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# **BOOK OF ABSTRACTS**

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## COLOR OF NEST CURTAINS: EFFECTS ON EGG AND HENS POSITION IN AN AVIARY SYSTEM

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**ABSTRACT:** The study evaluated the effects of the colour of nest curtains on hens preference based on egg and hen position in an aviary consisting of two tiers with collective nests and a third uppermost level with perches. To this purpose, 1,800 brown hens were housed in 8 pens according to four combinations (2 pens/group, 225 hens/pen): nests with red (R) or yellow (Y) curtains in all tiers; or nests with R and Y curtains on the first and second tier, respectively (R/Y); or nests with Y and R curtains on the first and second tier, respectively (Y/R). From 28 to 37 weeks of age, on average, eggs laid in the nest (nest eggs) were 80.9% of the total, 17.1% were laid on tiers out of the nest and 2.0% on the floor; additionally, 44.3% of eggs were laid at the first tier while 53.7% at the second tier. As for hen position, 33.6% of hens were observed on the floor, 18.5% on the first tier, 43.0% at the higher levels (30.9% at the second tier and 12.1% at perches of the uppermost level), and 5.0% in the nests (average of all recordings). As for the effect of curtain colour, the rate of nest eggs was higher in Y/R than in Y pens (81.4% vs. 79.9%;  $P<0.05$ ), without differences with R and R/Y pens (81.0% and 81.1%, respectively). Then, the rate of eggs laid at the first tier was the lowest in R/Y pens (41.5% vs. 44.4% in Y/R, 45.3% in R, and 46.0% in Y pens;  $P<0.001$ ), whereas an opposite trend was recorded at the second tier (56.5% in R/Y vs. 53.1% in Y/R pens, 52.0% in Y pens, and 52.8% in R pens;  $P<0.001$ ). The highest rate of hens on the floor was observed in Y/R compared to R/Y pens (34.2% vs. 30.8%;  $P<0.05$ ), whereas the other treatments showed similar values (32.9% and 32.5% in Y and R pens, respectively). Thus, the rate of hens on the top levels was the highest in R/Y (46.1%) compared to R pens (43.8%;  $P<0.05$ ), whereas similar rates were observed in Y/R and Y pens (44.1% and 44.9%, respectively). Based on results of nest use and hen position, we could conclude that yellow curtains got the preference of hens and moved them on the tiers equipped with yellow curtains when red and yellow curtains were used in the same pen.

**Keywords:** laying hens; cage-free systems; nest use; animal distribution; animal preference.

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