ABSTRACT

Poultry production is receiving a lot of attention because of increased demand for food, reduced land size and need for employment creation. To increase production of poultry products there is a need to intensify production systems. Such intensification may compromise the welfare of the layers.

This study had three objectives namely: to assess the knowledge and practices of small scale farmers towards welfare of layers; to determine the welfare status of layers in smallholder farms; and to assess the influence of poultry welfare on production. Data was collected from three wards of Kabete Sub-county involving of 135 randomly selected farmers keeping laying hens. A semi-structured questionnaire was used to collect information on knowledge and practices of farmers on welfare of layers, feeding, housing, health, behaviour and farm production characteristics. Measurements were taken to determine stocking densities, feeding, watering, perching and nesting spaces, house temperatures and litter depth. Observations were made to assess house ammonia level, foot pad dermatitis and litter quality. In each of the wards a focus group discussion of farmers were held. Focus group discussion was also held in extension agents. About 60% of the farmers were aware of animal welfare. Those with knowledge on poultry welfare were 59.3, 63.6% and 53.9 in Muguga, Nyathuna and Kabete, respectively. Feed millers (28.5±2.8%), the media (25.8±9.9%) and state extension agents (15±9.7%) were the main sources of information on animal welfare. More farmers with formal education (92.8%) knew about poultry welfare than those without (6.2%). All farmers vaccinated their birds against New Castle disease and Gumboro, however only 35 and 38% of them vaccinated against fowl pox and fowl typhoid. To prevent spread of diseases in the house 60% of the farmers isolated sick birds from the rest of the flock and to control cannibalism 69% of the farmers had debeaked the birds. One flock per household was studied so as to collect data on welfare issues.

Water and feed were provided throughout the day by 100 and 80% of the farmers, respectively. The average feed consumption was 115.2±15.7 g/bird/day. No significance difference in feed consumption was noted between the three wards (p>0.05). The average feeding space was 10.4±3.0 cm/bird while the linear watering space was 2.5±0.7 cm/bird. The stocking density was 10±3, 10±3 and 11±3 birds per m2 for Muguga, Nyathuna and Kabete, respectively. The average poultry house temperature at the time of study was 24.6±2.3, 24.4±2.2 and 22.9±2.9°C in Muguga, Nyathuna and Kabete, respectively. In half of the poultry houses, ammonia level was not irritating the eyes of enumerators. In majority (67%) of the poultry houses, the litter depth was 11 to 15 cm and in most of them (70%) the litter was dry. The proportion of farmers providing perches in Muguga, Nyathuna and Kabete was 14.8, 23.6 and 34.6%, with the perching space being 7.1±5.8, 12±11, 12±8.7 cm/bird, respectively. About 37% of the farmers reported occurrence of diseases. All farmers provided laying nests. However none of them provided sand bathing facilities. In most of the farms (98%) the birds were noted to express fear due to presence of cats/dogs. It was found that there was no correlation between hen-day production and stocking density, level of ammonia in the poultry house, provision of perches and litter quality.

In conclusion, it was found that 60% of the farmers had knowledge on animal welfare and most of them learnt it through feed millers, the other sources were media and state extension service.
Most of the farmers debeaked and vaccinated the birds against diseases. Welfare needs in terms of good feeding, house temperature, and litter quality were met. However the stocking density was high and there was minimum attempt to provide facilities for normal behaviour (perches and sand bathing boxes). There was no association between stocking density, house ammonia level, and litter quality and hen-day production. The overall assessment was that the welfare of the birds was compromised because some of their requirements were not met. The recommendations from this study are state extension programmes should be promoted to train the farmers on layers’ welfare needs. Welfare standards should be formulated and the existing livestock acts should be enforced by the relevant national authority. Through the extension agents farmers should promote facilities for normal behaviour and use the recommended stocking density of layers for better performance.

**Key words:** poultry welfare, feeding, housing, ammonia, health, appropriate behaviour, Kabete sub-county.