records of water consumption provide an early warning of potential problems.

33. Daily access to water throughout the period of lighting and a sufficient number of drinkers, correctly maintained, well distributed and adjusted for height and pressure, should be provided. In longer poultry houses and in those with greater floor slopes, water pressure regulators should be provided if spillage or leakage is considered a problem.

34. Leakage or spillage from the water drinkers can significantly increase the moisture content of the litter with a negative impact on litter quality and thus bird health. Leaks should therefore be fixed as soon as possible. Litter replacement may be necessary in the short term in badly affected areas, in conjunction with raised ventilation and temperatures to remove large amounts of excess moisture, and the affected area should be closed off until dry to limit bird access. However, long term solutions should be found and specialist advice should be sought where appropriate. (See also paragraphs 91 to 93.)

## Health

### Inspection and humane culling

#### **All meat chickens – including breeding birds and those at hatcheries**

Paragraph 2(1) and (2) of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

2. (1) Animals kept in husbandry systems in which their welfare depends on frequent human attention must be adequately inspected at least once a day to check that they are in a state of well-being.

(2) Animals kept in systems other than husbandry systems in which their welfare depends on frequent human attention must be inspected at intervals sufficient to avoid any suffering.

Paragraph 3 of schedule 1 states that:

3. Where animals are kept in a building, adequate lighting (whether fixed or portable) must be available to enable them to be adequately inspected at any time.

#### **Conventionally reared meat chickens**

Paragraph 11 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states:

11. (1) A keeper must ensure that all chickens kept on the holding are inspected at least twice a day.  
  
(2) Special attention must be paid to signs indicating a reduced level of animal health or welfare.  
  
(3) Chickens that are seriously injured or show evident signs of health disorder (including those having difficulties in walking, severe ascites or severe malformations), and are likely to suffer, must receive appropriate treatment or be culled immediately.

35. A Health and Welfare Plan should be implemented for each farm, setting out health and husbandry activities covering the whole of the production cycle. The plan should be developed with appropriate veterinary advice, regularly reviewed against performance and updated accordingly, at least annually, but more ideally updated with the required corrective and preventative measures as they are identified.

36. The plan should also establish management procedures and control measures to reduce the risk of infections and injury and include an effective vaccination programme. Antibiotics must not be used routinely, but only for treatment purposes as prescribed by a veterinary surgeon when specific disease or infection has been diagnosed to avoid a welfare issue.

37. The plan should also include the use of welfare outcome assessments to assess and monitor the ongoing welfare of the birds on the farm. Welfare outcomes are measured at the slaughterhouse as part of the trigger system (see paragraphs 47 to 51.)

38. As part of the plan, keepers should establish in advance the best course of action to take should problems be identified and ensure that veterinary or other expert advice is available when needed. Culling training should be provided by a stockperson with appropriate experience, and all stock persons should understand the signs associated with effective stunning and culling.

39. In the case of conventionally reared meat chickens, a systematic inspection of all flocks must be undertaken at least twice each day at appropriate intervals, in order to reduce the risk of a welfare problem developing. It is recommended that keepers of all other meat and breeding chickens carry out such an inspection at least twice a day. Young birds, in the first few days of life, should be inspected at least three times a day.

40. Flock inspection should include an assessment of body condition, any growth variation within the flock, locomotion, gait, respiration, condition of plumage, crop texture, indications of head or vent pecking, condition of droppings, eyes, skin, beak, legs, feet and claws, and where appropriate, combs and wattles. Any departure from the norm may indicate a problem which should be given immediate remedial attention.

41. In order to ensure a thorough inspection, the keeper should walk close enough to every bird to encourage it to move, taking care not to frighten the birds with sudden, unaccustomed movement, noise or changes in light levels. The aim should be to pass close enough to the birds to see them clearly and for them to be disturbed and so move away. This will enable the identification of any individual that is sick, injured or weak for appropriate action to be taken by the keeper.

42. Health and welfare inspections may be linked with other visits to the poultry houses but each inspection should be undertaken as a separate, specific procedure.

43. Light levels during inspection must be sufficient to ensure that the birds being inspected are clearly visible during that inspection.

44. While it may not be generally possible to examine each bird individually during routine inspection, a good indication of flock health should be gained on each occasion. Where birds are not being fed on *ad lib* diets, inspection is particularly effective at feeding time when any birds which are not fit will be slow to feed and can be identified. Individual examination shall be made of those birds for which the overall inspection indicates this to be necessary.

45. Chickens that are injured or show signs of health disorder (including those having difficulties in walking, or reaching food or water, or that have severe ascites or severe malformations), and are likely to suffer, must receive appropriate treatment or be humanely culled immediately. Dead birds seen during an inspection should be removed from the house without delay and disposed of appropriately.

46. When any bird is killed at a hatchery or on farm this must be carried out using a permitted method in accordance with the relevant legislation and the procedures included in the health and welfare plan.

## **Monitoring and follow-up at the slaughterhouse**

### **Conventionally reared meat chickens**

Paragraphs 14 and 15 of Part 3 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

#### **Food chain information and chickens dead on arrival**

14. (1) For the purposes of Section III (food chain information) of Annex II to Regulation 853/2004, the daily mortality rate and cumulative daily mortality rate and the hybrid or breed of chickens from a flock with a stocking density in excess of 33 kilograms per m<sup>2</sup> of usable area is treated as relevant food safety information.
- (2) A food business operator at a slaughterhouse must—
- (a) under the supervision of the official veterinarian, record the number of chickens from such a flock that are dead on arrival at the slaughterhouse; and
  - (b) provide that information on request to the official veterinarian.

#### **Identification of poor welfare conditions and follow-up**

15. (1) An official veterinarian conducting controls under Regulation 854/2004 in relation to chickens must evaluate the results of the post-mortem inspection to identify possible indications of poor welfare conditions in the holding or house of origin.
- (2) If the mortality rate of the chickens or the results of the post-mortem inspection are consistent with poor animal welfare conditions, the official veterinarian must communicate the data to the keeper of those chickens and to the Scottish Ministers without delay.

47. All meat chickens undergo ante and post mortem assessment at the slaughterhouse. For conventionally reared meat chickens the results of these assessments are fed into the 'trigger system' which was designed in collaboration with Defra, the meat chicken industry, independent poultry veterinary surgeons, welfare organisations and delivery bodies, and has been operating in slaughterhouses since 2010. The system monitors all batches of conventionally reared meat chickens and uses the results of post-mortem inspections carried out at the slaughterhouse to identify possible welfare problems on farm.

48. The post-mortem conditions currently monitored by the system are listed in Annex 3. The system involves two processes: Process 1 is designed to identify situations where levels of a condition are exceptionally high, and Process 2 is designed to identify situations where mortality levels are unusually high and, additionally, where the levels of a range of other conditions are above average. Different pre-defined thresholds, known as "trigger levels", exist for these two processes.



49. When these thresholds are exceeded, a trigger report is generated and sent to the owner / keeper of the birds. The owner / keeper should consider how best to reduce these levels in future flocks and, where appropriate, seek advice from a veterinary surgeon or another specialist. APHA uses the trigger report information to identify farms at highest risk of non-compliance with animal welfare legislation, and targets inspections to those farms identified as being at highest risk.

50. Keepers of conventionally reared meat chickens reared above a stocking density of 33 kg/m<sup>2</sup> of useable area must provide the cumulative daily mortality rate (CDMR) of each house of birds and the hybrid or breed of those birds on the food chain information report. All keepers of conventionally reared meat chickens are encouraged to provide these data as well as the stocking density of the birds at the point of depopulation. CDMR is defined as the sum of daily mortality rates. The daily mortality rate is the number of chickens that have died in a house on the same day, including those that have been culled either because of disease or other reasons, divided by the number of chickens present in the house on that day, multiplied by 100.

51. The total mortality (i.e. the number of deaths and culls recorded throughout the production cycle divided by the number of birds placed, expressed as a percentage) and cumulative daily mortality rates should not be far apart, but if thinning takes place or if the mortality is high, then the two rates could be quite different. A worked example is provided in Annex 4.

## **Disease control and biosecurity**

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 5 and 6 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

5. Any animals which appear to be ill or injured—

(a) must be cared for appropriately and without delay; and

(b) where they do not respond to such care, veterinary advice must be obtained as soon as reasonably practicable.

6. Where necessary, sick or injured animals must be isolated in suitable accommodation with, where appropriate, dry comfortable bedding.

### **Conventionally reared meat chickens**

Paragraph 12 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

12. After the final depopulation of a house and before a new flock is introduced—

(a) any part of a house, and any equipment or utensil, which has been in contact with chickens must be thoroughly cleaned and disinfected; and

(b) all litter must be removed and clean litter provided.

52. A disease challenge may first be noticed by a change in water consumption, a reluctance to eat, changes in droppings, changes in litter quality or in the general behaviour of the flock. A marked change in water use should be thoroughly investigated. Veterinary attention should be sought at an early stage in any outbreak of disease so that the cause can be determined and appropriate action taken. Suspicion of a notifiable disease should be acted upon immediately.

53. Measures to control diseases caused by external parasites should be taken by using the appropriate parasiticides. It is particularly important to take measures to prevent the establishment of red mite infestation in breeding chicken flocks. These measures must not cause harm to the birds.

54. All those in contact with birds should practise strict hygiene regarding footwear changes or disinfection and hand washing procedures, in particular when moving between each house, to limit potential introduction and spread of disease. If farm staff keep their own birds at home, they should be extra vigilant for signs of disease and even more careful about biosecurity both at home and on the farm. Where possible, waterfowl (i.e. geese and ducks) should be kept separate from other poultry species.

55. Any transport lorries and crates arriving on the farm should be assessed for cleanliness, as these can present a disease risk for premises. A supervisor should be present during the loading of birds on to transport lorries, and should stop the process if correct procedure is not followed or bio-security standards are not met.

56. It is recommended that the site be managed so that all houses are empty at the same time to facilitate effective cleaning, disinfection and dis-infestation. An “all in – all out” approach with periods when there are no birds on site will also act to provide a disease break. Where multi-age sites are unavoidable, they should be managed according to a regular routine in which the youngest flocks are attended to first, and so on, through to the oldest.

57. Once empty, bird accommodation should be first dry cleaned to remove organic material, washed and then disinfected. Used litter from conventionally reared meat chickens must be removed from the house and should be removed from the site before re-stocking so as to reduce the risk of carryover of disease. This practice should also be followed for all other meat chickens and breeding birds.

58. When planning new sites, consideration should be given to providing the maximum possible distance between the proposed site and existing sites to improve biosecurity. A useful guide is the 3km distance that defines the radius of a Protection Zone in the control of notifiable diseases such as highly pathogenic avian influenza. The distance between houses on a site should also be considered, along with the proximity to wild bird sources. (See also paragraph 70.)

59. Inspectors should, wherever possible, comply with the required biosecurity as stipulated by the owner/keeper (and which may be subject to change under changing disease challenges) including personal/private bird contact.

## Leg health

60. Leg disorders with associated lameness can be a key cause of poor welfare in meat chickens. There are many causes of leg disorders leading to poor leg health including those linked to nutrition, microbial infection and genetics. Nutritional deficiencies and imbalances including calcium, phosphorus and Vitamin D can lead to an increase in bone deformities and lameness. Lameness may also be caused by bone or joint infection, so effective prevention and control of viral and bacterial disease plus good litter management are essential.

61. Welfare and health considerations, in addition to productivity, should be taken into account when choosing a strain for a particular purpose or production system. In line with this, meat chickens should stem from broad breeding programmes, which promote and protect health, welfare and productivity. Keeping birds in line with appropriate growth curves that optimise these criteria, particularly with regard to leg health, should be considered.

62. Keepers should monitor all birds for signs of lameness, leg weakness or abnormal gait on a daily basis as part of the inspection process. When recording mortalities and culls it is useful to record the cause so that lameness can be monitored within and between flocks. For conventionally reared meat chickens, the cause for culls must be recorded and any bird which is suffering should be humanely culled without delay.

63. Keepers should be particularly vigilant when the risk of lameness is highest, such as towards the end of the production cycle and during the summer months when bird activity may be at its lowest.

64. Certain management practices can limit or reduce the risk of lameness in a flock. Increasing the activity of meat chickens in the day and encouraging proper rest at night, for example through manipulation of the lighting patterns (increasing light intensity during light periods combined with a longer uninterrupted dark period), can help prevent lameness. Increased activity during the day can also be achieved by enriching the environment, reducing stocking density and the provision of natural light.

65. If leg disorders develop, management and husbandry practices must be immediately assessed. Any changes required should be instigated as soon as practically possible and where appropriate following veterinary and technical advice of the breed supplier.

66. If a problem arises with managing litter and bird health, the farmer may choose to grow meat chickens below their maximum performance by making changes to the feed composition, feed structure and feeding routine. This should be carried out with appropriate consideration of the implications for the bird and with appropriate veterinary and technical advice. In addition, the effects of dietary change on litter condition should be closely monitored.

67. Lameness may develop as a result of infections acquired in the parent flock or hatchery. High standards of biosecurity and hygiene in the parent flock, in the

handling of the eggs, at the hatchery and in subsequent handling and transport of the chicks should be maintained.

68. Prior to crating and loading, an assessment of birds' fitness to travel must be undertaken. Careful consideration should be given by the keeper as to whether any lame birds are legally fit to travel for the proposed journey. If they are not, they should be humanely culled on farm. Birds with severe and painful conditions such as advanced plantar necrosis are unfit for transport. Small or emaciated birds that are likely to be culled on arrival at the slaughterhouse should not be transported.

## Buildings and accommodation

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 11 and 12 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

11. Materials used for the construction of accommodation, and in particular, for the construction of pens, cages, stalls and equipment with which the animals may come into contact, must not be harmful to them and must be capable of being thoroughly cleaned and disinfected.

12. Accommodation and fittings for securing animals shall be constructed and maintained so that there are no sharp edges or protrusions likely to cause injury to them.

69. Advice on health and welfare aspects should be sought from a knowledgeable advisor and veterinary surgeon before any new buildings are planned or when existing buildings are modified. It is important to ensure that the design of housing and equipment is suitable for the intended use. New methods of husbandry, equipment or accommodation for meat and breeding chickens are available, for example the use of biomass and underfloor heating. New technologies should only be used when comprehensively tested and found satisfactory for bird health and welfare. Consideration should be given to avoiding the incorporation of equipment which could pose a significant risk of introduction and spread of disease between houses or between farms.

70. When new accommodation for meat and breeding chickens is planned, a suitable site should be selected taking into consideration the risks from outside environmental factors such as noise, light, vibration, atmospheric pollution and the potential for flooding, as well as predators. Where appropriate, advantage should be taken of natural features to provide shelter and to protect birds from predators, rodents and other animals (also refer to paragraph 58).

## Ventilation, temperature and heat stress

### All meat chickens – including breeding birds and those at hatcheries

Paragraphs 13 and 18 to 21 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

13. Air circulation, dust levels, temperature, relative air humidity and gas concentrations must be kept within limits which are not harmful to the animals.

18. All automated or mechanical equipment essential for the health and well-being of the animals must be inspected at least once a day to check that there is no defect in it.

19. Where any defect in automated or mechanical equipment of the type specified in paragraph 18 is discovered, it must be rectified immediately or, if that is impossible, appropriate steps must be taken to safeguard the health and well-being of the animals pending the rectification of such defects including the use of alternative methods of feeding and watering and methods of providing and maintaining a satisfactory environment.

20. Where the health and well-being of animals is dependent on an artificial ventilation system—

(a) provision must be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the animals in the event of failure of the system; and

(b) an alarm system (which will operate even if the principal electricity supply to it has failed) must be provided to give warning of any failure of the system.

21. The back-up system referred to in paragraph 20(a) must be thoroughly inspected and the alarm system referred to in paragraph 20(b) tested, in each case not less than once every 7 days in order to check that there is no defect in it, and, if any defect is found in such system or alarm (whether or not on it being inspected or tested in accordance with this paragraph), it must be rectified forthwith.

### Conventionally reared meat chickens

Paragraph 8 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

8. Ventilation must be sufficient to avoid overheating and, in combination with heating systems, must be sufficient to remove excessive moisture.

For birds being stocked at the higher densities (i.e. above 33kg/m<sup>2</sup>) paragraph 5 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states in addition to paragraph 8:

5. The requirements of this paragraph are that the keeper must—

(a) maintain and, on request, make available documentation in the house giving a detailed description of the production systems, including information on technical details of the house and its equipment, including—

(i) a plan of the house including the dimensions of the surfaces occupied by the chickens;

(ii) ventilation and any relevant cooling and heating system (including their location), and a ventilation plan, detailing target air quality parameters (such as airflow, air speed and temperature);

(iii) feeding and watering systems (and their location);

(iv) alarm and back-up systems in the event of a failure of any equipment essential for the health and well-being of the chickens;

(v) floor type and type of litter normally used; and

(vi) records of technical inspections of the ventilation and alarm systems;

(b) keep the documentation referred to in sub-paragraph (a) updated;

(c) ensure that each house of a holding is equipped with ventilation and, if necessary, heating and cooling systems designed, constructed and operated in such a way that—

(i) the concentration of ammonia does not exceed 20 parts per million and the concentration of carbon dioxide does not exceed 3000 parts per million, when measured at the level of the chickens' heads;

(ii) when the outside temperature measured in the shade exceeds 30°C, the inside temperature does not exceed the outside temperature by more than 3°C; and

(iii) when the outside temperature is below 10°C, the average relative humidity measured inside the house during a continuous period of 48 hours does not exceed 70%.

71. Ventilation rates, air distribution and house conditions must at all times be adequate to provide sufficient fresh air appropriate for the age of the birds, without draughts, and keep the litter dry and friable. Air quality, including dust level and concentrations of carbon dioxide, should be controlled and kept within limits where the welfare of the birds is not negatively affected.

72. The ventilation appropriate to the growth profile of the flock should be documented and available as guidance for the keeper.



73. Chicks should be placed in a pre-heated house or with brooders when they arrive and their behaviour monitored carefully. Young chicks are particularly susceptible to extremes of temperature and an even distribution of the chicks in the house will usually indicate that they are thermally comfortable. After 4-5 weeks birds can tolerate a fairly wide range of temperatures but every effort should be made to avoid creating conditions which will lead to chilling, huddling and subsequent smothering. In addition, low temperatures have been associated with increased susceptibility to conditions such as ascites.

74. In less well insulated buildings stocked at the higher densities, additional heat, coupled with a higher level of ventilation, may be required to reduce relative humidity levels below 70%.

75. Birds should not be exposed to strong, direct sunlight or hot, humid conditions long enough to cause heat stress as indicated by prolonged panting. Housing affects the birds' ability to maintain their normal body temperature but under any management system ambient temperatures high enough to cause prolonged panting may occur, particularly when humidity is relatively high. All accommodation should therefore be designed so that its ventilation is adequate to protect the birds from overheating under any weather conditions that can reasonably be foreseen. Attention should be paid to air throughput, distribution and especially increasing air speed at bird level during periods of hot weather.

76. Owners and keepers should plan ahead to avoid heat stress. It is their responsibility to ensure that appropriate measures are taken, based on the design of the building, its locality and the predictable maximum temperature/humidity to avoid heat stress. During periods of high temperatures and humidity, consideration should be given to reducing the planned stocking density at the time of ordering or placing day-old chicks.

77. During hot and humid conditions, the birds should be checked more frequently, but not disturbed unduly.

78. Portable back-up fans can help to increase ventilation during periods of hot and humid weather. The air temperature within a building may be reduced by improved insulation and the correct use of evaporative cooling of incoming air, taking care to avoid a combination of high temperature and high humidity. Spraying of cold water on the roof should be considered as a last resort and only when temperature and humidity levels are excessive. The heat output of the birds may be reduced by lowering stocking density or changing the feeding patterns.

## **Additional ventilation requirements for conventionally reared meat chickens stocked above 33 kg/m<sup>2</sup>**

79. For flocks stocked at densities in excess of 33 kg/m<sup>2</sup>, it is suggested that an air speed of at least 1 m/second be provided over as much of the floor area as is possible in conventionally ventilated buildings. In buildings with tunnel ventilation capability, the suggested air speed is at least 2 m/second. For naturally ventilated buildings, inlets and outlets should be sufficiently large to allow as high an air speed as possible over the birds. Free-standing fans can be introduced to provide additional air movement at bird level.

80. The keeper must have available for each house the following documented information:

- (i). information on the technical details of the ventilation and, if relevant, the cooling and heating system including their location, the size of the inlets and outlets and fan numbers, size and anticipated performance;
- (ii). a ventilation plan; and
- (iii). records of technical inspections of the ventilation and alarm systems.

81. The ventilation plan should provide details of the operational parameters such as airflow, air speed and temperature that will ensure that:

- (i). the concentration of ammonia (NH<sub>3</sub>) does not exceed 20 parts per million measured at the level of the chickens' heads;
- (ii). the concentration of carbon dioxide (CO<sub>2</sub>) does not exceed 3,000 parts per million at the level of the chickens' heads;
- (iii). the inside temperature, when the outside temperature measured in the shade exceeds 30°C, does not exceed this outside temperature by more than 3°C; and
- (iv). the average relative humidity measured inside the house during 48 hours does not exceed 70% when the outside temperature is below 10°C. It is recommended that relative humidity be measured daily and the average should not exceed 70% when the outside temperature is continually below 10°C for any 48 hour period.

82. Evidence that the plan is meeting these operational requirements should be provided by maintaining a record of direct measurements of NH<sub>3</sub>, CO<sub>2</sub>, relative humidity and temperatures.

83. Continuous measurement of CO<sub>2</sub> and NH<sub>3</sub> is not required but as a minimum, measurements of CO<sub>2</sub> and NH<sub>3</sub> should be taken when there is risk of excessive build-up of these agents. Usually for CO<sub>2</sub> this is during brooding and for NH<sub>3</sub> during periods of maximum stocking density, especially during colder weather.

84. The plan should also include details of the alarm and back-up systems and a procedure for dealing with heat stress. (See also paragraph 94.)

85. The ventilation plan should be revised whenever there are any major changes to the structure of the house or to the ventilation system.

86. It is recommended that between crops, a visual inspection be made of the air inlets and fans. Heaters, temperature probes and the control system should also be checked to ensure they are functioning correctly. It is also advisable to carry out periodic safety checks on the electrical and gas installations. A record of these technical inspections of the ventilation and alarm systems must be made.

## Lighting

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 14 to 16 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

14. Animals kept in buildings must not be kept in permanent darkness.

15. Where the natural light available in a building is insufficient to meet the physiological and ethological needs of any animals being kept in it then appropriate artificial lighting must be provided.

16. Animals kept in buildings must not be kept without an appropriate period of rest from artificial lighting.

### **Conventionally reared meat chickens**

Paragraph 10 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

1. All houses must have lighting with an intensity of at least 20 lux during the lighting periods, measured at bird eye level and illuminating at least 80% of the usable area.

2. A temporary reduction from that lighting level is permitted where necessary following veterinary advice.

3. Within 7 days from the time when the chickens are placed in the house and until 3 days before the expected time of slaughter, the lighting must follow a 24-hour rhythm and include periods of darkness lasting at least 6 hours in total, with at least one uninterrupted period of darkness of at least 4 hours, excluding dimming periods.

87. All meat chickens should be housed at light levels which allow them to see clearly and which stimulate activity. This can be achieved by lighting systems using natural or artificial lighting or a combination of both, maintained and operated to give a minimum light of 20 lux at bird eye height over at least 80% of the useable area. If light levels are reduced at thinning to keep birds calm, the light should be returned to a minimum of 20 lux without delay if any birds remain in the house after thinning. A gradual increase in light intensity at this time, similar to a dawn or dusk period, could reduce the risk of back scratching. Where there is concern that returning the lights to 20 lux will result in compromised bird welfare, a temporary reduction in lighting level is permitted on a case-by-case basis but only as a result of following veterinary advice on each occasion.

88. Conventionally reared meat chickens must be given a period of darkness lasting at least 6 hours in each 24 hour period, with at least one uninterrupted period of darkness of at least 4 hours, excluding dimming periods. It is good practice for all meat chickens to be reared to this standard and preferably the period of darkness provided should be uninterrupted, lasting at least 6 hours in a 24 hour rhythm. Keepers should be mindful that the lights being switched back on after the dark

period is likely to lead to a significant increase in bird activity which may cause problems such as back scratching. Greater attention to management practices will therefore be required to ensure that the birds' welfare is maintained when the light is restored. For example, sufficient feeders and drinkers should be available to allow all birds to eat and drink at the same time following the period of rest. Attention will also need to be paid to litter condition, particularly under nipple drinker lines, which could become wet due to the number of birds drinking at the same time. If this is the case, the addition of more litter should be considered.

89. A 'dawn and dusk' light provision with gradual increases and reductions in lighting may help manage the change in activity levels of the birds. Buildings that expose birds to natural daylight can effectively provide this transition and the natural wavelength light spectrum may have additional beneficial effects on bird behaviour. However, there should be a facility to reduce exposure to natural daylight if bird welfare is compromised by high light levels, for example, scratching or injurious pecking, or for specific management procedures, for example, catching.

90. In the first 7 days following placing of the birds in the house, chicks should be provided with sufficient lighting to ensure that they can easily find feed and water.

## Litter

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraph 4 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states:

4. Where any animals (other than laying hens kept in the systems referred to in Parts 3, 4 and 5 of Schedule 3) are kept in a building they must be kept on, or have access at all times to, a lying area which is well maintained with dry bedding or litter or a well-drained area for resting.

### **Conventionally reared meat chickens**

Paragraph 7 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

7. All chickens must have permanent access to litter.

91. Meat and breeding chickens spend their lives in contact with litter and their health and welfare are linked to its quality. Conditions such as hock burn, foot pad lesions and breast blisters are usually consequences of poor litter quality. Well-designed equipment and high standards of management are important if good litter quality is to be maintained. The ventilation capacity should be sufficient to remove excess moisture. The feed composition should be well balanced to avoid problems with wet or sticky droppings. Specialist advice should be sought and acted on and stocking density should be reduced in subsequent flocks if poor litter quality cannot be rectified (see paragraph 103).

92. The material that is used as litter must be selected to ensure that it is of an appropriate quality. It must be suitable to provide a dry bedding material and must not contain anything that could be toxic or cause injury to the chickens. For conventionally reared meat chickens, litter must be friable (loose) and dry on the surface, and this is recommended for all systems of production.

93. Measures should be taken to minimise the risk of mould and mite infestation. Litter should be inspected frequently for signs of deterioration, especially in those areas of the house at risk, such as under drinkers or near the walls, and appropriate action should be taken to rectify any problem. Litter should also be inspected to ensure it does not become excessively wet or dusty. A drinker system which minimises water spillage should be used, such as water nipples with drip cups positioned at an appropriate height for all birds. Nipple drinkers without cups may be used if they are well managed and the water pressure is checked frequently to ensure there is no leakage.

## **Automatic or mechanical equipment**

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 18 to 21 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

18. All automated or mechanical equipment essential for the health and well-being of the animals must be inspected at least once a day to check that there is no defect in it.

19. Where any defect in automated or mechanical equipment of the type specified in paragraph 18 is discovered, it must be rectified immediately, or if that is impossible, appropriate steps must be taken to safeguard the health and well-being of the animals pending the rectification of such defects including the use of alternative methods of feeding and watering and methods of providing and maintaining a satisfactory environment.

20. Where the health and well-being of animals is dependent on an artificial ventilation system—

(a) provision must be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the animals in the event of failure of the system; and

(b) an alarm system (which will operate even if the principal electricity supply to it has failed) must be provided to give warning of any failure of the system.

21. The back-up system referred to in paragraph 20(a) must be thoroughly inspected and the alarm system referred to in paragraph 20(b) tested, in each case not less than once every 7 days in order to check there is no defect in it, and, if any defect is found in such system or alarm (whether or not on it being inspected or tested in accordance with this paragraph), it must be rectified forthwith.

### **Conventionally reared meat chickens**

Paragraph 9 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

9. In all houses—

(a) the sound level must be minimised, and

(b) ventilation fans, feeding machinery or other equipment must be constructed, placed, operated and maintained in such a way that they cause the least possible amount of noise.

94. All equipment and services, including feed hoppers, feed chain and delivery systems, drinkers, ventilating fans, heating and lighting units, fire extinguishers and alarm systems should be cleaned, inspected and maintained regularly and kept in good working order. Generators or other energy backup systems must also be available and tested and maintained regularly.

95. Ventilation, heating, lighting, feeding, watering and all other equipment or electrical installation should be designed, sited and installed so as to avoid risk of injuring the birds.

96. All automated equipment upon which the birds' welfare is dependent should incorporate a fail-safe or standby device and an alarm system to warn the keeper of failure. Defects should be rectified immediately or other temporary measures taken to safeguard the health and welfare of the birds until the problem has been rectified. Alternative ways of feeding and of maintaining a satisfactory environment should therefore be ready for use.



## **Environmental enrichment**

97. The process of environmental enrichment ultimately provides the bird with more choice in its activities, which can be more easily provided in some systems than others.

98. Environmental enrichment can improve bird health and welfare by reducing disturbances, aggression, injurious pecking, fear responses and stress and improving leg health by increasing the level of physical exercise.

99. Providing birds with straw bales, perches, low barriers and pecking objects (such as brassicas, scattered whole grain, plastic bottles and bales of shavings), can significantly increase the amount of time the birds spend standing, walking and running; reduce the amount of time birds spend sitting and resting; and reduce injurious pecking and the number of aggressive interactions between birds.

## Stocking density and freedom of movement

### All meat chickens – including breeding birds and those at hatcheries

Paragraphs 9 and 10 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

9. The freedom of movement of animals, having regard to their species and in accordance with established experience and scientific knowledge, must not be restricted in such a way as to cause them unnecessary suffering or injury.

10. Where animals are continuously or regularly tethered or confined, they must be given the space appropriate to their physiological and ethological needs in accordance with established experience and scientific knowledge.

### Conventionally reared meat chickens

Paragraphs 3 to 5 of Part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

3. (1) A keeper must ensure that the Scottish Ministers are notified of the intended stocking density of each house where it is intended to keep chickens at a density of greater than 33 kilograms of m<sup>2</sup> of usable area, and of any subsequent change to that notified density.

(2) Notification must be made in such manner and form as the Scottish Ministers may require.

(3) Notification (including notification of any change) must be given at least 15 working days before stocking at that density or changed density takes place.

4. (1) Unless sub-paragraph (2) applies, the stocking density must not exceed 33 kilograms per m<sup>2</sup> of usable area.

(2) A stocking density in excess of 33 kilograms and up to 39 kilograms per m<sup>2</sup> of usable area may be used if the requirements of paragraph 5 are complied with.

5. The requirements of this paragraph are that the keeper must—

(a) maintain and, on request, make available documentation in the house giving detailed description of the production systems, including information on technical details of the house and its equipment, including—

(i) a plan of the house including the dimensions of the surfaces occupied by the chickens;

(ii) ventilation and any relevant cooling and heating system (including their location), and a ventilation plan, detailing target air quality parameters (such as airflow, air speed and temperature);

- (iii) feedings and watering systems (and their location);
- (iv) alarm and backup systems in the event of a failure of any equipment essential for the health and well-being of the chickens;
- (v) floor type and type of litter normally used; and
- (vi) records of technical inspections of the ventilation and alarm systems;

(b) keep the documentation referred to in sub-paragraph (a) updated;

(c) ensure that each house of a holding is equipped with ventilation and, if necessary, heating and cooling systems designed, constructed and operated in such a way that—

- (i) the concentration of ammonia does not exceed 20 parts per million and the concentration of carbon dioxide does not exceed 3000 parts per million, when measured at the level of the chickens' heads;
- (ii) when the outside temperature measured in the shade exceeds 30°C, the inside temperature does not exceed the outside temperature by more than 3°C; and
- (iii) when the outside temperature is below 10°C, the average relative humidity measured inside the house during a continuous period of 48 hours does not exceed 70%.

100. Various factors need to be taken into account to promote good welfare when setting and monitoring stocking densities. The observance of any particular maximum stocking density is important but cannot, by itself, ensure the welfare of the birds. There is a close relationship between stockmanship, litter management, environmental control and stocking density. Birds will be maintained in good condition only if the balance is right and the onus is on the keeper to demonstrate that welfare is not compromised whatever the stocking density.

101. The decision to stock at a particular density should be made on a house basis and should take account of house-specific management factors. There are several management factors that should influence the keeper's decision to stock at a particular density. These include the health and welfare measures of previous flocks, such as reports from the slaughterhouse, and the limitations of the environmental controls within a house, which may vary by season and weather conditions. In order to stock conventionally reared meat chickens above 33kg/m<sup>2</sup> there must be compliance with the additional factors set out in legislation.

102. Irrespective of the type of system, all meat and breeding chickens should have sufficient freedom of movement to be able, without difficulty, to stand normally, turn around and stretch their wings. They should also have sufficient space to be able to sit without interference from other birds.

103. Appropriate advice should be taken if problems occur, in particular in conditions of excessive heat or humidity due to inadequate ventilation and poor litter quality. If disease or environmental problems arise in a particular building or system, reducing the stocking density in subsequent flocks may lessen the likelihood of recurrence. Consideration should be given in advance of predicted hot weather to stocking at a reduced density.

104. Thinning is stressful for the birds and multiple thins should be avoided. If thinning is undertaken, it should be carried out with care to maintain biosecurity and to ensure minimal disturbance to birds whose feed and water have been temporarily withdrawn. A written protocol should specify procedures to minimise the effect on the birds and the biosecurity risk, including the risk of introducing zoonotic diseases into the flock, and procedures to minimise feed and water withdrawal.

105. For conventionally reared meat chickens, notification to the Scottish Ministers of intended stocking density of each house was made in 2010 via a form sent by APHA to all known keepers. If keepers change the stocking density of birds reared in a house from that notified in 2010 or build new houses, APHA must be notified 15 working days before the birds are placed. This notification should be made by sending the form at Annex 2 to APHA.

## Mutilations

### All meat chickens – including breeding birds and those at hatcheries

Section 20 of the Animal Health and Welfare (Scotland) Act 2006 states that:

20. (1) A person commits an offence if the person—
- (a) carries out a prohibited procedure on a protected animal, or
  - (b) causes a prohibited procedure to be carried out on a protected animal.
- (2) A person (“person A”) who is responsible for an animal commits an offence if –
- (a) another person carries out a prohibited procedure on the animal, and
  - (b) person A—
    - (i) permits that to happen, or
    - (ii) fails to take such steps (whether by way of supervising the other person or otherwise) as are reasonable in the circumstances to prevent that happening.
- (3) A person commits an offence if the person takes a protected animal, or causes a protected animal to be taken, from a place in Scotland for the purpose of having a prohibited procedure carried out on the animal at a place outwith Scotland.
- (4) In this section, references to the carrying out of a prohibited procedure on an animal are to the carrying out of a procedure which involves interference with the sensitive tissues or bone structure of the animal.
- (5) This section does not apply—
- (a) in relation to a procedure which is carried out for the purpose of medical treatment of an animal,
  - (b) in relation to a procedure which is carried out—
    - (i) for a purpose which,
    - (ii) in such manner as, and
    - (iii) in accordance with such conditions as,the Scottish Ministers may by regulations specify, or

(c) in such circumstances as the Scottish Ministers may by regulations specify.

(6) Before making regulations under subsection (5), the Scottish Ministers must consult—

(a) such persons appearing to them to represent relevant interests, and

(b) such other persons,

as they consider appropriate.

The Prohibited Procedures on Protected Animals (Exemptions) (Scotland) Regulations 2010 (as amended) designate certain procedures which can be carried out on certain protected animals (including meat chickens), and to which section 20 of the 2006 Act (above) does not apply.

106. Mutilations of chickens are banned under the Animal Health and Welfare (Scotland) Act 2006 unless the procedure is an exempt procedure. The Prohibited Procedures on Protected Animals (Exemptions) (Scotland) Regulations 2010 (as amended) exempt certain procedures (see Annex 5 of this guidance) from this ban, provided that they are carried out:

- for a purpose which is specified, in relation to any such procedure, in column 2 of the corresponding entry in the relevant schedule;
- in accordance with the relevant requirements in the Schedules;
- in such a way as to minimise the pain and suffering it causes to the animal;
- in hygienic conditions; and
- in accordance with good practice.

107. Mutilations can cause pain to chickens and should only be carried out where necessary. They should only be applied after having sought appropriate advice on possible alternative interventions in each case and not as a routine practice.

## Beak trimming

### **All meat chickens – including breeding birds and those at hatcheries**

Schedule 3, of the Prohibited Procedures on Protected Animals (Exemptions) (Scotland) Regulations 2010 (as amended) states, in relation to beak trimming of poultry, that:

(1) Beak trimming of poultry may only be performed to prevent feather pecking and cannibalism and, in relation to laying hens kept on holdings of 350 or more and meat chickens kept on holdings of 500 or more, when the animals are less than 10 days old.

...

(4) Beak trimming of meat chickens may only be carried out, after consultation with and on the advice of a veterinary surgeon, by qualified staff, and where other measures to prevent feather pecking and cannibalism are exhausted.

108. Consideration should be given to environmental enrichment as a means of avoiding the necessity to beak trim. Possible methods of environmental enrichment should be risk assessed against introduction of pathogens and include the provision of straw bales or brassicas or scattering of whole grain (see paragraphs 97 to 99). Nutritional deficiencies in feed should be investigated as a possible cause of any incident of injurious pecking. Your veterinary surgeon will be able to help you with a bespoke plan to reduce injurious pecking in your flock.

109. Beak trimming of meat chickens is not recommended and should not normally be necessary because they are usually slaughtered before reaching sexual maturity. However, if necessary, this should be done before 10 days of age, preferably at day old using infra-red technology. Beak trimming of older birds should only be carried out in an emergency when advised by a veterinary surgeon. (See paragraph 137 for guidance on beak trimming of breeding birds.) Beak trimming equipment must be well maintained.

## Record keeping

### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 7 and 8 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

7. A record must be maintained of—

- (a) any medicinal treatment given to animals; and
- (b) the number of mortalities found on each inspection of animals.

8. The record referred to in paragraph 7 must be retained for a period of at least 3 years from the date on which the medicinal treatment was given, or the date of the inspection, as the case may be, and must be made available to an inspector on request.

### **Conventionally reared meat chickens**

Paragraph 13 of part 2 of schedule 2 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

13. (1) The keeper must maintain, for each house in which chickens are kept, a record of—

- (a) the number of chickens introduced;
- (b) the usable area;
- (c) the hybrid or breed of the chickens (if known);
- (d) the number of chickens found dead, with an indication of the causes (if known), as well as the number of chickens culled with cause, on each inspection; and
- (e) the number of chickens remaining in the flock following the removal of chickens for sale or slaughter.

(2) The record must be retained for at least 3 years.

110. Additional records are required for conventionally reared meat chickens and these can be found in the 'Ventilation temperature and heat stress' and 'Monitoring and follow-up at the slaughterhouse' sections of this guidance document.

111. Under welfare legislation, records must be kept for at least three years. Further requirements for medicines records are required under additional legislation for food producing animals, which state that records on medicine usage, administration and disposal must be kept for at least 5 years. See Annex 1.



## Contingency planning

112. Measures should also be put in place for contingency planning following an assessment of possible hazards. Such plans should deal with events such as:

- the disruption of feed, power or water supply, including failure of automated systems;
- heat stress;
- natural disasters such as flooding;
- fires;
- arrangements for allowing rapid entry to locked buildings in case of emergency, for example by providing clear instruction on emergency contact details;
- arrangements for dealing with restrictions placed in case of notifiable disease, including dealing with delays in moving birds to slaughter and the compulsory temporary housing of free-range birds; and
- arrangements for both killing and disposal of flocks when depopulation is required in the event of notifiable disease or due to contamination of feed or pasture with toxins.

## Section 2: Additional recommendations for free range systems

### All meat chickens – including breeding birds and those at hatcheries

Paragraph 17 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 states that:

17. Animals not kept in buildings must, where necessary and possible, be given protection from adverse weather conditions, predators and risks to their health and, at all times, have access to a well-drained lying area.

113. Land on which free range birds are kept for prolonged periods may become “fowl sick”, i.e. contaminated with organisms which cause or carry disease to an extent which could seriously prejudice the health of the birds on the land. Birds should be routinely monitored to check for signs indicative of a build-up of pathogens on the land and appropriate action taken on detection.

114. The time taken for land to become fowl sick depends on the type of land and stocking density. Appropriate measures should be taken to prevent fowl sickness. A new ranging area can be provided by moving the housing (in the case of portable units) or by rotating the ranging area outside fixed buildings.

115. Sufficient housing should be available to the birds at all times. It may be necessary to exclude birds from the range, for example in bad weather or in the event of a compulsory housing order (Avian Influenza Protection Zone) being issued during a notifiable disease outbreak, if there is a danger that their welfare will be compromised. This should be considered when considering the number of birds placed.

116. Birds should be encouraged to use the outdoor area. Provision of adequate, suitable and properly managed vegetation, overhead cover forming corridors leading out from the house and distributed around the range and a supply of fresh water away from the house, will help induce the birds to range. Popholes should be designed and opened so as to encourage their use. Feed should not be routinely provided outdoors but, where this is unavoidable, measures should be taken to avoid attracting wild birds, rodents and other animals into the flock. If ponds are located on or near to the range area, they should be fenced off and / or netted to discourage wild birds, in particular water fowl, from landing.

117. Factors such as soil type, drainage, size of colony and frequency of flock rotation are very important in deciding the number of birds that a particular area can carry. Heavy, poorly drained soil can support fewer birds than land which is light and well drained.

### **Section 3: Additional recommendations for breeding and grandparent chickens**

118. Breeding birds for meat chickens have been selected for a balance of many traits, including those relating to the production of fertilised eggs and those relating to the production of chicken meat. Consequently, their husbandry requirements are quite different from those of their progeny. Highly competent stockmanship, a high standard of housing and equipment and good control of the environment are essential.

#### **Breeding Procedures**

##### **All meat chickens – including breeding birds and those at hatcheries**

Paragraphs 28 and 29 of schedule 1 of the Welfare of Farmed Animals (Scotland) Regulations 2010 state that:

28. (1) Natural or artificial breeding or breeding procedures which cause, or are likely to cause, suffering or injury to any of the animals concerned must not be practised.

(2) Sub-paragraph (1) does not preclude the use of natural or artificial breeding procedures which are likely to cause minimal or momentary suffering or injury or that might necessitate interventions which would not cause lasting injury.

29. No person may keep an animal for farming purposes unless it can reasonably be expected, on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare.

119. Birds should come from balanced breeding programmes, promoting and protecting health, welfare and production goals simultaneously.

120. Identification of birds should be encouraged, to enable future feedback of information within the breeding pyramid and better application of breeding for welfare, based on data from the supply chain.

121. Husbandry measures and practices on the breeding farm should be designed to minimise floor eggs, and heavily soiled eggs should not be sent as hatching eggs. Littered nests are preferred by breeding females and may reduce the number of floor eggs if litter substrate is placed in a nest, whatever the base type (metal, wood, rubber mat).

122. Surplus chicks and embryos in hatchery waste or resulting from on-farm hatching should be killed humanely by a trained and competent person and in accordance with the specific welfare at the time of killing legislation.

## **Feed and water**

123. The rearing and management of breeding chickens is a careful balance of appropriate feeding and light management in the puberty phase and appropriate management in lay, so that birds achieve an optimal growth and maintain persistency of lay.

124. In the rearing phase, an appropriate growth curve for the breed should be followed. During rearing, feed intake should be balanced to avoid birds being fed too much which could lead to excessive weight gain, increases in mortality and seriously compromised health, welfare and production.

125. However, if feed intake is restricted too much, the birds are likely to experience excessive hunger. Balancing the control of feed intake, with growth and feed type, is necessary to ensure the optimal transition of the birds into adulthood.

126. With breeder hens and active cockerels in the reproductive phase, feed supply should be continuously adjusted to real production so that the birds thrive and produce well, and do not lose weight. It is particularly important that the needs of the individual birds should be catered for and the flock carefully monitored by experienced staff with the appropriate skills.

127. Birds must be offered food at least daily throughout the production cycle with the exception of the day of transportation as they travel more comfortably with an empty crop. Increased feed should be given to breeding birds on the day before travel and water should be made available up to the time of catching.

128. Particular attention should be paid to ensure that all birds get an appropriate quantity of the feed made available to avoid undue competition. Feeding equipment should be capable of delivering small quantities rapidly, accurately and evenly to all birds in the house and the amount of trough space allocated should allow adequate access to feed for all birds intended to be fed. Feed should have good physical qualities e.g. hard pellets. Scatter feeding reduces displacement behaviours and increases foraging. If feed is scattered, it should be distributed over a sufficient area to allow access for all birds to be fed.

129. In addition to routine daily checks, the body weight and condition of the birds should be systematically monitored on a weekly basis. Prompt, appropriate adjustments should be made to feed allocation according to what is found.

130. The nutritional quality of breeding chicken feed must be carefully monitored and controlled, especially with regard to micronutrients and protein. It is advisable to check nutritional content of rations to confirm it contains the right specification especially if any problems arise. The keeper must be particularly vigilant after changes in feed batches.

131. During the first 6 weeks of life, feed levels should be adequate to ensure good skeletal development. The level of feed intake throughout rearing should be managed to achieve a steady daily growth rate and not be less than that recommended in the breeders' manuals.

132. Birds whose feed quantity is controlled may show increased drinking and displacement behaviour such as environmental pecking (e.g. pecking at the empty feeder and the wall or 'spot' pecking.) (See also paragraph 135). Higher water intakes can impact negatively on litter quality. Increasing the fibre content of the feed increases the time taken for birds to consume their food and can reduce their water intake, thereby improving litter condition. This has no negative impact on subsequent egg production, weight or quality of the breeding birds.

133. It may be necessary to manage the supply of water in relation to the feeding system and programme to reduce excessive drinking and to maintain litter quality. However, an adequate supply of fresh drinking water must be provided each day. When access to water is time limited it is vital that there is generous provision of drinkers with adequate flow to enable all birds to drink without undue competition.

134. During lay, cockerels and hens have different nutritional requirements and may be fed differently within the same house. The equipment used to prevent cockerels taking feed intended for hens should be carefully adjusted to ensure that access for hens is maintained and cockerels are not injured. However, some systems and stages in the flock cycle require both males and females to be fed similar amounts of feed together and so it may be desirable to remove cockerel excluders from female feeding systems. Breeding birds must not be induced to moult by stopping feed and water.

## **Aggression, injurious pecking and environmental enrichment**

135. The provision of enrichment such as unopened bales of shavings, good quality straw, scattering of bio-secure wholegrain or other enrichment to encourage normal scratching and pecking behaviour, may help to prevent or reduce injurious and aggressive pecking in the rearing period which adversely affects the welfare of the birds.

136. To enrich the environment, insoluble grit should be offered (either spread on the litter or supplied in separate containers, in a measured amount) from about 6 weeks of age. This will also help the gizzard to break down any litter or feathers which may have been consumed and encourage scratching. Foraging behaviour has the added advantage of improving litter quality. Suitable perches in the rearing house may provide a form of enrichment to aid the birds in performing another of their natural behaviours. Perches will also aid the birds' adaptation from litter to raised, perforated floors when they move to the laying phase.

## Beak trimming

Schedule 3, of The Prohibited Procedures on Protected Animals (Exemptions) (Scotland) Regulations 2010 (as amended) deals with beak trimming of poultry. Those parts relating to meat chickens state that:

(1) Beak trimming of poultry may only be performed to prevent feather pecking and cannibalism and, in relation to laying hens kept on holdings of 350 or more and meat chickens kept on holdings of 500 or more, when the animals are less than 10 days old.

...

(4) Beak trimming of meat chickens may only be carried out, after consultation with and on the advice of a veterinary surgeon, by qualified staff, and where other measures to prevent feather pecking and cannibalism are exhausted.

137. It is not usually necessary to beak trim female breeding and grandparent chicks routinely. For male breeding and grandparent chicks, beak trimming may be necessary to prevent injury to other birds from aggressive or injurious pecking. If so, only the tip of the beak should be removed from these chicks. This should be done on the advice of a veterinary surgeon, before 10 days of age, preferably at day old using infra-red technology. Beak trimming of older birds should only be carried out in an emergency when advised by a veterinary surgeon.

## Buildings and accommodation

138. As with other meat chickens, meat breeding and grandparent birds should be reared in houses in which temperature, humidity, ventilation rates, light levels and photoperiods are carefully regulated. A well designed house will incorporate ventilation and heating systems, effective light-proofing and a lighting system providing controllable light levels with uniform distribution.

139. Ventilation rates, air distribution and house conditions must at all times be adequate to provide sufficient fresh air appropriate for the age of the birds, without draughts. Air quality, including dust levels and concentrations of carbon monoxide, should be controlled and kept within limits where the welfare of the birds is not negatively affected.

140. Breeder chickens on controlled feed are more susceptible to low temperatures but less so to high temperatures. If the temperature is allowed to fall there may be a need to increase feed or provide heaters.

141. Recommended minimum light intensities and photoperiods for breeding and grandparent birds are as follows, but higher light intensity should preferably be provided during rearing:

| Age                | Light intensity                                      | Uninterrupted day length                         |
|--------------------|--|--|
| Day old            | 60 lux minimum, reducing to 10 lux by 10 days of age | Minimum of 8 hours                               |
| Up to point of lay | 10 lux minimum                                       | Minimum of 8 hours                               |
| In lay             | 20 lux minimum                                       | Increasing from 8 hours to a maximum of 18 hours |

142. Light intensity should be measured at bird eye level height. If aggression or injurious pecking occurs, the lights should be dimmed for a few days and other measures considered to reduce the behaviour. After the first few days, there should be a set period of at least 6 hours of dark, including at least 4 continuous hours of darkness, in any 24 hour period.

143. Careful attention should be paid to the hen to cockerel ratio (numbers, maturity, weight) to ensure the development of optimal male-female relationships and avoid aggression from females towards immature males, or to protect hens from the presence of too many mature cockerels in the breeder house. Where relationship problems occur, consideration could be given to providing barriers which can reduce stress in females by allowing them to retreat from cockerels.



## **Stocking density and freedom of movement**

144. Stocking density for meat breeding birds should not exceed 25 kg/m<sup>2</sup> calculated by dividing the total weight of all the birds (males and females) in the house by total area available to the birds. In calculating this area, consideration should be given to the space taken up by equipment in the house.

145. Various factors need to be taken into account to promote good welfare when setting and monitoring stocking densities. The observance of any particular maximum stocking density is important but cannot, by itself, ensure the welfare of the birds. There is a close relationship between stockmanship, litter management, environmental control and stocking density. Birds will be maintained in good condition only if the balance is right, and the onus is on the keeper to demonstrate that welfare is not compromised whatever the stocking density.

146. The decision to stock at a particular density should be made on a house basis and should take account of house-specific management factors.

147. Irrespective of the type of system, all meat breeding chickens should have sufficient freedom of movement to be able, without difficulty, to stand normally, turn around, stretch their wings and perform breeding behaviours.

## **Litter**

148. As for all meat chickens, litter must be maintained in good condition to avoid possible leg problems, footpad lesions, respiratory and environmental problems. Particular attention must be paid to maintaining ventilation levels and to air movement patterns to avoid draughts at litter level, as well as the addition of litter as required.

149. In winter, supplementary heating should be available if needed to maintain the correct temperature in breeder houses and prevent deterioration in air and litter quality resulting in respiratory, leg and foot pad problems.

## **Catching, handling and transport**

150. When birds are transferred to laying facilities, care should be taken when lifting them out of a crate or when tipping them out of an open-topped container. Birds should have immediate access to water on arrival, especially where slats are fitted.

## **Annex 1: Other legislation affecting meat chickens, meat breeding birds and hatcheries**

The main requirements are summarised below. This does not represent an exhaustive list. Some legislation is regularly updated and/or amended, so the most recent version should be referred to. All UK legislation can be found at:

<http://www.legislation.gov.uk>

### **Transport**

For information on transporting meat chickens see:

- Council Regulation (EC) No 1/2005 (on the protection of animals during transport and related operations)
- The Welfare of Animals (Transport) (Scotland) Regulations 2006
- and the Scottish Government's summary of the relevant requirements<sup>3</sup>

### **Slaughter**

For information on welfare at slaughter and killing meat chickens see:

- Council Regulation (EC) No 1099/2009 (on the protection of animals at the time of killing)
- The Welfare of Animals at the Time of Killing (Scotland) Regulations 2012

### **Free range and organic systems**

For poultry meat marketing criteria (eg requirements for use of special marketing terms such as 'free range') including stocking density, feed requirements, range access, and minimum age at slaughter see:

- Commission Regulation (EEC) No 543/2008 (laying down detailed rules for the application of Council Regulation (EC) No 1234/2007 as regards the marketing standards for poultrymeat)

The requirements under the above are enforced in Scotland by The Poultrymeat (Scotland) Regulations 2011.

For organic production requirements see:

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<sup>3</sup> <https://www.gov.scot/Topics/farmingrural/Agriculture/animal-welfare/AnimalWelfare/TransportAnimals/requirements>

See also: <https://www.gov.uk/guidance/farm-animal-welfare-during-transportation>

- Council Regulation (EC) No 834/2007 (on organic production and labelling of organic products and repealing Regulation (EEC) no 2092/91)
- Commission Regulation (EEC) No 889/2008 (on implementation of Council Regulation (EC) No 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control)

The requirements under the above are enforced in the UK by the Organic Products Regulations 2009.

## **Food hygiene**

For specific hygiene rules on the hygiene of foodstuffs see:

- Regulation (EC) 853/2004 of the European Parliament and of the Council (laying down specific hygiene rules for food of animal origin)

Section III of Annex II of this Regulation requires food business operators operating slaughterhouses, as appropriate, to request, receive, check and act upon food chain information as set out in this Section in respect of all animals, other than wild game, sent or intended to be sent to the slaughterhouse.

## **Diseases and record keeping**

See the following:

- The Avian Influenza (Preventive Measures) (Scotland) Order 2007

Article 5 of the above Order requires, amongst other things, that those keeping 50 birds or more must notify the Scottish Ministers in writing of the species of poultry kept at the premises, the husbandry system in use at the premises, the number of each species of poultry usually kept at the premises, the number of each species of poultry with access to open air, details of any seasonal stocking variations which might result in significant differences in the number or species of poultry on the premises and the presence on (or in the vicinity of) the premises of any body of water which attracts wild birds. There are also certain notification requirements in the event of certain changes in circumstances (eg an increase or decrease of 20% or more in the number of each species of poultry usually kept at the premises or in the number of each species of poultry with access to the open air).

- The Control of Salmonella in Poultry (Breeding, Laying and Broiler Flocks) (Scotland) Order 2009

Amongst other things, this Order requires the occupier of any holding on which one or more broiler flocks (chickens bred for meat) are kept to notify the Scottish Ministers of certain information (including the identification of the flock and number of birds) and to provide advance notice of the arrival of every broiler flock. The time periods during which such notifications must be provided are set out in the Order. The Order also makes provision for sampling for salmonella, record keeping and prohibition on the use of antimicrobials to control salmonella.

- The Diseases of Poultry (Scotland) Order 2003

Article 4 of this Order requires that certain measures and restrictions be implemented where it is known or suspected that a bird or carcass has “designated disease”. Newcastle disease is included as a “designated disease”. Article 15 requires that any person who owns or keeps any flock of poultry consisting of at least 250 birds on premises must keep certain records.

- The Veterinary Medicines Regulations 2013

The Veterinary Medicines Regulations 2013 and The Veterinary Medicines (Amendment) Regulations 2014 require records to be kept on medicine usage, administration and disposal of unused medicines. Records **must be** kept for at least 5 years.

Note: The Welfare of Farmed Animals (Scotland) Regulations 2010 require that a record be maintained of the medicinal treatment given to animals and the number of mortalities found on each inspection of animals.

The Veterinary Medicines Regulations 2013 recording requirements describe in detail what **must be** recorded, how long the records **must be** kept and includes the requirement for records of when and where medicines are acquired in addition to the requirement for records at the time of administration.

### **Animal by-products**

For the requirements on storage, transport and disposal of animal by-products such as dead carcasses, manure and litter see:

- Council Regulation (EC) No 1069/2009 (laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation)
- Commission Regulation (EU) No 142/2011 (implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive Text with EEA relevance)

The Animal By-Products (Enforcement) (Scotland) Regulations 2013 provide for enforcement of these two sets of regulations regarding animal by-products.

**Annex 2: Form to be used to notify the Animal and Plant Health Agency of a change in stocking density of conventionally reared meat chickens**

The WF90 meat chicken notification form (England, Scotland and Wales) is available on the GOV.UK website at the following link:

- <https://www.gov.uk/government/publications/meat-chicken-notification>

### Annex 3: Trigger Levels

#### Process 1

A trigger report is generated if the level of a post-mortem condition is exceptionally high (defined as greater than 6 standard deviations above the average).

| Post-mortem condition      | Process 1 trigger level (%) |
|----------------------------|-----------------------------|
| Ascites/Oedema             | 2.02                        |
| Cellulitis & Dermatitis    | 3.00                        |
| Dead on Arrival (DOA)      | 1.51                        |
| Emaciation                 | 0.67                        |
| Joint lesions              | 0.43                        |
| Septicaemia/Respiratory    | 9.28                        |
| Total rejections           | 11.76                       |
| Cumulative Daily Mortality | 11.85                       |
| FPD score*                 | 167                         |

\*The FPD score is not a percentage but is a score of the severity and extent of lesions (between 0 and 200) based on scoring 100 feet.

#### Process 2

A trigger report is generated if the Cumulative Daily Mortality Rate is unusually high (defined as greater than 3 standard deviations above the average = 7.37%) and, additionally, the level of three or more other post-mortem conditions is high (defined as above the average).

| Post-mortem condition   | Process 2 trigger level (%) |
|-------------------------|-----------------------------|
| Ascites/Oedema          | 0.21                        |
| Cellulitis & Dermatitis | 0.20                        |
| Dead on Arrival (DOA)   | 0.12                        |
| Emaciation              | 0.04                        |
| Joint lesions           | 0.02                        |
| Septicaemia/Respiratory | 0.49                        |
| Total rejections        | 1.11                        |
| FPD score*              | 60                          |

\*The FPD score is not a percentage but is a score of the severity and extent of lesions (between 0 and 200) based on scoring 100 feet.

#### **Annex 4: Cumulative Daily Mortality Rate (CDMR): worked example**

The total mortality in the example on the following page – a shed with 20,200 birds placed, one thinning and 549 birds dead in total – is  $549/20,200 \times 100 = 2.72\%$ . The CDMR is 2.85%. In this example there is not much difference between the two figures, but this could have been greater if, for example, there had been high mortality in the house.

An Excel spreadsheet that keepers can use to calculate CDMR can be found at: <https://www.gov.scot/publications/welfare-meat-chickens-mortality-rate-calculator/>

(Please note that Excel does not round the numbers before calculating, which accounts for some apparent anomalies in the table on the following page.)



| <b>Age of birds/Day</b> | <b>Number of birds in the house at the start of each day</b> | <b>Number of birds culled AND number of birds found dead each day</b> | <b>Daily mortality rate</b> | <b>Cumulative Daily Mortality Rate (CDMR)</b> |         |
|-------------------------|--|---|-----------------------------|---|---------|
| 1                       | 20200  | 29  | 0.1436                      | 0.1436  |         |
| 2                       | 20171  | 20  | 0.0992                      | 0.2427  |         |
| 3                       | 20151  | 15  | 0.0744                      | 0.3172  |         |
| 4                       | 20136  | 15  | 0.0745                      | 0.3916  |         |
| 5                       | 20121  | 19  | 0.0944                      | 0.4861  |         |
| 6                       | 20102  | 10  | 0.0497                      | 0.5358  |         |
| 7                       | 20092  | 15  | 0.0747                      | 0.6105  |         |
| 8                       | 20077  | 20  | 0.0996                      | 0.7101  |         |
| 9                       | 20057  | 10  | 0.0499                      | 0.7600  |         |
| 10                      | 20047  | 12  | 0.0599                      | 0.8198  |         |
| 11                      | 20035  | 10  | 0.0499                      | 0.8697  |         |
| 12                      | 20025  | 8   | 0.0400                      | 0.9097  |         |
| 13                      | 20017  | 10  | 0.0500                      | 0.9596  |         |
| 14                      | 20007  | 9   | 0.0450                      | 1.0046  |         |
| 15                      | 19998  | 20  | 0.1000                      | 1.1046  |         |
| 16                      | 19978  | 15  | 0.0751                      | 1.1797  |         |
| 17                      | 19963  | 9   | 0.0451                      | 1.2248  |         |
| 18                      | 19954  | 8   | 0.0401                      | 1.2649  |         |
| 19                      | 19946  | 10  | 0.0501                      | 1.3150  |         |
| 20                      | 19936  | 19  | 0.0953                      | 1.4103  |         |
| 21                      | 19917  | 10  | 0.0502                      | 1.4605  |         |
| 22                      | 19907  | 8   | 0.0402                      | 1.5007  |         |
| 23                      | 19899  | 10  | 0.0503                      | 1.5510  |         |
| 24                      | 19889  | 9   | 0.0453                      | 1.5962  |         |
| 25                      | 19880  | 21  | 0.1056                      | 1.7019  |         |
| 26                      | 19859  | 14  | 0.0705                      | 1.7724  |         |
| 27                      | 19845  | 27  | 0.1361                      | 1.9084  |         |
| 28                      | 19818  | 12  | 0.0606                      | 1.9690  |         |
| 29                      | 19806  | 6   | 0.0303                      | 1.9993  |         |
| 30                      | 19800  | 22  | 0.1111                      | 2.1104  |         |
| 31                      | 19778  | 31  | 0.1567                      | 2.2671  |         |
| 32                      | 16548  | 19  | 0.1148                      | 2.3819  | Thinned |
| 33                      | 16529  | 21  | 0.1270                      | 2.5090  |         |
| 34                      | 16508  | 12  | 0.0727                      | 2.5817  |         |
| 35                      | 16496  | 10  | 0.0606                      | 2.6423  |         |
| 36                      | 16486  | 8   | 0.0485                      | 2.6908  |         |
| 37                      | 16478  | 26  | 0.1578                      | 2.8486  | Cleared |

## Annex 5: Permitted Procedures

The mutilation of chickens is banned under the Animal Health and Welfare (Scotland) Act 2006 unless the procedure is an exempt procedure. The Prohibited Procedures on Protected Animals (Exemptions) (Scotland) Regulations 2010 (as amended) exempt certain procedures from this ban, provided that they are carried out:

- for a purpose which is specified, in relation to any such procedure, in column 2 of the corresponding entry in the relevant schedule;
- in accordance with the relevant requirements in the Schedules;
- in such a way as to minimise the pain and suffering it causes to the animal;
- in hygienic conditions; and
- in accordance with good practice.

The permitted procedures for meat chickens and breeding chickens are listed below. The lists are correct at the point of publication.

| <b>Procedure</b>  | <b>Purpose</b>  |
|---|---|
| Micro-chipping  | Identification  |
| Beak Trimming<br><br>Conditions:<br><br>1) Beak trimming of poultry may only be performed to prevent feather pecking and cannibalism and, in relation to laying hens kept on holdings of 350 or more and meat chickens kept on holdings of 500 or more, when the animals are less than 10 days old.<br><br>4) Beak trimming of meat chickens may only be carried out, after consultation with and on the advice of a veterinary surgeon, by qualified staff, and where other measures to prevent feather pecking and cannibalism are exhausted. | Flock welfare   |
| Laparoscopy   | General animal management   |
| Wing tagging  | Identification, in connection with breeding or testing for the presence of disease. |
| Web tagging   | Identification, in connection with breeding or testing for the presence of disease. |

## **Sources of further information**

### **Codes of recommendations of the Council of Europe**

This guidance takes account of the Council of Europe recommendations concerning domestic fowl (*Gallus gallus*). These set out general principles of husbandry and care and include a section on meat chickens. See <https://rm.coe.int/16805165ec>

### **Slaughter**

The Humane Slaughter Association has a Code of Practice for the Disposal of Chicks in Hatcheries.

### **Animal by-products**

For further information on animal by-products, see:

- <http://www.gov.scot/Topics/farmingrural/Agriculture/animal-welfare/ABPs>

### **Welfare outcome assessments**

Advice on measuring welfare outcomes can be found at:

- [www.assurewel.org](http://www.assurewel.org)

### **Catching and Handling**

Advice on catching and handling can be found in the Humane Slaughter Association's Poultry Catching and Handling Technical Note 15:

- [https://www.hsa.org.uk/shop/publications-1/product/-poultry-catching-and-handling-\(free-pdf\)](https://www.hsa.org.uk/shop/publications-1/product/-poultry-catching-and-handling-(free-pdf))

### **Antimicrobials and vaccines**

Guidance on the responsible use of antimicrobials and vaccines can be found at:

- [www.ruma.org.uk/poultry/](http://www.ruma.org.uk/poultry/)
- [www.farmantibiotics.org/media-news-updates/progress-by-sector/poultry/](http://www.farmantibiotics.org/media-news-updates/progress-by-sector/poultry/)

### **Registering poultry**

Guidance on registering poultry can be found at:

- [www.gov.uk/guidance/poultry-registration#how-to-register](http://www.gov.uk/guidance/poultry-registration#how-to-register)

*These sources of information are current on the date that this guidance is published. You should be aware that any of the sources of information listed here could change.*



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