

## Book Reviews

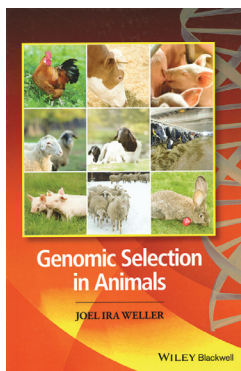
### Genomic Selection in Animals

Joel Ira Weller, MSc, PhD

175 pages. 2016. Wiley-Blackwell.  
ISBN 978-0-470-96007-3. Price \$149.95.

*Genomic Selection in Animals* is a well-written book by a leading animal quantitative geneticist. The book details the history of genetic marker-assisted selection, from the early days of microsatellite-based markers to current day single nucleotide polymorphism (SNP)-based platforms. The basic statistical concepts behind genetic evaluations are explained and expanded to detail how DNA-based information can be included as an additional source of information to improve the accuracy of breeding values. There are useful discussions contrasting the different approaches and statistical methods used to incorporate genomic information into estimates of genetic merit. The intended audience for this book is expected to have a basic understanding of both quantitative genetics and matrix algebra, and mathematical equations relevant to breeding are scattered throughout the book. That being said, the book is quite readable with a helpful summary of concepts discussed at the conclusion of each of the 21 short chapters. This book will be particularly useful for graduate students in animal breeding and genetics, and more broadly for professionals with an interest in understanding how genomic information is being incorporated into breeding programs. My 1 critique of the book is that almost all of the examples provided relate to the dairy industry, with the occasional reference to studies in other livestock species. Although within-breed genomic selection has been very successful and widely adopted by the dairy industry globally, there is little discussion of how its implementation has been problematic in other animal industries less suited to genomic selection for a variety of logistic and biological reasons. Overall, this book is a readable summary of the concepts and current methods underlying genomic selection and a useful reference that I recommend for those with an interest in this rapidly evolving field.

**Reviewed by Alison Van Eenennaam, PhD  
University of California-Davis  
Davis, Calif**



### Animal Welfare in Extensive Production Systems (The Animal Welfare Series)

Juan J. Villalba, MS, PhD

204 pages. 2016. 5M Publishing Ltd.  
ISBN 978-1-910455-54-8. Price \$85.00.

*Animal Welfare in Extensive Production Systems* provides a general overview of several important aspects of extensive livestock production systems that can impact the welfare of the animals in those systems. Most of the published literature on livestock welfare focuses on intensive, confinement-based systems. This book tackles a broader and much more varied landscape of livestock production and covers a wide range of topics within the context of production systems encountered throughout the world. Although that gives the content of this book great breadth, it also results in the information being presented in a very generalized manner. Readers interested in detailed information regarding specific livestock production systems will need other resources, but this book could be a good starting point for readers interested in a broad overview of animal welfare in extensive production systems. The book is well organized and referenced, and it is evident the authors spent considerable time researching the published literature to support the text. Unfortunately, the book contains several typographic and grammatical errors and multiple awkwardly structured sentences, which are distracting and make the text occasionally difficult to understand. The authors, editors, and publisher are encouraged to correct those errors in future print runs and editions.

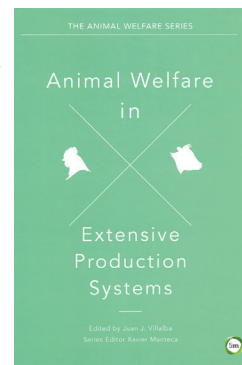
**Reviewed by John Gilliam DVM, MS, DACVIM,  
DABVP**

**Oklahoma State University  
Stillwater, Okla**

### Foot-and-mouth Disease Virus: Current Research and Emerging Trends

Francisco Sobrino, PhD & Esteban Domingo, BSc, PhD

431 pages. 2017. Caister Academic Press  
(an imprint of Horizon Press).  
ISBN 978-1-910190-51-7. Price \$398.00.



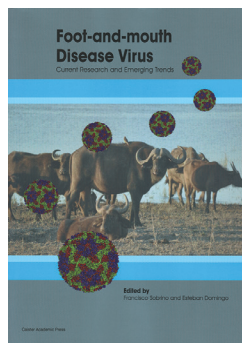
In *Foot-and-mouth Disease Virus: Current Research and Emerging Trends*, a wealth of knowledge and research from recent and historical timeframes is merged together in 18 chapters for easy reference. Great detail is provided on viral particle structuring, encoded proteins, genetic expression, viral habitats, epidemiology, and measures to control viral spread. Immunity, both acquired and innate, is also covered in great detail along with descriptions of symptoms and clinical signs of foot-and-mouth disease virus (FMDV) infection in multiple species. Given that FMDV is one of the most economically important contagious animal pathogens, multiple national and continental organizations have an enormous task to work together in a concerted effort to control its spread. A few chapters address various organizations currently involved in that task and their roles in past and present programs. Finally, an overview is provided regarding the impact of FMDV as a reemerging viral pathogen and how the virus will remain a serious threat to world-wide agriculture, with eradication of FMDV being far more complex than that of other viruses of similar status.

Colored diagrams, charts, and images throughout the book provide readers a review of the structure, trends, distribution maps, and other details of the virus and make this book stand out from other textbooks that are printed in black and white. I recommend this book as an important comprehensive review reference for anyone involved in FMDV research, control, and outbreak planning.

**Reviewed by David T. Harder, DVM, MPH**  
**Prairie Vista Veterinary Hospital**  
**South Hutchinson, Kan**

## ***Staphylococcus:* Genetics and Physiology**

**Greg A. Somerville, PhD**



390 pages. 2016. Caister Academic Press (an imprint of Horizon Press). ISBN 978-1-910190-49-4. Price \$319.00.

*Staphylococcus: Genetics and Physiology* consists of 13 chapters written by 23 leading experts on *Staphylococcus aureus*. This book exceeds the publisher's stated goal of providing a timely overview of staphylococcal research and is clearly essential reading for scientists working with staphylococci. The editor has done a masterful job of creating a book that flows beautifully with chapters that are engaging as stand-alone works or as integrated parts of the book as a whole. Of particular interest for *JAVMA* readers will be Chapter 3 on the clinical significance of staphylococci in animals, written by J. Dustin Loy, whose photograph of *S aureus* growing on a salt mannitol plate graces the cover. Although the book focuses on *S aureus*, there is discussion of other staphylococci of pathological importance in animals. This is particularly true for Chapter 3, which covers clinically relevant veterinary infections such as those caused by *Staphylococcus hyicus* and the *Staphylococcus intermedius* group, as well as treatment of those infections.

It is important to note that the chapters on cell wall assembly, proteomics, and transition metal ion homeostasis, although accessible for veterinary students and practicing veterinarians, were written with researchers in mind. Those chapters provide graduate students and researchers a thorough review of difficult topics and have the benefit of extensive reference lists. As long as readers recognize the intended scope and depth of the book, they will find it to be useful and definitely worth the investment.

**Reviewed by Sara Lawhon, DVM, PhD, DACVM**  
**Texas A&M University**  
**College Station, Tex**

