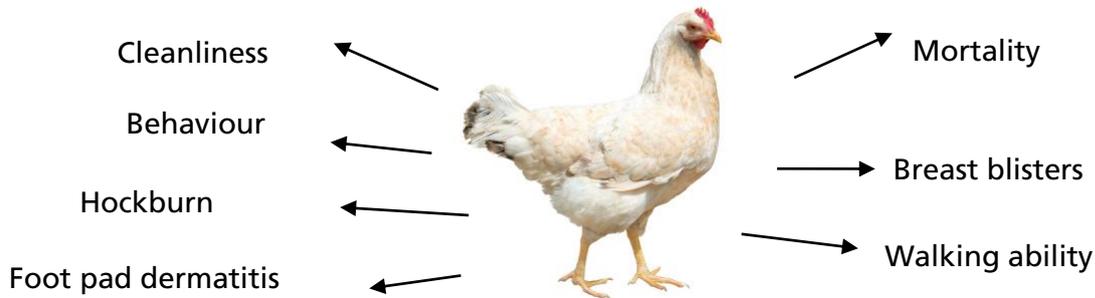


BROILER CHICKEN

Welfare Outcomes



Welfare outcomes are an animal-based method of assessing factors that contribute to an animal's quality of welfare. Whilst provision of certain resources (inputs) in the environment is necessary to increase the welfare potential of a system, measuring animal-based outcomes indicate the animals' welfare state. Regularly scoring appropriate outcome measures can identify welfare problems and be used to set targets or benchmark for improvements through an active programme. Below is a selection of the main measures recommended, though breed use should be considered as many of the issues arise in fast growing strains.

WALKING ABILITY.....

WHAT: Assess the walking ability of the flock.

WHY: Poor walking ability indicates potential pain and behavioural restriction. Causes are multifactorial, but primary risk factors are high growth rate (breed) and poor environmental control.

HOW:

Gait score 50 birds from 5 random points in the house, close to maximum stocking density / depopulation. Assign score of 0 (Bird walks with ease, has regular and even strides and is well balanced) to 5 (Bird is reluctant to move, and is unable to walk many strides before sitting down).¹

TARGET: $\geq 90\%$ score 0-1, $\leq 5\%$ score 2, $\leq 1\%$ score 3 (ideally none), no scores of 4-5.

MORTALITY

WHAT: Record the number of birds dead or culled on farm and the major causes.

WHY: Mortality is largely due to poor walking ability, metabolic disorders (e.g. ascities, cardiovascular distress), small birds or disease, and indicates pain, suffering and suboptimal performance.

HOW: Record according to common causes: dead, leg culls, other culls, small birds.

TARGET: $\leq 3-5\%$ throughout the production period.

FOOT PAD DERMATITIS & HOCK BURN

WHAT: Record incidence and severity of foot pad dermatitis and hock burn of the flock.

WHY: Wet litter, genetic susceptibility and micro-nutrient deficiencies are primary causes of foot pad dermatitis, which can be painful, lead to bacterial infection and affect walking ability. Fast growth rate strains are more susceptible to hock burn due to increased inactivity and contact with the litter.

HOW: Can be measured on-farm (50 per house) or more typically at slaughter house (100 per flock). See Welfare Quality photo guides (p.27): <http://edepot.wur.nl/233471>

❖ Foot Pads: Assign score of 0 (no lesions) to 2 (>75% of the pad covered with a lesion).

❖ Hocks: Assign score of 0 (no discoloration or lesions present) to 2 (>75% of the hock covered with a lesion).

TARGET: $\geq 95\%$ of birds with scores 0, 1 (at least 80% of those score 0), $\leq 1\%$ score 2.

¹ <http://www.compassioninfoodbusiness.com/media/5819747/leg-health-plan.pdf>

FEATHER CLEANLINESS.....

WHAT: Assess the level of dirt coverage on the feathers of individuals in the flock.

WHY: Feather cleanliness is a positive indicator of environmental conditions in the house and indicates that birds are not spending excessive periods resting due to inactivity.

❖ **HOW:** Can be measured on-farm or more typically at slaughter house. See www.rspca.org.uk/ImageLocator/LocateAsset?asset=document&assetId=1232733616006&mode=prd

❖ Assign score from 0 (breast plumage is clean) to 3 (breast plumage is very dirty).

TARGET: ≥80% of birds score 0; ≤ 20% score 1; few scoring 2.

BREAST BLISTERS.....

WHAT: Record incidence and severity of breast blisters.

WHY: Breast blisters / skin irritation are caused by prolonged contact with wet and dirty litter; other factors including health, diet, and perch material also play a role. Since breast blisters can be more common in slower growing strains with a sharp keel, they should be closely monitored and managed through good husbandry and adequate environmental provisions.

HOW: Measure carried out at slaughterhouse. See (p.7): <http://edepot.wur.nl/196648>. Assign score of 0 (no breast blister) or 1 (breast blister or irritation present).

TARGET: ≥ 90-95% of birds with score 0.

OTHER MEASURES: Angular leg deviations (valgus/varus; rotation), crooked toes.

FLOCK BEHAVIOUR.....

WHAT: Behavioural signals (see below), movement patterns, flock distribution and space usage.

WHY: Broilers can spend more than 80% of their time lying inactive by 39 days, largely caused by physiological restrictions associated with fast growth and a non-stimulating environment. Low activity is associated with poor walking ability and indicates a lack of behavioural expression.

HOW: Automated monitoring of optic flow movement and distribution provides an early warning system for flocks with higher mortality, hockburn and poorer gait, and issues with feeders, drinkers, heating and ventilation. Scan sampling (from at least 5 random points per house) or transect walks can be used for regular assessment and monitoring of activity in the flock. Using either of these methods, birds are classified as "active" (standing, perching, walking, running, foraging, and social and comfort behaviours) or "inactive" (sitting or lying, including eating while in these positions).

TARGET: ≥ 40% birds active.

CHICKEN BEHAVIOUR SIGNALS

Positive behaviour	Negative behaviour
General activity - walking, running, wing flapping, dustbathing, perching	Inactivity – prolonged lying and resting (daytime); jostling (interrupting neighbours)
Foraging - pecking ground, food items or enrichment substrates	Non uniform walking ability / birds not wanting to move more than a few steps
Social interaction and maintenance behaviours, such as grooming	Inappropriate pecking at vent, head, neck
Even distribution of birds throughout the house Ranging outdoors	Persistent panting (too hot) / huddling (too cold)

PROCESS: Measure outcomes > identify risk factors (causes of poor outcomes) > assess performance (benchmark against other farms or suppliers) > adjust management practices (to improve welfare outcomes, using incentives or penalties for compliance with targets).