



Animal Welfare Institute

900 Pennsylvania Avenue, SE, Washington, DC 20003 • www.awionline.org
telephone: (202) 337-2332 • facsimile: (202) 446-2131

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P. Gary Egrie, VMD
Farm Animal Welfare Coordinator
USDA APHIS Veterinary Services
4700 River Road, Unit 46
Riverdale, MD 20737

RE: OIE Terrestrial Animal Health Code Draft Chapters on Animal Welfare and Broiler Chicken and Beef Cattle Production Systems

Dear Dr. Egrie:

The Animal Welfare Institute (AWI) is pleased to submit the following comments on the OIE Terrestrial Animal Health Code draft chapters “Animal Welfare and Broiler Chicken Production Systems” and “Animal Welfare and Beef Cattle Production Systems.”

I. Background

Since its founding in 1951, AWI works to reduce the sum total of pain and fear inflicted on animals by people. We seek to achieve humane husbandry, handling, transport and slaughter for all animals raised for food. AWI’s Animal Welfare Approved (AWA) certification program has the most rigorous standards for farm animal welfare currently in use by any United States organization. The premise of AWA standards is that animals must be allowed to behave naturally, and the standards allow animals the opportunity to perform natural and instinctive behaviors essential to their health and well-being. The following proposed language and general comments are consistent with the OIE mandate to “take the lead internationally on animal welfare.”

II. AWI Comments on “Animal Welfare and Broiler Chicken Production Systems”

Recommended changes to the broiler chicken draft chapter are indicated below as either ~~struckthrough~~ (deleted) or **highlighted and underlined** (added) text.

Article 7.X.4

Criteria or measurables for the welfare of broilers

1. Mortality (dead, culled) and morbidity

Recommended Language: Any unforeseen increase in the daily mortality or morbidity rate, especially above 0.3% could reflect a serious animal welfare problem and should be addressed immediately.

Justification of Recommended Language: Referring to an increase in daily mortality or morbidity rates, without offering a baseline standard, is not useful. While AWI understands that values for welfare measurables should “be determined with reference to appropriate national, sectoral or perhaps regional norms for commercial broiler production,” high mortality rates under any system, and in any region, are indicative of serious health and welfare problems and must therefore be addressed.

Article 7.X.5

Recommendations

2. Environment and management

b) Lighting

Recommended Language: For broilers 7 days of age and older, there should be an adequate a minimum period of 6 hours of continuous darkness during each 24 hour period to allow the broilers to rest. There should also be an adequate a minimum period of at least 8 hours of continuous light. Reference should be made to relevant national, regional or international recommendations.

The light intensity during the light period should be sufficient and homogeneously distributed to allow the broilers to find feed and water in the first few days after they are placed in the poultry house, to stimulate activity, and allow adequate inspection.

When natural light is not available, the intensity of artificial light should not be less than 15 lux (1.4 foot-candles) and should not exceed a maximum day-length of 16 hours.

Justification of Recommended Language: The use of vague, undefined terms such as “adequate,” “sufficient,” and “appropriate” is not helpful in providing guidance. In the case of lighting more specific parameters are needed, and therefore we suggest stating minimum periods of darkness and light and minimum light intensity levels.

Natural light and dark cycles are important to stimulate activity in chickens and for the development of a circadian rhythm.¹ Failure to provide the level of lighting required for effective vision may negatively affect behaviors such as feeding and social interaction, leading to distress and

¹ Bessei W. 2006. Welfare of broilers: a review. World’s Poultry Science Journal 62:455-466.

poor welfare.² Research has demonstrated that increasing light intensity in chicken sheds enhances the birds' locomotor activity and reduces leg problems.³ The incidence of leg problems such as tibial dyschondroplasia has been found to be increased among chickens kept in continuous light, while exposure to more natural intervals of light and dark results in reduced leg abnormalities, reduced physiological stress, and improved eye condition.^{4,5}

c) Air quality

Recommended Language: Ammonia concentration should not routinely exceed 25 20 ppm at broiler level (Kristensen and Wathes, 2000; Jones et al., 2005).

Justification of Recommended Language: The research cited by the OIE standard (Jones et al., 2005) actually suggests that ammonia is aversive at concentrations above approximately 10 ppm. 25 ppm is too high. Ammonia at this level is associated with increased respiratory disease and inflammation of the trachea and eyes.⁶

Recommended Language: Dust levels should preferably be kept to a maximum of 10 mg/m³, averaged over an 8-hour period minimum.

Justification of Recommended Language: The use of the term "minimum" for dust levels is imprecise and therefore not useful to producers or others. A specific level should be stated as is done for ammonia. The amount suggested (10 mg/m³) reflects the air quality requirement of the RSPCA Freedom Food certification program.⁷

f) Flooring, bedding, resting surfaces and litter quality

Recommended Language: Little quality is partly related to the type of substrate used and partly to different management practices. The type of substrate should be chosen carefully. Litter should be maintained so that it is dry and friable and not dusty, caked or wet. Poor quality litter can result from a range of factors including water spillage, inappropriate feed composition, enteric infections, and poor ventilation and overcrowding.

² Prescott NB, Wathes CM and Jarvis JR. 2003. Light, vision and the welfare of poultry. *Animal Welfare* 12:269-288.

³ Newberry RC, Hunt JR and Gardiner EE. 1988. The influence of light intensity on behavior and performance of broiler chickens. *Poultry Science* 67:1020-1025.

⁴ Sanotra GS, Lund JD and Vestergaard KS. 2002. Influence of light-dark schedules and stocking density on behavior, risk of leg problems and occurrence of chronic fear in broilers. *British Poultry Science* 43(3):344-354.

⁵ Buyse J, Simons PCM, Boshouwers FMG, et al. 1996. Effect of intermittent lighting, light intensity and source on the performance and welfare of broilers. *World's Poultry Science Journal* 52:121-130.

⁶ Wathes CM. 1998. Aerial emissions from poultry production. *World's Poultry Science Journal* 54:241-251.

⁷ Royal Society for the Prevention of Cruelty to Animals. 2011. RSPCA Welfare Standards for Chickens (Section E 6.2).

Slatted floors should be designed, constructed and maintained to adequately support the broilers, prevent injuries and ensure that manure can fall through or be adequately removed. Fully slatted systems should preferably not be used as an area of litter is important for comfort, to prevent foot injuries and to enable chickens to engage in normal behavior.

Justification for Recommended Language: It is beneficial to producers to be given guidance as to the factors that need to be addressed to prevent poor litter quality. Poor litter has been associated with contact dermatitis, a widespread problem that affects many birds in some flocks.⁸ Fully slatted floors dispose broilers to breast blisters and leg problems.

h) Stocking density

Recommended Language: Broilers should be housed at an appropriate stocking density; it is recommended that broilers not be housed in cages as the higher stocking density and impeded movement would prevent their ability to express natural behaviors.

Justification of Recommended Language: Compared with floor reared broilers, those raised in cages show impaired performance, increased mortality, higher prevalence of both leg problems and stereotypic behavior, as well as a higher heterophil: lymphocyte ratio (reliable indicator of stress in poultry).^{9,10}

j) Protection from predators

Recommended Language: Broilers should be protected from predators. The roof and sides of housing and shelter should provide a barrier to predators. On range, birds should be protected from the immediate threat or fear of aerial predators. Common control methods include live-trapping, tightly constructed facilities to prevent access, net fencing, guard animals and flashing lights.

Justification of Recommended Language: More specific guidance is needed to help stakeholders prevent losses from predators and minimize stress to birds from predation.

⁸ Scientific Committee on Animal Health and Animal Welfare (SCAHAW). 2000. The Welfare of Chickens Kept for Meat Production (Broilers). European Commission, Health and Consumer Protection Directorate-General.

⁹ Fouad MA, Razek AHA and Badawy SM. 2008. Broilers welfare and economics under two management alternatives on commercial scale. International Journal of Poultry Science 7(12):1167-73.

¹⁰ Risz SW, Stake PE and Simmons RW. 1980. Curled toes and perosis-like leg abnormalities in cage reared broilers. Poultry Science 59(2):308-315.

l) Painful interventions

Recommended Language: Painful interventions (e.g. beak trimming, toe trimming, dubbing) should not be routinely practiced on broilers. Beak trimming should usually be unnecessary in broilers as they rarely exhibit feather pecking and cannibalism due to their young age.

If therapeutic beak trimming is required, it should be carried out by trained and skilled personnel at as early an age as possible and care should be taken to remove the minimum amount of beak necessary using a method which minimizes pain and controls bleeding (Glatz and Miao, 2005; Hester and She-Moore, 2003) such as infrared beak trimming.

Justification of Recommended Language: While beak trimming should only be a last resort after all other changes in management methods have failed (e.g. reducing stocking density, providing foraging materials, genetic selection, etc.), infrared beak trimming provides a more welfare-friendly alternative to conventional beak trimming. Advantages of infrared beak trimming over the hot-blade method include: open wounds that contribute to bleeding, inflammation, and pain are eliminated; better adaptation to eating because of a more gradual change in beak length and shape¹¹; and reducing such stressors as catching, mixing, transfer, and handling, associated with hot-blade beak trimming as it is performed on slightly older birds.¹²

q) On farm harvesting

Recommended Language: Broilers should not be picked up or carried by their head, neck, or wings, or tail. While best practice is to carry no more than two birds at a time in an upright position, birds that are carried in an inverted position should at least be carried by both legs, and with no more than three birds per hand.

Justification of Recommended Language: Catching and carrying birds by only one leg can result in injuries to the birds; the greater the number of birds carried in one hand, the greater the chance for injury.¹³ The UK government guideline for bird catching is as follows: “No catcher should carry by the legs more than three chickens (or two adult breeding birds) in each hand and birds should be caught and carried by both legs.”¹⁴

¹¹ Dennis RL and Cheng HW. 2010. A comparison of infrared and hot blade beak trimming in laying hens. *International Journal of Poultry Science* 9: 716-719.

¹² Dennis RL, Fahey AG and Cheng HW. 2009. Infrared beak treatment method compared with conventional hot-blade trimming in laying hens. *Poultry Science* 88: 38-43.

¹³ Ekstrand C. 1997. An observational cohort study of the effects of catching method on carcass rejection rates in broilers. *Animal Welfare* 7(1):87-96.

¹⁴ Department of Environment, Food and Rural Affairs (DEFRA). July 2002. *Meat Chickens and Breeding Chickens. Code of Recommendations for the Welfare of Livestock.*

Environmental enrichment (new section)

Recommended Language: It is recommended that environmental enrichments (e.g. straw bales, perches, ramps/platforms, pecking objects, scattered grain, etc.) be provided to broilers confined indoors to encourage activity and subsequently promote leg strength.

Justification of Recommended Language: Barrier perches have shown a positive impact on footpad health,¹⁵ encouraging activity, decreasing aggression and disturbances, and promoting more even distribution of birds throughout pen space.¹⁶ Other research has also shown that perches and the provision of sand bedding and wood shavings improve both broiler welfare and meat quality.¹⁷

III. AWI Comments on “Animal Welfare and Beef Cattle Production Systems”

Recommended changes to the beef cattle draft chapter are indicated below as either ~~strikethrough~~ (deleted) or highlighted and underlined (added) text.

Article 7.9.5

Recommendations

1. Biosecurity and animal health

b) Animal health management

Recommended Language: Non-ambulatory cattle should have access to water at all times and be provided with feed at least once daily. They should not be transported or moved unless absolutely necessary except for treatment or diagnosis. Such movements should be done carefully using methods avoiding excessive lifting. Non-ambulatory animals should not be moved by pulling of one or more legs or by dragging.

Justification of Recommended Language: Non-ambulatory animals should not be moved by a method that results in pain or injury.

2. Environment

f) Flooring, bedding, resting surfaces and outdoor areas

¹⁵ Ventura BA, Siewerdt F and Estevez I. 2010. Effects of barrier perches and density on broiler leg health, fear, and performance. Poultry Science 89: 1574–1583.

¹⁶ Ventura BA, Siewerdt F and Estevez I. 2012. Access to barrier perches improves behavioural repertoire in broilers. Public Library of Science One.

¹⁷ Simsek UG, et al. 2009. Effects of enriched housing design on broiler performance, welfare, chicken meat composition and serum cholesterol. Acta Veterinaria Brno 78.1: 67-74.

Recommended Language: If cattle are kept on a slatted floor, the slat and gap widths should be appropriate to the hoof size of the cattle to prevent injuries. The use of fully slatted floors is not advisable as these can compromise health and welfare. Whenever possible, cattle on slatted floors should have access to a bedded area.

Justification for Recommended Language: The addition of a sentence suggesting a bedded area is appropriate. However, OIE should go further and clearly point out that the use of *fully* slatted floors is not recommended. Cattle kept on slatted floors have a higher incidence of tail tip necrosis, mortality, lameness and skin lesions. They also have greater difficulty in lying down and standing up.^{18,19,20,21} In addition, choice tests demonstrate that concrete slats are the least preferred floor type for cattle.²²

3. Management

i) Location, construction and equipment

Recommended Language: Cattle that are tethered should, as a minimum, be able to lie down, turn around and walk. Cattle should not be tethered on a permanent basis.

Justification for Recommended Language: The new sentence on tethering is a welcomed addition. However, OIE should go further and recommend against permanent tethering. Scientific research shows that cattle who are tethered are at increased risk of health problems, have limited movement possibilities, cannot walk and have more leg problems than those on straw bedding. Permanently tethered cattle cannot exercise, which is important for muscle and bone growth. Moreover, tethering makes lying down and standing up difficult, and tethering limits the animals' behavioral activities and social interactions.²³

¹⁸ Shrader L, Roth HR, Winterling C, et al. 2001. The occurrence of tail tip alterations in fattening bulls kept under different husbandry conditions. *Animal Welfare* 10:119-130.

¹⁹ Drolia H, Luescher A and Meek AH. 1990. Tail-tip necrosis in Ontario feedlot cattle: two case-control studies. *Preventive Veterinary Medicine* 9(3):195-205.

²⁰ Drolia H, Luescher A, Meek AH, et al. 1991. Tail tip necrosis in Ontario beef feedlot cattle. *The Canadian Veterinary Journal* 32(1); 23-29.

²¹ Gygas L, Mayer C, Westerath HS, et al. 2007. On-farm assessment of the lying behaviour of finishing bulls kept in housing systems with different floor qualities. *Animal Welfare* 16:205-208.

²² Lowe DE, Steen RWJ and Beattie VE. 2001. Preferences of housed finishing beef cattle for different floor types. *Animal Welfare* 10:395-404.

²³ EFSA Panel on Animal Health and Welfare; Scientific Opinion on the Welfare of Cattle Kept for Beef Production and the Welfare in Intensive Calf Farming Systems. *EFSA Journal* 2012;10(5):2669.

IV. General Comments

While the use of outcomes-based measurables to assess the health and welfare of broiler chickens and beef cattle is appreciated, their efficacy is greatly reduced if no real parameters are set to assist stakeholders in assessing the health and welfare of their animals. For example, scoring systems for gait, contact dermatitis and feather condition in meat chickens are mentioned, but no guidance is provided on how to utilize these scores to determine whether changes in management are necessary.

If the true purpose of these chapters is to provide guidance for a variety of stakeholders around the world, then simply providing general descriptions of outcomes-based measurables and husbandry practices without describing how to utilize them to ensure better animal welfare does not accomplish that goal. In many areas of the world veterinarians, community animal health workers and producers are looking to the OIE for guidance in how to ensure the health and welfare of animals under their care, and the simple provision of information without actual recommendations on best practices does not provide stakeholders with strong enough guidance.

Thank you for the opportunity to comment on the OIE Terrestrial Animal Health Code draft chapters on broiler chicken and beef cattle production systems. With our recommendations, AWI seeks to help strengthen the draft chapters. We look forward to seeing our concerns addressed prior to adoption of the chapters. Please do not hesitate to contact me by phone at 202-446-2146 or email at Dena@awionline.org if you have any questions or require additional information.

Respectfully submitted,

A handwritten signature in black ink that reads "Dena Jones". The signature is written in a cursive, flowing style.

Dena Jones, M.S.
Farm Animal Program Manager