Influence of sex ratio on selected behavioural traits of broilers

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Under commercial conditions, the general practice is to rear broilers in mixed-sex flocks. While it is possible the ratio of males to females in a broiler house may similarly influence the behavioural patterns of birds, no published data are available on this aspect. In the present study, the effect of sex ratio on the behaviour and the duration of tonic immobility (TI) of broilers was investigated. The following five male: female ratios were tested, 100:0, 75:25, 50:50, 25:75 and 0:100. The behaviour observations (pecking, resting, standing and walking) were made on six focal birds per pen, representing the sex ratio, by direct visual scans for 40 minutes daily for five days a week throughout the 4-week study. On days 19 and 33 post hatch, the duration of TI reaction was determined. The most common behaviour in all treatments was resting (74.4 to 90.3 %). The frequency of resting behaviour increased ($P<0.001$) as the birds grew older, but was not affected ($P>0.05$) by sex ratio. Pecking behaviour was not influenced ($P>0.05$) by age or sex ratio. The frequency of standing behaviour was reduced ($P<0.001$) with advancing age, but unaffected ($P>0.05$) by sex ratio. The frequency of walking behaviour was affected both by age and sex ratio. Walking was reduced as the birds grew and the frequency was greater in 25:75 and 0:100 male: female ratio. The TI reaction time was determined to be lower ($P<0.05$) in the 25:75 male: female ratio compared to most other ratios. Overall, the present data suggest that the sex composition of broilers has no major impact on the behaviour of birds.

Keywords: broilers, behaviour, sex ratio, tonic immobility reaction