

© 2017 Universities Federation for Animal Welfare
The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

Animal Welfare 2017, 26: 255-264
ISSN 0962-7286
doi: 10.7120/09627286.26.3.255

Behaviour of free-range laying hens in distinct outdoor environments

H Larsen[†], G Cronin[‡], CL Smith[§], P Hemsworth[†] and J-L Rault^{†}*

[†] Animal Welfare Science Centre, Faculty of Veterinary and Agricultural Sciences, University of Melbourne, VIC 3010, Australia

[‡] Faculty of Veterinary Science, University of Sydney, 425 Werombi Rd, Camden, NSW 2570, Australia

[§] Department of Biological Sciences, Macquarie University, 209 Culloden Rd, Marsfield, NSW 2109, Australia

* Contact for correspondence and requests for reprints: jl.rault@gmail.com

Abstract

The outdoor range in free-range, egg-production systems contains features that aim to promote the performance of natural behaviours. It is unclear what features of the range laying hens prefer and how these influence hen behaviour. We hypothesised that hens would demonstrate a preference for features of the environment in which their ancestor evolved, such as relatively dense vegetation, within the outdoor range and that the behavioural time budget of hens will differ between distinct environments. Characteristics of the outdoor range in one free-range commercial egg farm were mapped and four distinct environments ('locations') were identified based on ground substrate and cover (Wattle Tree, Gum Tree, Bare Earth and Sapling). The number of hens accessing each location and behavioural time budget of these hens was recorded over a three-week period during the southern hemisphere summer (January–February). Hens showed a clear preference for the Wattle Tree and Gum Tree locations; however, a significant interaction between location and time of day suggested that the hens' preference for different locations changed throughout the day. The most common behaviours displayed by hens were foraging, preening, locomotion, resting and vigilance, and most behaviours were influenced by the interaction between location and time of day. Overall, a wider variety of behaviours were performed in the highly preferred environments, but not all behaviours were performed equally within each environment throughout the day. Understanding what features hens prefer in the outdoor range and how this influences the performance of natural behaviours is important in promoting the welfare of hens in free-range production.

Keywords: *animal welfare, laying hen, natural behaviour, preference, range, shelter*