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Paul M. Hocking

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The Behavioural Biology of Chickens

Christine J. Nichol, University of Bristol

CAB International, May 2015, 200 pages, £37.50, €50, \$72.50

This slim volume by a leading poultry behaviour and welfare scientist encompasses 9 chapters and a short conclusion. The book covers a wide range of applied biology and behaviour with particular application to the welfare of commercial poultry flocks. The first three chapters cover genetics and domestication, sensory biology and development of the brain and behaviour, establishing a sound biological basis for subsequent chapters. These are followed by two chapters on behaviour assessment of welfare and behavioural needs; two chapters on social behaviour, learning, intelligence and cognition; and finally two chapters on applied ethology of broilers and broiler breeders and on laying hens.

The coverage is comprehensive and up-to-date and each chapter refers to original published literature. The extensive list of reference at the end of each chapter will prove to be an excellent resource for more detailed research. As an introductory review that covers a very wide range of topics it will prove to be an excellent resource for the general reader and undergraduate or early postgraduate student. The more specialised reader may find the presentation less satisfactory as the text, in some places, is neither as comprehensive nor critical as one might expect. The book could perhaps be subtitled "and the assessment of welfare".

It is an inevitable problem with welfare assessment that a decision about what is acceptable or not ultimately depends on a consensus of what an individual is prepared to accept given as much information as possible on the biology of the chicken in a given production system. It would have been helpful if legitimate opinion had been clearly demarcated from scientific evidence. In a discussion of broiler breeder welfare there is a section titled "Aggression and Fatigue" (page 155). Whereas aggressive matings have been reported in the literature the reference to fatigue and exhaustion based on "the energetic demands of high rates of lay (5 eggs/week) is merely pejorative as is the reference to "giant" boilers. Also on page 155, the author notes that whereas layers spend 42h/d on feeding and foraging behaviour, broilers spend less than 2 h/d feeding whereas, in fact, broilers and layers spend a similar proportion of total time on oral activity. Similarly the conclusion that "significant proportions of broiler chickens are affected by painful conditions that cause lameness" cannot be substantiated by published research.

These gripes apart, this volume represents a valuable and comprehensive reference book and "point of entry" for students of animal science and animal welfare and for the general reader interested in discovering more about behaviour and the welfare of broiler and layer chickens.

Paul M. Hocking

February 2016