Book review — Boekresensie

GIS and spatial analysis in veterinary science

Edited by P. Durr and A. Gatrell

Animal disease data are collected as part of surveillance or research activities. Each data item normally has a spatial as well as an animal and temporal dimension. Classic epidemiological analysis focused mainly on the animal dimension, whereas time and space were usually explored using fairly basic methods. Most national disease surveillance systems still only have limited capacity to work with geo-referenced information. However, recent outbreaks of classical swine fever and foot-and-mouth disease have demonstrated that geographical information systems (GIS) have now become an indispensable tool, particularly when dealing with emergency responses to exotic disease outbreaks. While surveillance systems lag behind in the adoption of spatial data analysis (SDA), its use for the purpose of specific epidemiological investigations has already become widespread. This book therefore provides an important reference for epidemiologists or researchers wishing to go into the field of GIS or SDA. The scope of the book is regarded by the authors as a new sub-discipline of epidemiology, one whose subject matter is currently scarcely referred to in any of the standard epidemiology texts.

The book is divided into three parts. Part 1 sets the scene with two chapters that introduce basic concepts and principles and offer some illustrative examples of the relevance of GIS and SDA in a veterinary context. The second part consists of two further chapters that set this work in a broader context, with reference to biomedical applications and those in a human public health context. The chapters in the final part of the book deal with applications in various domains, ranging from parasitic disease through companion animals, wildlife diseases, epidemic disease response and disease spread. The editors have also created a website that contains further information and resources relating to GIS and SDA in animal health (www.gisvet.org).

The editors and contributors to the book are well known within veterinary epidemiology circles and in my opinion are currently amongst the best qualified within the veterinary profession to write such a book. What I liked about the book was the use of worked examples of real problems to introduce some of the basic ideas of GIS, SDA and remote sensing. The examples chosen are already published in the veterinary literature and can be referred to for background concerning the actual scientific problem. It was also refreshing to get case studies from the southern hemisphere, which are more applicable to us here in South Africa. This book is not just a theoretical text on the subject but gives a very practical approach to the subject.

The book is hard covered, reads well and is of a high quality. It contains numerous examples of maps and plots, some of which are in high-quality colour. This compensates somewhat for the price of the book. It is well laid out and easy to follow. Some background in epidemiology will, however, help the reader understand the concepts, although this is not essential.

In summary I highly recommend the book as a valuable contribution to an expanding discipline within veterinary epidemiology.

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