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Can substrate in early rearing prevent feather pecking in adult laying hens?

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Abstract

In The Netherlands, laying hen chicks are often reared without litter on the raised slatted area of a barn system or confined in the aviary system during the first two to five weeks after hatching, with chick paper or chicken wire on the floor. In the absence of a suitable pecking substrate, chicks may redirect their pecking behaviour to other birds, which possibly increases the risk of developing feather-pecking behaviour. The aim of this study was to determine whether housing on wood-shavings (WS treatment; n = 15 groups) as compared to housing on chicken wire (CW treatment; n = 15 groups) between day 1–20 could reduce feather pecking in adult birds. After day 20, all chickens were allowed wood-shavings as litter. Behavioural observations showed that CW chicks performed significantly less ground-pecking behaviour compared with WS chicks up to day 20. More CW chicks showed gentle feather pecking at day 7 and 14 as compared to WS chicks, and more CW chicks pecked at the feeder or drinker than WS chicks up to day 20. CW chicks showed rebound behaviour: the day after they were introduced to wood-shavings they displayed more ground-pecking behaviour compared to the WS chicks. Later on in the rearing period no noticeable differences between treatments were found in frequency of gentle and severe feather-pecking bouts. During laying, more gentle feather-pecking bouts were observed in CW than in WS groups but no differences in severe feather-pecking bouts were observed, nor in feather damage at the end of the trial. The results indicate that hens can display substantial flexibility in their pecking behaviour and that, despite more gentle feather pecking in CW hens in laying, the absence of substrate in early rearing does not increase the risk of developing severe feather-pecking behaviour when adult.

Keywords: *animal welfare, feather pecking, ground pecking, laying hens, ontogeny, substrate*