



Welfare Sheet: *Laying Hens*

Hens start laying eggs regularly at around 18 – 20 weeks of age. In commercial systems in Europe they typically lay for around a year before being sent for slaughter as 'spent hens'. Hen eggs are sold as whole eggs ('shell eggs') or broken and processed into liquid and dried egg for use by food manufacturers in a wide range of products, ranging from soups and sauces to ready meals, cakes, biscuits and desserts.

Barren battery/conventional cages

Worldwide, the majority of commercially produced eggs are from hens kept in barren battery cages. Each cage holds several birds with a floor space per bird smaller than the area of an ordinary A4 sheet of typing paper (620cm²). In the USA for example, space allowance is typically around 430 to 550cm² per bird¹. The cage is usually bare except for the provision of food and water and has a sloping wire mesh floor so that the eggs roll away onto a conveyor belt to be collected automatically.



A barren battery cage: the hens cannot exhibit most of their natural behaviours, e.g. spreading their wings.

Welfare issues specific to barren battery cages:

- **Lack of space:** Basic movement and natural behaviours (these are behaviours that are typical for chickens, such as stretching, preening and wing-flapping) are severely restricted, which causes frustration²
- **Exercise is impossible:** The lack of exercise makes the hens more likely to suffer from weak bones and they can become paralysed and die from 'cage layer osteoporosis'^{3,4}. On removal from cages they can suffer broken bones due to handling⁵
- **Barren environment:** Prevents important natural behaviour such as dustbathing, perching and foraging. Hens are highly motivated to use litter for pecking, foraging, scratching and dustbathing, to use perches (particularly prior to nightfall) and utilise additional space⁶
- **No nesting area:** Experiments have shown that hens will make a great deal of effort to gain access to dark secluded areas such as nest boxes to lay eggs⁷
- **Feather loss:** Feather pecking by hens directed at other hens is common in cages and feather loss can also occur from rubbing against the cage^{8,9}
- **Inspection of hens is difficult:** Several tiers of crowded cages make it difficult to inspect hens adequately and in large cage systems, sick or injured hens may not be noticed and be left to die¹⁰.
- **Forced moulting:** In the USA and other countries around the world it is common practice at the end of a year's lay to deprive hens of food for about 2 weeks. This process forces the birds to moult and brings them back into lay with a greater egg yield than prior to moulting. The hens lose a significant amount of weight in that period. This starvation causes severe distress and is banned in the EU and India.



Enriched/Furnished/Colony cages

As of 1st January 2012, barren battery cages have been prohibited in the EU. However, modified cages, also referred to as 'enriched', 'furnished' or 'colony' cages, remain legal. Enriched colony cages typically have 60 or 80 birds per cage. These cages offer the following **improvements to the barren cage**:

- More space with at least **750cm² of floor space per hen**, of which **600cm² must be 'usable'** (still less than the area of an A4 sheet of paper) but in practice modern colony cages provide the whole 750cm² at all times as the nest box (which is created by flaps) is open at all times.
- Secluded **nesting area** allows hens to lay eggs in relative privacy.
- Some **litter material for pecking and scratching** is provided on a dedicated area.
- A suitable **claw shortening device**.
- Birds are given **perches at 15cm per hen**.
- There must be a **minimum of 45cm height** above the usable area.



An enriched cage provides more space for the hens with a perch, secluded nesting area, and litter material to peck and scratch. Space is still very restricted.

Unfortunately a cage is still a cage and there are still limitations to welfare.

Welfare issues specific to enriched cages:

- **Very small litter area:** The litter area is often too small to significantly improve a hen's welfare¹¹ and often only gets scratching material occasionally. The type of material is not specified by law and often hens are just given food from the automatic feeding system
- **Restricted height:** There is a restriction of height within the cage so the birds cannot fly up
- **Low perches:** Perches need to be high up for birds to feel secure. The perches in enriched cages are only slightly raised off the ground due to the limited head height of the cage¹²
- **Overcrowding:** Cages are still crowded¹³
- **Restricted movement:** The hens are still caged and this severely restricts the hen's movements and natural behaviour with only an extra 50cm² – 200cm² usable space than a conventional battery cage¹⁴
- **Dust bathing:** There is no effective dust-bathing facility.



Dust bathing is a natural behaviour which cages do not adequately provide for.

Higher welfare alternatives (non-cage systems)

Non-cage system can provide a higher level of welfare for laying hens.

Barns and aviaries

Barns offer the following improvements compared to cages by:

- Allowing more natural behaviours such as **foraging, scratching** and **laying eggs in a secluded nest site**
- Greater freedom of movement for **exercise, wing-stretching, flapping and flying**
- In the EU: lower stocking density of **9 hens/m² of usable space and 1/3 of the floor area covered with litter**.



This multi-tier barn system allows the birds to move around, flap their wings, forage and perch at varying heights, including at night when they perch high up to feel secure.

The barns may be a single tiered system (using the floor space only but possibly with bars for perches at one height) or have several tiers of platforms allowing birds the freedom to choose where they perform their varying behaviours such as scratching and foraging at lower levels, preening on the intermediates and perching higher up at night.



Wintergardens can be an addition to a shed and provide an enclosed littered area for the hens providing exposure to natural light, temperatures and further options for scratching, dust bathing and foraging.

Free-range and organic systems

In free-range systems hens are housed in sheds similar to barns (including similar stocking densities, perches and nest boxes) but with access to outdoor pasture during daylight hours. Free-range systems offer even greater improvements on indoor sheds alone by:

- Providing **at least 4m² per hen of outdoor space in free range.**

The best systems give all hens easy access to the outside via popholes, and provide natural and/or artificial shelter outdoors to encourage the birds to range without fear of predators. The birds are housed in either stationary sheds or mobile houses. Multiple tiers and perches in sheds allow the birds to perch at night.

Free range and organic systems provide:

- Greater opportunities for **exercise and natural behaviour**, such as exploration and foraging outside for edible vegetation and insects
- **Dust bathing and scratching**
- **Exposure to fresh air and sunlight.**

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Providing vegetation for hens enables them to range further as they feel safe from predators under its shelter.

In free-range systems, the birds are able to range out on pasture during the day allowing foraging, scratching and dust bathing.



In organic production the hens typically have:

- Even more space within the house – In the EU they have a maximum **6 birds per m²**
- Some organic standards also require **more outside space e.g. 10m² per hen (UK Soil Association standards).**

Welfare issues of intensive egg production across all systems:

- **Feather pecking and beak trimming:** Hens may peck at each other's feathers and in some cases this can lead to injuries and cannibalism. Scientists think they do this because they would normally spend much of their time foraging for food but in commercial systems they re-direct this behaviour towards other hens¹⁵. Birds that have lost a lot of feathers suffer from heat loss and need to eat more food with their increased metabolism. To reduce problems with feather pecking and cannibalism, most commercial laying hen chicks have part of their beak cut off (up to a third in the EU), without anaesthetic, which can cause both acute and chronic pain¹⁶.



Birds have their beaks trimmed by either infra-red beams (this is the only permitted method in the Netherlands and UK) or cutting with a sharp blade.

Beak-trimming is often carried out with a hot blade. In the UK and the Netherlands, beak trimming is only permitted using an infra-red beam. However, this method also causes pain^{17 18}. In most cage and non-cage systems, hens will have their beaks trimmed to ensure birds do not injure each other. Some free-range systems manage their flocks to ensure there is a low prevalence of injurious pecking and therefore do not



need beak trimming. However, if a feather pecking outbreak occurs in a non-caged flock, the potential number of hens affected can be greater than when the hens are housed in small groups in cages. Beak trimming is banned in organic farming in the EU.

- **Breeding and bone breaking:** Modern commercial hens have been bred to produce a very high yield of eggs. Selection for high yield has diverted the hen's calcium reserves into egg production rather than bone maintenance^{19,20}. Hens use too much of the calcium reserves in their bones and so tend to develop osteoporosis, which makes bones brittle and can increase the risk of fractures. Caged birds often suffer broken bones when they are removed from the cages at the end of their lives²¹. In other systems, particularly in multi-tier systems, hens may break bones during their lives²² as a result of collisions as they move around the shed²³. Suspended perches that allow movement have the greatest risk. Compassion believes perching high up is very important to the welfare of the hen therefore the use of fixed aerial perches that birds can see easily and allow easy landing are best.
- **Killing of male chicks:** Hens are selectively bred for high yield of eggs, so the males can therefore not be used for meat production because they do not have sufficient breast muscle. On hatching, chicks are sexed and the males are immediately killed, normally either by gassing or suffocation or by 'instantaneous mechanical destruction' (crushing or slicing between rollers) believed to be the most humane option for day old chicks²⁴.



Male chicks are killed at one-day old by either maceration or gassing as the laying hen breed has been selected for egg laying.

- **Rearing of pullets:** Pullets tend to be reared in barn systems. This means that free-range birds will spend the first 16 weeks indoors (except for some organic schemes that require the hens to range from at least 12 weeks). Pullets given a wintergarden or pasture area to range in from a younger age tend to be encouraged to range more later on in life.
- **Catching and transport:** At the end of their laying life, 'spent' hens are removed from their laying system and packed into crates for transport to slaughter. The hens are normally carried upside down by one or two legs and are often damaged in the process. In transport vehicles, hens can suffer and even die from heat, cold, wetting, overcrowding and suffocation. Hens typically travel further to a slaughterhouse than broilers (meat chickens) as there are fewer abattoirs designed to take spent hens and they have very little commercial value for meat production. These issues pose serious welfare issues for the hens at the end of her life.
- **Slaughter:** Hens are usually slaughtered using an electrified water bath stun followed by throat cutting or gassing with either inert gases or CO₂. Shackles are used to hang fully conscious hens on an overhead conveyor belt by their feet. They are then moved through the electrified water bath to stun them before their throats are cut. Being hung upside down by their legs is likely to be painful; especially if the hen has been damaged during crating and transport (it is notable that shackling of conscious animals pre-stunning is forbidden for animals other than poultry in the EU). A proportion of birds may miss the water bath and/or are not effectively stunned before their throats are cut.



Laying hens are hung on an overhead conveyor belt like these broilers to be slaughtered, where their heads go into a water bath stunner and then their throats are cut.

Gas stunning systems reduce the stress of handling as the hens remain in their crates while being gassed. There is debate among academics as to which gas concentrations are best for welfare.



Moving towards the highest welfare systems

While well-managed free-range systems are a great improvement on indoor (caged) systems they can leave some welfare issues unresolved (see above). Our aspirations for the highest standard is a free-range system achieving the best standard of health and welfare and an optimum quality of life for laying hens from the point of breeding and hatching through to the point of slaughter.

The Rondeel is a unique sustainable housing system for laying hens, developed in the Netherlands with input from the general public, scientists and the poultry industry. The Rondeel has a unique circular design consisting of several components. The night quarters provide for the hen's primary needs: eating, sleeping, resting and laying eggs using existing multi-tier aviary components. The day quarters and the wooded fringe provide opportunities for foraging, scratching and dust bathing and overhead cover. The wooded fringe can be closed off if the hens are needed to be kept indoors. The central core provides work space for the poultry farmer and space for visitors where they can view the hens. The system uses natural ventilation and manure-drying with heat exchangers. Practical experience so far has shown that it is possible to keep non-beak trimmed hens in this system with good feather cover.

Click here to see the [Rondeel](#) website for more information.

The ideal system is free range incorporating:

- Breeding flocks kept at the same standard as laying flocks, i.e. with access to outdoor range from a suitable age
- Male chicks that are reared for meat (i.e. dual purpose breeds)
- Growing pullets destined for the laying flock have access to outdoor range from a young age
- Housing has sufficient numbers of exits or 'popholes' to ensure that all hens can leave the house when they want
- Use of moveable houses for hens, enabling rotation of pasture to maintain pasture quality and control parasites
- For larger fixed houses, a limited number of hens per house (for example 500–1000)
- Low density of hens per house (for example, 6 hens per m²)
- Encouragement of social groupings and avoidance of social conflict
- Range provided with trees, bushes or other cover to imitate the chicken's natural woodland habitat and reduce fear of predators, thus encouraging ranging
- Individual catching and carrying of hens, using two hands around the body (not by legs)
- Short transport distance to slaughter
- Hens are effectively stunned or killed (by gas or electrical means) before shackling or gas killing using no shackling.

We expect that this leads to:

- No culling of male chicks
- 90% of hens/pullets seen ranging and foraging daily during period of outdoor access
- Hens performing a full repertoire of natural behaviour
- Low burden of external and internal parasites
- Low levels of mortality
- No beak trimming of breeding or laying flocks
- No injurious feather or body pecking
- Good body condition at end of laying/breeding period, with good feather cover
- Low incidence of bone breaks during laying period
- No bone breaks or other injury due to catching and transport
- No pain and stress related to stunning and slaughtering procedure.



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