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Effect of daytime and age on avoidance and approach behaviour of commercial Danish broiler chicken

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BACKGROUND

Protocols assessing the on-farm welfare status (Welfare Quality®) have implemented the assessment of the human-animal-relationship, however, detailed knowledge about limitations of the applied tests is scarce.

OBJECTIVE

This study aimed at investigating the influence of daytime and age on the performance of commercial broiler chicken in applied fear tests.

MATERIAL and METHODS

- Eight flocks of commercial Danish broiler chicken (Ross-308)
- In all flocks, a forced and a voluntary approach test were conducted at
 - **three different ages** (6- 12d, 21- 24d & prior to slaughter)
 - **during morning and evening hours** (8- 10h / 16-19h)
- Avoidance distance (AD) towards observer was assessed in 40 birds per flock
- Voluntary approach (VA) measured as number of animals in defined range (80 x100 cm) in front of observer during stationary person test (SPT)



Fig. 1: Test-procedure; Left: Stationary person test (SPT). Right: Avoidance distance test (ADT).

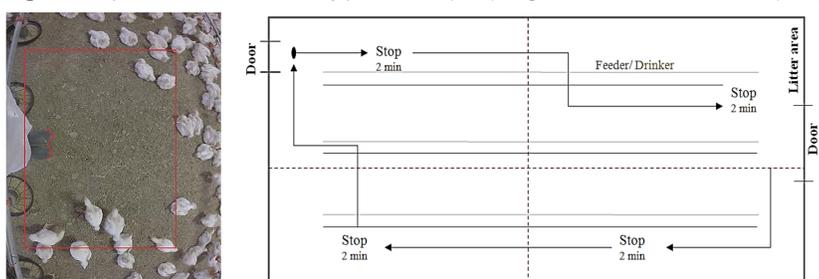
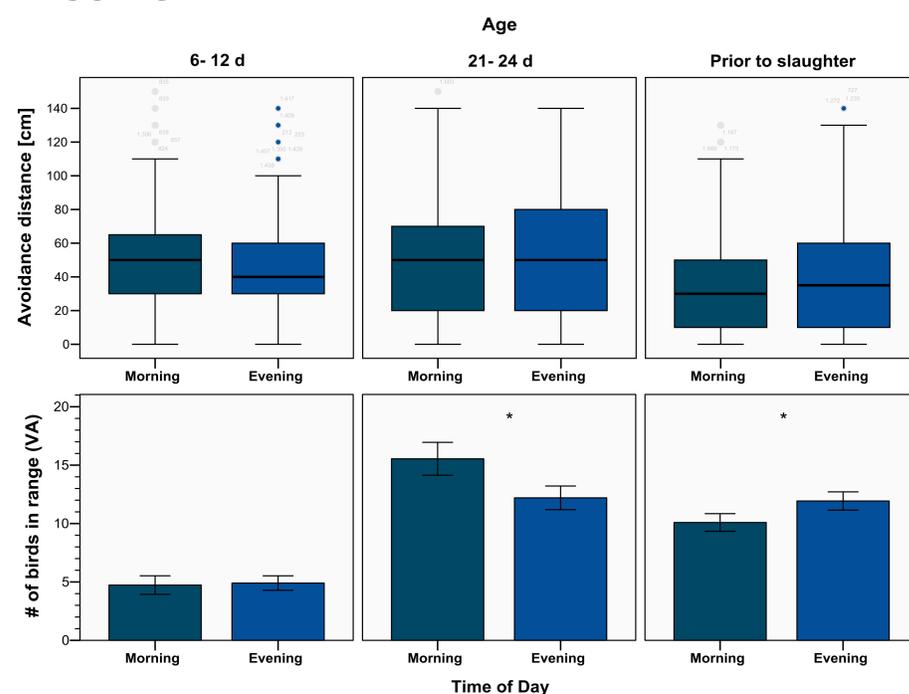


Fig. 2: Left: SPT defined range (80x100cm). Right: Non-scaled chicken house with test set-up.

RESULTS



Above: Daytime dependent avoidance distance per age (box: interquartile range; line: median; bars: 25th & 75th percentile; dots: extreme values). Below: Daytime dependent voluntary approach per age, measured as mean number of animals in defined range (error bars: 95% confidence interval).

Daytime

- Overall, no effect of daytime on avoidance or voluntary approach behaviour of birds towards an unknown human
- At different ages, the voluntary approach was affected by daytime, but not consistent

Age

- Voluntary approach rather than avoidance distance changed depending on age, with a peak at three weeks

CONCLUSION

In conclusion, the avoidance distance test was independent of daytime and age. However, the results of the stationary person test to measure the voluntary approach behaviour of broiler chicken were affected by age as well as by daytime.