RSPCA Campaigns

Behind closed doors

– the truth about chicken bred for meat

Contents

Behind closed doors, the UK broiler industry rears chickens for meat in shocking conditions. Birds genetically selected for fast growth to be ready for slaughter by six weeks old put on weight so rapidly they suffer chronic lameness and heart defects. Overcrowded and kept in almost continuous light so they keep eating, they are referred to as 'crops' in the industry. There is no specific legislation to protect the millions of birds reared on UK farms each year.

Introduction

Most of the chicken eaten today comes from broiler chickens – birds bred solely for meat. Broilers grow very rapidly and have been selected for traits that are desirable for meat production. The type of birds and the housing methods are totally different from those of hens kept for egg production.

Intensive broiler production began in the United States and came to the UK in the 1950s[1]. Today broiler chickens are the most numerous farmed species, 40 billion being reared worldwide every year. In the UK, broiler production has become by far the largest sector of agriculture (in terms of the number of animals involved) and has been transformed from small extensive farms to a limited number of very large intensive systems[2]. In May 2001, it was reported that over the previous 12 months, 817 million broiler chicks were reared on UK farms for meat production[3]. Most are reared on farms with 100,000 birds or more[4].

UK broilers are reared in large houses typically holding 20,000 – 30,000 birds or more. The houses are barren and lit artificially with low lighting levels to reduce activity. The lights may be kept on for over 23 hours a day to encourage the birds to eat more. Stocking densities (the number of birds calculated on a weight basis per m^2), are kept high to maximize financial returns.

More than 90 per cent of UK broiler producers are registered with the industry's own assurance scheme – Assured Chicken Production (ACP) – which is a qualifying scheme for the British Farm Standard (indicated by the red tractor logo)[5]. The scheme is described as *'an industry-wide initiative that addresses all the important issues concerning the production of chicken' which is designed to 'assure consumers of high standards of food safety and animal welfare'*[6].

But the RSPCA believes the detail of the standards does not reflect these intentions, particularly in relation to some of the key welfare aspects. For example, the requirement for stocking density does not even meet the government's existing welfare codes[6]. Further, producers are allowed to join the scheme is determined initially on the basis of self-assessment forms – farms do not have to be visited before they enter the scheme[6].

Chicken is now the most popular meat in the UK[2]. Poultry meat production has grown much faster than overall meat production, and increased its market share against beef and

sheep meat production. Broiler rearing is now one of the most intensified and automated types of livestock production. This intensification, and the economies of scale, have led to the price of poultry meat falling in relation to other meats – an important driver of the increased consumer demand[2]. Chicken is now one of the cheapest meats available in the UK.

Because profit margins are so low, welfare considerations often conflict with economic return. Systems that reduce the profit per bird (for example, due to increased carcass damage), may even be beneficial because they still maximize the economic return per rearing shed. The language of the broiler industry seems to reflect this approach - a house of broilers is referred to as a 'crop' and rearing as 'growing'. In the highly efficient modern broiler integration, with its huge volume turnover and low profit margins, one chicken is a minutely small unit.

A typical commercial broiler shed, where 20,000-30,000 birds or more are kept. In the UK about 19 birds are reared per m². Chicks are put in the house at a day old and housed there until they reach the desired slaughter weight (around six weeks later). Food and water are provided automatically. The floor is usually covered in woodshavings – referred to as 'litter'. Overhead lighting is provided and the temperature in the shed maintained by automatic fans, to allow air in and out. Sheds are heated for the first weeks of the chicks' lives. As they mature, their body heat usually keeps them warm. In summer months, there is a risk of overheating if the stocking density is too high – large numbers of birds can die from heat stress.

Egg layer – day nine

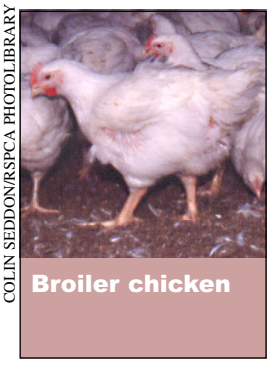
Broiler – day nine

Selected for suffering

- **Broilers suffer because of their extreme growth rate.**
- **Genetic selection for more breast meat and fast growth has led to increased incidences of heart failure and lameness in broilers.**
- **Though UK broilers are slaughtered at around six weeks old, over 100,000 a day die before that age, many of painful, distressing conditions.**
- **The genetic selection they have undergone makes broilers extremely inactive, leading to many health and welfare problems.**

Broilers have been under intense genetic selection both for high growth rate and increased efficiency in converting food to muscle. In production terms this genetic selection has been hugely successful. According to a recent scientific paper, of around 10,000 species of birds in the world, the broiler chicken is the fastest growing[7].

In the UK, the average broiler is killed at around six weeks old, when it will have reached over 2kg. This growth rate is twice what it was 30 years ago, and four times as fast as birds used for egg production. In 1976, 2.5kg of feed were needed to produce each kilogram of body weight – now it takes just 1.66kg[8]. Broilers eat much more than their ancestors and have an intestine three times as long. They have very well developed breast muscles – this is the most popular part of the carcass in the UK and most other European countries. Legs and wings – which produce the less desirable dark meat – are less developed. But birds can suffer as a result of this extreme growth rate – it has resulted in drastically altered physiology, anatomy and behaviour.



COLIN SEDDON/RSPCA PHOTOLIBRARY

Broiler chicken

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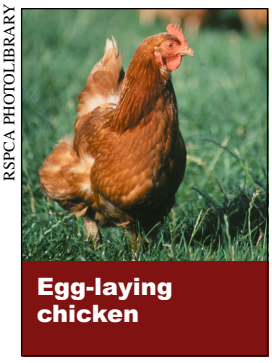
Red jungle fowl



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Egg-laying chicken

A typical modern broiler chicken is the same species as its original ancestor, the red jungle fowl. There is a huge difference between broiler chickens reared for chicken meat and laying hens that produce eggs, although they originate from the same ancestors.

Diseases and disorders

Broilers suffer from a range of painful pathologies as a result of the disproportionate selection for breast muscle growth, which is out of step with the growth of the rest of the bird. These include heart failure and ascites [9] (a metabolic diseases[11]) and lameness[10].

The mortality rate for broilers equates to around one per cent a week – seven times greater than laying hens of the same age[11]. In the UK, over 100,000 broilers die in rearing houses every day, many of painful, distressing conditions. Given that the average slaughter age is less than six weeks, this is extremely disturbing. According to University of Bristol professor John Webster, '*It is absolutely not right that animals in the first few weeks of their life should be experiencing heart disease; it is absolutely not right that animals in the first weeks of their life should be crippled.*' [12]

The National Farmers Union (NFU) reported that '*levels of mortality in modern broilers are higher because of a higher incidence of heart and circulatory disorders in birds bred for a higher yield of breast meat. Further, modern broilers are more susceptible to infectious diseases…* ' [13]

Inactivity

A further consequence of the intensive genetic selection is that broilers are extremely inactive when compared to their jungle fowl ancestors. One study found that at 39-49 days old they spend more than three-quarters of their time lying down, and a dramatically reduced time performing natural behaviours such as ground pecking[14]. The authors point out that some of these behavioural changes are likely to be the result of the constraints of the bird's conformation and physiology, rather than a reduction in motivation to perform the activities. Laying hens of the same age spend less than 30 per cent of their time sitting.

[†1] Metabolic diseases are caused when the fast growing body requires more oxygen than can be delivered by the heart [9].

Egg layer – day 11

Broiler – day 11

Table 1

Legislation	Maximum stocking density	Outside access	Environment	Food and water	Other
Required under UK law for all broilers [1] The Welfare of Farmed Animals (England) Regulations, 2000 [2] The Agriculture (Miscellaneous Provisions) Act, 1968. [3]The BSE (Amendment) Order, 1996 [4] Protection of Animals Act (1911) *Italics indicate general provisions.*	None	No	Where kept in a building, broilers must have access to well-maintained litter or a well drained area for resting[1]; *For intensive systems, automatic ventilation systems must be alarmed and a back up system available[1]; Animals shall not be kept without an appropriate period of rest from artificial light[1].*	*No meat and bonemeal[3]; Must be fed a wholesome diet appropriate to their age and species, in sufficient quantity to maintain good health, satisfy nutritional needs and promote a positive state of well-being[1] All animals shall have access to feed at intervals appropriate to their physiological needs (and, in any case, at least once a day) – unless stated otherwise by the veterinary surgeon[1].*	*It is an offence to cause, or allow, unnecessary pain or distress to livestock[2]; Animals must be inspected thoroughly once a day by a stockperson[1]; Adequate light must be available for inspection[1]; Ill or injured animals must be cared for without delay[1].* *It is an offence to cause unnecessary pain or suffering[4].*
Commission Regulation EEC No 2891/93 on certain marketing standards for poultry meat specifies conditions for the following:					
Free-range	13 birds/ m^2 or 27.5kg/m^2 inside.	Yes. Birds must have continuous daytime access to open air runs, mainly covered by vegetation, for at least half their lifetime. 1m^2 per chicken outside	Poultry house must have 4m of pop-holes (access to the outside) per 100m^2 surface of the house;	Feed must contain at least 70 per cent cereals	Birds must not be slaughtered before 56 days old.
Traditional free-range Free-range – total freedom –(as for traditional free range except outdoor runs are of unlimited area).	12 birds/ m^2 or 25kg/m^2 inside for fixed housing (20 birds/m^2 or 40 kg/m^2 for mobile houses);	Yes. Continuous daytime access to open air runs, mainly covered by vegetation from six weeks old. 2m^2 per chicken outside.	Poultry house must have 4m of pop-holes (access to the outside) per 100m^2 surface of the house; Max. of 4,800 chickens per house.; Max total usable area of poultry houses per site 1,600m^2 ;	Feed must contain at least 70 per cent cereals.	Birds must be a recognized slow-growing strain Birds must not be slaughtered before 81 days old.
Barn reared (extensive indoors)	12 birds/ m^2 or 25kg/m^2	No.			Birds must not be slaughtered before 56 days old.
UKROFS/ Council Regulation EC No 1804/1999 specifies conditions for the following: Organic	Ten birds/ m^2 (or 21kg/m^2) indoors for fixed housing; 16 birds/m^2 (or 30kg/m^2) indoors for mobile houses.	Yes. 4m^2 per bird outside for fixed housing; 2.5 m^2 per bird outside for mobile houses.	At least a third of the floor must be covered with litter; Pop-holes (access to the outside) must equal to 4m per 100m^2 surface of the house. No more than 4,800 birds per house. Birds must have access to open air runs for at least one third of their life, which are mainly covered with vegetation and have protective facilities.	From 2005, must be fed on organically produced feedstuffs (until then 20 per cent of diet can be conventional feed). Minimum of 65 per cent cereals. No growth promotors.	Homeopathic products to be used in preference to veterinary medicinal products. Twice the withdrawal period† must be given if veterinary medicinal products are used. Birds must not be slaughtered before 81 days old (or 73 days if slow growing strains are used)

Legal vacuum

- **Broilers are the only major UK farmed animals without specific detailed legal protection.**
- **There is no legal upper limit on stocking densities.**
- **DEFRA's planned new Code of Recommendation will not be legally binding.**
- **Nearly ten years after FAWC proposed eight legislative measures to protect broilers' welfare, the government has failed to introduce legislation.**
- **The European Commission (EC) has called for changes in breeding and management practices.**
- **The RSPCA believes a European Directive is needed as a matter of urgency.**

Professor John Webster describes the chronic pain suffered by broilers as 'the single most severe, systematic example of man's inhumanity to another sentient animal.'[15] But broilers are the only major UK farmed animals (except for fish) without specific detailed legislation to protect their welfare during rearing. Broad provisions such as those prohibiting unnecessary pain or distress to any livestock – for example, the Agriculture (Miscellaneous Provisions) Act 1968 – were not designed to address specific standard commercial practices.

The use of Special Marketing Terms (SMTs) such as free-range and organic, are governed by European Union (EU) marketing regulations. By law, products bearing these terms must meet a number of criteria, summarized opposite.

Egg layer – day 14

Broiler – day 14

More recently, The Welfare of Farmed Animals (England) Regulations 2000, in addition to general provisions covering all farm animals, contain detailed schedules for particular species. However, only one extra requirement is made specific to broiler chickens – to provide access to well-maintained litter or a well-drained area for resting.

The Ministry of Agriculture, Fisheries and Food (MAFF, now DEFRA[†2]) Code of Recommendations for Domestic Fowls[16] is not legally binding although this may be used as evidence of a more general cruelty offence. There is, therefore no legal upper limit on the stocking densities at which broilers can be reared. A new code in preparation will also not be legally binding as breach of the code does not, in itself, amount to a criminal offence, so is unlikely to offer broilers extra protection.

A 1992 Farm Animal Welfare Council (FAWC - see box) report on the welfare of broiler chickens[17] concluded that a number of areas should be covered by legally binding regulations rather than welfare codes. It said, for example, there should be a maximum stocking density of 34kg/m^2 that should never be exceeded, 'controlled by Regulation as soon as possible.' In total, the summary of recommendations listed eight proposed legislative controls. Nearly ten years later, the ministry has still not acted to bring in legislation based on these recommendations.

Farm Animal Welfare Council

The Farm Animal Welfare Council (FAWC) is the official UK government welfare advisory body. Formed in 1979, it advises agricultural ministers of legislative or other changes that may be necessary. Its reports are based on extensive consultation with industry and research experts, as well as FAWC working group visits to view the production systems being considered.

In response to concerns about broiler welfare, the EC asked its Scientific Committee on Animal Health and Animal Welfare (SCAHAW) to prepare a report, paying particular attention to the problems arising from the rapid fattening of birds and space requirements. SCAHAW's detailed March 2000 report[18] concluded:

'*It is apparent that the fast growth rate of current broiler strains is not accompanied by a satisfactory level of welfare including health.*'

It also described 'major concerns for animal welfare' including leg disorders, ascites (a disease affecting the heart and liver) and sudden death syndrome (acute heart failure) in growing birds, and called for changes in breeding and management practices.

[†2] The duties of MAFF have, with effect from July 2001, been incorporated into the Department of Enviroment, Food and Rural Affairs (DEFRA).

RSPCA*view*

The RSPCA condemns the severe welfare problems commonplace in the broiler industry. The lack of specific legal protection relating to on-farm welfare is totally unacceptable. It calls on both the UK government and the EU to act on scientific committee recommendations urgently and introduce a European Directive.

Breeding for productivity

- **Continuous selection for increased growth rate is motivated by economic, not welfare considerations.**
- **Many birds – bred to reach slaughter weight at an ever-younger age – suffer major welfare problems.**
- **Increased growth rate means chickens suffer serious leg abnormalities.**
- **Food for breeding birds is severely restricted – if they could eat what they wanted, a large proportion would die before puberty, as a result of the genetic selection they have undergone.**
- **Birds could be positively selected for traits that improve welfare.**
- **Breeding procedures likely to cause suffering contravene UK and European law.**

A few very large breeding companies dominate the world's broiler industry. Six of them supply 95 per cent of breeding birds, and two of these 80 per cent of the total. Although each company's selection index criteria are confidential, two major aims of selection are to increase growth rate (reduce age for a given weight) and reduce feed conversion ratio (FCR -see box. For additional information on breeding birds see appendix 1)[19]

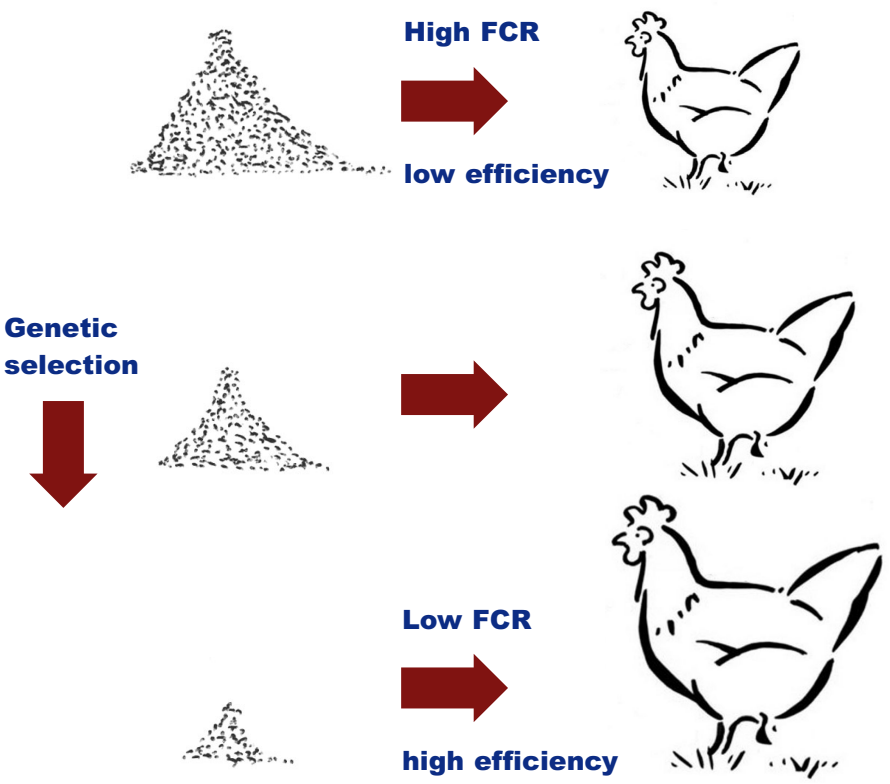
Egg layer – day 21

Broiler – day 21

Diagram 1

Feed Conversion Ratio (FCR)

FCR is calculated as the total food consumed by a bird divided by its weight – it indicates the amount of food needed for a bird to reach a certain bodyweight.



Because food is expensive, there is a great incentive to maximize birds' ability to use as much of what is eaten as possible.

Much more progress has been made in relation to breeding for improved productivity in poultry than in other species. There has been a consistent decrease in the age at which slaughter weight is reached by one day per year[19]. Male broilers currently grow from approximately 40 grams as day-old chicks to around 2.6 kg in 42 days, with an FCR of 1.66 and 18 per cent of the meat yield is breast meat [20].

There is no sign of a decline in this trend in commercial performance[21] and by 2007 birds are expected to reach 2kg in weight in 33 days[20]. But this genetic change has had many adverse effects on the welfare of birds. SCAHAW concluded:

'*It is clear that the major welfare problems in broilers are those which can be regarded as side effects of the intense selection mainly for growth and feed conversion.*'

The breeding companies claim to select for characteristics relating to the welfare of the birds. Yet SCAHAW highlighted a scientific paper[22] which found that selection against leg disorders – a major cause of poor welfare – came well behind other factors taken into account by the breeding companies, such as growth rate and feed conversion efficiency.

A further review[23] of leg problems concluded that there were 'several reports stating that leg disorder problems seem to be increasing', and that breeders did not give enough priority to the characteristic to counteract the effect of selection for body weight. According to Bristol University scientists, the predicted increases in broiler growth rate over the next ten years will lead to even further deterioration in walking ability, unless active selection to improve walking ability is undertaken[24].

SCAHAW was clear in its findings that the breeding companies have neglected broiler welfare:
'*Broiler chickens are mostly selected for growth rate and food conversion ratio*.'

In relation to other traits, such as low frequency of leg disorders or resistance to pathogens, which affect welfare, it found:
'*…the importance given to such traits is often low and up to now has not improved welfare*'.

It concluded that:
'*breeders should give a considerably higher priority to health variables in the breeding index, if necessary at the expense of the selective pressure for growth and feed conversion*.'

COLIN SEDDON/RSPCA PHOTOLIBRARY

Further welfare problems relate to the breeding birds used to produce chicks reared for meat (see appendix 1). As they are reared for longer than the those reared for meat it is considered necessary to severely restrict their food, to prevent reduced fertility, lameness, heart failure and other health problems. If they were allowed to eat as much as they wanted, a high proportion would die before reaching puberty at 18 weeks old.

Central to this dilemma is the continuous selection for increased growth rate, to the detriment of bird welfare – principally motivated by economic, rather than welfare, considerations. The RSPCA believes this is unacceptable. The Society recognizes that breeding companies are commercial concerns in a competitive market and can only produce birds for which there is a demand. It is therefore essential that their major customers place more value on welfare, rather than focusing on production traits.

SCAHAW puts forward as its most important recommendation that::

'*every effort should be taken to remove side effects from breeding…. Breeding which causes very poor welfare should not be permitted and breeders should be responsible for demonstrating that the standards of welfare in the chickens produced by them are acceptable*.'

But despite well-documented welfare problems, and FAWC and SCAHAW recommendations, current genetic selection still prioritizes increasing growth rate and feed conversion efficiency.

The RSPCA has discussed the welfare issues with some of the major breeding companies. The Society accepts that they have successfully reduced infectious disease in their stock through strict biosecurity. Their selection programmes incorporate other characteristics relating to welfare – for example, birds with physical evidence of leg problems are not used as pedigree breeding stock. But the Society believes much higher priority must be given to positively selecting for traits that improve welfare. For example, far more emphasis should be placed on identifying birds with the strongest legs. These should be used for breeding, even if they are not among the faster-growing or most productive birds.

Egg layer – day 28

Broiler – day 28

New legislation on farm animal breeding procedures is now in force in European Directive 98/58/EC concerning the protection of animals kept for farming purposes. This is implemented in the UK under Schedule 1 of The Welfare of Farmed Animals (England) Regulations 2000, which states that:

'*natural or artificial breeding or breeding procedures which cause, or are likely to cause, suffering or injury to any of the animals concerned shall not be practised*',

unless the suffering is momentary or minimal, and that,

'*no animals shall be kept for farming purposes unless it can reasonably be expected, on the basis of their genotype or phenotype, that they can be kept without detrimental effect on their health and welfare*.'

In fact, there is overwhelming scientific evidence, summarized in the SCAHAW report, that painful skeletal and metabolic pathologies are commonly found in broilers reared according to standard commercial practice, and that these disorders are a direct consequence of selection for extreme growth rate. Genetic selection has resulted in broiler breeder birds that must be severely feed-restricted in order to prevent physical health problems (see appendix 1).

RSPCA*view*

The RSPCA believes the priority given to selecting for faster, more efficient broiler growth – often at the expense of health and welfare – is unacceptable. The breeding procedures resulting in the modern broiler genotype are highly likely to cause suffering in a considerable proportion of birds reared, and therefore contravene UK and European law. Many of the welfare problems in the broiler industry are a direct consequence of genetic selection, and breeding companies have failed to address this issue adequately.

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Health and welfare

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- **Overcrowding, near-continuous light and lack of environmental enrichment – the common lot of broilers – cause many health and welfare-related problems, including skin diseases, leg abnormalities, fear, eye disorders and heat stress.**
- **Genetic selection for rapid growth is a primary cause of metabolic disorders like ascites and sudden death syndrome (acute heart failure), and leg disorders.**
- **In order to maximize growth rate birds are discouraged or prevented from normal levels of activity that would reduce some of these health and welfare problems.**
- **Broiler chickens are susceptible to a significant number of health problems that can compromise their welfare.**
- **Broilers are susceptible to a significant number of health problems that can compromise their welfare. Many health-related matters are affected by husbandry and management and could therefore be considerably reduced by producers. But the necessary measures are often ignored because of the financial implications.**

Metabolic disorders

Ascites and Sudden Death Syndrome (SDS) are two common lethal diseases in broilers primarily caused by genetic selection for rapid growth. The SCAHAW report describes these metabolic disorders as a major animal welfare concern.

The main reason for the increased incidence of metabolic disorders in broilers is that genetic selection has focused on growth and feed conversion characteristics and neglected the maintenance needs of the birds[9]. The disproportionate genetic selection for breast

Egg layer – day 32

Broiler – day 32

muscle growth has led to a mismatch between the oxygen-supplying organs and the oxygen-consuming organs. In other words, the heart and lungs cannot meet the oxygen demands of the large fast-growing muscle.

Ascites

In birds with ascites, the right side of the heart becomes enlarged due to its increased workload during the bird's rapid growth. The bird breathes quickly and the lungs become congested. Liver function is affected, the abdomen becomes swollen with fluid increasing the risk of heart failure[25].

Scientific experiments have demonstrated that ascites has a severe effect on birds' welfare. Clinical study has shown that: '*birds affected by ascites are severely distressed. In advanced stages the birds are unable to reach the drinkers and become dehydrated. Death is usually preceded by prolonged agony and is likely a result of dehydration, starvation, respiratory failure and heart failure*.' [26]

Ascites is a major cause of death in broilers – an estimated 4.7 per cent worldwide have the disease[27]. Taking into account that around 40 billion broilers are reared per year, the magnitude of this welfare problem is clear.

The SCAHAW report found that ascites incidence has increased in recent years. A Canadian study showed condemnations of carcasses in abattoirs due to ascites had risen dramatically from 3.5 per cent in 1986 to almost 19 per cent in 1994[28].

Sudden Death Syndrome

SDS is also a major cause of death in broilers, with a reported incidence between 0.1 and 3 per cent in Europe[27]. SDS (also called flip-over) is acute heart failure. Symptoms are sudden vigorous wing flapping, muscle contractions and loss of balance, often with vocalization. The bird then keels over and dies[29]. The SCAHAW report concluded that, although the apparent time to death is only minutes, SDS may still have an important impact on bird welfare. SDS-related mortality can be reduced if birds are allowed a proper night period rather than continuous light[30].

A recent scientific paper clearly indicated the serious consequences of these metabolic disorders, stating that: '*….this phenomenal growth rate, as a consequence of continued improvements to intensive genetic selection and farming practices over the past four decades, has only been achieved at the expense of many casualties along the way. Considerable shortcomings in the adaptive metabolic status of the species have endangered its ability to survive*.'[7]

This paper noted that in the UK, chicks as young as three days old were seen with ascitic fluid,
'*clearly indicating that serious embryonic malfunctions had occurred during the early stages of development*.'[7]

RSPCA*view*

The RSPCA believes large numbers of broiler chickens suffering heart failure and ascites at less than six weeks old – primarily as a result of their high growth rate – is a major animal welfare concern. Breeding companies must now address the problem urgently

Lameness and leg abnormalities

Lameness and leg disorders are the most serious welfare problems affecting broilers. The SCAHAW report concluded leg problems were one of the '*major welfare problems in broilers... which can be regarded as side effects of the intense selection mainly for growth and feed conversion*.'

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A lame bird. Birds left in this condition may eventually die from dehydration and starvation as they cannot reach food and water.

Scientific evidence has shown lameness is commonplace in commercial broiler houses. The main methods of assessing leg weakness are gait scoring (in which walking ability is assessed into different categories – see box) and post mortem examination for signs of pathology. Gait scoring tends to underestimate the proportion of birds that develop severe lameness as these should have already been culled.

A University of Bristol gait-scoring study of leg disorders in UK broilers found that, on average, 90 per cent had a detectable problem (gait score one or above) and 26 per cent had leg problems severe enough to affect the birds' welfare and ability to move about (gait score three or above)[10].

Gait scoring

A method for measuring the prevalence of lameness by assessing the walking ability of broilers has been developed by the University of Bristol[10]. Walking ability is divided into six standardized categories, from completely normal to unable to walk.

Gait score 0 – bird walks normally

Gait score 1 – bird has a slight gait defect

Gait score 2 – bird has a definite and identifiable gait defect but this does not affect its ability to move

Gait score 3 – bird has a definite and identifiable gait defect which affects its ability to move

Gait score 4 – bird has a severe gait defect and can only walk with difficulty

Gait score 5 – bird is incapable of walking

The researchers concluded welfare is compromised unduly in birds with gait scores of 3, 4 or 5, as these are likely to be associated with chronic pain and discomfort. Experiments have shown this method is highly repeatable when performed by experienced researchers. Recent scientific evidence shows poorer gait scores are also associated with a range of physical disorders. For example, a recent survey[31] found associations between gait score and various abnormalities including Tibial Dyschondroplasia (TD), twisted legs and ammonia burns on the hocks and feet. Birds with gait scores of 4 and 5 also tend to be lighter because they cannot access food easily. Experiments also suggest birds with a gait score of 3 experience pain.

Egg layer – day 35

Broiler – day 35

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A recent study of Danish commercial broiler flocks[31] found 30 per cent of broilers had gait defects that affected their ability to move about (gait score 3 or above), and only 25 per cent were normal (gait score 0). Nearly 60 per cent showed the leg bone growth disorder, Tibial Dyschondroplasia (TD). TD is a significant cause of leg problems in broilers and occurs where rapid growth prevents normal bone formation [32]. It can cause leg deformities and lameness[33]. In 37 per cent of birds examined, a deformity known as 'twisted leg' (where leg bones rotate abnormally during growth) was evident. The age at gait scoring varied between 32 and 42 days, so in some cases levels of lameness would be expected to worsen considerably during the days before slaughter (lameness increases as weight increases[34]). This joint Danish Poultry Council and Danish Animal Welfare Society investigation was launched after a 1995 Danish Ethical Council Concerning Animals report showed leg problems are a major welfare problem for broilers.

A similar Swedish study[35] found that 15 per cent of birds had an abnormal gait that affected ability to move around (gait score 3 or above) and only 36.5 per cent were normal (gait score 0). Angular limb deformities (a type of leg disorder) were also found in 21 per cent – a worrying statistic as these birds were examined at just 29-33 days old. Broilers usually have good walking ability at around four weeks old, with most deterioration between four and six weeks[36]. Swedish broiler production is subject to much better welfare regulations than in most other EU countries. An animal welfare programme monitors standards of management, facilities and stockmanship[37].

There has been no recent independent study of the level of lameness in the UK flock. But the RSPCA is concerned that the level of leg problems could be similar to that in Denmark. The types of broilers reared in Denmark are the same as those commonly found in the UK. The birds surveyed in Denmark were Ross 208 – actually one of the better commercial crosses in relation to leg weakness[34].

In 1992, a FAWC working group (see box, page 10) visited broiler farms and saw leg problems of varying degrees of severity on nearly every occasion. Based on these visits, and on evidence from scientists, producers and veterinary surgeons, the group concluded that the level of lameness in the UK broiler industry was unacceptable. FAWC also said it was the industry's responsibility to significantly reduce the number and severity of leg problems.

In response, the British Chicken Association launched a survey of gait scores in different broiler production companies (see box, page 19). Despite the industry's attempts to reduce lameness, over the seven years of the study no significant improvement was seen in leg health[38]. It is difficult to assess the reasons for this lack of improvement as – despite requests from FAWC – up to the time of writing this report (Sept 2001) the results are not in the public domain.

Broiler industry lameness survey

The broiler industry claims its survey shows low levels of leg disorders, with fewer than four per cent of birds showing significant problems[39]. But this is in clear contrast to the available evidence, such as the FAWC working party observations and recently published independent studies. Unless the industry survey data are published in a reputable scientific journal, the reasons for this discrepancy cannot be independently reviewed, and the methodology and scientific validity of the study remain in doubt.

The most plausible explanation is that the industry survey was set up just to examine lameness trends over time, rather than to accurately examine the level of lameness. Other published surveys controlled for factors such as age (lameness being a particular problem in older birds), were conducted by researchers trained to assess walking ability.

FAWC wrote to Minister for Fisheries and the Countryside Elliot Morley in 2000, expressing its disappointment at the industry survey findings and calling on the industry to publish the dataset for critical assessment as originally agreed. A full transcript of this letter can be seen at: www.fawc.org.uk/broillet.htm.

It reiterated FAWC's concerns '…over the real welfare challenge of lameness in broilers' and over unacceptable standards, which are 'still far too common in relation to broiler leg health.'

The letter also urged the minister to initiate a well-founded survey of broiler lameness that, in order to gain credibility, must: '… *be based on a fully representative sample drawn from the entire population of units according to relevant statistical criteria, and be undertaken by independent researchers*.' It called for results to be available within 12 months, but no such scientific study has yet been started.

Parliamentary questions

In May 2001 Elliot Morley MP answered two parliamentary questions.

Question What research has your department undertaken into welfare problems affecting broiler chickens?

Answer *We recognize that current systems of broiler chicken production raise a number of animal welfare issues on which more scientific knowledge is needed. This department therefore continues to fund an extensive research programme into broiler chicken welfare, including projects focusing on key issues such as leg health and stocking densities.*

Question What plans do you have to commission an independent survey of broiler lameness; how many unannounced visits were made by the state veterinary service to broiler producers since you received the letter, sent by the chairman of FAWC; and will you make a statement?

Answer *We are currently considering, together with FAWC and the industry, the best way to take forward the issues they have identified on broiler chicken leg health, including the need for an independent survey. Completion of this work has been disrupted by activity on foot and mouth disease. The state veterinary service's programme of animal welfare farm inspections has been similarly disrupted.*"

Egg layer – day 38

Broiler – day 38

The causes of lameness are complicated with interactions between genotype, nutrition and husbandry. However, much of the lameness seen in broiler chickens is a result of the selection for rapid juvenile growth rate[40] which results in abnormally high loads being placed on relatively immature bones and joints[16]. This has been compared to 'a child who is nine years old in weight having to stand on the legs of, say, a five-year-old.' [41].

Leg problems can be reduced by husbandry systems that stimulate activity and develop leg strength[17]. Methods of increasing activity include reducing stocking densities, and providing raised light levels, a proper night period, and an enriched environment to encourage expression of natural behaviour. Maintaining high standards of hatchery and farm hygiene is also important for reducing infectious causes of lameness. Careful management of the energy content of the diet and the feeding regime, to reduce growth rate, can also be successful. But many of these measures are not widely practised in the broiler industry, where the emphasis is still primarily on maximizing bird growth rate.

Does lameness cause broilers pain?

Scientific experiments have provided compelling evidence that leg problems cause broilers pain. In one study it was found lame birds took over three times as long to pass simple barriers in an obstacle course compared with sound birds. However, after having the pain-killing analgesic, carprofen, the lame birds completed the course in nearly half their original time. There was no effect on the healthy birds' speed, indicating that the drug relieved some of the pain and discomfort for the lame birds[42]. Further work showed that, when lame birds had a choice between feed containing analgesic and normal feed, they selected significantly more of the former than did sound birds. As the severity of their lameness increased so did their preference for treated food[43]. The SCAHAW report concluded that the anatomical evidence also showed that joint pathologies are likely to be painful in chickens in a similar way to humans.

Lame birds are also reluctant to perform natural behaviours[32]. Affected birds spend longer lying, less time walking and reduce the number of visits to feeders compared to sound birds[14]. The authors concluded their observations were consistent with 'lameness imposing a cost on the affected broilers to the detriment of their welfare.' Another study found that lameness reduced dustbathing behaviour, probably because this is difficult and painful for birds with leg disorders to perform[32]. Broilers with no obvious disease can be seen walking as if in severe pain, preferring to sit, hobble a few steps when forced to move then sit again[44]. Severely affected birds find it difficult to reach food and water[45] and may die of starvation and dehydration.

COLIN SEDDON/RSPCA PHOTOLIBRARY

RSPCA PHOTOLIBRARY

Skin diseases

Skin diseases in broilers have increased drastically in the last 30 years[18]. One study found the proportion of birds affected had risen from one per cent in 1969 to over a third in 1988[46]. In some flocks, levels of skin disease may be very high. For example, a Northern Ireland study found a 90 per cent prevalence of dermatitis[47]. The most common disorders are lesions on the parts of the body in prolonged contact with litter, mainly the feet, hocks and breast. These are known as ammonia burns, ulcers or blisters. They are often covered with crusts formed by discharge and faecal material in the litter, and become infected by a variety of bacteria and fungi[18].

As well as being painful, ammonia burns also lead to health problems. The ulcers act as a gateway for infection, which can spread through the bloodstream causing joint inflammations[18]. The incidence of foot and hock burns is positively correlated with lameness[31].

Broilers are also prone to deep dermatitis, causing swelling and inflammation below the skin[18]. This is commonly the result of scratches becoming infected by bacteria, particularly *Escherichia coli*, which can lead to a condition known as scabby hip syndrome. Such scratches are more frequent at high stocking densities, when birds tend to climb over each other.

Skin diseases are associated with poor litter quality, particularly wet or greasy 'capped' litter, or litter with a high nitrogen content[18]. Broilers are prone to contact dermatitis (sores and lesions on those parts of the body in contact with the litter), because they are very

RSPCA*view*

The RSPCA believes the incidence of lameness commonly found in broilers is unacceptable. An independent survey examining the level of lameness in UK broilers must be conducted immediately. More effort must be made to reduce lameness, for example, by reducing stocking densities and providing a proper night period. The Society also believes breeding companies must give higher priority to reducing leg problems rather than continuing to select mainly for growth and feed conversion.

Egg layer – day 42

Broiler – day 42

inactive and spend most of their time lying down[14,48] Leg weakness contributes to this, because lame birds spend even longer lying down. Increasing stocking density is also associated with increased foot and hock burn, and breast blisters[36,48]. This is probably a reflection of poorer litter quality at higher stocking densities, although greater activity in birds kept at lower densities may also be an important factor in preventing skin lesions.

RSPCA*view*

Skin diseases are widespread in broiler chickens. Management practices must be employed to prevent the use of poor litter. Bird activity must be increased in order to reduce the time spent in contact with litter.

RSPCA PHOTOLIBRARY

Problems caused by lighting

COLIN SEDDON/RSPCA PHOTOLIBRARY

Continuous light

Most broilers are reared indoors without windows under artificial light. Most are kept in near-constant light because this is believed to increase feed intake, while discouraging unnecessary activity, thus maximizing growth rate. The RSPCA believes this practice is unacceptable – there is scientific evidence that preventing broilers from having a proper night period adversely affects their welfare[49].

Sleep disturbance

Light is an important factor in the control of bird behaviour and physiology. Under more natural conditions, birds are active during the daytime light period (photoperiod) and rest and sleep at night when it is dark (scotoperiod). Typically there is increased activity around dawn and dusk, as they forage for food.

Sleep patterns in poultry are similar to those for mammals[50]. The normal sleep-wake cycles are involved in regulating hormones – disturbing this cycle is likely to have adverse effects. For example, during the dark phase melatonin is secreted, which has an important role in biochemical and behavioural daily rhythms[51]. Normal patterns of sleep and the daily cycles are disrupted by continuous light[50]. Sleep is disturbed by companion birds walking to feeders, and this disruption is likely to be greater at higher stocking densities[49]. Yet many UK producers rear birds under near-continuous light, and at higher stocking densities than are recommended by DEFRA and FAWC.

Stress

There is evidence that lack of sleep reduces an animal's ability to cope with stressful conditions[52]. In chickens, continuous light has been shown to reduce the responsiveness of the immune system[53]. Fearfulness (shown by a behavioural measure) is also greater in birds reared under continuous light compared to those reared with a proper dark period [54,55]. This may be due to a greater underlying level of stress in birds reared under continuous light[54]. Experiments have found broilers reared under continuous light show greater signs of stress compared to those provided with a 12-hour dark period. For example, the ratio of white blood cells (a reliable indicator of stress in birds) changes[54] and the adrenal glands are heavier[56].

Leg disorders

A FAWC report on broiler welfare[17] criticised the low level of activity shown by broilers reared under near continuous lighting because of the likelihood that it predisposed them to leg problems. The SCAHAW report[18] stated that broilers benefit from a clear pattern of day and night by having distinct periods of rest and more vigorous periods of activity.

Egg layer – day 45

Broiler – day 45

COLIN SEDDON/RSPCA PHOTOLIBRARY

This view is supported by scientific evidence. Research has shown there is a lower incidence of leg abnormalities in broilers reared with shorter day lengths[57]. As well as improving leg health through increasing activity, providing a proper dark period may also have directly beneficial effects on skeletal development [49]. Scientific research has found broilers reared under long daylengths have poorer leg health – this is shown both by birds culled for lameness and gait score, and increased levels of mortality[30]. Providing longer dark periods is believed to reduce the incidence of metabolic disorders such as ascites and SDS[58].

A more recent scientific experiment found the severity of TD was more than twice as bad in chickens reared under continuous light compared to those with a continuous eight-hour dark period each night[55]. Further, continuous light increased gait impairment by almost 70 per cent compared to light programmes with an eight-hour dark period. The authors concluded that rearing in continuous light 'seriously affects the development of chickens'.

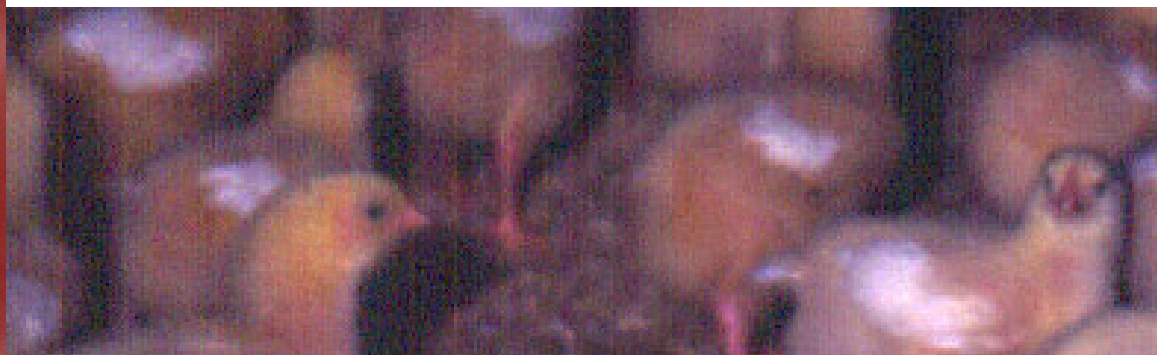
Eye abnormalities

Continuous lighting programmes also cause eye abnormalities. Research has shown chickens housed under continuous light develop abnormalities including blindness and buphthalmos (eye enlargement and protrusion)[59]. Other studies support these findings and show that these abnormalities start to form as early as ten days old in continuous light [60,61]. Vision is highly developed in fowl and is the dominant sense, so such deformities may have far-reaching effects on welfare.

Despite the welfare benefits associated with shorter daylengths, many broilers are still reared under near-continuous light. The British Farm Standard scheme only requires that broilers have one hour of darkness daily[6].

RSPCA*view*

There is convincing scientific evidence that lighting programmes incorporating a proper dark period provide many welfare benefits compared to near-continuous light. These include improvements in bird health, the establishment of daily behavioural and physiological rhythms, reduced stress and improved immunoresponsiveness. The RSPCA believes animals should only be kept in systems where they have the freedom to perform most natural behaviours, including sleep.



COLIN SEDDON/RSPCA PHOTOLIBRARY

Brightness

It is common practice to keep broilers at very low light intensities (below 10 lux) to discourage activity and maximize growth rate[62]. According to SCAHAW, welfare problems arise at light intensities below 20 lux[18]. These include inactivity, which causes increases in lameness and skin diseases and, at very low levels, the development of eye abnormalities. Below about 20 lux, it is also difficult to see clearly to carry out proper inspection – and temporarily increased intensity to allow inspection may cause birds to panic [62]. Under the British Farm Standard scheme light must be provided at a minimum of 10 lux[6].

RSPCA*view*

The RSPCA believes keeping broilers at very lowlight levels to increase growth rate is detrimental to bird health and should be prohibited.

COLIN SEDDON/RSPCA PHOTOLIBRARY

Problems caused by high stocking density

There is no national or European legislation governing maximum stocking densities for broiler production. The recent SCAHAW report referred to stocking density as 'a major issue' in the debate on broiler welfare[18]. It pointed out that high stocking densities may impair welfare both directly through movement restriction, and indirectly by causing poor litter and air quality. It concluded that when stocking densities exceed 30kg/m^2, serious welfare problems are likely to arise, regardless of the quality of management or the housing specification. Stocking densities are usually expressed as liveweight per unit area. The RSPCA believes the stocking densities at which most UK broilers are currently reared are far too high.

In general, ensuring good management standards becomes harder as stocking density increases[63]. For example, regular inspection to monitor flock health and remove dead or injured birds is difficult without causing panic and more injury.

Some countries have codes of practice but as they are not legally binding, the suggested levels are usually exceeded. In the UK, FAWC and DEFRA recommend maximum stocking densities of 34kg/m^2. This equates to approximately 17 birds/m^2 (the slaughter weight of each bird is usually around 2kg). However, most producers stock at higher levels than this. DEFRA has not yet acted on FAWC's 1992 recommendation that maximum stocking densities should be covered by legally-binding regulations rather than unenforceable welfare codes 'as soon as possible'. Stocking density is one of the most important factors affecting welfare.

Broilers reared under the British Farm Standard scheme (with the red tractor mark) can be stocked at densities of up to 38kg/m^2. A stocking density of 38kg/m^2 equates to only 526cm^2 of space for a 2kg bird – considerably less than the size of an A4 sheet of paper, and even less than the meagre space that battery hens will have from 2003 (550cm^2 per bird). It is totally insufficient for birds to perform many natural behaviours.

The stocking density for free-range birds throughout Europe must not exceed 13 birds (or 27.5kg liveweight) per m^2 of floor space.

Inactivity and lameness

Studies in commercial systems have shown that as stocking density increases, the amount of walking and running decreases[64,48] More active birds have fewer leg problems, and experiments have shown that reducing stocking density substantially reduces the prevalence of lameness[36].

Skin diseases

Resting behaviour is affected at high stocking densities due to increased disturbance from birds climbing over one another[65,48]. This is known to cause physical injury including scratching and bruising. In the warm, moist environment of broiler houses scratches frequently become infected, particularly by *Escherichia coli*, leading to deep skin disease[66]. This is both an animal welfare and food hygiene issue.

As stocking density increases, so does the amount of heat, humidity, carbon dioxide and ammonia produced per unit area. Scientific evidence shows skin diseases increase at high stocking densities[18]. Wetter litter and higher ammonia concentration cause lesions such as

breast blisters, hock burns and other dermatitis. The greater inactivity of birds at higher densities may also predispose them to these disorders.

Reduction in natural behaviours

Ground pecking and scratching behaviours decrease as stocking density increases[67]. Limited free space or poor litter quality may be factors. The birds from which broilers originate spend a very high proportion of their time engaged in foraging activities[68].

Heat stress

High stocking densities are a major cause of heat stress problems, leading to suffering and death for many UK birds each summer. Although heat stress is a serious problem, most producers ignore MAFF's recommended stocking densities. The RSPCA is deeply concerned that even if many thousands of a producer's birds die of heat stress, the company does not have to release this information.

RSPCA*view*

Stocking densities greater than 30kg/ m² lead to serious welfare problems. Yet most broilers are reared at far higher levels. Overcrowding interferes with the performance of natural behaviours, including moving around and resting. It also increases the incidence of lameness and skin diseases. The RSPCA is calling for national and European legislation to regulate maximum broiler stocking densities as a matter of urgency.

RSPCA PHOTOLIBRARY

Problems caused by barren environment

Broiler chickens are kept in relatively barren conditions. Although litter – usually woodshavings or chopped straw – may be provided, generally there is little to stimulate or encourage activity.

According to recent research, commercially reared broilers provided with bales of straw are more active than those kept in unenriched houses. As well as interacting with the bales (pecking and perching), they walk and run more, and sit down less. This increased activity is not just limited to the immediate area of the bales but throughout the house[69]. Increased activity can reduce lameness and skin problems. Environmental enrichment can also reduce fear in birds[70].

Practical implementation of RSPCA welfare standards on commercial farms has shown environmental enrichment is cheap and easy to provide.

RSPCA*view*

Producers should enrich broiler house environments, for example by providing straw bales – this has been shown to increase activity and natural behaviours.

ROBIN CULLEY

The role of consumers

The role of consumers cannot be overstated. Shoppers can influence animal welfare standards by the food they choose to buy, if they have clear and accurate information. As the demand for higher-welfare products increases, retailers source products from higher-welfare systems. Farmers in turn are encouraged to implement higher-welfare standards, in order to meet market demand.

Consumers are becoming increasingly aware of both the ways animals are kept and production methods. Market research has shown they want products to be clearly labelled so they can make informed choices. For example, in a Harper Adams survey, consumers said the most important factor when buying eggs was information about the type of production system [71].

Laying hens and broilers originate from the same species. Many people are ignorant of the welfare problems suffered by chickens bred for meat. The SCAHAW report[18] looked at consumer awareness. Sensitivity to broiler welfare was considered to be less apparent because:

- **there is no clear symbol for the mistreatment of chickens (unlike, for example, battery cages in which laying hens are kept)**
- **solutions are not easily understood by consumers**
- **there is a general lack of information and limited knowledge about broiler rearing systems.**

In the Harper Adams survey, consumers showed more concern about the welfare of laying hens than that of chickens bred for meat. This lack of awareness is further emphasized by the results of a 2001 RSPCA-commissioned MORI poll, which asked people how old they thought a chicken reared for meat would be when it was slaughtered.

Summary of RSPCA-commissioned survey findings

Q1 When you buy a normal, pre-packed whole chicken, how old do you think the bird was when it was killed?

- 7 per cent identified the correct slaughter age of six weeks.
- 82 per cent thought birds were older.

Q2 To what extent would you agree or disagree that chicken is a more welfare-friendly product in comparison to other types of meat?

- 23 per cent thought the welfare of broilers was better than that of other animals.
- 35 per cent could not say whether they thought the welfare of broilers was a cause for concern, in comparison to other farm animals reared for meat.

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The role of the retailer

Though consumer demand for higher welfare conditions can affect retailers' actions, shoppers can only choose from the products available to buy. Without legislation specific to broiler chicken welfare, conditions in which broilers are kept may vary according to specifications set by individual retailers.

A report by Sustain [72] said that '*supermarkets dominate the retailing of broiler chickens. Surprisingly, some of the supermarkets did not have a policy on the welfare of broiler chickens during production*'.

The RSPCA has conducted a survey among the major retailers and assurance schemes, into the requirements they place on chicken meat suppliers.

The information provided in the tables below summarizes the details sent to the RSPCA in response to a survey posted to the major retailers, fast food outlets and assurance schemes that cover broiler chickens in May 2001.

Farm assurance schemes – responses

The information in **Table 2** summarizes the main details directly related to the welfare of broiler chickens for each Farm assurance scheme. The table includes details of where standards go beyond the current legal requirements in the areas specified.

Table 2

Farm assurance	Welfare policy / mission statement	On-farm conditions			Other information
		Maximum stocking density (Kg/m^2)	Minimum i) daily number of hours darkness, ii) lighting level (intensity – measured in lux)	Policy on leg health	
Assured Chicken Production (ACP) Ltd *	The Scheme is designed to 'assure consumers of high standards of food safety and animal welfare' Includes hatcheries, on-farm, transport and slaughter Producers can join the scheme after submitting a completed assessment form. They may be subjected to an auditapproximately once every 3 years, where a random number of sheds are audited.	38	1 hour 10 lux	Overtly lame birds and birds finding it difficult to reach food and water must be treated or humanely killed. All culls due to leg problems recorded and assessed. There are no specified maximum limits for leg abnormalities to instigate an investigation. Generally, if mortality exceeds 0.5% in 24 hours an investigation must follow.	Each site must have a written health and welfare programme, which is reviewed and updated annually. Maximum transport time of 12 hours.
Freedom Food (RSPCA's food labelling scheme)	Every shed must be assessed, according to the RSPCA Welfare Standards by a Freedom Food assessor prior to becoming a member of the scheme. Includes hatcheries, on-farm, transport and slaughter. Farms are assessed every year and random spot visits are made independently by RSPCA farm livestock officers.	30	6 hours 20 lux	Leg weakness control strategies must address both infectious and skeletal causes of leg weakness. Birds with lameness (Bristol Gait Score 4 & 5) must be culled immediately. Where the level of leg abnormality cull is greater than 3% to 42 days of age, this must be investigated and reported to RSPCA. Records of culls must be assessed weekly, to identify developing problems. If mortality levels rise above 0.5% in 24 hours a veterinary investigation must be made.	There must be a written veterinary health plan on each farm. The use of in-feed antibiotics, other than for therapeutic reasons, is prohibited. Maximum transport time is 6 hours
United Kingdom Register of Organic Food Standards (UKROFS)**	Livestock production must contribute to the equilibrium for agricultural production systems by providing for the nutrient requirements of crops and by improving the soil's organic matter. By stockfarming system and the pasturage systems utilising renewable natural resources the cropping/ allow soil fertility to be maintained and improved in the long term and contribute to the development of sustainable agriculture.	21 (fixed housing) 30 (mobile housing)	No minimum requirement for dark period or light intensity in the shed.	Breeds or strains of animals shall be selected to avoid specific diseases or health problems associated with some breeds or strains used in intensive production. Preference is to be given to indigenous breeds and strains.	Antibiotic growth promoters not permitted. Antibiotics may be used under the direction of the veterinary surgeon.
Organic Farmers and Growers (OFG)	Requirements are in line with the UKROFS standards		See requirements for UKROFS		
Organic Food Federation (OFF)	Requirements are in line with the UKROFS standards		See requirements for UKROFS		
Soil Association	Annual inspections are carried out by the Soil Association	See requirements for UKROFS	6 hours No minimum light level specified	See requirements for UKROFS	Maximum transport time is 8 hours

* No response to the survey was received by the RSPCA, so information is based on current standards (April 2001) which are in the public domain. (** **see table 1 for full details required according to Council Regulation 1804/1999)**

Supermarket and fast food outlet survey – responses

The information in **Table 3** summarizes details supplied by the retailers and fast food outlets directly relevant to the welfare of broiler chickens reared for meat. The table includes details of where standards specify certain requirements that go beyond the current legal requirements in the categories stated. Many responses indicated that suppliers were required to meet ACP standards and readers should refer to table X for the relevant details. In some cases the policy covered only fresh produce, whereas in others the policy included frozen and further processed chicken, and in others the extent of the policy was not stated.

Table 3

Supermarket	Welfare policy	On-farm conditions			Other information
		Maximum stocking density (Kg/m^2)	Minimum i) daily number of hours darkness, ii) lighting level (intensity – measured in lux)	Policy on leg health	
Asda	Require chicken to be reared to ACP standards.	See requirements for ACP			
Co-operative (CWS) Ltd	Require chicken to be reared to ACP standards. Covers fresh*, frozen and further processed chicken.	See requirements for ACP			
Iceland	Require chicken to be reared to ACP standards. Inspection procedures include technical audits and third party audits	See requirements for ACP			Working to remove the use of antibiotics. Maximum transport time of six hours
Kentucky Fried Chicken	Unable to provide the requested information at present.				
Marks & Spencer	Chicken produced to own Codes of Practice covering hatchery, farms, transport and slaughter which exceed ACP specifications. Inspection procedures include producer-self audits, M&S technical audits and third party audits.	34	4 10	Birds must be able to stand and walk normally. Culls recorded. No details of maximum levels set to instigate investigation.	Maximum journey time of 8 hours
McDonalds	Require chicken to be reared to ACP standards.	See requirements for ACP			Maximum journey time of 6 hours
Safeway	Require chicken to be reared to ACP standards. Policy has been developed to cover fresh and frozen raw poultry but not all further processed poultry. Self-audit system in place. Safeway audits 2 farms per site on either a yearly basis or two yearly basis.	See requirements for ACP	Minimum 4 – (currently under review)	See requirements for ACP	Maximum journey time of 8 hours. No prophylactic use of antibiotics
Sainsbury's	Require chicken to be reared to ACP standards. Covers fresh and frozen products. Producer-self audits, audits by ACP and visits made by Sainsbury technologists.	See requirements for ACP	1 5	See requirements for ACP Details required of action taken where mortality exceeds 0.25%	Repeated therapeutic or prophylactic use of veterinary medicines without investigation unacceptable.
Somerfield	Require chicken to be reared to ACP standards. Covers fresh, frozen and further processed chicken.	See requirements for ACP			Conducting research into poultry production without antibiotics.
Tesco	Require chicken to be reared to ACP standards or its equivalent. Covers fresh*, frozen and further processed products.	See requirements for ACP			Maximum journey time of 8 hours
Waitrose	Require chicken to be reared to ACP standards. Covers fresh, frozen and further processed chicken.	See requirements for ACP			Maximum journey time of 8 hours

*** Stores stock some Freedom Food products (reared to RSPCA Welfare Standards)** Farm assurance schemes, retailer and fast food caterer's codes of practice may be reviewed and updated from time to time. The information included in these tables was current at the time tha this report was written and the summart was produced once all the respnces to the surveys had been returned in September 2001.

The RSPCA is aware that in some cases, the maximum stocking density may be exeeded. This occurs when too many birds are placed in the shed at the begining of the six-week cycle, and where these birds are not removed at the correct weight, the final stocking densities may be greater than predicted.

As a comparison, current UK government guidelines (now under revision) require:

- **a maximum stocking density of 34kg/m² (also a FAWC recommendation)**
- **a period of darkness in each 24-hour cycle.**

SCAHAW concluded that when stocking densaties exceed 30kg/m², serious welfare problems are likely to arise regardless of the quality of management or housing qualifications.

Clearly a number of schemes do lay down on-farm standards. However, many do not meet the recommendation made by the UK government and independent bodies such as FAWC or the SCAHAW report.

COLIN SEDDON/RSPCA PHOTOLIBRARY

Paying the price

Broiler producers and retailers have told the RSPCA that improving on-farm conditions would increase their costs, resulting in more expensive meat that consumers would not buy. But when the RSPCA consulted with different producers in 1995 to develop its welfare standards, it was stated that the increased cost of reducing stocking density from 34kg/m^2 to 30kg/m^2 – a 15 per cent reduction – would '*be offset by better, healthier growth rates and liveability*'.

Much of the cost involved in producing chicken meat is in packaging and further processing, so implementing higher welfare standards would only have a minimal effect on the price to the consumer. The SCAHAW report indicated that reducing stocking densities from 38kg/m^2 to 25kg/m^2 may only increase final consumer prices by 2.5 per cent. But small profit margins per bird make it difficult for producers to afford such improvements.

Broiler farms work within very tight financial margins. Profit per bird is approximately 6 pence **(see Table 4)**. This small profit margin encourages intensification.

Table 4

Production data and costs (in pence/bird sold/crop)			
	Average of all costings		
Details	Nov/Jan	Feb/April	Nov/April
Average killing weight (kg)	2.26	2.20	2.29
Total cash costs (pence):			
Per bird	95.934	95.204	97.815
Per kg of liveweight	42.449	43.334	42.667
Price received per kg liveweight	48.013	49.440	48.466

(Source: Poultry Bulletin July 2001)

Table 4 indicates the cost of production of broiler meat and the level of payment received by the producer.

In contrast, the table below gives an indication of the range of prices of chicken paid by consumers.

Table 5

Range of average retail prices as at 7 June 2001 pence/kg			
Store	**Brand**	**Fresh**	**Frozen**
Asda	Own	1.81-2.05	1.15-1.56
Waitrose	Own	2.65-2.93	2.09-2.29
Sainsbury	Own	1.05-2.62	1.37-2.14
Somerfield	Own	1.74-2.63	1.15-1.15
Tesco	Own	1.81-2.49	1.09-3.69

(Source: Poultry Bulletin July 2001)

Table 5 shows the range of average retail prices of chicken for sale, from selected outlets.

According to the results of the RSPCA survey, comparison of the cost to produce chicken with the payment received by producers **(Table 4)** and the price paid by consumers **(Table 5)** shows the cost to consumers does not necessarily reflect major differences in welfare criteria. During discussions with some retailers about making improvements to broiler chicken welfare, the RSPCA has been informed that changes to key welfare criteria – for example, a reduction in stocking density – would not be commercially possible as it would make chicken too expensive for consumers. This does not appear to be consistent with the information provided in the survey by the various retailers. For example many indicated that they specify identical requirements for stocking density, though their prices vary considerably **(see Tables 3 and 5)**.

RSPCA*view*

The RSPCA believes retailers should demand high standards of welfare and be prepared to pay a fair price that reflects the cost of production. Consumers should pay prices that, in turn, reflect a measurable difference in the welfare standards employed in production.

COLIN SEDDON/RSPCA PHOTOLIBRARY

Healthy choice?

A1996 *Which?* investigation looked at the quality of chicken meat at several leading supermarkets, including Asda, Marks & Spencer, Safeway, Sainsbury's, Tesco and butchers' franchises in two Kwik Save outlets. A subsequent, more widespread survey revealed '*a worrying range of problems*'. Out of 90 birds:

- **12 had severe bruising**
- **one chicken and one portion were diseased**
- **two leg portions had skin infections.**

The *Which?* report explains that numbers on the labels identify where chickens have been slaughtered, so supermarkets and environmental health officers can trace the source of contaminated chicken.

Clearly, infected and diseased chicken slips through quality control checks and may end up on supermarket shelves, even though some of these problems can be seen through the packaging.

RSPCA PHOTOLIBRARY

This whole chicken was bought at a high-street retailer in June 2001. The brown marks indicate hock burn – a condition caused by contact with poor litter. Usually, such marks are removed or reduced as part of the quality control process, to avoid putting consumers off.

What the RSPCA wants

- **Supermarkets and caterers should ensure the chicken they sell is produced to acceptable welfare standards. They should demand and pay a fair price for high welfare standards.**
- **There must be sufficient meaningful information about welfare available at the point of sale (for example, clear labelling on products) for consumers to make informed choices about the poultry meat they choose to buy.**
- **Consumers can make a difference by choosing higher-welfare options, such as free-range, organic or Freedom Food-labelled products. Where they are not available, they should ask for them.**
- **The UK broiler industry must improve the conditions in which broilers are reared. In line with FAWC recommendations, steps must be taken to reduce lameness. Stocking densities must be reduced and an appropriate night period provided for birds to rest.**
- **DEFRA must immediately initiate a representative survey of the level of broiler lameness, undertaken by independent research scientists.**
- **There is an urgent need for a European Directive to protect broiler chicken welfare. It must address the welfare problems associated with genetic selection for fast growth rate, as recommended by the European Commission Scientific Committee report on broiler welfare report. It must also require improvements in the husbandry systems in which birds are reared.**
- **Breeding companies must put more emphasis on selection for traits that improve health and welfare, and stop selecting for ever-greater growth rate and feed conversion efficiency.**

ROBIN CULLEY

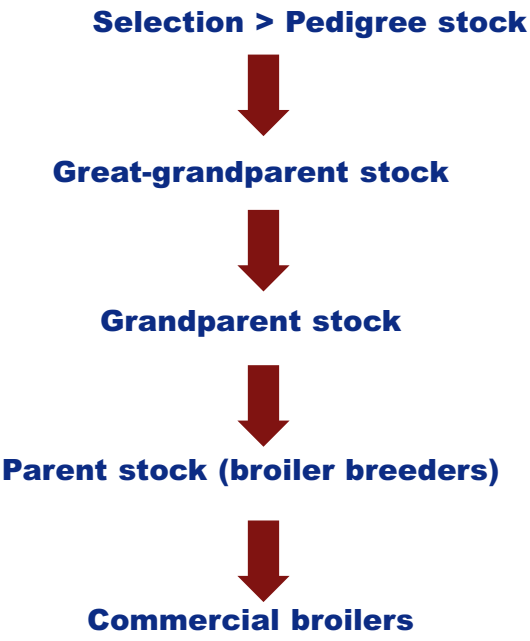
Appendix 1

Broiler breeders

Although the two main aims of selection are to increase growth rate and reduce food conversion efficiency, for breeding birds, reproductive capacity is also important. Further welfare problems caused by current breeding practice relate to the breeding birds used to produce the chicks reared for meat (see box).

Breeding and selection

Broilers reared for meat are produced by a complicated selection and breeding programme which typically involves four generations.



All genetic selection takes place in the pedigree flock, then the changes passed through the great-grandparent, grandparent and parent stock before reaching the commercial broiler stage. By the time each flock of birds has matured enough to produce the necessary number of eggs that will hatch into chicks to form the next generation, this process takes four to five years.

The pedigree (or elite) stock forms the basis from which future commercial broilers are produced. To identify which of these pedigree birds have the most desirable traits for increased production in future generations, they are reared at the maximum potential growth rate for at least six weeks. This involves allowing them to eat large quantities of food, which they are strongly motivated to consume. There is an intensive selection programme before the best birds are eventually chosen to produce the great-grandparent stock. But this process creates a serious welfare problem – by about eight weeks old, the birds are very heavy and above the optimum body weight for producing an adequate number of eggs (which they would normally do from approximately 18 weeks of age). They are therefore severely food-restricted for many weeks, to ensure that they are not overweight for the laying period. The RSPCA believes this performance testing and subsequent food restriction is cruel and unacceptable.

The parent stock (breeders) are selectively bred to eat enormous amounts of food, to the extent that if they ate as much as they wanted, they would become obese and develop chronic skeletal problems and heart failure[73]. They are therefore subjected to severe food restriction, leaving them 'chronically hungry, frustrated and stressed'[74]. According to one such programme (Ross 1) females up to 21 weeks of age are only given a third of the food consumed by birds with unlimited access to food. Between seven and 15 weeks they get only a quarter of the daily intake of birds with no food restriction.

Research has shown birds reared under such restriction are highly motivated to eat at all times, and this motivation is four times stronger than that of broiler chickens that previously had unlimited access to food and were subsequently starved for 72 hours[74]. Within the EU, the ration is usually provided once a day and eaten in less than 30 minutes. Sometimes birds are only fed every other day – although this is not permitted under current UK legislation. Birds are so hungry that they are as motivated to eat one hour after their daily meal as one hour before. The birds show abnormal behaviour such as stereotyped pecking at non-food objects, excessive drinking and pacing. According to the authors of this research these abnormal behaviours are characteristic of general undernourishment, nutritional deficiency and frustration of feeding motivation[74]. There are also problems with feather pecking, cannibalism and aggression, particularly just prior to feeding times. Food restriction has also been found to increase the level of known stress indicators (for example, the heterophil/lymphocyte ratio) in the blood of breeding birds[75].

These problems were described in a 1998 FAWC report on the welfare of broiler breeders [76]. It concluded:

'*the problem of hunger in broiler breeders is not easy to solve with present strains of birds and is likely to get worse if selection for fast growth continues. A long-term solution is to change the genetic strains but, in any case, [breeding companies] must avoid exacerbating the problems and reduce their demand for ever increasing growth rate*.'

FAWC was clear in its view that it is the responsibility of the primary breeding companies to ensure that the stock they produce can achieve a high standard of welfare:

'*The objectives of the breeding companies in the future development of strains of broilers should include welfare improvements, in particular the avoidance of problems of prolonged hunger in broiler breeders*'.

This view was supported by the EC scientific committee[18]:

'*The welfare of breeding birds must be improved. The severe feed restriction needed to optimize productivity results in unacceptable welfare problems*.'

The restricted feeding of breeding birds means they clearly do not have freedom from hunger and malnutrition. Given the evidence of chronic hunger and increases in the levels of stress indicators in restriction-fed broiler breeders, it must be concluded that the commercial practices used in rearing these birds appear to contravene Part 22 Schedule 1 of The Welfare of Farmed Animals (England) Regulations 2000. This requires that animals are 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*.'

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