

## Book review

### **The mycotoxin bluebook, Diaz, Duarte (Ed.). Nottingham University Press, 2005, ISBN: 1-904761-19-4. £55.00**

Although there have been several recent books reviewing mycotoxins in the context of human foods and human health (e.g., De Vries, Trucksess, & Jackson, 2002; Sinha & Bhatnagar, 1998), the last major review of mycotoxins and animal health was that edited by Smith and Henderson (1991) and the time is ripe for an up to date book on this important topic. Nottingham University Press has a very impressive list of books on agriculture and animal science and it is appropriate that they should have published this new book on the role of mycotoxins in the health and productivity of food animals and pets, including aquaculture.

The book opens with an important chapter on the difficult issue of sampling feeds for the subsequent analysis of mycotoxins. Arriving at the best estimate for the level of contamination is not only important for judging how safe a batch of feed is, but is highlighted by the introduction of legal limits, so it is a pity that the authors have used 10-year old data in the table to illustrate this point. Table 2 on the opening page of the book is based on the FAO review of 1995 and since then legal limits have usually become more stringent as is apparent in subsequent chapters. This introductory chapter is followed by detailed accounts of mycotoxins in the health and performance of poultry (Chapter 2), horses (Chapter 3), domestic pet species (Chapter 4), and important fish species grown in aquaculture (Chapter 6) before one eventually reaches a useful chapter on the principles and applications of mycotoxin analysis (Chapter 7). It seems to the reviewer that the chapter on analysis would have logically followed that on sampling but perhaps the Editor wanted to reinforce in the reader's mind the importance of mycotoxins before dealing with the need for sound analytical methodology. Chapters relating to swine (Chapter 10) and ruminants (Chapter 14) are even further removed from those on other animal groups and again there seems no logical reason for this.

Although predominantly a book about animal welfare, it is appropriate to have, a single chapter highlighting the role of mycotoxins in the human food chain (Chapter 8) but, for a specialist book of this kind, the

elementary chapter on mould growth and mycotoxin production (Chapter 9) seems inappropriate as it does not add any new information to this aspect of mycotoxin studies. In fact it is out of tune with other authors in using the no longer accepted name for *Fusarium verticillioides* (= *F. moniliforme*) and it contains a lengthy and confused description of the mechanism for the antimicrobial action of weak organic acids.

The final chapter gives a useful account of the value of sequestering agents, such as activated charcoal, silicate minerals and reagents derived from yeast cell walls, for neutralizing the toxicity of animal feeds contaminated with mycotoxins (Chapter 15). It has to be accepted that it may prove impossible to prevent such contamination either in the field before harvest or during post-harvest storage, and it is a pity that this chapter does not immediately follow that on the effects of mycotoxins on antioxidant status and immunity (Chapter 5) which concludes with a useful discussion on the possible protective effects of antioxidants against mycotoxicoses.

Chapters 11–13 deal with mycotoxins in forages, including toxigenic endophytes in grasses, mycotoxin interactions with the environment, nutritional status and with each other, and mycotoxin metabolism, mechanisms and biological markers. Each chapter is completed with an extensive bibliography which, in the case of the chapter on mycotoxin analysis, has been very usefully structured to allow the reader to access literature on specific mycotoxins. It is inevitable in a book of this nature that there is a certain amount of overlap and repetition but this is probably justified if individual chapters, rather than the whole book, are going to be consulted by people working with particular animal groups. Despite my criticism of the overall structure of the book, the majority of chapters contain detailed, recent and interesting information and the book should prove to be a useful addition in the laboratories and libraries of colleges and institutes involved with animal science and animal welfare. It would also be a useful addition to any library supporting the study of mycology for the book makes it clear that fungi may play an important part in the health of animals, through contamination of their feeds and forages, as well as the more obvious role that they have in infectious mycoses.

## References

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- Sinha, K. K., & Bhatnagar, D. (1998). *Mycotoxins in agriculture and food safety*. New York: Marcel Dekker.
- Smith, J. E., & Henderson, R. S. (1991). *Mycotoxins and animal foods*. Boca Raton, FL: CRC Press.

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