



Does providing broilers light and dark areas impact welfare or production?

Research Summary
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PURPOSE OF THE STUDY

Broilers are often reared under one uniform light intensity in enclosed commercial houses. However recent research has indicated that they prefer to perform certain behaviours under different light intensities (Raccoursier et al., 2019) .

The objective of this study was to assess the impact of providing both bright and dark areas in a housing unit on broiler welfare and productivity.



WHAT WE DID

Ross 308 broilers were housed in 8 rooms (907 birds/room). All rooms had a light intensity of 20 lux from 0-6 d. Treatments were in place from 7-35 d, with four rooms acting as a control, with uniform light intensity of 10 lux. The remaining four rooms had **variable light intensity (VLI)**, with dark areas ranging from 2-5 lux and bright areas ranging from 84-133 lux. Data collected included: production, mortality, leg/footpad health, stress, melatonin concentration, and behaviour.

WHAT WE FOUND

Production

VLI affected BW, gain, and feed intake to 10 d, but no impact later in life.

Overall FCR was better in Control birds. Uniformity was unaffected at 28 d.

Mortality

VLI birds had less mortality due to skeletal causes (0.06 vs 0.19%; 2 vs 7 birds).

Leg health

No impact was noted for footpad, hock, or gait score at 31 d.

Stress

Light intensity had no impact on stress measured at 35 d.

Melatonin

Melatonin concentration was not affected by VLI at 35 d.

Behaviour

At 14 d, VLI birds spent more time standing (4.98 vs 3.47%) and at 29 d spent less time preening (1.68 vs. 2.27%).

At 14 d, VLI birds preferred to peck at the environment and objects under bright light. At 29 d, VLI birds preferred to drink, stand, and peck the object/environment more in the bright area, while preferring to stretch and wing flap in the dark. Control birds preened more along the wall.

Both VLI and Control birds at 14 d preferred to drink, stand, walk, and run in the center of the room and rest near the walls. At 29 d, all birds preferred to rest near the wall and walk in the middle of the room.

CONCLUSIONS

Our results indicate that providing Ross 308 broilers with variable light intensity had minimal impacts on all parameters measured in this study. Previous research suggested that birds preferred to perform certain behaviours under different light intensities. Our results indicate that location in the barn (near walls vs middle of the barn) and age may also influence where birds perform behaviours.

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ABOUT US



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