University of Saskatchewan
Poultry Management & Welfare

UNIVERSITY OF SASKATCHEWAN

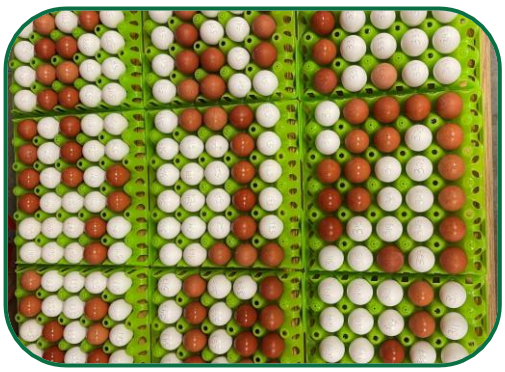
The effect of LED light flicker exposure from 0-16 wk, on hen production and well-being from 17-48 wk

Research Summary

November 1, 2023

PURPOSE OF THE STUDY

A research trial was conducted to determine the effect of light flicker on Lohmann pullets from 0-16 wk (factsheet available). Pullets were exposed to flicker frequencies of 30 Hz (visible to humans and birds), 90 Hz (visible to birds but not humans) or 250 Hz (not visible to birds or humans). The objective of this component was to determine if flicker during the pullet phase would impact hen production and welfare under non-flicker lighting from 17-48 wk.



WHAT WE DID

At 16 wk, pullets were moved from floor pens into conventional cages. A total of 864 LSL-Lite and 864 Brown-Lite hens were housed in 288 cages (60x50x40 cm) with 6 hens/cage (500cm^2/bird). Data collected included behaviour, fear, body weight, feed intake and efficiency, egg production, number of unsaleable eggs, egg weight, specific gravity (shell quality), albumen height, and shell thickness, and mortality.

WHAT WE FOUND

Behaviour

Behaviour was minimally affected by flicker during pullet phase at 21 and 39 wk.

Fear

Light flicker had no impact on fearfulness.

Productivity

30 Hz hens were slightly heavier than the 250 Hz treatment at 16 wk (1.32 vs 1.30 kg). No differences were noted at 40 or 48 wk or for feed intake, feed efficiency, and mortality.

Egg production and quality

Hen day production was marginally higher for hens reared under 30 Hz compared to 90 Hz (87.02% vs 86.84%).

Flicker had no impact on hen housed production, percentage of unsaleable, double yolk, soft shell, cracked, broken, or abnormal eggs, egg weight, specific gravity, albumen height, or shell thickness.

CONCLUSIONS

Our results indicate that if pullets are reared under flickering light (30-90 Hz), no negative impacts are evident during hen production when no flicker is present. If the flicker treatments had been continued in the hen barn, it is possible that more of an impact would have been observed.

FUNDERS

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ABOUT US

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