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Slow and steady wins the race? No signs of reduced welfare in smaller broiler breeder hens at four weeks of age

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Abstract

Broiler breeder chickens are commonly reared under strict feed-restriction regimes to reduce obesity-induced health and fertility problems during adult life, and are assumed to experience a reduced welfare due to the resulting hunger. In these conditions, feed competition could influence the growth rate, so that the individuals falling behind in growth would experience more stress and hunger. We hypothesised that these chickens are poor competitors due to a reactive coping style and experience a further reduced welfare situation before size-sorting ('grading') at four weeks of age. Our results from open field, tonic immobility and home pen activity monitoring show signs of lower fear and higher home-pen activity levels in smaller hens and do not support the idea of reactive coping. H/L ratios of smaller hens were also found to be lower, indicating less stress in these birds. Dissections of smaller and larger four-week breeder hens may offer an explanation in the form of a relatively larger gastrointestinal tract in smaller birds. We argue that this is a form of habituation to restricted feeding, offering these birds a physiological stress coping mechanism, and that low early growth rate may not always be a sign of poorer welfare in broiler breeders.

Keywords: animal welfare, broiler breeders, chicken, feed restriction, growth, stress