Assessment of current welfare status of broilers in *anuradhapura* district, sri lanka

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Introduction

The main goal of the broiler farmers is to increase the growth rate of birds for obtaining economic benefits within a short time. Nevertheless, ethical considerations are required to apply to the broiler sector since birds can perceive pain and frustration. Welfare considerations on broilers mean that the basic requirements of the bird should be met daily. Hence, the assessment of welfare condition is an important tool that provides information on real rearing conditions and helps stakeholders to make evidence-based decisions.

The existing studies in the field of farmed animal welfare are extensively on swine (De Silva and Kalubowila, 2012) and cattle (Bandara *et al*., 2015; Weerasinghe *et al*., 2020) in Sri Lanka. Further, scientific studies on the welfare status of broilers are limited. Thus, this study aimed at assessing broiler chicken welfare on industrial farms in Anuradhapura district, using the Welfare Quality® assessment protocol (Welfare quality, 2009) for poultry, to provide directly applicable scientific information.

Methodology

A questionnaire survey was conducted from January to March 2020 within the *Anuradhapura* district included thirty-two (32) personal interviews of which sixteen were usable for analysis. The survey instrument consisted of a questionnaire containing questions with answering categories based on preliminary literature review. The questionnaire was arranged to collect relevant information *viz* general information of respondents, farm information, information on general management, farmers' perception of bird welfare, and the welfare indicators. Welfare indicators, covering the good housing and health welfare principles were assessed as panting or huddling, litter score, dust sheet test, plumage cleanliness, footpad dermatitis, and hock burn were considered for the study. According to the methods described at the Welfare Quality® protocol (2009), a score was calculated for each criterion. Collected data were analyzed using descriptive statistics, Pearson correlation coefficient, and multiple regression analysis by using SPSS (2001).

Results and discussion

Results of the study revealed that the majority (43.3%) of the broiler farmers had 1 to 5 years of farming experience while 33.3% of farmers had 5 to 10 years of farming experience. Further, there were 16.7% of broiler farmers had more than ten years of farming experience

The management condition of the broiler production system indicated that no buyback system exists among the farmers in the sample and all the farmers rear Cobb broiler strain. 87.5% of farmers sell live birds and 12.5% of farmers practiced slaughtering in their farm slaughterhouse. The average stocking density value was 55 birds per square meter in the brooding stage and 9 birds per square meter in the finisher stage. According to the study, broiler farmers were provided an average of 11 hours and 34 minutes and a minimum of 10 hours of artificial lighting.

The calculated scores based on the assessment indicated that none of the criteria were recorded as excellent (above 80) or unacceptable scores (below 20) (Table 01). Therefore, the welfare condition of assessed farms in *Anuradhapura* was either not at a high level or the low level in terms of assessed criteria.

Table 1. Calculated scores for the welfare criteria of the assessed broiler farms

Welfare measure	Average score (SD)
Dust sheet test	79.38 ± 1.37
Stocking density	69.62 ± 3.47
Panting	61.00 ± 5.40
Plumage cleanliness	60.27 ± 3.75
Hock burn	57.05 ± 5.52
Footpad dermatitis	50.64 ± 5.20
Litter score	49.25 ± 4.74
Overall mortality percentage	2.95%

When considering the correlations between welfare criteria, the litter score and plumage cleanliness had a moderately positive correlation (r = 0.6). Further, there was a negative correlation (r = -0.307) between litter quality and stocking density. The regression results revealed that stocking density had a significant effect on average body weight at less than or equal to the present probability level. The results indicate that the broilers in the selected farms received either good or the minimum requirements in terms of assessed welfare criteria. Most of the assessed broiler farms in the study can be considered as a medium to small scale according to their capital input. Hence, there is a greater risk associated with this live animal production in terms of profit, and due to that farmers may tend to keep the broilers in a good condition. This could be a reason for having good welfare scores for some of the assessed criteria. Further, the information gathered can be used to make decisions to improve broiler production and their welfare.

References

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