

Lighting layers

Shaver White and ISA Brown pullets were reared to 140 days of age in groups of eight in cages on a 10-hour photoperiod of incandescent light and maintained at an illuminance of 3 or 25 lux, or transferred from 3 to 25 lux or from 25 to 3 lux at 63 or 112 days of age. This was the method used by a collaborative group from the University of Reading, Roslin Institute and University of Guelph to compare the effects of lighting treatments on sexual maturity, feed intake and bodyweight of the two strains.

There was no significant difference in sexual maturity for ISA Brown birds maintained at 3 or 25 lux but the Shaver birds exposed to a constant 3 lux matured significantly later than those under the higher light intensity. For the Shaver birds, maturity was delayed by increasing from 3 to 25 lux at 63 and 112 days and advanced by decreasing from 25 to 3 lux at 112 days. The same trends were observed for the ISA Brown birds but the differences were not statistically significant. For both breeds, total feed consumed to 112 days was higher for birds on 3 lux than 25 lux, but lower between 112 and 140 days when birds on the higher light intensity underwent rapid sexual development. Bodyweight at 63 days was higher for birds exposed to the lower light intensity but thereafter, bodyweight gain was similar for the two light intensities.

Advances or delays in sexual maturity induced by changes in illuminance were not correlated with differences in feed intake, bodyweight gain or with changes in plasma luteinising hormone.

— Lewis P D et al., 2004. *Changes in light intensity can influence age at sexual maturity in domestic pullets. British Poultry Science*, 45: 123-132