The Old School, Brewhouse Hill, Wheathampstead,
Hertfordshire AL4 8AN, UK
www.ufaw.org.uk

Animal Welfare 2019, 28: 389-395
ISSN 0962-7286
doi: 10.7120/09627286.28.4.389

Hair cortisol concentrations, as a measure of chronic activity within the hypothalamic-pituitary-adrenal axis, is elevated in dogs farmed for meat, relative to pet dogs, in South Korea

*NB Maxwell, CG Buchanan and NP Evans**

Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow, University Avenue, Glasgow G12 8QQ, UK
* Contact for correspondence: Neil.evans@glasgow.ac.uk

Abstract

*Human consumption of dog meat continues in some countries as a result of tradition, ritual and claimed medical benefits. In South Korea, it is estimated that over 2,500,000 dogs (*Canis familiaris*) are eaten annually; however, dog farming is unregulated, as dogs are not classified as livestock, leading to animal welfare concerns. A key component of the physiological stress response is activation of the hypothalamic-pituitary-adrenal (HPA) axis. Cortisol released as a consequence of HPA axis activation is stably deposited in growing biological media, such as hair. Extraction and quantification of hair cortisol can provide a historical record of physiological stress experienced as the hair was growing. By comparison of hair cortisol concentrations in samples collected from dogs surrendered from meat farms with pet dogs, this study demonstrates that hair cortisol concentrations from dogs rescued from meat farms are over twice as high as pet dogs living in and close to Seoul. This difference was independent of sex, breed and coat colour. Within the farmed dogs there were no significant effects of farm identity, number of dogs per farm or dogs per cage. Within the Korean Jindos surrendered from meat farms, hair cortisol was significantly higher in white- compared to black-coated dogs but there were no significant differences within or between dogs of other coat colour variants (agouti, brown). These data provide quantitative evidence that dogs in meat farms are kept in conditions associated with poor welfare and identify the need for better welfare laws to protect farmed dogs.*

Keywords: *animal welfare, dog, dog meat farms, hair cortisol, South Korea, stress*