

Simple instructions to improve the welfare of birds, in-transit, such as the use of the correct carriers and the need to secure boxes will help to reduce the stress of birds during this time. The requirement for specific conditions in different breeds is frequently described together with the problems that may be encountered if these needs are not met, eg eye problems in Pekins not provided with sufficient clean water.

A number of important points are reiterated throughout the book to ensure they are taken on board, such as the correct ratio of males to females to prevent rape and injury to the females. This point is highlighted with regard to the breeds kept (it is a particular problem in light breeds) and provides an example of how normal wild behaviour can become a welfare issue if it is not properly managed in captivity. The need to keep drakes away from ducklings to prevent injury is also pointed out.

This book goes into great detail on the subject of the correct diet and feeding regime for ducks. The information ranges from the type of food that should be used in each season (including elements that should and should not be present within it) to correct storage and the amount to provide. The point that medicated feeds should only be used when needed is also well made.

The necessity of not using food to influence the size of birds or when they start to lay is also discussed, due to the secondary problems it can lead to. The provision of water and how to rectify interruptions in supply without exacerbating the problems it may have caused are also well described.

The simple point that healthy birds, fed a good diet, lead to the best production is reiterated well.

If there is any negative aspect to this book it is, to me, that the information on 'Keeping Ducks Healthy — Preventative Care' is only an appendix and not a full chapter in the book. It contains a helpful list of health problems including some good advice regarding when to contact the vet, eg if egg-binding occurs, and also at what stage euthanasia may become necessary in certain conditions, which will help the owners to be prepared to make a potentially difficult decision. Information regarding the prevention of conditions by the manipulation of diet (eg angel wing) and environment is readily provided and should help to prevent these conditions occurring. The treatments and preventative regimes described include both veterinary drugs and 'home remedies' that have obviously been used historically with success. I have to disagree, however, with some of the statements made in this appendix, especially regarding the effectiveness of skin-testing ducks for avian tuberculosis as, in my experience, this method is not a reliable test for this disease in ducks.

I believe that it would also be beneficial for some of the issues in this appendix, such as the quarantining of new stock, to have been further stressed in the main text as these measures can be a major tool in prevention of disease entering an established group.

In conclusion, I would highly recommend this book for anyone interested in keeping and breeding ducks and I would advise reading it before any ducks are purchased.

The discussion of a wide range of issues regarding breeding, housing, managing ducks and possible problems that may be encountered are extremely useful and well described. This book also offers advice and then reiterates the reasons behind it which make the most important points easier to remember. If all ducks were kept to the high welfare standards described in this book then many of the problems commonly encountered with domestic ducks could be greatly reduced.

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### **The Future of Animal Farming: Renewing the Ancient Contract**

Edited by MS Dawkins and R Bonney (2008). Published by Blackwell Publishing, 9600 Garsington Road, Oxford OX4 2DQ, UK. 256 pp Paperback (ISBN 978-1-4051-8583-7). Price £14.99.

Whilst animal welfare is the central theme to this collection of essays, the book delivers more than a simple review of the current state of welfare in our farmed animals. Eminent authors dig deep into the principles of farming animals, and leave the reader with unanswered questions about the future of animal agriculture. This is a book that takes a long and sometimes uncomfortable journey to provide a big picture of farm animal agriculture.

The foreword by Peter Singer sets the scene with a critical look at our current state of farm animal welfare, typical of which is the comparison of the contract between farmed animals and their keepers akin to the slave trade. The complicity of the consumer in this contract is an argument that recurs through the book.

The first part of the book, 'Voices for Change' gives authoritative and renowned philosophers such as Bernie Rollin, Mary Midgely and Joyce de Silva, the opportunity to indulge in their passionate beliefs. Indeed, the whole book may be viewed as an indulgence by the authors to promote their beliefs (and their publications) without risk of dissent or question. The content of the book would make for a superb conference, where the coffee time debates would be the highlight of the day; but such debate is denied by the structure of the book and the selection of the contributors.

Bernie Rollin's view from his side of the Atlantic is not an optimistic one. He argues that the conflict between industrial agricultural production and animal husbandry is not easy to settle, but his examples are typical of many of the contributors who rely on anecdote and personal experiences rather than the broader picture, and the realities of what many of us see day-to-day. The adverse effect of intensive farming on animal welfare is reinforced in typically robust fashion by Joyce de Silva who delivers great arguments and philosophies which have had a major influence on farming practice and attitudes from those who can control the future, but are backed by precious little other than dogma and anecdote. It is unfortunate that the weak science that she uses to substantiate the claims

could have been strengthened by better available evidence, but the choice of examples weakens her line of reasoning. Many of the contributions demonstrate the pressing need for realistic and practical indicators of animal welfare which can be used to measure progress or regression.

The 'Ancient Contract' refers to the established agreement that if we, as consumers of animals and their products, look after them, they will look after us. There is a common view held by the contributors that this contract has been broken, and needs review. This may be the case in some situations, not least in the industrialised nations where less than one percent of the population produces the food for the rest, but there is little evidence provided that the less-intensive systems still prevalent in lesser developed nations are any better for animal welfare.

The market solutions proposed by Roland Bonney himself, supported by Ruth Layton as a farmer and Michelle Waterman from a retailer's perspective, do not give much confidence that they will ever get implemented to any significant degree. Ruth explains in some detail the difficulties of creating pig production systems that prevent such a basic welfare indicator as tail biting, but points out that such systems can only be developed by trial and error (apparently, failure is a part of progress), and that the solution adds thirty percent to production costs. This may be one answer to Michelle's question as to why the systems developed by the Food Animal

Initiative (the company owned by Roland and Ruth and sponsored by Tesco) have not been widely adopted.

The highlight of the book is the contributions from Temple Grandin and Colin Tudge. Temple Grandin has experience, enthusiasm and belief to substantiate her chapter, which catalogues the difference she has made to animal handling systems and slaughter plants throughout the world. Her experiences show that an individual can make a difference, and concentrating on the achievable delivers quick and effective results.

Colin Tudge digs deep into our thoughts, and takes the book to another level. Global economics, the growth of the corporate organisations, and the influence of the superpowers are introduced as contributors to the welfare problems of our farmer animals, but Colin does offer solutions in the form of a strategic approach that may work, rather than a pipedream. Renaissance rather than revolution may be the basis for many changes that the world of animal farming needs to take, and not just for the betterment of animal welfare.

This book will make readers think, and its strength is in the depth of debate and eloquence of its contributors. It may create discomfort in some, confirm beliefs in others, but it may also reinforce prejudice and may fail to persuade many of those working and controlling our animal production systems that there is a better way for the future of animal farming.

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