THE EFFECT OF ENVIRONMENTAL ENRICHMENT AS PERCH AND LITTER ON THE WELFARE OF BROILERS

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The welfare of broiler chickens is of great concern in recent times. The main reasons are the high densities of birds in broiler houses and their selection for rapid growth resulting in leg disorders. This results in locomotory problems and in severe cases, food and water is deprived due to this. It is known that in layers provision of perches and substratum for ground scratching and dust bathing reduces leg problems and feather pecking. No studies have been done in this regard for broilers. The objective of this study was to look at the effects of the provision of enrichment in the form of perches and substratum for ground scratching and dust bathing from the young age in broiler welfare.

Sixty A.V.N-34 broiler chickens were housed from week 1-6 in cages in three groups: litter, perch and remaining without these two factors in 12 pens. The stocking density was 10 cm^2/chick. During the growing period behaviour, welfare parameters – walking ability, fluctuating asymmetry and growth parameters were recorded at weekly intervals.

Behavioural observations show, unlike field and cage study with slow growers, in fast growing broiler strains the ontogeny of behaviour is similar but ground scratching, perching and sparring declined after 4 weeks. Preening and dust bathing were performed at low levels up to the end of the experiment. All four components of the dust bathing were observed. Broiler chickens from litter and perch groups showed evidence of better leg

condition. Tibial dyschondroplasia was less in birds that had access to perches, ground scratching and dust bathing activities ($p=0.014$). Gait score became significantly different for the perch and litter groups compared to the controls from week 4 onwards ($F_{2,71}=34.143$, $p<0.001$). In addition, better foot ($F_{2,47}=14.48$, $p<0.001$) and feather conditions ($F_{2,50}=29.16$, $p<0.001$) were also observed for birds that had access to perches, ground scratching and dust bathing activities. Even though the mean relative fluctuating asymmetry was less in the litter group this was not significantly different between the groups. The mean feed intake was not significantly different between the groups ($F_{2,23}=1.51$, $p=0.247$). The feed conversion ratio for the litter group was less than 2, indicating they are more efficient in converting food than other two groups ($F_{2,57}=4.635$, $p=0.013$). Dressed weight was also higher for the litter group compared to the control ($F_{1,28}=5.645$, $p=0.022$).

Thus the provision of perches, substratum for ground scratching and dust bathing from the early age results in better leg condition in confinement and the food conversion efficiency was also better in the litter group.