THE INFLUENCE OF DIFFERENT LIGHTING PROGRAMS, STOCKING DENSITIES AND LITTER AMOUNTS ON THE WELFARE AND PRODUCTIVITY TRAITS OF A COMMERCIAL BROILER LINE

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Running head: *Management factors and welfare of broiler*
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Summary. The purpose of this study was to analyze the effects of lighting program, stocking density and amount of litter on productivity and some welfare indicators of broiler. A total of 684 day-old male broiler chicks were randomly assigned to 12 treatment groups based on the lighting, stocking density and litter amount with three replicates. Data on growth, welfare indicators, meat and litter quality were obtained. The birds at the greater density grew slower ($P<0.001$) and consumed more feed for per kg. body weight gain compared to other stocking density groups. Under the conditions of the current study mortality of broilers grown at all densities were found similar. As stocking density increased, litter moisture, litter pH and the incidence of footpad lesion were adversely affected. In general; lighting program and litter amount had no significant effect on growth, meat quality and welfare indicators of broilers. We observed no difference in H/L ratio for the tested main effects lighting program, stocking density and litter amount. Significant interactions were determined between the main factors of some of the traits investigated. The results of this study indicated that increased stocking density higher than 19 birds/m^2 adversely affected growth responses, litter quality and incidence of footpad lesions. Therefore, much attention should be given to create better growing conditions especially at higher stocking density by using high quality and more abundant litter material and applying proper managerial practices.

Keywords: Broiler, management factors, welfare, growth.