

reviews on how behavioral research is conducted are provided within various chapters. Likewise, throughout various chapters, those involved in animal breeding will find information related to behavioral traits and genetic selection to enhance animal handling and welfare in household as well as in production settings.

This book will be of interest and value to students studying animal or veterinary sciences, especially those unfamiliar with the differences in animal behaviors among various species. Additionally, veterinarians, animal scientists, and stockmen involved in the management and welfare of animals will find the book beneficial in their daily handling of livestock.

**Reviewed by Kevin D. Pelzer, DVM, MPVM, DACVPM  
Virginia-Maryland Regional College  
of Veterinary Medicine  
Blacksburg, Va**

## Handbook of Equine Parasite Control

Craig R. Reinemeyer & Martin K. Nielsen

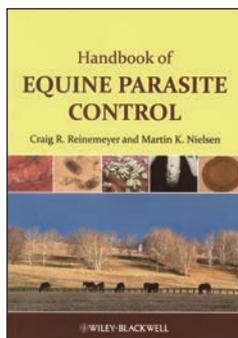
224 pages. 2012. Wiley-Blackwell.  
ISBN 978-0-4706-5871-0. Price \$69.99.

This horse parasitology text provides a good overview of principles for students and an excellent guide for practicing veterinarians. The *Handbook of Equine Parasite Control* includes sections on equine parasite biology, life cycle, pathology, and factors affecting parasite transmission. Principles of parasite control are reviewed and include an assessment of parasitologically important information such as a review of patient history, detection of resistance, and the use of diagnostics and other evidence-based techniques.

As an added bonus, the text contains 20 case histories (clinical assessment, laboratory findings, and treatment) followed by questions to ponder. One can use these exercises to evaluate knowledge retained from reading the rest of the book. The succinct answers inform readers and refer them back to prior chapters for more information on topics when needed.

Some of the information provided in this paperback text is similar to that recently published by the American Association of Equine Practitioners in their 2013 *Parasite Control Guidelines*. Martin Nielsen, the well-respected second author of this text, served as the chair of the subcommittee that developed those guidelines.

This book emphasizes practical information. The coprology section includes recipes for flotation media and technique descriptions for a simple McMaster egg count, the exceptionally sensitive modified Wisconsin sugar flotation test, and a modified egg-counting method for detection of tapeworms. It also has information on the use of the fecal egg count as a diagnostic, surveillance, and resistance detection tool; the Baermann technique; larval cultures; the scotch tape detection of *Oxyuris equi*; and a discussion of future diagnostics.



The highly technical nature of the text is necessary, but thankfully it is interposed with high-quality images of various stages of parasites and interjected with an occasional tongue-in-cheek comment or bit of trivia to keep the reader interested. Some of the images would almost be stunning were it not for the subject matter. *Anoplocephala perfoliata* is well represented with a marvelous backlit individual picture and a group shot near the ileocecal valve with vibrant colors that make the subjects pop off the page. Describing a successful host-parasite relationship, the authors observe that “the host provides shelter and sustenance so a resident population of worms can reproduce, and the tenants refrain from destroying their domicile. Vandalism is optional.” When describing *Parascaris univalens*, they note “it is an interesting item of trivia that the biologic phenomenon of mitosis was first observed in the eggs of *P univalens*.” Good to know.

The chapters on detection of parasite resistance, evaluation of history, and a synopsis of evidence-based parasite control round out the text before the case histories are presented. An index of abbreviations would have been helpful, especially for students, but practicing equine veterinarians will readily recognize most of the abbreviations used. This valuable handbook will serve the veterinary profession well.

**Reviewed by Tad B. Coles, DVM  
Medical Writing and Veterinary Consulting  
Overland Park, Kan**

## Microbial Efflux Pumps: Current Research

Edward W. Yu, Qijing Zhang, & Melissa H. Brown

257 pages. 2013. Caister Academic Press, distributed by  
International Specialized Book Services.  
ISBN 978-1-908230-21-8. Price \$319.00.

*Microbial Efflux Pumps: Current Research* provides a detailed description of the efflux pumps used for cellular export in both simple and complex organisms. It does an excellent job of highlighting the conserved basic structure of these proteins across kingdoms as well as how genes encoding these proteins in lower organisms including bacteria have been mutated, duplicated, or inverted for use



in eukaryotes. The early chapters of the book address the structure and function of the major categories of efflux pumps and how they act to perform normal processes from ion flux to neurotransmitter release. Included in these chapters are highly detailed descriptions of well-characterized efflux machinery and how these protein complexes provide polyspecificity for compound export, with specific implications for conferring resistance to heavy metals, environmental hazards (bile salts, detergents, and solvents), and therapeutic drugs. The remaining chapters of the book discuss examples of potential high-consequence pathogens, with descriptions of the discoveries related