



COMMISSION OF THE EUROPEAN COMMUNITIES

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COMMUNICATION FROM THE COMMISSION

on the protection of laying hens kept in various systems of rearing

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PROPOSAL FOR A COUNCIL DIRECTIVE  
laying down minimum standards for the protection of  
laying hens kept in various systems of rearing

(presented by the Commission)



## **Explanatory Memorandum**

On 7 March 1988 the Council adopted Directive 88/166/EEC complying with the judgement of the Court of Justice in Case 131/86 (annulment of Council Directive 86/113/EEC of 25 March 1986 laying down minimum standards for the protection of laying hens kept in battery cages)<sup>1</sup>. Directive 88/166/EEC adopted Directive 86/113/EEC in the form in which it had been agreed by the Council.

Article 9 of Directive 88/166/EEC requires the Commission to submit, before 1 January 1993, a report on scientific developments regarding the welfare of hens under various systems of rearing and on the provisions in the Annex to the Directive, accompanied by any adjustment proposals.

In 1992 the Scientific Veterinary Committee (SVC) (Animal Welfare Section) presented a report to the Commission on "the welfare of laying hens kept in different production systems", but during that period the Commission was engaged in a comprehensive review of all Community legislation on farm animal welfare and took no further action on the matter at that time.

The Scientific Veterinary Committee, which was requested by the Commission services to review and update the report of 1992, drew up an opinion on the welfare of laying hens which was adopted at their meeting of 30 October 1996. The attached Communication and proposal are based on their opinion.

It is proposed to replace Directive 88/166/EEC by a new Directive covering the welfare of all laying hens, not only those kept in cages. General requirements applicable to all systems of rearing are introduced, including requirements for nests, perches and litter. However, derogations from the latter requirements are provided for in respect of cages, which must meet improved specifications. A phasing-in period for the new requirements is proposed, to allow existing systems to be written off over a ten year period.

The provisions of the Annex have been brought up to date and set out in the form adopted in the Council Directives on the protection of calves and pigs.

Provision is made for inspection and reporting by the competent authority, and for inspections by the Commission.

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1. O.J. No. L 74, 19.03.1988, p. 83

The protection of laying hens is an exclusive Community competence. The proposed replacement of the existing Directive, which sets out minimum standards for laying hens in battery cages, is the simplest means of achieving the desired objective.

The degree of detail in the proposed measures is similar to that in the existing Directive.

The Member States are not expected to have any difficulty in transposing it into national law.

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## **PREFACE**

Article 9 of Directive 88/166/EEC, laying down minimum standards for the protection of laying hens kept in battery cages<sup>1</sup>, states that:

"Before 1 January 1993, the Commission shall submit a report on scientific developments regarding the welfare of hens under various systems of rearing and on the provisions in the Annex, accompanied by any appropriate adjustment proposals".

In May 1992 the Scientific Veterinary Committee (Animal Welfare Section) adopted a report (prepared by a working group under the chairmanship of Professor Dr. W de Wit) setting out the latest available scientific information on the welfare of laying hens. The Commission took no further action on the matter at that time.

In 1995 the Commission services asked the Scientific Veterinary Committee (Animal Welfare Section) to review and update the report of 1992. The Committee established an expert working group under chairmanship of Dr. H. J. Blokhuis, Institute for Animal Science and Health, Lelystad, The Netherlands. The members of the working group, elected on the basis of their scientific expertise in the matter and not as representatives of their countries, were:

Dr. H.J. Blokhuis, Institute for Animal Science and Health, Lelystad, The Netherlands.

Prof. W. Bessei, Institute for Animal Breeding and Husbandry,  
University of Hohenheim, Stuttgart, Germany.

Dr. A. Elson, ADAS, Lincoln, United Kingdom.

Dr. P.W.G. Groot Koerkamp, Institute of Agricultural and Environmental Engineering,  
Wageningen, The Netherlands.

Dr. J. Faure, Poultry Research Institute, Nouilly, France.

Dr. L. Keeling, Department of Animal Hygiene,  
Swedish University of Agricultural Science, Skara, Sweden.

Prof. H. Simonsen, Department of Animal Science and Animal Health, Royal Veterinary  
and Agricultural University, Frederiksberg C, Denmark.

Dr. P. Van Houwelingen, European Commission (Secretary).

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1. O.J. No. L 74, 19.03.1988, p. 83

The working group has presented its report to the Scientific Veterinary Committee. On the basis of the report of the working group, the Committee has adopted its opinion and presented it to the Commission. This opinion will also be sent separately to the European Parliament and the Council. This Communication draws upon the opinion of the Scientific Veterinary Committee.

## WELFARE: DEFINITIONS AND MEASUREMENT

As Article 9 of the Directive requires a report to be made on the welfare of hens, it is of primary importance to understand what is meant by the concept of welfare, and to be able to make an objective assessment of it. The working group considered these questions at length and reviewed several definitions and statements about animal welfare which have been put forward over the last thirty years.

They found that in recent years a common approach has been adopted by leading scientists in the field, based on the degree of success which an individual has in controlling its environment. In the course of evolution every animal species is adapted to an environment in which it is able to regulate its internal state and to survive and reproduce. Regulatory systems in animals consist of active responses (physiological, behavioural or both) to changes in that environment, which allow the animal to keep internal and external conditions at an optimal level. In other words, the animal tries to control its environment by using various coping mechanisms.

When an animal succeeds in coping and therefore has control over its environment, its welfare is good. When its attempts to cope are unsuccessful it will experience negative effects ranging from minor discomfort to death. The more effort the animal is putting into coping, or the greater the biological cost of responding, the worse the animal feels and the poorer its welfare.

There are four types of welfare indicators: health; productivity; physiological and ethological.

**Health**, which is equivalent to freedom from disease and injury, is a very important criterion in the assessment of the quality of life of egg-laying hens. It is, however, important to be aware of the fact that the border between health and disease is very often indistinct. For example, a hen infested with a small number of intestinal worms may show no symptoms and be classified as healthy. A month later the number of worms may have increased 10-fold and the hen would then be classified as unhealthy. It is also important to realise that an unhealthy hen does not necessarily experience pain or distress. For example, a hen with extremely weak wingbones is an unhealthy animal but there is no reason to believe that the abnormal bone structure involves pain. However, pain will be experienced if the wingbone is fractured, as often happens during handling and transport. The health-related welfare in a population can be described using standard analytical methodology in properly designed epidemiological studies of the incidence of disease, its duration and the intensity of pain or discomfort involved.

Stressors in general have an influence on the immunological capacity of the animals and so on the health status of the animals.

**Productivity** must be used with caution as an indicator of welfare because welfare is a property of an individual, but productivity in hens is usually measured on a flock basis. Another problem is that productivity may mean different things such as the output of an individual hen, the average production of a flock, production per unit of food intake, economic return per unit of capital or per unit of labour, or some other calculation. This means that conflicting results can be obtained depending on the measurement chosen. For example a change in an environmental variable may reduce the number of eggs produced but increase egg weight, leaving egg mass output the same. Depending on the measurement of productivity selected, the same change could therefore be said to have improved welfare, decreased it or left it unaffected. This demonstrates that a simple measure of productivity cannot be used to measure welfare. On the other hand a sudden drop in a productivity indicator may be useful in providing a warning of a welfare problem.

Care must be taken in using productivity as an indicator of welfare since a substantial reduction of the production of eggs would indicate poor welfare, the reverse, good production does not necessarily indicate good welfare.

**Physiological** changes occur in response to environmental and bodily demands. The most frequently measured physiological indicators are those associated with the stress response and the activity of the hypothalamic-pituitary-adrenocortical axis. However, as with other measures, there are difficulties in interpreting the results.

Some of the reactions shown also occur during normal activities such as courtship, mating, egg-laying and foraging. This means that traditional indicators of stress (adrenaline, noradrenaline, corticosterone levels) must be interpreted with great care and used in combination with other measurements.

Physiological indicators can provide a sensitive measure of animal welfare in terms of measuring the effort put into coping with a situation.

**Ethological** studies concerning the welfare of birds aim to determine if a bird can cope behaviourally with a specific environment or to identify relevant environmental factors which enable the bird to cope. These studies are of three types:

1. Birds are placed in the environment under investigation and their behaviour is compared with that of birds either under feral conditions or placed in an environment assumed to be ideal. The problem with this approach is that it is not immediately obvious whether a particular behaviour, or a change in behaviour, is an indication of regulatory disturbance of failure, or whether it is an appropriate adaptation to a change in environment. To use such parameters to demonstrate poor welfare, it must first be shown that these changes indicate frustration.

2. Preference tests, in which birds are either given a choice between two or more environments, or are made to pay (in terms of work or of unpleasant stimuli) in order to obtain access to a reward, can be used to indicate not only which environments birds prefer but can to some extent measure the relative strengths of different preferences.
3. The third method is to observe behaviour in experimental situations in which a bird cannot cope and compare this with behaviour in the environment under study.

### **Combination of different indicators**

No single indicator of animal welfare is by itself the best. Several different measurements must be taken into account. The four indicators described above do not always, point in the same direction; there are often conflicting results.

A problem in the evaluation of animal welfare is the lack of knowledge of how animals experience, for example, the states of disease, conflict behaviour and abnormal behaviour. Are some states more important from a welfare point of view than the others? It is proposed that criteria for assessing welfare can be divided into design criteria and performance criteria.

### **Summary**

The most commonly used welfare indicators are measures of health, production, physiology and ethology. Any one of these indicators may be used on its own to indicate poor welfare, but a combination of them gives a better indication of the effort the animal is putting into coping and hence the biological cost to the animal of responding.

## **THE NEEDS OF LAYING HENS**

A need is a deficiency in an animal which can be remedied by obtaining a particular resource or responding to a particular environmental or bodily stimulus. If an animal is not able to satisfy a need the consequence, either in the short term or eventually, will be poor welfare.

Most needs arise from the motivational state of an individual, which may be physiological or psychological in origin. For example, a hen may drink water because its body fluids have become too highly concentrated (physiological) or in anticipation of future dehydration (psychological). As a consequence of the link between needs and motivation, many needs can be ascertained by observing the preferences of laying hens.

Hens need:

- to obtain adequate nutrients and water,
- to grow and maintain themselves in such a way that their bodies can function properly,
- to avoid damaging environmental conditions, injury or disease,
- to be able to minimise the occurrence of pain, fear and frustration.

In order to achieve these ends, hens carry out a variety of activities, respond to certain stimuli and maintain certain physiological states. Hence they have other needs such as:

- to show certain foraging and investigatory movements,
- to have sufficient exercise,
- to show preening and dust-bathing behaviour,
- to explore and respond to signs of potential danger,
- to interact socially with other hens,
- to search for, or to build, a suitable nest site.

In order to carry out their activities hens need space, but the amount of space needed for particular activities is a matter of debate. When more space is given to birds a greater extent and variety of behaviours can be expressed. Enrichment of the environment allows and stimulates behavioural expression.

Individual birds need more area for normal movements and adequate exercise than 450 cm<sup>2</sup> currently required in battery cages. A housing system for laying hens should provide the bird with enough space to be able to perform a number of basic behaviours, such as wing-stretching, wing-flapping, preening, turning around, exercise to prevent problems like bone weakness, and other activities including adequate access to food and water and perching. The environment should be such that the bird is able to perch, to lay eggs in a nest, to peck, to scratch and to dust-bath.

These behaviours can not be expressed and enrichment of environment can never be provided in a cage with 450 cm<sup>2</sup> per bird.

Any increase in space per bird will lead to increase of behavioural activities and those behaviour patterns will be shown which need the most space. Even for a normal standing position, the position which requires the minimum space, a space of 428-592 cm<sup>2</sup>, depending on weight, is needed for an individual bird.

When kept in larger groups they can share their space for activities which occupy only a small proportion of their time. However, even when they can share their space, when 800 cm<sup>2</sup> per bird is provided in a group of 5 birds not all kind of behaviour patterns can be performed, such as head scratching, body shaking and feather raising. Common experience in larger colony

systems show that 1000 cm<sup>2</sup> surface area per bird allows the bird to express a large variety of behaviours.

Besides that, studies have shown that hens are prepared to work to increase their space up to at least 775 cm<sup>2</sup> per bird.

Bone weakness and bone fractures of laying hens may be seen in all systems. Bone weakness, which is an important factor as a cause of fractures, is predominantly seen in birds deprived of reasonable opportunities to locomote, i.e. those kept in battery cages. Fractures of weakened bones may be caused by rough handling of the birds as well as by accidents in systems where facilities for flying and landing are suboptimal.

Because of the barren environment of battery cages the welfare of birds in them is not improved merely by increasing the space per bird, since scientific research has shown that aggressive behaviour can increase with increased space in such an environment.

Hens have a strong preference for laying their eggs in a nest. The number and distribution of nests should be determined according to the management system and the strain of birds. It has been found that, to avoid excessive competition and to minimise floor-laid eggs, an individual nest should be provided for 5 to 8 birds or, if communal nests are used, at least 1 m<sup>2</sup> for 100 to 120 birds should be provided.

Hens have a preference to rest by perching. If perches are provided they are generally well used and contribute to bone strength. The provision of a perch in a cage results in greater leg strength. Hens from some perchery systems are found at slaughter to have a high level of healed fractures, due to the failure of birds to land properly on perches. The distribution of perches, the amount of perch space available and the availability of perches during rearing are important in determining the number of clumsy landings, as is the length of time during which lighting is gradually reduced at the end of each light period.

Hens have a strong preference for a littered floor. When litter is provided it should be of a suitable type, maintained in a friable condition and must be suitable for pecking, scratching and for dust-bathing. The provision of litter during the rearing period plays an important part in reducing the amount of feather pecking in adults.

Laying hens must have at least daily access to food and water at all times. When linear feeders are used at least 10 cm of feeding space should be accessible to each bird; when circular feeders are used there should be at least 4 cm feeding space per bird. When continuous drinking troughs are used, at least 10 cm of trough should be accessible to each bird. Alternatively, at least one cup or nipple drinker should be provided for every 10 birds. If the group size is less than ten

animals at least two nipple drinkers or two drinking cups shall be within reach of that group. Drinkers and feeders must be equally distributed over the housing system.

Although hens are attracted to daylight, there is no scientific evidence that it is necessary for their welfare. Light intensity to keep a normal laying rate is 5 to 7 lux and light intensities well over 10 lux are usually avoided to decrease feather pecking.

There does not appear to be any conclusive scientific work concerning the influence on welfare of the different artificial lighting programmes in commercial use. However, because dark periods will limit strongly the expression of behavioural patterns, an adequate continuous period of light should be provided each day. It is important that, at least in floor pens, light intensity must be kept as constant as possible because spots of high light intensity are so attractive that hens might concentrate there and may pile up, causing suffocation.

Although beak trimming can reduce pecking damage it is preferable that hens should be housed and managed in such a way that beak trimming is not necessary. Because the risk of cannibalism is low, there is, no necessity for trimming the beaks of hens kept in battery cages. Since it is known that beak trimming causes pain, both during and after the operation due to the presence of neuromas, when the birds are beak trimmed at an age used in common practice, beak trimming should be banned as soon as practicable. However, in alternative systems, using the present strains of birds banning beak trimming will increase the risk of damage to the birds caused by pecking activity. There is no solution for this problem at this moment and in alternative system beak trimming must be permitted, but should be carried out on chicks less than 10 days old, because it seems that up to that age the specialised sensory receptors located at the tip of the mandible do not regenerate.

For alternative systems, rearing methods and strains of birds should be sought in which significant feather pecking and cannibalism does not occur.

### **HOUSING SYSTEMS FOR LAYING HENS**

At present, most hens in the European Community are kept in battery cage systems which provide a barren environment for the birds. Important benefits and deficiencies of the battery cage with respect to the welfare of hens include the following.

Benefits in comparison with good examples of other systems are:

- the birds are separated from their manure, so that endoparasitic infestations are rare,
- birds are in small groups with a stable social order,
- the risk of cannibalism is low and there is no necessity for beak trimming.

Deficiencies in comparison with good examples of other systems are:

- nesting behaviour, perching, scratching, dust-bathing and most movements are prevented or modified,
- stereotyped behaviour occurs,
- increased fear,
- bone weakness caused by lack of locomotion.

It is clear that because of its small size and its barrenness, the battery cage as used at present has inherent severe disadvantages for the welfare of hens.

Hens in cages may have a uncontrolled and excessive growth of the claws, often leading to breakage of the claw with or without damage of underlying tissues. By fitting an abrasive strip on the baffle behind the food trough the front claws are effectively shortened.

For 4 tiers of cages or more a fixed catwalk or other approved device should be provided to allow inspection of the upper cages and to facilitate removal of birds from those cages. There should be a minimum aisle width of at least 1 metre between tiers of cages to facilitate adequate bird inspection in all tiers, installation and for minimisation of damage on depopulation of birds.

Cage design has been improved in recent years, and research and development on cage enrichment continues. Where more space is provided in cages, the opportunity to provide certain additional facilities, e.g. perches, becomes more conceivable. If a moderate increase in space is provided it might be possible to further enrich cages by the provision of facilities for nesting, dust-bathing, scratching and pecking.

Other housing systems such as aviaries, percheries, deep litter or free range provide a varying degree of enrichment, generally improving the possibility for the birds to express a wider range of behaviour. These alternative systems may present a higher risk of parasitic infection, and outbreaks of feather pecking and cannibalism may be more difficult to control. As a consequence of this, using the present strains of poultry, beak trimming seems to be necessary for the time being.

At the current stage of development, production costs, labour requirements, the degree of management skill and veterinary supervision required are all higher in alternative systems than in laying cages. With many different systems in use, there is inevitably much more variation in performance in alternatives than in laying cages. However, it should be remembered that it took 20 or 30 years to develop laying cages to their present form, and improvements are still being made; some alternatives have only been available for about 10-15 years, and so further

modifications and improvements can be expected, as well as knowledge on how to reduce the risks of parasitic infestation, outbreaks of feather pecking and cannibalism.

There will be more bacterial contamination on dirty/floor eggs than on clean eggs produced in nests. There is no difference in contamination between eggs produced in nests and in battery cages. The disease status in modern aviary and perchery systems can be maintained at the same high level as in the current battery cages, with skilled personal and good veterinary supervision, when a number of factors are taken into account such as to preventing the litter from getting wet, using an all-in all-out replacement system, regular collecting of eggs, good cleaning and disinfection of the system between two batches, prevention of the food and drinking facilities to be contaminated by faeces, removal of dead animals and effective insect and rodent control.

Applied research into the welfare of laying hens has been undertaken for a relatively short period. Present disadvantages of some alternative systems, such as cannibalism and environmental problems which are not yet fully under control, should be overcome during practical trials of existing systems in commercial conditions and by further research. Enriched cages and well designed non-cage systems have already been shown to have a number of welfare advantages over battery cages in their present form.

There are no or only slight differences in the (biological) production capacity of hens in alternative systems and the current battery cage system, although the recorded output in alternative systems may be lower because of eating and breakage.

Birds in all housing systems should be managed only by staff who have been trained and are experienced in the husbandry system used. In order to safeguard their welfare, the birds and any equipment upon which their welfare depends, should be thoroughly inspected at least twice per day.

### PRODUCTION IN DIFFERENT SYSTEMS OF REARING IN EUROPE

In 1996 there were about 270 million laying hens in the EU, almost 93% of them kept in cages. Table 1 shows an overview of the situation in the EU. In some countries there is an increase of production in alternative systems of rearing.

Table 1: Number (x1000) of laying hens in different systems of rearing in the EU Member States in 1996 (Source: Calculated from Statistiques avicoles, doc. VI/417-FR rév. 135, 5-12-1997 and Communications by Member States)

	battery x 1000	%	aviary x1000	%	deep litter x1000	%	semi- intens x1000	%	free- range x1000	%
A	3.886	84	28	0.6	439	9.5			285	6.1
B	12.304	98	10	0.1	209	1.7	21	0.2	18	0.1
DK	2.591	70	42	1.1	667	18.1			382	10.4
D	39.472	91	22	0.1	2.354	5.4	31	0.1	1524	3.5
E *	34.227									
EL *	5.644									
FIN *	3.250	99			25	0.8				
F ('95)	52.985	95	18		103	0.2	2.028	3.6	622	1.0
IRL	865	80							219	20.0
I*	35.478	99			166	0.5				
NL	23.240	83	191	0.7	3.578	12.7	91	0.3	971	3.5
P*	4.923									
S	4.272	82	135	2.6	800	15.4				
UK	27.355	84	1.066	3.3					4.193	12.9
EU	250.762	93	1.512	0.6	8.341	3.7	2.171	0.8	8.214	3.0

\* = no other figures available, exclusive backyard flocks.

Due to demand in several Member States, particularly in Northern Europe, non-cage egg production has gained in popularity over the last 10 years. For example, in the Netherlands, aviaries and deep litter are popular and 40% of the table eggs sold through retail there are non-cage.

In 1984, common marketing standards were adapted to provide for harmonised labelling rules for eggs from four different alternative egg production systems (free range - semi intensive - deep litter-percherics) and few criteria as well as control measures were laid down to ensure loyal competition between producers.

### **THE IMPLEMENTATION OF THE EU DIRECTIVE AND FINANCIAL SUPPORTS IN MEMBER STATES**

All EU-Member States have notified the implementation of Directive 88/166/EEC, except Finland and few "Länder " in Austria on some parts of the Directive. There are a number of considerable differences between the Member States in relation to economic support of their farmers. The situation in the Member States is indicated below.

Austria: At 19 April 1996 the "Nationalrat" has in a resolution requested the Minister of Agriculture to go for a ban on battery cages in Europe. The use of cages for rearing laying hens will be forbidden from a certain date in a number of "Länder". Austria supports financially the transition from battery cages to alternative systems of rearing.

Belgium: Belgium has other figures for cages with few birds in a cage: 1000 cm<sup>2</sup> for 1 bird in a cage, 750 cm<sup>2</sup> per bird for 2 birds in a cage and 550 cm<sup>2</sup> per bird with 3 birds in a cage. For cages with 4 or more birds in it the legislation is in line with the Directive's minimum standards. There is no financial support by the government for changing over from battery cages to alternative systems of rearing.

Denmark: Denmark requires 600 cm<sup>2</sup> per bird. When a farmer destroys his battery cages system, to be replaced by an alternative system or just to stop production, he receives a financial support from the government of 20 dkr per hen place at this moment.

Finland: Finland requires 480 cm<sup>2</sup> per bird in a battery cage. The government in Finland has accepted in principle a ban on battery cages, but the date of entry into force has not yet been laid down. The Finnish Parliament however accepted that by 2005 no battery cages should be used. Farmers who change over to alternative systems of rearing get financial support from the government. For 25% of the loan the farmer takes in a bank the Minister pays all the interest costs up to an interest level of 5%.

- France: Implemented in line with the Directive's minimum standards. There is no financial support by the government for changing over from battery cages to alternative systems of rearing.
- Germany: Germany requires a space of 550 cm<sup>2</sup> per bird if the birds are more than 2 kg and 450 cm<sup>2</sup> per bird if the birds are less than 2 kg. The "Bundesrat" has in a resolution requested a ban on battery cages in Europe, but up till now the central government has not adopt that position. There is no financial support by the government for changing over from battery cages to alternative systems of rearing.
- Greece: Implemented in line with the Directive's minimum standards. There is no financial support by the government for changing over from battery cages to alternative systems of rearing.
- Luxembourg: Implemented in line with the Directive's minimum standards. There is no financial support by the government for changing over from battery cages to alternative systems of rearing.
- Netherlands: Implemented in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems of rearing.
- Ireland: Implemented in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems.
- Italy: Implemented in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems of rearing.
- Portugal: Implemented in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems of rearing.
- Spain: Implemented in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems of rearing.

Sweden: In Sweden laying hens must have 600 cm<sup>2</sup> per bird. The Swedish Parliament has accepted a ban on the present battery cage from 1 January 1999. From that day on each housing system should have laying nests, perches and a dustbath, unless farmers have a derogation, which may be granted for a maximum of 3 laying cycles. There is no financial support by the government to change over from battery cages to alternative systems of rearing.

United Kingdom: The United Kingdom has other figures for cages with few birds in a cage: 1000 cm<sup>2</sup> for 1 bird in a cage, 750 cm<sup>2</sup> per bird for 2 birds in a cage and 550 cm<sup>2</sup> per bird with 3 birds in a cage. For cages with 4 or more birds in it the legislation is in line with the Directive's minimum standards. There is no financial support by the government to change over from battery cages to alternative systems of rearing.

## **ECONOMICS**

### **1. General**

Although the vast majority of EU eggs are still produced by birds in cages, several alternative systems such as aviary, perchery, deep litter and free range systems are in commercial use. Some of these are recent innovations, e.g. percheries and aviaries, others, deep litter and free range, are used for quite some time, mainly in the Northern Member States.

The costs of production are influenced by the housing system, stocking density, food intake, labour, hygiene, mortality rate and performance. At current stocking densities they are lowest in the battery cage and highest in free range systems. Modified enriched cages under development and costs of production in them are likely to be between current cages and alternatives, depending on stocking density.

Although technical improvement of the alternative systems is still possible, the production costs of eggs in aviary and perchery systems are higher than those produced in current battery cage systems. The main reasons for this higher cost are extra building, labour and feed costs. Compared to the present battery cage, providing 450 cm<sup>2</sup> per bird, production costs per egg in high density aviary and perchery systems (20 birds/m<sup>2</sup>) are about 10% higher, about 15% higher in systems with 12 birds/m<sup>2</sup>. There is an increase of production costs per egg by about 5%-7.5% when 600 cm<sup>2</sup> cage area per bird is provided. and by about 10-15% at 800 cm<sup>2</sup> cage area per bird (where investments are needed for new houses and equipment). Taking into account that not more than 80% of all eggs produced are sold as table eggs and assuming

unchanged prices for processing eggs, this latter requires an increase of table egg prices at farm level by 12 to 18%.

Eggs produced in aviary, perchery, deep litter, semi-intensive and free range systems command a premium price in certain areas. In general the producers of eggs other than battery-cage eggs receive a higher price for their eggs.

Although currently the farmers receive considerably higher premiums for their eggs produced in alternative systems, it might be that this premium price will not be maintained at the present level if the whole or a large percentage of the production is transferred to more welfare friendly alternative systems.

## **2. Effects on EU market.**

### **2.a. WTO-Agreement - import duties.**

Within the Community there are no market support mechanisms for eggs. Historically, the Community market was shielded from third country imports by a system of variable levies and sluicgate prices, but these no longer apply as a result of the tariffication process of the WTO Agreement on Agriculture. Under the tariffication process the system of various levies and sluicgate prices were replaced by a system of duties and a special safeguard clause based on reference prices. So far, Community welfare rules never had a discernible effect on the level of imports or exports, even after the introduction of low duty tariff rate quotas from 1 July 1995.

The normal import duty for eggs in shell was 44.7 ecu/ 100 kg in 1995/96. It is 39 ECU/100 kg in 1997/98 and will be further reduced in equal annual steps to 30.4 ECU/ 100 kg in 2000/01.

Based on the WTO Agreement there is a minimum tariff rate quota for eggs and egg products with a reduced duty (15.2 ECU/100 kg). The tariff rate quota for eggs in shell, whole egg products and yolk and albumins, at reduced duties was in total 84 000 tons in '95/'96 and will increase up to 157 500 tons in 2000/'01. In 1997 the quota for whole egg products and yolk was fully used (6373 tons shell eggs equivalent), the quota for albumins (10058 tons shell egg equivalent) was used for 37% and only 0.1% of the quota for eggs in shell (70 300 ton) was used.

The total tariff rate quota at reduced duties amounts to 2% of the Community consumption of table eggs in 1996 and to about 3% in 2000/01.

It is expected that during the next WTO round a further reduction of duties for all agricultural products will be discussed.

## **2b. Economic consequences of increased space per bird in cages**

An important element would be the effect of the increase in minimum space per hen on the competitiveness of eggs produced in the European Union compared to eggs imported from the world market.

The present rules assure a certain so-called community preference because the prices for eggs imported from third countries, after paying the normal import duty, are higher than market prices for eggs produced in the EU in cages with 450 cm<sup>2</sup> space per bird.

In a first example (scenario 2001) it is assumed that the production costs will increase by 10% if:

- the minimum space per bird is 800 cm<sup>2</sup>;
- the grain prices in the EU will be reduced by 20% (in the year 2001), as proposed in the Agenda 2000;
- the EU import duties will remain unchanged.

Under those circumstances eggs produced in the EU at a cage space of 800 cm<sup>2</sup> per bird will have no more competitive advantage to eggs imported from the USA. The market prices will be the same.

If, however, the EU import duty will be further reduced in the framework of a new WTO round, say, for example, by 33 per cent during the period from 2001 to 2010, EU's competitive advantage will in the year 2010 have disappeared already at a cage space of 600 cm<sup>2</sup> per bird. At cage spaces above that level eggs produced in the EU will no longer be competitive with imported eggs.

Forecasting production costs is always done with a degree of uncertainty and it might therefore be wise to consider the development in competitiveness supposing that production costs in the EU would increase by 15% when increasing the space per bird from 450 cm<sup>2</sup> to 800 cm<sup>2</sup> and by 7.5% when increasing the space to 600 cm<sup>2</sup> per bird.

Applying this hypothesis combined with a reduction in the EU grain prices by 20% and unchanged EU border protection (scenario 2001) the EU competitive advantage on the EU internal market will disappear, when the minimum space required per bird attains 700 cm<sup>2</sup> per bird, and under the 2010 scenario (import duties further reduced by 33%) the EU competitive advantage will have disappeared at a minimum cage space of 550 cm<sup>2</sup> per bird.

The above mentioned estimates of cage space per hen at which EU comparative advantage will be lost are summarised in the following table.

	2001	2010
production costs increase	estimated cage space (cm <sup>2</sup> )	estimated cage space (cm <sup>2</sup> )
10%	800	600
15%	700	550

Although these estimates are based on the best data available at this moment, it should be borne in mind that these figures are subject to large margins of error, because there are a number of assumptions and differing situations of single Member States have not been taken into account.

To be more precise what the consequences could be according to country or to possible requirements for the various housing system, further calculations must be made.

The additional expenditure for EC consumers is very small and is estimated to amount about to 1.12-1.56 ECU per head per annum with a space of 800 cm<sup>2</sup> per bird.

## **2.c. WTO Agreements- Sanitary and PhytoSanitary (SPS) and Technical Barriers to Trade (TBT)**

Under the WTO Technical Barriers to Trade Agreement (TBT), Members may apply technical regulations such as labelling rules to imports, provided such regulations are non-discriminatory and are not more trade restrictive than necessary to fulfill a legitimate objective.

Specific rules exist that allow a WTO Member to require imported products to respect certain sanitary requirements (SPS Agreement), with the objective of protecting human and animal health in its own territory. The present WTO rules do not specifically address animal welfare, but allows its members to set their domestic rules on animal welfare at the level they deem appropriate.

In the case at hand it appears, therefore, difficult to apply requirements on the welfare of laying hens to imported eggs and egg products.

At the time of adoption of the present welfare rules, there were calls for measures to be included in those rules to require imported eggs to come from hens kept under conditions

laid down in the Directive. At that time, the Commission engaged itself to take appropriate measures inside the framework of Community rules which regulate the import and export regime in order to take into account, if necessary, the financial consequences of this directive having an adverse effect on the balance of trade. No such action was found to be necessary in the past.

## **OTHER INSTRUMENTS**

### **1. Labelling**

The present Community rules on labelling (Council Regulation (EEC) No 1907/90 on certain marketing standards for eggs<sup>2</sup> and Commission Regulation (EEC) No 1274/91 introducing detailed rules for implementation Regulation (EEC) No 1907/90<sup>3</sup>) are applicable to all shell eggs sold in the EC, including those from third countries. Labelling rules can be applied also to imports in a non-discriminatory fashion. Such measures should be notified to the WTO under the Agreement on Technical Barriers to Trade (TBT) and must comply with the rules laid down in that agreement.

At present the common marketing standards for eggs provide for optional labelling of eggs and packs with the five types of farming used to produce eggs, according to Article 10 (3) of Regulation (EEC) No 1907/90 and Article 18 of Commission Regulation (EEC) 1274/91 (free range, semi-intensive, deep-litter, perchery, cage production).

The basic conditions which must be fulfilled of each of the five farming systems as well as control arrangements are laid down in Commission Regulation 1274/91.

In order to fully inform consumers, mandatory labelling of table eggs and packs by type of production should envisaged in future. This labelling should be mandatory for all table eggs produced in the Member States of the EU. When the Council will have adopted mandatory labelling, the detailed requirements must be adopted via the Management Committee procedure.

It is then up to the consumer to choose the type of table egg(s) they prefer.

In order to avoid any misleading information on eggs or packs it must be considered whether the general statement as mentioned in Article 10, paragraph 2(e) of the Council Regulation 1907/90, should be supplemented by more detailed appropriate rules according to Commission Regulation 1274/91. Article 10, paragraph 2(e) reads as follows: "Statements or symbols

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<sup>2</sup> O.J. No. L 173, 06.07.1990, p. 5

<sup>3</sup> O.J. No. L 121, 16.05.1991, p. 11

designed to promote sales of eggs or other items, provided that such statements or symbols and the manner in which they are made are not likely to mislead the purchaser”.

However, regarding the labelling of egg-products by type of production it is difficult to implement and to control in practice similar requirements as proposed for table eggs.

## **2. Subsidies**

There is one regulation which allows for financial aid for investments in buildings and technical installations for the improvement of the welfare of laying hens. This is Council Regulation (EC) No 950/97 on improving the efficiency of agricultural structures<sup>4</sup>, one of the basic regulations for the horizontal objective 5a of Structural Funds.

In principle, this regulation does not permit investment aids in the egg and poultry sector. However, aids for safeguarding the environment, improvement of hygiene conditions on livestock enterprises and animal welfare are allowed, provided that there is no increase in capacity.

Furthermore, to be eligible beneficiaries have to fulfill a serie of conditions set up in Article 5 of the Regulation (practise farming as a main occupation, possess adequate occupational skill and competence, submit a material improvement plan, keep simplified accounts).

If these conditions are fulfilled, Member States may put in place a co-financed aid scheme related to investments in compliance with Community standards on the protection of laying hens, including investments for the conversion to such recognised husbandry systems. These investments should in any case represent a real effort of adaptation to the new legal standards.

In addition, Member States are allowed to fund restricted national aid to farmers who do not fulfill the conditions of Article 5 of Council Regulation (EC) No 950/97. Both schemes, national and co-financed, have to be approved by the Commission.

The possibilities for support for investments will continue beyond the year 2000, whereby Community conditions concerning eligibility for investment aids are supposed to become even simpler and more flexible for implementation by Member States.

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<sup>4</sup> O.J. No. L 142, 09.06.1997, p. 21

### **3. New WTO-Agreement**

The possibility of amending WTO rules to address welfare concerns will be addressed in the context of the determination of the Union's negotiating objectives for the next stage of the WTO negotiations.

#### **CONCLUSION**

The objective of the Commission is to improve the welfare of laying hens. The adoption of the Protocol on Animal Welfare to the Treaty of the European Community, as provided for in the Treaty of Amsterdam, obliges the Commission to provide proposals on animal welfare issues which have a real positive effect on the welfare of animals.

The Commission is of the opinion that there is clear evidence for poor welfare in hens kept in battery cages, but alternative housing systems also still have some disadvantages which have not been solved yet entirely, and therefore it is too early to ban battery cages. However, the minimum space per laying hen in battery cages should be enlarged together with enrichment of their cages to improve their welfare.

Progress has been made recently in the development of alternatives to the current battery cage. This progress would be faster if the poultry industry had more incentive to develop such systems. A way of achieving this progress and hence improving the welfare of laying hens would be to agree a timetable for phasing out the use of battery cage in its present form, over a period long enough to allow farmers to adapt without major economic problems and without the risk of adverse effects on egg quality.

The Commission recognises that a significant improvement of the housing conditions for laying hens might have a negative influence for the position of the European egg-sector on the world market for shell eggs and in particular egg-products. There are, however, several instruments which could be applied to reduce totally or at least for the largest part the negative economic impact.

The Commission will therefore, in addition to the proposal for minimum standards for the protection of laying hens in various systems of rearing, propose the following actions:

1. The obligation to label each table egg which is produced in the Community, indicating the way of rearing of laying hens;
2. Use of the economic support possibilities, according to the existing Community legislation, to support the European farmers, without making infringements to the WTO-rules ;
3. After the adoption of this Communication by the Council the Commission will seek the support of other countries for the introduction of minimum standards for the protection of laying hens in various systems of rearing.
4. The possibility of amending WTO rules to address welfare concerns more generally will be addressed in the context of the determination of the Union's negotiating objectives for the next stage of the WTO negotiations.

**COMMISSION OF THE EUROPEAN COMMUNITIES**

**PROPOSAL FOR A COUNCIL DIRECTIVE**  
**of**  
**laying down minimum standards for the protection of laying**  
**hens kept in various systems of rearing**  
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PROPOSAL FOR A COUNCIL DIRECTIVE

laying down minimum standards for the protection of laying  
hens kept in various systems of rearing

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THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 43 thereof;

Having regard to the proposal from the Commission;

Having regard to the opinion of the European Parliament<sup>5</sup>;

Having regard to the opinion of the Economic and Social Committee<sup>6</sup>;

Whereas on 7 March 1988 the Council adopted Directive 88/166/EEC complying with the judgement of the Court of Justice in Case 131/86 (annulment of Council Directive 86/113/EEC of 25 March 1986 laying down minimum standards for the protection of laying hens kept in battery cages)<sup>7</sup>;

Whereas Article 9 of Directive 86/113/EEC requires the Commission to submit, before 1 January 1993, a report on scientific developments regarding the welfare of hens under various systems of rearing and on the provisions in the Annex to the Directive, accompanied by any appropriate adjustment proposals;

Whereas the Community, as a contracting party to the European Convention for the Protection of Animals kept for Farming Purposes (hereinafter called "the Convention"), must give effect to the principles of animal welfare laid down in the Convention; whereas those principles include the provision of housing, food, water and care appropriate to the physiological and ethological needs of the animals;

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<sup>5</sup> O.J. No. C

<sup>6</sup> O.J. No. C

<sup>7</sup> O.J. No. L74, 19.03.1988, p. 83

Whereas the Standing Committee of the European Convention for the Protection of Animals kept for Farming Purposes has adopted in 1995 a detailed recommendation concerning domestic fowl, which includes laying hens;

Whereas the protection of laying hens is a matter of exclusive Community competence;

Whereas the report from the Commission, based on an opinion from the Scientific Veterinary Committee, concludes that there is clear evidence for poor welfare in hens kept in current battery cages and that certain needs of hens cannot be met in such cages; whereas there is also evidence that the welfare of hens may be poor in other systems of rearing if a high standard of management is not maintained;

Whereas minimum standards for the protection of laying hens kept in all systems of rearing should be established in order to meet the obligations of the Community as a contracting party to the Convention, and to remove differences in national laws which may distort conditions of competition and in consequence interfere with the operation of the internal market;

Whereas, in derogation from the general requirements for the rearing of laying hens, the use of cages may be allowed to continue under certain conditions, including improved structural and space requirements;

Whereas studies on the welfare of laying hens in different systems of rearing should be continued to assess whether keeping a derogation for the use of cages is appropriate;

Whereas a further report should be made by the Commission accompanied, if necessary, by appropriate proposals;

Whereas Council Regulation (EC) No 950/97 on improving the efficiency of agricultural structures provides for investment aids aiming at adoption of agricultural holdings;

Whereas Council Regulation (EEC) 1907/90 on certain marketing standards for eggs lays down general rules for the labelling of eggs and egg-packs, whereas the Commission will make appropriate proposals to amend this Regulation to introduce mandatory labelling of table eggs produced in the Community replacing the actual optional approach concerning rearing systems;

Whereas it is advisable for the sake of clarity and rationality to repeal and replace Directive 88/166/EEC;

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. This Directive lays down minimum standards for the protection of laying hens kept in various systems of rearing.
2. Member States may, in compliance with the general rules of the Treaty, maintain or apply within their territories stricter provisions for the protection of laying hens than those laid down in this Directive. They shall inform the Commission of any such measures.

Article 2

For the purposes of this Directive, the following definitions shall apply:

1. "Laying hens": adult hens of the species *Gallus gallus* which are kept for egg production;
2. "Nest": a separate area for egg laying for an individual bird or for a group of birds;
3. "Litter": material such as wood shavings, straw, sand, turf, etc. which can be manipulated by the birds;
4. "Battery cage": any enclosed space intended for laying hens;
5. "Enriched cage": a battery cage equipped with litter, perches and a nestbox.

Article 3

1. Member States shall ensure that from 1 January 1999, all newly built or rebuilt systems of rearing and all such systems of rearing brought into use for the first time, comply at least with the following requirements:
  - a. at least one individual nest, suitable for egg laying, shall be provided for 8 laying hens or, if communal nests are used, at least 1 m<sup>2</sup> of nest space for 100 birds. If the group size per unit is less than 8 laying hens, then each unit shall have an individual nest;

- b. adequate perching facilities, mounted at least 10 cm above ground or floor level, without sharp edges and providing at least 15 cm per bird, must be available for all hens. The horizontal distance between perches must be no more than 1 meter;
  - c. litter must be provided so as to enable the birds to dustbath;
  - d. when linear feeders are used, each bird must have access to at least 10 cm of feeding space. When circular feeders are used there shall be at least 4 cm feeding space per bird;
  - e. when continuous drinking troughs are used, each bird must have access to at least 10 cm of trough. When cups or nipple drinkers are used, at least 1 cup or nipple drinker must be provided for every 10 birds. If the group size is less than 10 birds at least two nipple drinkers or two drinking cups shall be within reach of that group;
  - f. the floor must be constructed so as to support adequately each of the forward facing claws of each foot.
2. If systems of rearing are used where the birds can move freely between different levels, or in single floor systems of rearing the following additional conditions to the requirements of paragraph 1 are met:
- a. in systems of rearing with different levels, the height between the levels must be at least 50 cm;
  - b. the drinking and feeding facilities must be distributed equally;
  - c. the competent authority may allow beak trimming, with the restriction that beak trimming may only be practised on chickens less than the age of 10 days;
  - d. at least half of the ground surface must be supplied with litter. The litter must be, maintained in a friable condition and must be suitable for pecking, scratching and dust bathing.
3. If enriched cages are used, the following additional conditions to the requirements of paragraph 1 are met:
- a. cages shall be at least 50 cm high at any point;

- b. the birds shall not have their beak trimmed.
4. Without prejudice to Article 9 Member States may authorise derogations from points (a), and (c) of paragraph 1 in order to permit the use of battery cages if the following conditions are met:
- a. at least 800 cm<sup>2</sup> of cage area, measured in a horizontal plane which may be used without restriction, shall be provided for each hen;
  - b. cages shall be at least 50 cm high at any point;
  - c. cages shall be fitted with claw shortening devices approved by the competent authorities and suitable perches;
  - d. cages shall be provided with a fully-opening cage front or an equivalent opening in another part of the cage to prevent injuries to the birds;
  - e. there shall be a minimum aisle width of 1 m between tiers of cages to facilitate inspection, installation and depopulation of birds;
  - f. the floor slope shall not exceed 14% or 8°. In the case of floors using other than rectangular wire mesh, Member States may permit steeper slopes;
  - g. the birds shall not have their beak trimmed.
5. In each case where a derogation has been granted in accordance with paragraph 4, the Member State concerned shall verify that the conditions laid down in that paragraph have been met.
6. Moreover, Member States shall ensure that from 1 January 2009 the minimum requirements laid down in paragraphs 1 to 4 apply to all systems of rearing.

#### Article 4

1. Member States may allow until 31 December 2008 the use of battery cages which are in use at 1 January 1999 and which are not yet older than 10 years, provided that they comply at least with the following requirements:
- a) at least 450 cm<sup>2</sup> of cage area, measured in a horizontal plane which may be used without restriction, in particular, not including non-waste deflection plates liable to restrict the area available, shall be provided for each laying hen;

- b) a feed trough which may be used without restriction shall be provided. Its length shall be at least 10 cm multiplied by the number of animals in the cage;
  - c) unless nipple drinkers or drinking cups are provided, each battery cage shall have a continuous drinking channel of the same length as the feed trough mentioned in point (b). Where drinking points are plumbed in, at least two nipple drinkers or two drinking cups shall be within reach of each cage;
  - d) battery cages shall be at least 40 cm high over 65% of the cage area and not less than 35 cm at any point;
  - e) floors of battery cages must be constructed so as to support adequately each of the forward-facing claws of each foot. Floor slope shall not exceed 14% or 8°. In the case of floors using other than rectangular wire mesh, Member States may permit steeper slopes;
  - f) the birds shall not have their beak trimmed.
2. Battery cages which are at 1 January 1999 more than 10 years old may be authorised by the competent authority on a case by case basis for a period which shall under no circumstances extend beyond 31 December 2003, and provided that they comply at least with the requirements as laid down in paragraph 1.
3. However, from 1 January 2004 the required space per hen as laid down in paragraph 1 (a) of this Article shall be increased to at least 550 cm<sup>2</sup> per hen.

#### Article 5

- 1. Member States shall ensure that conditions for laying hens are in accordance with the requirements laid down in the Annex.
- 2. The provisions in the Annex may be amended in accordance with the procedure laid down in Article 8 in order to take account of scientific progress.

#### Article 6

1. Member States shall ensure that inspections are carried out under the responsibility of the competent authority in order to check that the provisions of this Directive and its Annex are complied with.

These inspections, which may be carried out on the occasion of checks made for other purposes, shall each year cover a statistically representative sample of the different farming systems used in each Member State.

2. The Commission shall, in accordance with the procedure laid down in Article 8, draw up a code of rules to be applied in carrying out the inspections provided for in paragraph 1.
3. Every two years, by the last working day in April and for the first time by 30 April 2001, Member States shall inform the Commission of the results of the inspections carried out during the previous two years in accordance with this Article, including the number of inspections carried out in relation to the number of holdings in their territory.

#### Article 7

Veterinary experts from the Commission may, where necessary for the uniform application of this Directive, carry out on-the-spot checks in co-operation with the competent authorities. The persons carrying out these checks shall implement any special personal hygiene measures necessary to exclude any risk of transmission of disease.

The Member State in the territory of which a check is being carried out shall give all necessary assistance to the experts in carrying out their duties. The Commission shall inform the competent authority of the Member State concerned of the results of the checks.

The competent authority of the Member State concerned shall take any measures which may prove necessary to take account of the results of the checks.

General rules for the application of this Article shall be adopted in accordance with the procedure laid down in Article 8.

#### Article 8

Where the procedure laid down in this Article is to be followed, the following rules shall apply:

- a. The representative of the Commission shall submit to the Standing Veterinary Committee (hereinafter called "Committee") a draft of the measures to be taken. The

Committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter, if necessary by taking a vote;

- b. The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to ask to have its position recorded in the minutes;
- c. The Commission shall take the utmost account of the opinion delivered by the Committee. It shall inform the Committee of the manner in which its opinion has been taken into account.

#### Article 9

Not later than 1 January 2006, the Commission shall submit to the Council and to the Parliament a report, drawn up on the basis of an opinion from the Scientific Veterinary Committee, on the systems of rearing for keeping laying hens which comply with the requirements of the welfare of laying hens from the pathological, zootechnical, physiological, behavioural and socio-economic point of view, together with appropriate proposals to phase out those systems of rearing which do not meet these requirements.

The Council shall act by a qualified majority on these proposals no later than three months after their submission.

#### Article 10

Council Directive 88/166/EEC is repealed with effect from 1 January 1999.

#### Article 11

1. Member States shall bring into force the laws, regulations and administrative provisions, necessary to comply with this Directive before 1 January 1999. They shall forthwith inform the Commission thereof.

When Member States adopt these provisions, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The methods of making such reference shall be laid down by Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 12

This Directive shall enter into force on the 20th day following its publication in the Official Journal of the European Communities.

Article 13

This Directive is addressed to the Member States.

## Annex

1. Materials used for the construction of accommodation for the birds, and in particular equipment with which the birds may come into contact, must not be harmful to the birds and must be capable of being thoroughly cleaned and disinfected. The construction of the accommodation must be such as to prevent any injury to the birds.
2. Until Community rules are laid down on the matter, electrical circuits and equipment must be installed in accordance with national rules so as to avoid electric shocks.
3. The insulation, heating and ventilation of the building must ensure that the air circulation, dust level, temperature, relative air humidity and gas concentrations are kept within limits which are not harmful to the birds.
4. All automated or mechanical equipment essential for the birds' health and welfare must be inspected at least twice daily. Where defects are discovered, these must be rectified immediately or, if this is impossible, appropriate steps must be taken to safeguard the health and welfare of the birds until the defect has been rectified, notably by using alternative methods of feeding and maintaining a satisfactory environment.

Where an artificial ventilation system is used, provision must be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and welfare of the birds in the event of failure of the system, and an alarm system must be provided to warn the stock-keeper of the breakdown. The alarm system must be tested regularly.

Written records of each defect, including any action taken as a result, shall be available on the holding and to the competent authority, upon request, for a minimum period to be determined by the competent authority but which may not be less than three years.

5. The birds must not be kept permanently in darkness. To meet their behavioural and physiological needs, provision must be made, allowing for the different climatic conditions in the Member States, for appropriate natural or artificial lighting; if the latter, it must function for a period at least equivalent to the period of natural light normally available between 9am and 5pm. In addition,

suitable lighting (fixed or portable) strong enough to allow the birds to be inspected at any time must be available. However, in the case of artificial lighting, the poultry must have an appropriate resting period each day during which the light intensity must be reduced in such a way that the poultry can rest properly.

In floor pens light intensity has to be kept constant.

6. All birds must be inspected by the owner or the person responsible for the birds at least twice daily.

Daily written records of these inspections, including any action taken as a result, shall be available on the holding and to the competent authority, upon request, for a minimum period to be determined by the competent authority but which may not be less than three years.

For birds appearing not to be in good health, including behavioural changes, steps shall be taken to establish the cause and appropriate remedial measures shall be implemented, e.g. treatment, isolation, culling or attention to environmental factors. If the cause is traced to an environmental factor in the production unit which it is not essential to remedy immediately, this should be corrected when the accommodation is emptied and before the next batch of birds is put in.

Veterinary advice must be obtained as soon as possible for birds which are not responding to the stock-keeper's care.

7. Buildings, equipment and utensils used for birds must be properly cleaned and disinfected to prevent cross-infection and the build-up of disease-carrying organisms. Droppings and uneaten or split food must be removed as often as necessary to minimise smell and to avoid attracting flies or rodents.

Those parts of the buildings or cages which are in contact with the birds shall be thoroughly cleansed and disinfected every time the house is emptied and before a new batch of birds is brought in.

8. Accommodation comprising four or more tiers of cages shall be permitted only if a fixed catwalk or other approved device is provided to allow inspection of the upper cages and to facilitate removal of birds from those cages.

9. All birds shall have access to adequate, nutritious and hygienic feed each day and to adequate fresh water at all times, except in the case of therapeutic or prophylactic treatment.
10. Feeding and watering equipment must be designed, constructed, placed and maintained so that contamination of the birds' feed and water is minimised.
11. Birds shall be cared for by a sufficient number of personnel who have been trained and are experienced in the husbandry system used.
12. De-winging, pinioning, notching or tendon severing shall not be carried out. When it is necessary to reduce the ability to fly, the flight feathers of one wing may be clipped by a skilled operator.
13. The birds must have appropriate protection against predators and extreme climate conditions.
14. Buildings, cages and enclosures must be suitably equipped to prevent the birds escaping.

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