



## A Strategic Approach to Improving Welfare in Egg Production

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## Strategic Approach Document

Ref: EAWP EGG 01

**Title: Key welfare issues in Laying Hens relating to the design of enriched cages**

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This strategic approach document addresses the following related welfare issues:

<b>EGG 01.01</b>	<b>Cages: Space Allowance</b>
<b>EGG 01.02</b>	<b>Cages: Enrichment (opportunity to perform natural behaviour)</b>
<b>EGG 01.03</b>	<b>Cages: Inspection</b>

### The design of Enriched Cages

The traditional 'Battery' cage will be phased out throughout Europe in 2012. Battery cages have already been banned in Switzerland and Germany, and phased out in Austria, Sweden & The Netherlands?

In 2012 new legislation comes into force and lays down minimum standards for the protection of laying hens. These are detailed in this strategy document (see below).

However, best practice often goes beyond mere legislation. For instance, questions remain concerning the development of relatively new systems, such as enriched cages. These include: the relevance and use of resources, effects on hierarchy formation and maintenance, ease of depopulation, ease of inspection, appropriate lighting etc.

Best practice is perhaps defined by a system in which the bird not only has the opportunity to exhibit natural behaviours but in which the following desirable behaviours are expressed: perching, nesting, scratching and pecking, wing stretching and flapping and in which stable hierarchies can be formed. The system should also facilitate effective management of disease and behavioural vices.

The enriched cages should be designed with effective inspection facilities. If there are more than 3 tiers in the system there must be additional provision for inspection with high level walkways perhaps considered the ideal situation. An alternative would be the use of an inspection trolley.

Farm welfare issues embrace real, potential and perceived problems. In enriched cages these issues include:

Real:

- Birds are unable to go outside
- Birds do not experience daylight



Potential:

- Injuries at depopulation
- Lack of use / misuse of resources

Perceived:

- “Cages are bad”
- Birds may be unable to adequately express certain natural behaviours

The perceived issue is important in this case as, whatever scientific evidence is put forward in relation to behaviour and welfare in enriched cages, a perception that any form of a cage is unacceptable is always likely to exist.

### Legislation

According to the COUNCIL DIRECTIVE 1999/74/EC of 19 July 1999 laying down minimum standards for the protection of laying hens, the new enriched cage system must provide:

1. (a) at least 750 cm<sup>2</sup> of cage area per hen, 600 cm<sup>2</sup> of which shall be usable; the height of the cage other than that above the usable area shall be at least 20 cm at every point and no cage shall have a total area that is less than 2000 cm<sup>2</sup>;  
(b) a nest;  
(c) litter such that pecking and scratching are possible;  
(d) appropriate perches allowing at least 15 cm per hen;
2. a feed trough which may be used without restriction must be provided. Its length must be at least 12 cm multiplied by the number of hens in the cage;
3. each cage must have a drinking system appropriate to the size of the group; where nipple drinkers are provided, at least two nipple drinkers or two cups must be within the reach of each hen;
4. to facilitate inspection, installation and depopulation of hens there must be a minimum aisle width of 90 cm between tiers of cages and a space of at least 35 cm must be allowed between the floor of the building and the bottom tier of cages;



5. cages must be fitted with suitable claw-shortening devices.

### Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group, e.g. yes/no, how much, how often, how long, when etc. The standard of management / husbandry also plays a key role.

Resource:

- Space allowance: cm<sup>2</sup>/bird, total area
- Cage height
- Perch space / bird
- Availability of nest
- Availability of litter / scratch area
- Feed space – 12cm / bird minimum
- Number of nipple drinkers
- Presence of claw shortening devices

Animal Based:

- Egg number, weight
- Shell quality
- Mortality / Disease
- Veterinary treatments
- Incidence of disease
- Incidence of feather pecking / Feather loss / Cannibalism
- Incidence of lesions / body condition
- Perching
- Nesting
- Scratching / Pecking
- Bone Breakage at the end of Lay – see *EAWP EGG 11.01*

Monitoring of all resource based measures can take place at the farm. Data should be collected separately for each house and related to performance indicators in that house.

The animal based measures fall into 2 groups: egg number, egg weight, shell quality, mortality, veterinary treatments, incidence of disease, feather pecking and lesions are measures used relatively routinely on farms. However, measures (e.g. bouts, duration) of perching, nesting and scratching behaviours would most probably be used as part of an R&D programme.

The incidence of bone breakage would normally be measured at the slaughterhouse.



The results of the animal based monitoring should always be related to individual houses and flocks. A general database should be created to maintain and update the data and to act as a reference centre.

### **Existing Best Practice**

Since enriched cages will be new to many farmers over the forthcoming years it is important that effective management strategies are shared and disseminated quickly and widely.

Existing best practice for the enriched cage would be to not only comply with the absolute requirements of the new legislation, but also to adopt the spirit of the code in terms of the birds' ability to exhibit natural behaviours including perching, nesting, scratching and pecking, wing stretching and flapping. The layout and design of the cage are critical factors that determine whether or not the above requirements are satisfied. Lighting also appears to play a critical role in that providing different light levels in different areas of the cage can promote a range of desired activities.

The system must also facilitate effective inspection, identification and management of disease and behavioural vices.

Enrichment devices, e.g. bunches of baling twine, designed to reduce the occurrence and / or intensity of undesirable behaviours should be employed.

### **Short term goals**

In the short term it is suggested that strategies are developed to:

- Effectively disseminate guidance on the appropriate management of enriched cages to maximise welfare and performance within the existing systems
- Identify opportunities / key features to improve designs
- Identify and communicate R&D priorities

### **Long term goals**

- Cage designers must be encouraged to incorporate the evolving experience of managing these new systems into future design strategies



- Studies should be undertaken to firmly establish the welfare status of the birds housed in these enriched systems and, more specifically, whether there is sufficient space available
- Continued development of practical and effective environmental enrichment.

### **R&D Requirements**

The R&D programmes required to facilitate achievement of the long term goals are:

- An independent study to determine all relevant welfare needs of laying hens housed in enriched systems and to identify the most effective, practical measures
  - The study should include a review of cage design and the effects of lighting on behaviour
- Systematic studies to further develop the most effective and practical forms of environmental enrichment and stimulation to provide the birds with a 'safe and interesting world'.



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## Strategic Approach Document

Ref: EAWP EGG 02

**Title: Key welfare issues in Laying Hens related to electrical stunning**

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This strategic approach document addresses the following related welfare issues:

EGG 02.01	Shackling / Inversion
EGG 02.02	Hang-to-stun Time
EGG 02.03	Effectiveness of Electric Stun

*N.B. The content of this best practice document is very similar to that of the electrical stunning document for Broiler Chicken Production. The systems and issues involved are viewed as common to both types of poultry.*

### Background note on stunning systems

The present strategic approach document focuses solely on electrical stunning because this emerged as a priority issue in the EAWP stakeholder survey. However it is important to note that gaseous stunning (and killing) is increasingly used as an alternative to electric stunning. A number of systems exist and these vary in the gases, mixtures and concentrations used and in whether the process is single or two-phase. Debate continues regarding which of these systems is the best in terms of welfare and product quality. However, the reduced handling required and the avoidance of shackling and inversion of conscious birds are regarded as important welfare benefits of gaseous stunning. Commercial benefits include: less bone breakage (important for deboning and product quality); the possibility to cut on the same day as slaughter (no need to wait for rigor mortis to dissipate).

Regardless of the system used it is important to remove the birds from the transportation crates with care, thereby minimising distress and the likelihood of wing or leg damage.

### Shackling and Electric Stunning

A number of different electric waterbath stunners are currently used. The equipment produces a variety of wave forms as well as differing frequencies, voltages and amperages.

Waterbath systems stun several birds at a time and each of the birds presents a different electrical resistance due to differences in their size and conductivity. This means that the birds are effectively receiving different currents whenever a constant voltage system is used.



On 1<sup>st</sup> January 2013, regulation (EC) No 1099/2009 must be implemented; this presents some limits for such settings. The key points of this legislation are detailed in this strategy document (see below).

Currently, the simple (and only) requirement is that birds should not recover from the stun before death.

There is a conflict between depth of stun and meat quality in that a 'deeper' stun is generally considered to cause more problems in the finished product. These largely manifest themselves as haemorrhages in the muscle, especially in the breast meat.

Many birds in the EU are now stunned and killed subject to particular methods of slaughter prescribed by the rites of various religious organisations; for example, halal slaughter demands that the birds are not killed by the stun. These systems also tend to result in a 'lighter' stun being given to the birds.

For present purposes the overall process is considered in two parts; Shackling and Stunning.

The key issues associated with these processes include:

### **Shackling**

- Inversion - birds show behaviours indicative of aversion and distress (violent struggling, wing flapping and vocalisation) when inverted and hung upside-down in metal shackles
- Excess hang to stun time – it is thought that the time from shackling to stun should be minimised. More specifically, it is suggested that birds require a 'settling' period of around 15 seconds, and that after this time they should enter the stunner as soon as possible
- Poor line design – lines with corners and obstructions cause disturbance to the birds. The line should be as straight as possible and have no obstructions with which the birds might collide

### **Stunning**

- Poor waterbath entry – entry into the stunner should be immediate. Problems of pre-stun shock are observed in poorly designed systems; birds receive an electric shock just before entering the bath which causes them to recoil from the system. This in turn can cause the birds to 'fly' the bath, where they flap their wings and avoid entering the water for some, or all, of the length of the bath.
- Incorrect waterbath height – it is critical that all birds enter the bath. Birds that are too small should not be hung and the bath must be set at the correct height
- Ineffective stun – it is a major issue if birds emerging from the waterbath are ineffectively stunned. There are several reasons why this can occur, including the settings of the stunner



itself. Assessing whether a bird is effectively stunned is difficult and there is still much debate as to what are the critical signs.

## Legislation

Council Regulation (EC) No 1099/2009 of 24 September 2009, on the protection of animals at the time of killing, states:

6.1. Animals shall not be shackled if they are too small for the waterbath stunner or if shackling is likely to induce or increase the pain suffered (such as visibly injured animals). In these cases, they shall be killed by an alternative method.

6.2. Shackles shall be wet before live birds are shackled and exposed to the current. Birds shall be hung by both legs.

6.3. For animals referred to in Table 2, animals shall be exposed to that current for a minimum duration of at least four seconds.

Table 2 — Electrical requirements for waterbath stunning equipment (average values per animal)

Frequency	Current
< 200 Hz	100 mA
From 200 to 400 Hz	150 mA
From 400 to 1500 Hz	200 mA

### 3. Chapter III

#### Annex 2 – Layout, Construction & Equipment of Slaughterhouses

5.2. Shackle lines shall be designed in such a way that birds suspended on them will not remain hung conscious longer than one minute.

5.3. The whole length of the shackle line up to the point of entry into the scald tank shall be easily accessible in case animals have to be removed from the slaughter line.

5.5. Waterbath stunning equipment shall be equipped with an electrically insulated entry ramp and designed and maintained so as to prevent overflow of water at the entrance.



5.8. A system in contact with the breast of the birds shall be built from the point of shackling until the birds enter the waterbath stunner in order to calm them down.

#### 5. Article 4 – Stunning Methods

In the case of animals subject to particular methods of slaughter prescribed by religious rites, the requirements of paragraph 1 shall not apply provided that the slaughter takes place in a slaughterhouse

### Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group, e.g. yes/no, how much, how often, how long, when etc. The standard of management also plays a key role.

Resource:

- Stunning Equipment
  - Wave form
  - Voltage (Volts)
  - Frequency (Hertz)
  - Amperage (amps)
- Number of birds in the water bath
  - Average amps / bird (calculation)
- Line speed (birds / minute)
- Hang-to-stun time (measured from hang-on point furthest from the stunner)
- Breast comforter (presence / absence)

Animal Based:

- Bruises to wings and legs (discount green farm-related bruises)
- Dislocations of wings and legs (discount dislocations caused by the de-feathering equipment which do not have an associated haemorrhage)
- Effectiveness of stun – (depending on type of stunner):
  - Rhythmic breathing
  - Nictitating eyelid reflex
  - Neck tension
  - Posture
- Fear / avoidance behaviour at the point of hang-on (excess flapping, struggling, vocalisation)
- Evidence of pre-stun shocks



Management Based:

- Staff technique at hang-on

All data collected is typically recorded by 'vehicle-load' of birds delivered to the slaughterhouse. This data is then related to the house of origin. For many of the animal based measures, a sample of birds is normally assessed from within the load. A sample size of 100 birds for each issue is typical.

Camera grading systems are available to measure carcase quality and these can generate useful data for the assessment of bruising. However, interpretation of the data can be problematical because it is difficult to determine the exact time that the bruising occurred. For instance, the bird could have suffered bruising at the farm, during catching or transport, when hung on the shackles or at stun. In this context, consideration of factors such as the farm of origin, catch team etc could be helpful

### **Existing best practice**

The occurrence and intensity of behaviours indicative of fear, aversion and distress may be reduced by:

- Good hanging technique: struggling, flapping and vocalisation are often reduced if the birds are shackled with minimum force and the operative then briefly holds the back of the bird.
- Hanging the birds by both legs (and not one as sometimes occurs)
- The presence of an effective breast comforter
- A short, straight shackle line
- A smooth entry into the bath, thereby avoiding pre-stun shock
- An effective and complete stun

### **Short term goals**

In the short term, strategies should be developed to:

- Disseminate a guide to best practice to optimise performance of existing systems
- Adapt systems to ensure they are compliant with forthcoming legislation



- Identify and communicate R&D priorities

### **Long term goals**

- Identify and implement alternatives to conventional shackling
- Identify and implement alternative stun systems that will limit damage to product quality while maintaining good standards of welfare
- Ensure that the birds are always stunned effectively

### **R&D Requirements**

The R&D required in order to achieve the above long term goals are:

- Identify, test and develop effective welfare-friendly alternatives to conventional shackling, e.g.
  - Upright stunning
  - Conveyor support systems
- Identify, test and develop effective welfare-friendly and economically viable stun systems, e.g.
  - Head only stunning
  - Constant current stunning
- Establish reliable and practical methods for identifying an effective stun in a commercial situation



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## Strategic Approach Document

Ref: EAWP EGG 03

**Title: Key welfare issues in Laying Hens related to manual catching practices**

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This strategic approach document addresses the following related welfare issues:

<b>EGG 03.01</b>	<b>Catching Practices – Manual</b>
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### Catching Practices

There are 3 types of equipment used in the catching of layers:

- Modular systems e.g. Stork, Anglia Autoflow, Linco
- Loose crates
- Vehicles with fixed containers, commonly referred to as 'side-loaders'

Depending on the equipment used and the type of housing system in the shed that is being depopulated, there are 2 basic ways of organising the catching. In a minority of cases modules or baskets are taken to the birds; this is sometimes possible in floor-based systems where house access for machinery and equipment is feasible. More commonly, the birds are carried out of the building to the modules / loose baskets which remain on the vehicle or to side-loader vehicles. This is always the case when depopulating caged systems.

When removing the birds from the cages care must be taken not to damage them through collision with the doors or the feed track which typically runs along the front of the cage.

Commonly, the problems associated with manual catching manifest themselves as carcass bruising or limb dislocations. Issues include:

- Breast bruising
  - Caused by collision with the feed trough in cage systems
- Wing bruising / dislocation
  - caused when the birds collide with the cage structure (doors, feed trough)
  - caused by flapping when the birds are inverted for carrying
- Leg bruising
  - Caused by poor catching technique, e.g. if single leg catching is used. This is more common when filling the top drawers of a module

Care must also be taken not to trap and injure the birds when the drawers are closed in modular systems.



## Legislation

Currently, there is no specific legislation regarding catching other than the basic animal welfare recommendations regarding the handling of animals. There is, however, legislation relating to the number of birds placed in each transport basket, (this is covered in the Strategic Approach Document, *EAWP – EGG 05*, which focuses on the transport of laying birds).

## Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group, e.g. yes/no, how much, how often, how long, when etc. The standard of management / husbandry also plays a key role.

Resource:

- Catching team identity
- Birds / hour / man
- Type of equipment – modules / loose baskets
- Stocking density per basket ( $\text{cm}^2 / \text{kg}$ )
- Catching technique – number of birds per hand, single leg or two leg catching
- Supervision – is there a farm representative present?
- Use of a breast support slide?
- Lighting

Animal Based – take one sample from every load:

- Weight of bird
- Percentage wing bruising/dislocation caused by catching
- Percentage leg bruising / dislocation caused by catching
- Percentage dead on Arrival

Monitoring of all resource based measures can take place at the farm. Data should be collected separately for each house and related to the loads caught from that house.

The animal based measures should be recorded at the slaughterhouse. All data collected is typically recorded by 'vehicle-load' of birds delivered to the slaughterhouse. This data is then related to the



house of origin. For many of the animal based measures, a sample of birds is normally assessed from within the load. A sample size of 100 birds for each welfare issue is typical.

Camera grading systems (image analysis) are available to measure carcase quality and these can generate useful data for the assessment of bruising. However, as with visual assessment, interpretation of the data is often problematical because it is difficult to determine the exact time that the bruising occurred. For instance, the bird could have suffered bruising at the farm, during catching or transport, when hung on the shackles or at stun.

### **Existing Best Practice**

Several practical measures can be taken to minimise problems during the process of manual catching.

In cage systems best practice would be to:

- Grasp the birds by both legs when removing them from the cage
- Use a 'breast support slide'. This is a device which fits into the feed trough and acts as a slide to facilitate the passage of the birds from the cage
- Carry no more than 6 birds at a time (3 per hand)
- Ensure that 2 teams work in tandem, one from either side of the cage. Due to the size of enriched cages it is not actually possible to catch all the birds from only 1 side
- The system should be designed to incorporate a fully opening cage-front. This maximises access and reduces the likelihood of damaging the bird on removal

In floor-based systems best practice would be to:

- Ensure as much equipment as possible is removed from the house before the start of the catching process
- Ensure that the lights are dimmed to minimise bird disturbance.
- Bring the equipment as close as possible to the birds
- Catch the birds by both legs
- Carry no more than 6 birds at a time (3 per hand)

In all systems it is recommended that a representative of the farm staff is present to supervise the catch and to deal with any issues that may arise. The supervisor must ensure that all the birds are adequately ventilated and that their behaviour is monitored to avoid the risk of smothering and injury.

### **Short term goals**

In the short term it is suggested that strategies are developed to:



- Effectively disseminate guidance as to best catching practice
- Improve recording systems in slaughterhouses to measure the extent of any problems accurately and relate the data back to the farmer and the catching teams.
- Establish international benchmarking of performance
- Improve training, including the certification of catchers to promote best practices
- Identify and communicate R&D priorities

### **Long term goals**

- To develop catching systems where the equipment is brought to the birds thus negating the requirement to carry them over long distances

### **R&D Requirements**

The R&D required to aid achievement of the long term goals are:

- Develop and test catching systems that eliminate the need to carry the birds over long distances between cage and vehicle.
- Currently, most of the R&D is carried out by the manufacturers of automated catching systems. It is suggested that funding should be made available to support independent integrated projects involving researchers, equipment manufacturers and other stakeholders to develop practical welfare-friendly solutions to the problems caused by manual catching.



## Strategic Approach Document

Ref: EAWP EGG 04

**Title: Key welfare issues related to thermal comfort during transportation of day old chicks**

This strategic approach document addresses the following welfare issue:

EGG 04.01	Transport – Chicks: Thermal Comfort
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### Chick Transport

Chicks are very resilient in that they have a yolk sac which supplies them with nutrients for the first 72 hours of their life. Day old chicks are commonly transported from the hatchery to the rearing farms in cardboard chick boxes or plastic trays. They are almost always carried in specially designed vehicles that are equipped with climate control systems or appropriate ventilation.

This practice was identified as a welfare issue by the stakeholders who participated in the EAWP survey. However, the experts' view is that this is a perceived problem rather than a real one, because the technology to minimise thermal (and hence welfare) insult is already in place as described above.

### Legislation

Council Regulation (EC) No 1/2005 of 22 December 2004, on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97: CHAPTER VII: SPACE ALLOWANCES

Minimum floor areas shall be provided as follows:

Category	Area in cm <sup>2</sup>
Day-old chicks	21 – 25 per chick

### Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group e.g. yes/no, how much, how often, how long, when etc. The standard of management also plays a key role.

Resource:

- Vehicle



- Ventilation system / Climate control
- Temperature in transit (data logging)

Animal Based:

- Dead on Arrival
- Transport time
- Parent flock

The number of chicks dead on arrival should be monitored for each parent flock delivered to each poultry house. This data should be related to the vehicle and driver and to the temperature in transit.

### **Existing best practice**

Always use a vehicle that has an environmental control system which can be set according to the prevailing conditions.

The temperature in the load should be displayed in the driver's cab so that remedial action can be taken in the event of any deviation from the ideal temperature.

Drivers should be equipped with mobile telephones to allow them to source help in an emergency and to advise the farmer of possible delays.

Chicks should ideally be delivered early in the working day so that the farmer has ample opportunity to settle the birds before their first dark period.

### **Short term goals**

Short term, strategies should be developed to:

- Disseminate a guide to best practice to optimise performance of existing vehicles, equipment and practices

### **Long term goals**

- Identify and implement new and improved technologies in the field of animal transportation

### **R&D Requirements**



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The R&D programme required to achieve the above long term goal is:

- Studies to develop, validate and test welfare friendly, economically viable technological innovations in this field



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## Strategic Approach Document

Ref: EAWP EGG 05

### Title: Key welfare issues in Laying Hens related to transportation

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This strategic approach document addresses the following related welfare issues:

EGG 05.01	Transport – Breeders & Layers: Thermal Comfort
EGG 05.02	Transport – Breeders & Layers: Journey Time
EGG 05.03	Transport – Breeders & Layers: Space Allowance

#### Transport of Breeders & Layers

Slaughterhouses capable of processing end of lay hens are specialised, relatively few in number and geographically widespread. This means that transport times are often long.

Slaughterhouses which routinely process broilers are more abundant, but these facilities are generally not equipped to deal with laying birds because: layers require a hard scald, the plucker fingers will not de-feather the birds effectively, and some of the processing equipment is not suitable. The risk of disease transfer also prohibits sharing of facilities.

Potential welfare problems associated with loading and transportation include:

- Excessive journey durations
- Birds can suffer cold stress
- Birds can suffer heat stress

These problems may lead to distress and, ultimately, death, (thus reducing welfare and profitability).

Occurrence of the above problems is sensitive to variations in several factors such as vehicle design, stocking density, vehicular breakdown (see below).

#### Legislation

Council Regulation (EC) No 1/2005 of 22 December 2004, on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97: CHAPTER VII: SPACE ALLOWANCES

Minimum floor areas shall be provided as follows:



Category	Area in cm <sup>2</sup> per kg
Poultry other than day-old chicks: weight in kg	
< 1,6	180 – 200
1,6 to < 3	160
3 to < 5	115
> 5	105

These figures may vary depending on the weight and size of the birds as well as their physical condition, the meteorological conditions and the likely journey time.

### Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group, e.g. yes/no, how much, how often, how long, when etc. The standard of management also plays a key role.

Resource:

- House / flock ID
- Vehicle
  - Trailer ID
  - Curtains – open / closed
- Driver
- Equipment – module / loose baskets / side-loaders
- Ambient temperature
- Cooling of vehicle during loading in hot weather e.g. fans, spray

Animal Based:

- Loading / Transport time (problems / delays en route)
- Stocking density
- Dead on Arrival

The number of birds dead on arrival should be monitored at the slaughterhouse for each load and related to the resource measures. Recording the position of crates containing high numbers of DOAs on the vehicle could also yield useful information.

### Existing best practice

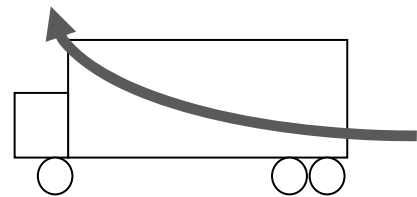
Several practical measures can be taken to minimise problems during the process of loading and transportation:



Measure bodyweight and feather score before loading to determine the appropriate stocking density per basket according to the prevailing weather conditions. Typically, the number of birds per basket is reduced in hot weather.

Modify trailer ventilation, and hence air flow, to suit the weather conditions. This typically involves simple measures such as opening or closing curtains and adjusting the vents on the tail board.

It is important to remember that air flows from the back of the truck to the front when in motion. In cold wet weather the risk area is at the bottom of the back of the truck. It may then be necessary to increase protection of this area from road spray. Conversely, in hot weather the danger area is at the top front of the vehicle. Checks should focus on these two areas, according to the weather conditions, and remedial action taken if necessary.



On hot days it is advisable to load the vehicle from the back to the front because the front stacks will become hotter during transit. Fans and sprays could also be used to cool the lorry during loading. In extensive systems it may be possible to keep the loaded modules inside the house until the catching process is complete and only then move them out to the vehicle. When loading modular systems in hot weather it is advisable to load every second stack onto the vehicle (thus leaving spaces to allow greater air flow around the baskets) and to then fill in the gaps.

With loose basket systems it is essential that baskets are stacked so that a space for air flow is maintained between each row.

Drivers must understand that the vehicle has to be in motion to ensure effective ventilation. The driver may have to stop because of breakdown, traffic congestion, or to avoid exceeding legal driving times. In this case, if at all possible he/she should consider where to park the vehicle (in the shade during hot weather), and whether to adjust the ventilation equipment, e.g. opening or closing the curtains. It is good practice to provide the driver with a mobile phone so that he/she can appraise the slaughterhouse manager of any unexpected situation and/or seek help. Fitting the vehicle with a tachograph discourages unnecessary breaks.

### Short term goals

In the short term it is suggested that strategies are developed to:



- Effectively disseminate guidance as to best practice for loading and transportation.
- Establish international benchmarking of DOAs during transportation.
- Full EU-wide implementation of driver training and certification.

### **Long term goals**

- Apply cost-benefit analysis to determine if the Concept 2000 system (a power-ventilated poultry trailer) or an alternative could be practically implemented.
- The use of a fully air-conditioned vehicle has been suggested as a long term goal. However, because this could generate substantial and possibly insurmountable practical problems (e.g. size of cooling unit required, contingency in cases of breakdown), a thorough evaluation of viability is necessary (see below).

### **R&D Requirements**

The R&D required to achieve the long term goals are:

- An integrated project (researchers + industry) focusing on a cost-benefit analysis of the potential implementation of the Concept 2000 and/or other systems of transportation.
- Desk-based exercise (involving researchers and industry experts) to determine the feasibility of using a fully air-conditioned system



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## Strategic Approach Document

Ref: EAWP EGG 06

Title: Key welfare issues in Laying Hens related to unloading

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This strategic approach document addresses the following welfare issue:

EGG 06.01	Breeders and Layers: Unloading Technique
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### Unloading of Breeders and Layers

This strategic approach document focuses on the common practice of transporting point of lay birds from the rearing farms to the breeder or commercial laying units. These units might either have litter floors or be equipped with enriched cages.

'Unloading technique' was identified as a welfare issue by stakeholders who participated in the EAWP survey. However, except for cases of excessive waiting time on farm, the experts' view is that this may be a perceived rather than a real problem, as welfare is thought to be rarely compromised.

There is overlap between this issue and the one on loading and transportation: *EAWP – EGG 05*.

### Legislation

Likely journey time may have influenced the space allowance used (see EGG 05 for Council Regulation (EC) No 1/2005 of 22 December 2004), which may in turn impact on the ease of unloading birds from the crates. Basic animal welfare recommendations regarding the handling of animals apply to the unloading technique

### Monitoring and measuring

There are 2 main types of measures: resource and animal-based. The animal based measures can be taken at different levels according to the interest group e.g. yes/no, how much, how often, how long, when etc.. The standard of management also plays a key role in this case, especially in terms of the quality of handling during unloading:

Resource:

- Farm, house and flock ID



- Vehicle
  - Trailer ID
  - Curtains – open / closed during waiting period
- Equipment – module / loose baskets / side-loaders
- Ambient temperature during waiting period
- Unloading system, e.g. carrying, movement of baskets on trolleys

#### Animal Based:

- Waiting time on farm prior to unloading
- Stocking density
- Bird behaviour whilst waiting to be unloaded e.g. panting
- Injuries sustained during removal from baskets
- Dead on Arrival

#### Existing best practice

Best practice will depend on the type of farms: floor housing or enriched cages.

In the case of floor housing the baskets should be distributed through the house and the drawers removed from the modules. This allows the birds to leave the baskets voluntarily. Any remaining birds should be manually removed, ideally by grasping them around the body with both hands.

For enriched cage systems, if the birds need to be carried over a long distance they should be held by both legs. In all cases birds should be placed into the cage one at a time. Best practice would be to move baskets of birds to the cages to minimise carrying distance.

There is some debate as to whether a vehicle which arrives during the birds' normal night time should be emptied immediately or if the birds should remain undisturbed until they wake up.

#### Short term goals

In the short term it is suggested that strategies are developed to:

- Effectively disseminate guidance as to best practice for unloading
- Establish whether birds arriving at night when they are normally at rest should be unloaded immediately or left undisturbed until morning?



### **Long term goals**

- Determine and implement best practice for unloading birds that arrive at night

### **R&D Requirements**

The R&D need to achieve the above long term goal is:

- Establish the welfare benefits or disadvantages of unloading birds that arrive at night or leaving them undisturbed until morning when they would wake up naturally.