



Summary: Hen Welfare in Alternative Systems

The Problem



Battery and enriched cage systems reduce hen welfare due to confinement, restricting natural behaviours and exacerbating health problems such as osteoporosis. Alternatives, such as free-range or organic systems, provide the best welfare potential. However, welfare problems can also occur in these systems, such as feather pecking and keel-bone fractures. To achieve good animal welfare in alternative systems, physical wellbeing, the ability to express natural behaviour and mental wellbeing should be maximised.

The Solution

Physical Wellbeing

Mortality and disease

Mortality is caused by different factors and can be reduced by good management, implementing a veterinary health plan, and providing similar experiences from the rearing to laying period. In the indoor environment, measures including providing dry litter, adequate ventilation and heat exchange, separating hens from their faeces and sealing nest-box fittings (to prevent red mites) improve health. Outdoors, providing high fences and trees encourage activity and protect against ground and aerial predators.



Skeletal health

To prevent keel-bone fractures, genetic selection for bone strength and improved house design are needed. Using perches that are soft, round, and have a low-pressure loading is recommended, as well as using ramps connecting the floor, tiers and perches. The rearing period is also important for laying hens to learn from pullet stage to use the space, as well as develop a stronger skeletal structure.

Foot health



Common foot problems include foot pad dermatitis, bumble foot, hyperketosis and excessive claw growth. These are preventable with good perch design and litter hygiene. Plumage loss, emaciation, fractures and stress occur in all systems and reflect

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the poor health of the modern genotype, which should be addressed through breeding for overall health.

Behavioural Expression

Providing space



Providing sufficient space (more than 5000cm² per hen) is required for comfort, maintenance and locomotion behaviours. Alternative systems with environmental resources allow naturally-motivated behaviours to be expressed, as they provide a spacious, variable environment.

Providing the ability to nest

To allow nesting behaviour, sufficient nests for all hens to use which are gently sloped and have loose substrate material should be provided.

Foraging and dustbathing

Allowing hens to forage and dustbathe is important for their welfare. It also prevents the need for the painful practice of beak trimming, carried out to prevent injurious feather pecking, as this arises from foraging being redirected to other hens. Dustbathing allows hens to maintain feather condition.

Perching

Providing elevated, well-designed perches is important for hens to feel secure whilst resting and to separate active from inactive birds.

Ranging behaviour

Ranging (exploring the outdoor environment) increases when trees or shelters are provided. These also offer protection from the weather and predators. Providing feed *ad-libitum* and exposing birds to the outdoors at a young age encourages them to use the range when they are older. A good use of the range improves feather and foot condition.



Mental Wellbeing



Hens are able to feel emotions, such as happiness, fear and anxiety, which are measured by behavioural and physiological changes. It has been shown that hens are less fearful in alternative systems. Regular exposure to an outdoor environment at an early age has been found to reduce fearfulness in laying hens, and birds seen frequently outdoors were less fearful than those staying indoors. Hens were found to be less fearful in indoor non-cage systems than enriched cages, and were least fearful in free-range systems.

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