

Book reviews

Nicholas, F. W.: Veterinary Genetics. Oxford: Oxford University Press (Clarendon Press) 1987. 580 pp.

At last we have one text that provides the student and practitioner of veterinary medicine the information he or she should be familiar with in basic genetics, genetics and animal diseases, and animal breeding. The first and third topics are not presented in depth, but are given in a clear and concise manner, with derivations given in appendices for the student interested in the basis of key mathematical formulations. The second topic, that dealing with genetics and animal diseases, contains a wealth of current information on immunogenetics, chromosomal aberrations, familial disorders of threshold traits, biochemical genetics and host-parasite interactions. The discussions of the major histocompatibility complex, pharmacogenetics, resistance of hosts to pathogens and resistance of pathogens to insecticides include a wealth of material that should be useful to the veterinarian, not merely for the facts provided, but particularly for the general principles that the author admirably highlights. Throughout the book, important conclusions are given in italics within a rectangle for benefit of the student. Each chapter concludes with a summary and a list of up-to-date articles. In addition, a more comprehensive list of articles referred to in the text are listed at the end of the book. The book would be very suitable for a course in veterinary genetics; students of veterinary medicine would profit enormously from a comprehensive understanding of the genetic information found in the text which will, no doubt, stimulate further reading and encourage some to pursue research in the genetics of animal diseases.

E. J. Eisen, Raleigh (NC)

Van Vleck, L.D.; Pollak, E.J.; Oltenacu, E.A. Branford: Genetics for the Animal Sciences. New York: Freeman 1987. 391 pp. Hard bound \$ 32.95.

The authors have written a basic text for a first course in animal breeding. Apart from an introductory chapter and a final perspective chapter, the book can be divided into three parts. Chapters 2 to 5 emphasize basic Mendelian genetics. Chapters 5 to 10 cover the rudiments of population genetics. Chapters 11 to 15 discuss quantitative genetics and animal breeding. The material is presented in a clear and concise manner. The concepts involved in predicting breeding values and measuring genetic gain are particularly suitable for students being introduced to the topic. I would have preferred less space devoted to Mendelian genetics, material usually covered in a basic genetics course, and more discussion on key topics in the mainstream of current animal breeding research such as maternal effects, genetic drift, genotype \times environment interactions, economic evaluation of selection programs, and synthetics versus crossbreds. Students benefit from many examples, and there are all too few in this text. More illustrations of single gene abnormalities, estimation of genetic parameters, selection experiments and crossbreeding studies would have been helpful. Despite some of these difficulties, the authors are to be commended for writing a very useful text in basic animal breeding.

E. J. Eisen, Raleigh (NC)

Gerhardt, Ph. (ed.): Manual of Methods for General Bacteriology, 1st edn. Washington DC: American Society for Microbiology 1981. 524 pp., figs. Soft bound \$ 29.00.

Is it possible to collect methods for general bacteriology in a book of merely 524 pages without attaining a mere compilation of recipes?

As the editor-in-chief explains in the preface, the book was written for a large group of more or less experienced microbiologists. It is organized into six sections covering the main subjects; each section is further subdivided into chapters (25 in total) covering relevant topics on methodology. The sections are Morphology, Growth, Genetics, Metabolism, Systematics, Laboratory safety, and an addendum on Diluents and biomass measurement. An editor was responsible for each section, and each chapter is composed by its own author(s) as an independent essay. Yet the book is easy to read and remarkably uniform in its clear style – the editors and many referees must have done a tremendous amount of work.

It is the fate of every manual in a rapidly evolving field that it is outdated after some (short) time. In such a broad study as bacteriology, the evolution of ideas is not uniform; in some fields little has changed since the book appeared, whereas e.g., in bacterial genetics (DNA manipulation!) and bacterial metabolism, many methods and techniques have been surpassed by more advanced ones. Nevertheless, my question at the beginning of this review can be quickly answered with yes. The manual is a “must” for the bookshelf of every bacteriologist regardless of his/her field of interest. Compared with the contents, the price is moderate, evidently due to the nonprofit publisher, the American Society for Microbiology.

C. K. Stumm, Nijmegen

Cutler, D.F.; Rudall, P.J.; Gason, P.E.; Gale, R.M.O.; Root Identification Manual of Trees and Shrubs. A Guide to the Anatomy of Roots of Trees and Shrubs Hardy in Britain and Northern Europe. London: Chapman and Hall 1987. 245 pp., 549 figs., 5 tabs.

The root system is a neglected and forgotten object of plant breeding even though it is a basic system of productivity and adaptation. The intention of this book is not to bridge the gap between plant anatomy and breeding, but to encourage breeders in looking for the underground partner of each plant individual. The book provides an integral description of the root system with classical light microscopical pictures of excellent quality. In an alphabetical arrangement of the scientific names of the genera, transverse, longitudinal, and tangential longitudinal sections of 280 species are given, together with brief descriptions of their important features, and additional notes of their diagnostic value.

This excellent book is the result of a twelve year joint effort by the members of the Jodrell Laboratory of the Royal Botanical Garden, Kew, England.

H. F. Linskens, Nijmegen