

# POULTRY WELFARE STANDARDS AND GUIDELINES – NON-CAGE SYSTEMS

## SUPPORTING PAPER PUBLIC CONSULTATION VERSION

Prepared by the Poultry Standards and Guidelines Drafting Group, Oct 2016

### INTRODUCTION

All commercial poultry are kept in housing systems which may be defined as: cage systems (cages, colony cages, furnished cages) and non-cage systems (aviaries, barns or outdoor systems). In systems with outdoor runs it is generally necessary to confine birds at night to protect them from the weather and predators. In Australia, non-cage systems are used to house meat chickens and some egg-producing chickens. The paper relates to birds that are raised in aviaries, barns or outdoor systems. Welfare aspects for the cage systems are discussed in a separate paper. This paper does not attempt to define or classify free range systems.

This paper is written in the context of the management of *Gallus gallus domesticus* (domestic chickens) but also applies as relevant to other poultry species under consideration<sup>1</sup>.

Further details are contained in the definitions.

### ISSUES

Appropriate housing in non-cage systems should maximise welfare benefits for birds while minimising the risks of injury and disease.

### OVERALL RATIONALE FOR ALL HOUSING SYSTEMS

Current welfare thinking from leading welfare scientists recognises both positive and negative effects within the survival-related domains of nutrition, environment and health and the situation-related domain of behaviour, that translates into a fifth domain of affective experiences (mental states) (Mellor, 2016). The overall quality of life, which is equivalent to animal welfare status, is the sum of negative and positive experiences over a period of time. Animal managers should endeavour to minimise negative animal welfare experiences and promote the opportunity for positive animal welfare experiences that contribute to positive mental states. The overall assessment of the welfare outcome for birds in different production systems is a complex and expert matter with significant overlap possible in net welfare state between enterprises with different housing systems. No single system is innately better in delivering welfare outcomes.

There is no precise means of comparing the overall welfare outcome for birds in different production systems. Management of intrinsic factors within each enterprise will determine the overall welfare outcome. Factors such as stockmanship can have an important impact in any system. 'The advantages and disadvantages of the different

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<sup>1</sup> Poultry included in the scope of the Draft Australian Animal Welfare Standards and Guidelines for Poultry are 'chickens, ducks, emus, geese, guinea fowl, ostriches, partridges, pheasants, pigeons, quail and turkeys'.

housing systems are qualitative, and there is currently no objective way of ranking them to determine the overall effect on welfare' (Widowski et al. 2009, unpublished).

Positive states are more readily achieved for many behaviours in non-cage systems but implementation of less confinement will not alone guarantee an improvement in bird welfare. The nutrition, environment and health domains are important and contribute to the affective experience domain. Non-cage systems allow poultry to express a wider behavioural repertoire<sup>2</sup> (foraging, scratching, dust-bathing, wing flapping, perching, nesting and socialisation) but expose poultry to greater risks of pecking (bird aggression), predation, smothering, climatic extremes, accidents, parasites and other diseases with resultant higher sickness and deaths. It is acknowledged that there are strong views that seek to improve the range of bird behaviours possible through reduced confinement. Current market force (consumer choice) supported by clear labelling standards is promoting the production of barn and free range produced eggs but cage eggs still represent about half the fresh egg market volume (AECL, 2016).

All birds in commercial systems require confinement at some time, at least at night. The confinement of birds generally is fundamental for the operation of poultry enterprises for the following reasons:

- It permits the close health management and inspection of animals on a regular basis, and the removal of ill or injured birds for treatment or euthanasia
- It allows the efficient provision of feed and water
- It allows the efficient management of adverse weather risk, temperature and ventilation
- It allows the efficient provision of biosecurity for the prevention of disease introduction
- It ensures predator risks are controlled
- It improves control of the environmental impacts. Poultry enterprises are constructed to allow efficient collection of manure and provide protection to surrounding land, surface and ground water resources.

In all systems, elements of system design and management contribute to welfare outcomes. The focus of the standards and guidelines is on achieving acceptable welfare outcomes for birds from all commercial systems which are capable of delivering acceptable welfare outcomes for poultry.

This paper covers proposed standards and guidelines to achieve an outcomes based approach used for non-cage systems.

## **RECOMMENDATIONS**

The drafting group considered current scientific knowledge and practice and agreed that standards were required to underpin poultry welfare for non-cage systems.

Birds in non-cage systems are dependent upon careful management to meet their welfare needs. There are many issues that could be addressed by this paper on the management system including:

- 1) Stocking density including during confinement periods
- 2) Facility features and management
- 3) Feed and water provision
- 4) Lighting

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<sup>2</sup> The bird behaviours most studied are: foraging, dust bathing, perching and nesting.

- 5) Ventilation
- 6) Temperature management
- 7) Litter management
- 8) Protection from adverse weather conditions
- 9) Protection from disease
- 10) Protection from predators, bird aggression
- 11) Pullet rearing and genetics
- 12) Other proposed specific standards and guidelines.

The paper will focus on stocking density and range features and management for growing, breeder, meat and egg laying birds. The other aspects are covered in the proposed standards and guidelines. An appropriate standard is required for those elements.

## **1. STOCKING DENSITY**

### **Space allowance**

#### **RATIONALE**

The stocking rates proposed allow birds to express innate behaviours but the confinement of birds at night and as required is an important and acceptable method for the management of welfare risks for poultry. Standards are required for the confinement of poultry across all housing systems to provide an equivalent level of welfare risk management to indoor systems against biosecurity, predation and natural event threats. Stocking densities that operate in commercial systems mean that most bird nutrition must be supplied as prepared feed. Poultry must have reasonable access to adequate and appropriate feed and water and this is not underpinned by stocking rate per se in commercial systems but by delivery system parameters.

#### **RECOMMENDATIONS**

The drafting group considered current scientific knowledge and practice and agreed that a maximum stocking density is required for confinement periods, and that this is the key factor and that there is no precise requirement for stocking density on the range.

A new standard is proposed to achieve mitigation of biosecurity, predation and natural event threats. This standard then calls into effect indoor stocking density standards. It is not proposed to define a stocking density for outdoor systems.

#### **Objective**

Stocking densities are appropriate to minimise the risk to the welfare of poultry.

#### **Standards**

The proposed standards for space allowance in non-caged systems are similar to those published in the **Model Code of Practice for the Welfare of Animals – Domestic Poultry 4<sup>th</sup> Edition (2002)** and, where available, supporting evidence is provided for the recommended space allowances. The space allowances specified are **maximum** allowable stocking densities and must take into account other factors including age, species, weight and growth

rate of birds, adequate access to feed and water, housing type, litter quality, climatic variables, air temperature and quality, husbandry practices, bird behaviour and flock health.

## **ANIMAL HEALTH AND WELFARE CONSIDERATIONS**

### **STOCKING DENSITY (space allowance)**

#### **Layer hens**

Overall, less research has focused on the welfare of hens in non-cage systems in comparison to conventional and furnished cages. Widowski et al. (2013) stated that 'research on the horizontal space allowance in non-caged housing systems is difficult because of the size of operations required to adequately study this area and the more complex and less uniform nature of systems being used'. Furthermore 'fundamental space requirements...are readily met in most of these systems' but influenced by barn environment and bird behaviour.

Non-cage systems now represent a significant portion of the egg industry in Australia. There have been several recent reviews of layer hen welfare in different housing systems (Lay et al., 2011; Widowski et al., 2013; Widowski et al., 2016) including one commissioned by AECL of the science underpinning the current Model code (Widowski et al., unpublished 2009;).

Non-cage systems present the advantages of offering hens with the opportunity to exhibit behaviour such as nesting in nest boxes, and, in some cases, perching, dust-bathing and foraging. Non-cage systems also most often accommodate behaviours such as walking, wing and leg stretching, and wing-flapping. Nonetheless, bird health can be a major welfare concern in non-cage systems. Mortality due to cannibalism and other causes was found to be higher in non-cage systems compared with conventional and furnished cages (LayWel, 2006; Fossum et al., 2009; Weeks et al., 2016). Evidence suggests that rearing and/or housing laying hens in the absence of foraging substrate may contribute to or exacerbate the development of feather pecking (Widowski et al., 2016b). However, litter-based housing systems can have poor air quality (dust, microbes, ammonia), which compromise welfare by causing irritation and discomfort and increasing respiratory problems. A large retrospective study in Sweden reported that parasitic and bacterial diseases in indoor non-cage and free range systems were higher compared to cage systems (Fossum et al., 2009). The risks of exposure to wildlife pathogens and soil-borne pathogens in free range systems also increase biosecurity risks. Studies usually report a higher prevalence of ecto- and endo-parasites in non-cage systems, particularly red mites and worms. The physical complexity of the environment can contribute to the persistence of parasites by offering hiding spots which are more difficult to clean and disinfect.

Few studies have been conducted on the effects of flock size or stocking density on the welfare of hens in non-cage systems in commercial conditions. Neither group size nor stocking density were found to have clear effects on hen welfare in a study on barn systems, and the authors noted that other housing and management factors may influence hen welfare to a larger extent than stocking density per se (Nicol et al., 2006). Zimmerman et al. (2006) concluded that welfare of laying hens was not compromised by housing at 12 birds/m<sup>2</sup> (30 kg/m<sup>2</sup>) in comparison with lower densities in a single tier aviary system. Furthermore, welfare of hens at higher stocking densities is affected by other resource constraints, such as access to feed, water, perches etc (Steenfeldt and Nielsen, 2015). Widowski et al. (2016a) observed that the stability of groups, stocking density and features of the physical environment may be more important than group size, but the effects of stocking density in non-cage systems are poorly understood.

A European panel of welfare experts concluded in their report that "It is difficult to prescribe precise space allowances in non-cage systems due to the complexity of the environment and the ways birds distribute themselves" (Laywel, 2006).

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The current Australian Model Code of Practice recommends a maximum stocking density of 30 kg/m<sup>2</sup> (equivalent to 12 birds/m<sup>2</sup>) for indoor non-caged systems.

### **Meat Chickens**

Rault and Matthews (2014) observed that a large number of variables interact with or take precedence over stocking densities to influence welfare outcomes for meat chickens, including litter management and layout of feeding and watering facilities. A clear causal link between stocking density and chicken welfare is not clear from a review of the available literature. However, some welfare indicators, such as walking ability and foot pad lesions decline at densities above 40 kg/m<sup>2</sup> (Kyvsgaard et al., 2013, cited by Rault and Matthews, 2014) and 46 kg/m<sup>2</sup> (Dawkins et al., 2004, cited by Rault and Matthews, 2014). An experimental study suggested that stocking densities in excess of 16 birds/m<sup>2</sup> (39.4 kg/m<sup>2</sup>) in large broiler flocks would lead to compression of birds and suppress opportunities for behaviour expression (Bokkers et al., 2011).

A clear threshold for stocking density to maintain good welfare has not yet been determined for meat chickens kept under commercial conditions in Australia (Rault and Matthews, 2014). In Australia, the maximum stocking density for meat chickens under the **Model Code of Practice for the Welfare of Animal – Domestic Poultry** (2002) is 40 kg/m<sup>2</sup> providing other specific environmental and husbandry requirements are met.

### **Layer and Meat breeder birds**

In Australia, the maximum stocking density for meat chickens under the **Model Code of Practice for the Welfare of Animal – Domestic Poultry** (2002) is 30 kg/m<sup>2</sup>, and no evidence was found to support a change.

### **Ducks**

Ducks housed at stocking densities over 9 birds/m<sup>2</sup> (29.9 kg/m<sup>2</sup>) had decreased final body weight and weight gain than ducks stocked at lower densities, although mortality was not affected in an experimental study (Xie et al., 2014)

In another experimental study, ducks kept at 6 birds/m<sup>2</sup> had lower live weights than birds at 4.4 birds/m<sup>2</sup>. In the same study, there were no significant differences in various behaviours (resting, preening, activity level) in ducks kept at 4.4, 5.2 or 6 birds/m<sup>2</sup> (Downing 2014). The effects of higher stocking densities were not examined.

### **Turkeys**

Recommended stocking density for turkeys is based on the three-tier growth pattern of turkeys in Australia, and has been amended slightly from the **Model Code of Practice for the Welfare of Animal – Domestic Poultry** (2002). The maximum stocking density for turkeys in Australia is slightly less than recommended in the Canadian Code of Practice. Stocking densities for turkeys in excess of 50 kg/m<sup>2</sup> were associated with reduced growth rates, an increased prevalence of breast blisters, scratches and scabs, and poorer foot and leg health in turkeys (Schwean-Larder et al., 2013).

## **REVIEW OF NATIONAL POLICIES AND POSITIONS**

### **STOCKING DENSITY (space allowance)**

The current Australian **Model Code of Practice for the Welfare of Animals – Domestic Poultry 4<sup>th</sup>** edition (2002) generally provides the basis for the proposed standards. Appendix 2 includes maximum stocking densities for various types of chickens in non-cage systems, with the comment that maximum densities may only be used if there are systems for temperature control during extreme conditions. The Code states that stocking densities should be re-evaluated if factors such as leg weakness, increased mortalities attributable to heat, or behavioural changes such

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as cannibalism occur. Appendix 2 also recommends a maximum of 1500 birds per hectare for outdoor areas in free-range systems, although stocking density may be increased where regular rotation of birds onto fresh range occurs. However, at least one jurisdiction (Queensland) has recently legislated a maximum stocking density for free range birds of up to 10,000 per hectare, subject to additional requirements being met, including provision of shade, rotation of the outdoor area, and minimum duration of outdoor access<sup>3</sup>.

The **Australian Veterinary Association (AVA)** policy on commercial egg production systems<sup>4</sup> states:

*'Commercial egg production systems should provide for the health, nutrition, and psychological wellbeing of the hens. Continuing scientific research into hen welfare in different production systems under Australian conditions is essential.'*

The AVA guidelines state that include: *'Caged, barn, free range and organic egg production systems have advantages and disadvantages, and no single management system caters entirely for health, biosecurity, food safety, environmental sustainability or welfare outcomes'*.

The AVA 'strongly' supports the Model Code of Practice for the Welfare of Animals – Domestic Poultry, 4<sup>th</sup> edition 2002.

**RSPCA Australia** has a specific policy standard on layer hens that forms part of the RSPCA Approved Farming Scheme. The RSPCA website<sup>5</sup> states that:

*'The RSPCA has developed standards for layer hens. The Standards allow for higher-welfare indoor and outdoor systems which focus on providing for hens behavioural and physical needs.'*

*RSPCA Approved hens have more space than those raised in conventional systems. Hens can perch, dustbathe, scratch and forage, and lay their eggs in a nest. Battery cages are not allowed under the RSPCA Approved Farming Scheme.'*

## **REVIEW OF INTERNATIONAL POLICIES AND POSITIONS**

### **STOCKING DENSITY (space allowance)**

This section is included to provide a brief international context, while acknowledging that Australia's poultry production systems may vary from production systems, poultry breeds and climatic conditions in other countries. Comparable poultry industries operate in the United States of America and Canada.

The **NZ Ministry for Primary Industries** codes of welfare for layer hens (2012) and meat chickens (2012) are available at: <http://www.mpi.govt.nz/protection-and-response/animal-welfare/codes-of-welfare/>

Minimum Standard No. 6 – Stocking Densities (layer);

(a) Stocking densities or space per pullet (7–18 weeks of age):

- i. must be a minimum of 370 cm<sup>2</sup> per pullet for those reared in cages or colony cages
- ii. must not exceed 14 pullets per m<sup>2</sup> for those reared in barns.

(b) Stocking densities or space per layer hen (19 weeks of age or older):

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<sup>3</sup> Queensland Animal Care and Protection Amendment Regulation (No.2) 2013 Explanatory Notes for SL 2013 No103.

<sup>4</sup> <http://www.ava.com.au/policy/122-commercial-egg-production-systems>

<sup>5</sup> <https://www.rspca.org.au/what-we-do/rspca-approved-farming-scheme/rspca-standards-layer-hens>

## Cages

- (i) must be a minimum of 500 cm<sup>2</sup> per hen for cages built prior to 1 January 2005.
- (ii) must be a minimum of 550 cm<sup>2</sup> per hen for cages built from 1 January 2005.
- (iii) must be a minimum of 550 cm<sup>2</sup> per hen for all cages from 1 January 2014.

## Colony cages

- (i) must be a minimum of 750 cm<sup>2</sup> per hen or 13 hens per m<sup>2</sup>.

## Barns

- (i) must not exceed 7 hens per m<sup>2</sup> for barns with no outdoor access.
- (ii) must not exceed 9 hens per m<sup>2</sup> for within barns with outdoor access.

(c) Stocking of the outdoor ranging area must not exceed 2,500 hens per hectare.

## Minimum Standard No. 10 – Stocking Densities (meat)

- (a) Chickens must be managed at a stocking density that takes account of growth rate, competition for space, access to feeders and water, air temperature and quality, humidity, litter quality and activity levels, so as to maintain good health and welfare.
- (b) Notwithstanding (a), stocking density in sheds must not exceed 38kg of live weight per square metre of floor space.
- (c) Outdoor stocking density must not exceed the capacity of the outside area or cause overcrowding.

Standards or guidelines regarding stocking densities for the **United States** could not be found but guidance includes:

The U.S. Department of Agriculture Food Safety and Inspection Service (FSIS) requires that chickens raised for their meat have access to the outside in order to receive the free-range certification. There is no requirement for access to pasture. Free-range chicken eggs, however, have no legal definition in the United States. Likewise, free-range egg producers have no common standard on what the term means.

The National Chicken Council (NCC), based in Washington, D.C., is the national, non-profit trade association representing the U.S. chicken industry. From their website. <http://www.nationalchickencouncil.org/about-the-industry/chickopedia/#one>:

*There's no precise federal government definition of 'free range', so the U.S. Department of Agriculture (USDA) approves these label claims on a case-by-case basis. USDA generally permits the term to be used if chickens have access to the outdoors for at least some part of the day, whether the chickens choose to go outside or not. In practice, most chickens stay close to water and feed, which is usually located within the chicken house according to the National Chicken Council (NCC).*

*The Animal Welfare Approved program that operates is voluntary. The standards do not supersede national government or state legislation. Animal welfare approved. <http://animalwelfareapproved.org/standards/>*

The **Canadian** Code of Practice for the care and handling of hatching eggs, breeders, chickens and turkeys (2016)<sup>6</sup> has the following requirements for space allowances:

Broiler (meat chicken) breeders: no greater than 34 kg/m<sup>2</sup>

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<sup>6</sup> <http://www.nfacc.ca/codes-of-practice/chickens-turkeys-and-breeders>

Broiler chickens: Stocking densities for broiler chickens must not normally exceed 31 kg/m<sup>2</sup> at any time. Stocking density may be increased to a maximum of 38 kg/m<sup>2</sup> providing certain other conditions are met.

Turkeys:

Average Turkey Weight	Maximum stocking density	Conditional maximum stocking density*
6.2kg and under	40 kg/m <sup>2</sup>	45 kg/m <sup>2</sup>
over 6.2kg but not more than 10.8kg	45 kg/m <sup>2</sup>	50 kg/m <sup>2</sup>
over 10.8kg but not more than 13.3kg	50 kg/m <sup>2</sup>	60 kg/m <sup>2</sup>
over 13.3 kg	55 kg/m <sup>2</sup>	65 kg/m <sup>2</sup>

\*conditions include daily environmental monitoring, monitoring daily water intake, following a flock health plan, alarm installation, and maintenance of health and injury data to demonstrate that stocking density does not compromise bird welfare.

There is no specified maximum for stocking density for outdoor ranges.

The Canadian *Recommended code of practice for the care and handling of pullets, layers and spent fowl Poultry - Layers (2003)* is under review but provides recommendations on minimum floor space for 'free-run indoor systems for commercial layers', but states that these recommendations do not apply to aviaries or percherries. The recommended space depends on the age/weight of the birds and the flooring type of the housing system:

Layer bird Age (weeks)	Maximum body weight (kg)	Minimum floor space (cm <sup>2</sup> )	
		all litter	all wire/slats
0-6	0.4	500	250
6-18/19	1.32	1400	700
adult white	1.7	1700	850
adult brown	1.9	1900	950

The **European Union (EU)**<sup>7</sup> establishes minimum standards for the welfare of laying hens kept in various systems of rearing in order to protect the hens and prevent distortions of competition between producers in different Member States. Council Directive 1999/74/EC of 19 July 1999 laying down minimum standards for the protection of laying hens came into full force on 1st January 2012. Its key requirement is a ban on the use of conventional cages for laying hens, although enriched cages, increasing the space and facilities for hens, will be allowed.

<sup>7</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV:l12067>

Alternative (non-cage) systems:

From 1 January 2002, all newly built or rebuilt alternative systems of production and all such systems of production brought into use for the first time must comply with the following requirements:

All systems must be equipped with:

- either linear feeders (at least 10 cm per hen) or circular feeders (at least 4 cm per hen),
- either continuous drinking troughs (2.5 cm per hen) or circular drinking troughs (1 cm per hen),
- at least one nest for every seven hens,
- adequate perches (at least 15 cm per hen),
- and at least 250 cm<sup>2</sup> of littered area per hen;
- the floors of installations must support each of the forward-facing claws of each foot;
- there are special provisions on systems of rearing allowing hens to move freely and/or permitting access to outside runs;
- the stocking density must not exceed nine laying hens per m<sup>2</sup> of usable area (however, where the usable area corresponds to the available ground surface, a stocking density of 12 hens per m<sup>2</sup> is authorised until 31 December 2011 for those establishments applying this system on 3 August 1999).

Member States are to ensure that these requirements apply from 1 January 2007.

## **2. OUTDOOR AREA FEATURES and MANAGEMENT**

### **RATIONALE**

The standards proposed address range issues and for indoor elements are the same as for indoor non-cage systems. Poultry must have reasonable access to adequate and appropriate feed and water and this is not achieved by range management per se in commercial systems but by delivery system parameters.

### **RECOMMENDATIONS**

The drafting group has proposed a number of standards in part A and B of the document to address range requirements for chickens. It is not proposed to have a prescriptive standard for pop holes, aspects of range furniture or forage management.

### **STANDARDS AND GUIDELINES PROPOSAL**

#### **Objective**

Management of outdoor systems is appropriate to minimise the risk to the welfare of poultry.

Facilities and equipment are appropriate to minimise the risk to the welfare of poultry.

## **ANIMAL HEALTH AND WELFARE CONSIDERATIONS**

### **OUTDOOR AREA FEATURES and MANAGEMENT**

Free range production is somewhat unique to Australia where climate permits year round outdoor access. There is little overseas research directly transferable to Australian conditions to inform drafting of Standards and Guidelines. Free range systems provide more behaviour opportunity including sunbathing, exploratory and foraging behaviour, running and flying (Widowski et al., 2013). However, free range systems can be associated with poorer bird health and survivability as a result of contact with infectious diseases and parasites in soil, litter and fomites, predation, feather pecking, cannibalism and accidents (Lay et al., 2011; Elson, 2015). Despite the provision of outdoor access, use of the outdoor range is variable within and between flocks, and some hens never access outdoor areas (Lay et al., 2011; Campbell et al., 2016).

Use of the range by hens can be enhanced, and some negative health effects alleviated, by appropriate range management, including provision of vegetation (grass, bushes, trees) and artificial shade, sufficient pop holes for the flock size, rotation of the range, vaccination against relevant infectious diseases, and rearing of pullets familiar with this type of housing system (Lay et al., 2011; Widowski et al., 2013). Provision of shelters or structures which provide protection and shade helps to improve range use by hens (Rault, 2014).

The current Australian **Model Code of Practice for the Welfare of Animals – Domestic Poultry 4<sup>th</sup> edition** (2002) generally provides the basis for the proposed standards. Standards are proposed to ensure the birds are adequately feathered before access to outdoor areas, that adequate shade (or access to the shed) is provided, that birds outdoors are protected from toxins, and that wild bird access to feed and water is minimised (to reduce biosecurity risks). Guidelines are proposed regarding management of the outdoor range.

## **REVIEW OF NATIONAL POLICIES AND POSITIONS**

### **OUTDOOR AREA FEATURES and MANAGEMENT**

Section 2.4.5 covers range management. In addition, Queensland legislation imposes additional requirements for range management where stocking densities are in excess of 1500 birds per hectare, including rotation of range, management of fodder cover, and number of hours of access to the range.

## **REVIEW OF INTERNATIONAL POLICIES AND POSITIONS**

### **OUTDOOR AREA FEATURES and MANAGEMENT**

There is little to add that has not been covered in the first treatment of this section.

The **NZ Ministry of Primary Industries** has animal welfare material:

<http://www.mpi.govt.nz/protection-and-response/animal-welfare/>

There is a code of welfare and reports for Layer hens 2012 and meat chickens 2012.

Standards include:

#### **Minimum Standard No. 3 – Shelter for Meat Chickens Outdoors (meat)**

(a) All meat chickens must have access to shelter from adverse weather that is likely to cause heat or cold stress, and to reduce the risk of predation.

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(b) Openings provided for chickens to access an outside area must be wide enough to enable chickens to freely move to and from the outdoors at all times without the risk of smothering or injury.

(c) Where access to outside areas is provided it must be managed to prevent the development around the housing of muddy, dusty or contaminated conditions to an extent that could be harmful to the chickens' health.

(d) Precautions must be taken to protect chickens from pests, including predators.

#### **Minimum Standard No. 4 – Housing and Equipment (meat)**

- a) Precautions must be taken to secure the site and buildings at all times in order to protect the health and welfare of meat chickens.
- b) Meat chicken sheds must be designed, constructed and maintained to:
  - i. provide insulation, ventilation, heating, lighting, sanitation and hygiene requirements (see Section 4.4 Management of the Internal Environment); and
  - ii. allow ready access for handling and inspection of meat chickens; and
  - iii. have sufficient height, width and space and entrance size to allow for catching methods that minimise stress on meat chickens; and
  - iv. allow the distribution of chickens over the floor to be controlled so as to keep chicks within the heated area and prevent crowding of older chickens.
- c) All surfaces in meat chicken sheds and enclosures must be designed, constructed and maintained to:
  - v. minimise the risk of injury and disease to meat chickens; and
  - vi. facilitate cleaning and disinfection of the shed surfaces.
- d) All equipment used for rearing meat chickens must be inspected regularly throughout the day to ensure correct operational functions, and if required appropriate remedial action undertaken.
- e) Meat chicken sheds must be subject to a pest (e.g. wild birds, mustelids, rodents) control plan.
- f) All meat chicken sheds must be sited to minimise risks of natural and environmental hazards such as storm water drainage, extreme winds and to allow for appropriate management of dust.
- g) Controlled environment housing must have alarms that warn of power failure and/or significant temperature variance.

#### **Minimum Standard No. 11 – Providing for Behavioural Needs (meat)**

- a) Chickens must have the opportunity to express their normal behaviours. These include, but are not limited to, feeding, drinking, sleeping, preening, walking, scratching, ground pecking, leg stretching, and vocalising.

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