

Effects of environmental enrichment on the locomotor activity of turkeys

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Lack of adequate locomotor stimulation is common for domestic turkeys that are kept under commercial rearing conditions. A lack of stimulation, however, is assumed to cause cannibalism, aggression and low locomotor activity. Therefore, it can be expected that environmental enrichment would not only support enhanced locomotor activity, but also reduce damage caused by cannibalism and aggression. In this context, this study examined the effects of environmental enrichment in relation to the behaviour of turkeys. Two open-sided houses with 5,541 (House A) and 6,476 (House B) male turkeys (B.U.T. Big 6) were enriched with raised platforms, round and square bales of straw and wire baskets filled with hay. One separate turkey house with 4,236 male turkeys was left unenriched control (House C). The animals were observed four times by scan sampling at four weekly intervals starting from six weeks of age. In addition, enriched and unenriched areas were video recorded at the same observation periods. The videos were analysed by continuous observation (30 min) of 10 birds at a time in each of the distinguished areas. Differences in the behaviour of birds in the enriched and unenriched areas were tested applying the Wilcoxon-Test for nonparametric traits (JMP, 5.01 SAS Institute). The enrichment structures influenced the resting behaviour. In both enriched houses, the total time of locomotor activity was significantly lower on square bales of straw ($p < 0.0001$ Enriched A; < 0.001 Enriched B) and on raised platforms ($p < 0.0001$ Enriched A, < 0.01 Enriched B) as compared to the free space. In both enriched houses, animals showed more locomotion in the unenriched area compared to the raised platforms and square bales ($p < 0.0001$). There was, however, no significant difference in total locomotor activity between the enriched and unenriched houses ($p = 0.1747$). Aggression and cannibalism were very low in all houses. Enrichment had no effect on total locomotor activity. In enriched houses even less locomotor activity was observed than in the free space, because the turkeys preferred the raised platforms and square bales of straw for resting.

Keywords: turkey, locomotor activity, environmental enrichment