

The effect of raised perches on keel bone fracture in commercially-housed laying hens

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Providing perches for laying hens enables them to perch, roost and escape the unwanted attention of other birds, thus they are considered important for behaviour and welfare. However, because of continual egg output and its subsequent effects on bone weakness, perches may also contribute to injury since birds with access to such structures have been shown to have greater bone fracture than those without. In extensive housing systems (barn, free range) in some parts of the UK (i.e. England and Wales), raised slatted areas can be regarded as perch space whereas in Scotland and Northern Ireland, true aerial perches that birds can wrap their claws around must be used. This study investigated the rate of keel bone fracture in hens housed with raised slats or aerial perches + raised slats. Two commercial laying hen barn houses on the same farm were used: approximately 55% of the available floor area was covered with raised slats and 45% covered in wood shavings litter. Track feeders, bell drinkers, and two tiers of nest boxes were provided on the slats. Each laying house was split into four sections. In two of the four sections per house, X-frame perches (five poles per frame) were installed incorporating 3 out of 5 feed tracks, providing 12.5 cm perch space per bird. Where perches were installed, the remaining two feed tracks were placed on the litter. 15,000 brown hens were placed in each house at 16 weeks of age. From 17-72 weeks of age, 10 birds per section were culled every ~8 weeks and assessed for keel bone damage by radiography. Keel bones were scored from 0-3, based on degree of deformity/twisting and radio-opacity, with 0 = normal keel to 3 = severely deformed. At the time of writing, data to 50 weeks had been collected. Keel bone damage increased significantly with age ($P < 0.001$, by ANOVA), with mean score per age as follows: 17 wks = 0.0, 26 wks = 0.2, 34 wks = 0.4, 42 wks = 0.4, and 50 wks = 0.8. The provision of aerial perches + slats or slats alone did not have an effect on keel bone damage (mean scores both 0.36). There was no interaction effect. Work to date suggests that either housing method results in the same degree of keel bone damage up to 50 weeks of age. Freedom of movement may be more important to the rate and severity of injury than structures birds use per se.

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