

Actual problems in the laying hens' husbandry: Types of perches

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Key words

Animal welfare, Laying hens, Authorization procedure, Perches, Behavior, Choice test, foot pad

Aim of the study

This study dealt with the qualities of the three most common types of perches in Switzerland. Perches are an important resource for chickens and they have been mandatory for laying hens in Switzerland since 1993 and they will be mandatory in the EU from 2011 onwards. Material, shape, and arrangement of perches can be very variable. The material as well as the shape of the perches can be decisive for the health of the foot pads of the hens. The quality of the three most common types of perches in regard to welfare were assessed by using choice tests and examinations of foot pads of end-of-lay hens. Welfare parameters included the preference for certain types of perches and the prevalence of foot pad lesions of slaughtered laying hens which had different perches.

Material and methods

Choice test: Perches were made of wood (4 x 5 cm planed rectangular block of wood), plastic (T-shaped, 7 cm high) and plastic covered steel (tube of a diameter of 3.7 cm). In each series 18-20 white LSL hens were kept per pen with a total of 8-9 pens. Each hen had 30 cm of perches, ca. twice the legal mandatory length. The hens had at least 8 days to get used to the perches. Observations took place between the 19. until the 25. week of age. There were 4 perches in 2 rows in which identical materials were diagonally identical. Each pen was filmed for two consecutive days during the entire light period and the numbers of hens on the perches were counted. Afterwards the perches were switched diagonally. After an additional adaptation data sampling was repeated. Before, on the day of switching, and after switching hens were counted on the perches during the dark. In each series two materials were tested against each other and each series was repeated (= 6 series). In the analysis the difference of the number of hens on the two materials was calculated for each pen. The experimental unit was the pen. Since the values were normally distributed they were tested with a t-test against difference = 0, N = 8 or 9. 100 foot pads of 15 flocks of laying hens kept on the same type of perches as in the choice experiments were examined for foot pad lesions during depopulation or after slaughter.

Results and significance

During the day wooden perches were most clearly preferred over steel perches ($t = 8.67$, $P < 0.0001$). Plastic perches were also preferred over steel perches ($t = 2.74$, $P = 0.029$). In comparison between plastic and wooden perches more hens sat on wooden perches ($t = 2.61$, $P = 0.031$). The position of the hens during the dark did not indicate significant preferences between the materials of perches. Prevalence of foot lesions varied greatly between flocks of laying hens. Wooden and plastic perches were associated with a higher prevalence than perches made of steel ($\chi^2 = 6.02$, $P = 0.05$). Flocks with plastic perches tended to have a higher prevalence of swellings ($P = 0.07$). This study showed that laying hens differentiate between materials of perches and prefer wood (and plastic) over steel. Perches made of steel which led to a higher incidence of fractures of the keel bone in a different project were used less than perches made of wood and plastic. It is not clear why hens did not show this preference at night during sleeping. Maybe the perches were not high enough because only few hens slept on the perches.

Publications, posters and presentations

A presentation will be given at the 42. Int. Tagung für Angewandte Ethol. at Freiburg in 2010.

A paper will be published in the proceedings of this conference 'KTBL' and in professional journals.

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