



FVE Position paper on moving towards more animal welfare friendly systems for laying hens

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Summary

Enriched cages are receiving increasing scrutiny as they restrict the ability of laying hens to perform inherent behaviours and thereby enjoy positive experiences and a Good Life. Some countries and several retailers have already made cage-free commitments.

The veterinary profession should provide leadership in the transition from enriched cages to alternative systems by providing guidance on improving the welfare of laying hens in current alternative systems and by contributing to the development of better alternatives.

The transition should be gradual with a reasonable (but not excessive) transition period. Care should be taken that the newly advised systems are future proof in terms of meeting the animals' physical, mental and behavioural needs, ensure food safety, have low dependency on veterinary medicines and are viable from a socio-economic and environmental perspective.

Context

- Laying hens are sentient beings. They are a gregarious species with elaborate social behaviours based on a definite group structure when kept in flocks. They have excellent vision and hearing. They can recognise flock mates. They communicate with each other by displays or changes in posture or distinctive calls. Pecking behaviour and social signalling is very important. The desire to roost or perch above the ground is an inherent protective mechanism against ground predators. Preening and dustbathing are other inherent behaviours to maintain feather condition.
- Animal welfare, including physical health, is an essential aspect of sustainable livestock production systems. This entails that animals shall be kept in environments with which they can cope, be free from unnecessary suffering and be able to express important behaviours and not suffer from frustration and boredom. Animal husbandry systems shall allow for a good quality of life for animals and respect the 5 freedoms. In general, the environment shall be designed to fit the needs of animals, not the other way around.
- The concept of animal welfare is also changing – from a sole focus on freedom from negative experiences, to also include positive experiences. We need to move towards systems where animals do not just survive, but are able to experience a Good Life (Mellor et al., 2016; Webster et al., 2016).
- In recent years, several countries (e.g. Austria, Czech Republic, Germany, France, etc) and many companies (including many of the big retailers) have made cage-free egg commitments for both table eggs and shell eggs to move to cage-free systems by 2025 or sooner (EggTrack European Report 2020). This will increase the demand for cage-free eggs in the near future. In some countries, e.g. Denmark and Sweden, some

large retailers have stopped selling eggs and egg products from cage-systems due to decreased consumer demand and pressure from animal protection societies. In Denmark and Sweden, these market trends have led to a steep decline in the number of enriched cage systems for laying hens, and a similar but slower trend can be noticed in other countries.

In e.g. Germany, enriched cages have been banned since 2016, with a transition period for buildings approved prior to March 31st 2012 to December 31st 2025.

- The growing concern of the public and consumers is also evident from a recent European Citizens Initiative that collected more than 1.5 million signatures in 2019 calling to end extreme confinement of farm animals in the European Union (EU). Animal welfare is an essential aspect of sustainable livestock production systems. Besides the ethical responsibility to the animals, consumer expectations have increased towards animal welfare.
- Feather pecking is a welfare issue, both physically and as a sign of stress due to suboptimal conditions for the birds. In some situations beak trimming may have a preventive effect on injurious feather pecking. European legislation (Council Directive 1999/74/EC) prohibits mutilations, while leaving a possibility for member states to still authorise it, to prevent feather pecking and cannibalism. Beak trimming is banned in some countries and farm assurance systems.
- Note: This paper relates to laying hens producing table eggs, not to breeders.

Role of the veterinary profession

- Enhancing, protecting and securing the health and welfare of animals is the veterinary profession's fundamental purpose. As advocates for good animal welfare, the veterinary profession should lead in terms of defining and supporting the achievement of a good quality of life and a humane death for all animals¹. The veterinary profession should inform and raise societal awareness, inspire, facilitate, and lead in societal discussions on animal welfare by providing science-based knowledge, ethical reasoning and practical guidance. The veterinary profession should actively engage with and facilitate collaboration between researchers, industry (e.g. farmers and breeding companies), authorities and other relevant stakeholders to stimulate lasting improvements to animal welfare. Further research should be done on the ethology and principles of welfare science around the farming of laying hens.
- As independent advisors, veterinarians should continue to inspire, support and work with farmers to adapt husbandry systems to improve animal welfare. Economically viable transitions to husbandry systems with a higher potential to provide positive experiences, such as expression of inherent behaviours, while limiting negative experiences, should be encouraged and supported by veterinarians from a veterinary science-based perspective. Veterinarians should advise on responsible and prudent use of veterinary medicines, adapted to the different husbandry systems.
- Changes to husbandry systems may involve large investments from farmers and the financial sector. Veterinarians play an important role as independent advisors to support farmers and other stakeholders to take on-board animal welfare in decisions

¹ <https://www.fve.org/cms/wp-content/uploads/FVE-AVMA-CVMA-position-statement-on-animal-welfare-Clean-Version.docx.pdf>

regarding changes to husbandry systems, whether small or large scale, to ensure that systems are futureproof in animal health and welfare terms.

- FVE promotes regular veterinary visits alongside leading in improving stockmanship awareness and training on aspects of positive animal welfare and preventative disease strategies to all establishments with animals. The specific on-farm knowledge of veterinarians pose a unique opportunity to provide customised advice to farm-specific animal welfare challenges. The farm-specific knowledge of veterinarians is central in order to minimise potential negative impacts during transitions to alternative husbandry systems.

Problem statement

- Unenriched cage systems for laying hens originally came about to improve productivity and efficiency of egg production with the benefits of better hygiene and lower disease occurrence (Duncan et al., 2001; Appleby et al., 2003). Since the EU-ban on unenriched cage systems in 2012, enriched cage systems have been the only allowed cage system for housing of laying hens in the EU².
- Enriched cage systems provide similar as unenriched cages with some extra benefits (e.g. perches). However, the move towards increased emphasis on positive experiences and expression of inherent behaviours as an integral aspect of animal welfare calls for a critical review of the potential of enriched cages to offer a Good Life to laying hens, including the performance of a range of highly motivated behaviours.
- Substantial scientific knowledge about hen welfare in enriched cages as well as alternative systems (e.g. barn, free-range³ and organic systems) exist but the specific welfare challenges differ.
 - Welfare challenges of current alternative systems, whether floor housing or aviaries, include (non-exhaustive):
 - Mortality: Most earlier studies comparing mortality in cage and alternative husbandry systems report higher than average mortality risk in alternative systems compared to enriched cages (e.g. Sherwin et al., 2010; Weeks et al., 2016). However, the variation in mortality in free-range systems indicates a potential to obtain a low mortality in alternative systems (Weeks et al., 2016). A large meta-analysis showed in systems other than conventional cages, mortality gradually drops as experience with each system builds up: since 2000, each year of experience with cage-free aviaries was associated with a 0.35–0.65 % average drop in cumulative mortality, with no differences in mortality between caged and cage-free systems in more recent years. (Schuck-Paim et al., 2021)
 - Flock size: In terms of flock size, alternative systems usually involve bird groups exceeding the number of hens that can form a hierarchical social structure. Some studies have suggested that undesired behaviours such as feather pecking and cannibalism are more likely to occur in larger flocks (Rodenburg et al., 2005), as is characteristic in current non-cage systems. Comparisons of plumage condition of hens in enriched cages and alternative systems have also indicated a better feather cover of hens in enriched cages (Sherwin et al., 2010). However, feather pecking and cannibalism are also

² https://ec.europa.eu/food/animals/welfare/practice/farm/laying_hens_en

³ In free-range systems the birds have access to an outside area.

associated with several other risk factors, eg. genetics, housing and management (EFSA,2005).

- Welfare challenges of hens housed in enriched cages include:
 - Space allowance: Limited space allowance of enriched cages pose limitations in the ability to display aspects of behaviour for which the birds have innate motivation, such as preening, pecking, foraging and dustbathing (Rodenburg et al., 2005; Lay et al., 2011). Other authors have concluded that more research is needed to understand the space requirements of hens in terms of available resources and social structure (Widowski et al., 2016).
 - Complexity of the environment: Although enriched cages do provide more options for expression of inherent behaviours than unenriched cages, non-cage systems, and in particular free-range systems, provide a more varied range of enrichments for hens to express a broader repertoire of inherent behaviours (Lay et al., 2011).
 - Bone strength: Studies have indicated that hens housed in non-cage systems have better musculoskeletal health compared to hens in enriched cages, possibly due to the limitations on movement in cages (Hartcher & Jones, 2017). However, a recent systematic review did not support the link between housing system and prevalence of keel bone fractures (Rufener & Makagon, 2020). Recent evidence also suggests that keel bone fractures are not only caused by external trauma (Thøfner et al., 2020).
 - As illustrated, both enriched cages and alternative systems involve trade-offs in terms of animal welfare. However, when housing laying hens in enriched cages, all the hens in a flock are restricted in terms of their ability to perform inherent behaviours (Rodenburg et al., 2005; LayWel, 2006), and thereby their possibility to enjoy positive experiences. Non-cage systems that provide sufficient space and complexity of the environment, to a higher extent support the behavioural needs of laying hens, though undesired behaviours, such as feather pecking and cannibalism must be controlled to minimize negative experiences (Lay et al., 2011).
 - In the light of the scientific evidence and the evolution of animal welfare, the veterinary profession believes that moving away from enriched cages to more welfare-friendly husbandry systems has the capacity to improve the welfare of laying hens in the EU. The veterinary profession does acknowledge the benefits that enriched cages provide in terms of physical health and efficiency. It is essential that future transitions to alternative husbandry systems are not at the expense of physical health or food safety, but that all possible measures are taken to ensure that future alternative husbandry systems deliver good health outcomes as well as support behavioural needs and provide a range of behavioural opportunities.
 - The husbandry system is not the only impacting factor on the quality of life of laying hens – stockmanship, management practices, genetics of the birds, rearing environment and interactions between these factors play important roles (e.g. Lambton et al., 2013; Janczak & Riber, 2015; Campbell et al., 2019). Genetics of laying hens evolve quickly and breeding companies have a continuous responsibility to monitor and adapt breeding goals to support the best possible animal welfare outcomes.
 - It is crucial for the quality of life and welfare of laying hens that there is a strong focus on disease prevention and control in all production systems, utilising appropriate vaccination and disease monitoring programs. Special attention to parasite infections (e.g.

Ascaridia galli) and infestations should be made when moving to non-cage systems, and monitoring and appropriate disease preventive measures should be used.

- Changes to animal husbandry systems must be both ethically and economically sustainable. From sustainability analysis published to date it appears that non cage systems for laying hens are economically, environmentally and socially similar to enriched cage systems (European Parliament Study 2020). To transition to more animal welfare friendly systems, the transition period needs to be realistic, without being excessive. Changing from enriched cages to non-cage housing of large flocks will require proper training of farm staff to prevent issues like feather picking. It will take some time and effort for the industry and farmers to learn and get used to managing large groups of layers. Intermediate smaller scale changes to reach a complete transition could be considered as a means to gradually improve animal welfare.
- The veterinary profession should facilitate and lead a balanced societal discussion on the potential of current and future husbandry systems to ensure a good quality of life for laying hens, and how husbandry systems can be improved to better meet the needs of laying hens to express inherent behaviours.
- FVE encourages national veterinary associations and bodies to promote the role of veterinarians in ensuring that decisions on changes to husbandry systems take animal welfare – both physical health and opportunities to perform natural behaviour into account. In part, changes will be market led, while for others funding for farmers to change husbandry systems should be foreseen e.g. via the Common Agricultural Policy, farm assurance schemes or national schemes.
- Consumer expectations towards animal welfare have led to changes in husbandry systems for laying hens in some countries. Continued support for current and new alternative husbandry systems are dependent on public interest, understanding and perception of acceptable animal welfare. The veterinary profession should encourage and educate citizens to support animal welfare-friendly products through their purchases, in turn supporting a sustainable transition towards husbandry systems, that have the ability to balance both behavioural and health needs of laying hens and food safety.
- The veterinary profession should continue to promote consumers valuing animal-derived food, reflected in fair prices that support a Good Life and humane death for farmed animals.

Recommendations

- Recommendations to move away from cage systems shall not only apply to laying hens in the production phase, but also to pullets and breeding stocks.
- To be sustainable, ***future husbandry systems for laying hens shall protect both the physical health and mental wellbeing*** of laying hens, provide positive experiences while limiting negative experiences, and including the opportunity to express inherent behaviours.
- Laying hens ***shall be kept in a way, which neither negatively affects their health nor makes them more susceptible to infectious diseases***. Housing conditions (e.g. space, temperature (e.g. cold winters), air quality (e.g. NH₃ and dust), enrichment, bedding quality, etc.) and the quality of feed and water shall meet the needs of the birds.

- Husbandry systems shall offer opportunities for **positive welfare** such as comfort and pleasure. Research in this field regarding laying hens is currently sparse, but should be prioritised to create a basis for updating recommendations for future husbandry systems.
- Apart from ensuring good animal welfare and health outcomes, future sustainable husbandry systems shall also consider the wellbeing and **safety of producers, hygiene, biosecurity and food safety, the environment and be commercially viable**. Some of these targets will be interlinked – e.g. maintaining a low mortality of laying hens could mean a lower carbon footprint per egg produced (Weeks et al., 2016).
- **Stockmanship, management and genetically suitable breeds are key** to achieving good animal welfare and health outcomes in any husbandry system. The effects of a suboptimal husbandry system can partially be counteracted by good stockmanship and management to provide an acceptable quality of life to animals, and the other way around. This also means that there is no such thing as “big farms are bad and small farms are good”; a risk-based approach should be taken.
- The **veterinary profession should provide leadership** in the transition from enriched cages to alternative systems by providing guidance on improving the welfare of laying hens in current alternative systems and by contributing to development of better alternatives. The transition should be gradual with a reasonable (but not excessive) transition period. Care should be taken that the newly advised systems are future proof in terms of meeting the animals’ physical, mental, and behavioural needs and viable from a socio-economic and environmental perspective.
- The veterinary profession should **encourage citizens to support animal welfare-friendly products** through their purchases, in turn supporting a sustainable transition towards husbandry systems that have the ability to balance both behavioural and health needs of laying hens and food safety.
- Even though consumer demands and market trends play an important role in driving change to animal husbandry systems, **legislative changes are needed to ensure lasting improvements**. For short term change, policy and financial measures e.g. subsidies can be favourable. However, adoption of legislation at EU level seems the most promising route to achieve a consistent shift towards more animal welfare friendly and sustainable husbandry systems, within a level-playing field on an EU level (End The Cage Age, 2020).
- Aspects that need to be taken into account to improve husbandry systems for laying hens:

- ✓ Ensure chicks and pullets have early access to suitable litter and functional spaces to enable expression of high priority behaviours and decrease the risk of undesired behaviours later in life.
- ✓ Enough space allowance to perform locomotion behaviour using all 3 dimensions.
- ✓ Providing different functional spaces in a design that enables their optimal use e.g. nest boxes, perches, dustbathing substrate.
- ✓ Where birds have access to outdoor runs, there is greater exposure to certain bacterial, viral, parasitic or fungal diseases, including avian influenza and Newcastle’s disease. Appropriate monitoring and preventive measures should be taken.

- ✓ Free range systems provide a highly complex environment, but the design needs to take predator risk and need for shade into account. Early access to a suitable outdoor range is desirable to maximise its use later in life.
- ✓ Good litter quality (all hens should have access to littered ground surface to perform highly motivated foraging and dust-bathing behaviors).
- ✓ Light (preferably natural light and uninterrupted period of darkness), air flow and quality, ventilation.
- ✓ Performing well on animal health and welfare indicators, e.g. low mortality, good plumage condition.
- ✓ Disease control, including parasitic prophylaxis.
- ✓ Design that minimizes injuries to birds when entering and leaving the production system.

Suggested sources of more information on alternatives to enriched cages:

- LayWel <https://www.laywel.eu>
- Laying Hen Welfare Forum: <https://lhwf.co.uk/>
- European Union Reference Centre for Animal Welfare for Poultry and other small farmed animals: https://ec.europa.eu/food/animals/welfare/eu-ref-centre_en

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