

The impact of design and position of laying nests on nest choice and of perches on keel-bone injuries in aviaries

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Key words

Animal welfare, laying hen, nest box, group nest, colony nest, perches, behaviour, preference test, authorisation procedure, keel bone

Aim of the study

a: Keel bone deformations and fracture are an important welfare problem in laying hens in loose housing. We frequently palpated individual hens for a whole production cycle, and monitored their behaviour and egg-laying.
b: Preferences for various nest types (authorisation procedure) and selected nest characteristics were studied to extend the present knowledge for nest choice in laying hens.

Material and methods

a: 180 mixed white and brown laying hens were kept in 8 pens with perches and electronic nests measuring time spent in the nest and egg-laying. 90 hens were palpated 43 times and body mass and foot pads were assessed twice.

b: Three different nest types (Perfect, Salmat, Optima II, n=160 each) were tested in the authorisation procedure. Furthermore, direction of the floor slope (towards front vs. rear, n=245) and the material of inside walls (metal vs. wood, n=160) were analysed. In all experiments data on egg laying were collected daily (from the 18th to the 29th week of age) and behavioural parameters were collected on two days.

Results and significance

a: This study showed that the rate of egg laying and foot health was associated with the incidence of fractures and that fractures led to behavioural differences in the nest.

b: Two out of the three nest types passed the authorisation procedure (Perfect, Optima II), whereas one application was rejected (Salmat). A preference was found for the nests with a floor sloping towards the front and the nests with wooden walls (more eggs, more hens and fewer nest visits per egg).

Publications, posters and presentations

Gebhardt-Henrich, S.G. & E.K.F. Fröhlich (2012) Keel bone fracture and individual behavior in laying hens.

Aktuelle Arbeiten zur artgemässen Tierhaltung, KTBL-Schrift 496: 52-60 (+ presentation at Freiburg 2012)

Gebhardt-Henrich, S.G. & E.K.F. Fröhlich (2013) Laying rate and foot health influenced keel bone fractures in laying hens (oral presentation at the 9th Poultry Welfare Symposium, Uppsala)

Roth, B.A. & E.K.F. Fröhlich (2012) Bericht über die praktische Prüfung auf Tiergerechtigkeit von Gruppen-Legenestern

Roth, B.A. & E.K.F. Fröhlich (2013) Bericht über die praktische Prüfung auf Tiergerechtigkeit von Gruppen-Legenestern

Ringgenberg, N., E.K.F. Fröhlich, A. Harlander-Matauschek, H. Würbel & B.A. Roth (2013) Relative preference of laying hens for nest size and slope of nest floor in group nests, Aktuelle Arbeiten zur artgemässen Tierhaltung, KTBL-Schrift (in Vorb.)

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