

Welfare Issues in Laying Hens

Physical wellbeing

Welfare Issue	Problem	Solution
Poor health & high mortality	Viral disease (eg. Marek's disease, Gumboro disease) and Bacterial infections (eg. Salmonella)	Vaccination, appropriate veterinary plan Hygiene of litter & feeding areas. Appropriate environmental conditions eg. ventilation, temperature, air quality
	Ectoparasites (eg. red mite) and endoparasites (eg. worms)	Sufficient grooming space, sufficiently-sealed nest box construction. Anthelmintics treatment for worms
	Smothering (flock panic resulting in suffocation)	Reduce fear through stockman-young bird interaction, perform non-routine duties cautiously near flock. Sub-divide flock into smaller colonies, provide ample outdoor cover
	Predation	Use high fences dug into ground, extended from fence line. Provide trees/shelters
	Osteoporosis (due to selection for high egg yield)	Provide space to exercise
	Keel bone fractures	Perch height/design, low pressure-loading perches. Provide trajectory clear of objects for movement between perch & ground; breed for bone strength
Injurious behaviour	Foot problems eg. dermatitis, bumble foot, hyperketosis, excessive claw growth	Litter hygiene, use low pressure-loading perches, provide scratching surfaces, feed choice, choose healthy breed
	Aggression Feather pecking	Divide house/range into small groups Rear chicks in similar conditions to the laying environment. Covered 'dark brooders' reduce pecking which persists into lay. Feed mash instead of pellets, provide foraging and enrichment, e.g. long straw, polystyrene blocks, perches, outdoor access, insoluble grit, roughage
High production of modern genotype	Plumage loss, emaciation, fractures, stress	Selective breeding for multiple traits for a higher welfare genotype. Use traditional or robust strains/breeds
Mutilations	Beak trimming to prevent damage from feather pecking	See feather-pecking above
	Toe clipping, dubbing, de-spurring (breeding stock)	Avoid mutilations: wear protective clothing for handling, manage social groups

Welfare Issue	Problem	Solution
Transport	Depopulation (catching) leading to broken limbs Thermal stress, motion	Use mechanical catching where appropriate or gentle handling supporting bird under breast Minimal journey duration (<4hrs including loading/unloading), use more robust breeds - better thermoregulation. Specialised vehicle design & temperature monitoring. Careful driving by trained individuals

Mental wellbeing

Welfare Issue	Problem	Solution
Physical restrictions	Space allowance Forced moulting (2 week starvation to encourage continued lay)	Cage-free. Daytime outdoor access. Adequate space when housed (max. 6 hens/m ²). Low outdoor stocking density (min.10m ² /hen). Banned in EU & India
Stockmanship	Training, competence	Formal welfare training, welfare record-keeping
Social groups	Aggression, loss of natural hierarchy/ social network	House in smaller natural groups
Outdoor access	Avoidance of open space, predation	Provide cover for outdoor areas (preferably mainly covered) with artificial shelters, trees, vegetation or, ideally, woodland
Negative affective state (emotions)	Fear, stress Pain Frustration	Fear level is lower in free-range systems Prevent with good physical wellbeing Allow satisfaction of natural behaviour motivations - through space & resource provision
Transport	Depopulation causes handling stress Fasting/water withdrawal, space restriction, social mixing, noise	Carry birds upright, individually/ use welfare-improving machine. Carry crates in calm, quiet manner Avoid feed/water withdrawal (if essential max. 8hrs for feed only). Minimise journey duration. Maintain social groups in crates, reduce stocking density
Slaughter	Shackling: stress, pain; pre-stun shocks. Aversive gases (breathing difficulty, irritant) eg. mid-high concentrations Co2	Avoid shackling live birds. Controlled atmosphere stunning of birds in crates first with non-aversive gas (eg. argon) more humane. Frequent independent audits, CCTV, assigned animal welfare officer

Natural behaviour

Welfare Issue	Problem	Solution
Frustration of highly-motivated species-specific behaviour	Lack of foraging: searching, pecking, scratching, feeding	Provide outdoor access; dry, loose (friable) litter in house (min. 1/3 ground covered); provide pecking material
	Lack of maintenance: preening, stretching, wing-flapping, resting	Adequate space in house with natural light and a natural light-dark cycle.
	Lack of locomotion: walking, running, flying	Provide adequate space for lying and general activity (7 birds/m ²) and provide an outdoor space with shelter
	Lack of dust-bathing to maintain feather condition	Provide dust-bathing material indoors/ throughout the range, e.g. sand baths
	Lack of nesting space for every bird	Provide sufficient nest boxes with nesting material and front curtains for every hen
	Lack of perching	Provide fixed aerial perches (min. 18cm/bird) with a trajectory that birds can see and land easily from
	Lack of ranging	Provide space and a variety of stimulating resources e.g. trees, bushes, shelters, sand