

## Book Reviews

**Practical Isozyme Genetics.** N. Pasteur, G. Pasteur, F. Bonhomme, J. Catalan, J. Britton-Davidian (M. Cobb, translated from French) Ellis Horwood, Chichester, 1988. Pp. 215 Price: £29.95. ISBN 0-745-80501-9

To judge by the frequent requests I receive to recommend a good general introduction to isozyme techniques, there is clearly a great demand for such a book. The question is does this book, "Practical Isozyme Genetics" a new volume in the Ellis Horwood series in Gene Technology, meet the demands of the wide audience ("biologists, agronomists, anthropologists, hospital doctors, health inspectors, forensic scientists and all those individuals and agencies involved in the preservation, management, and improvement of animal and plant stocks") to which the authors direct the work in the preface. In general, the authors meet these wide demands as well as might be expected from a 215 page book on this complex subject. However, there are several cautionary notes that must be added to my general enthusiasm for this book.

The eleven chapters are divided into three main sections covering "Methods", "Laboratory Techniques" and "Data Analysis" and provides a fairly comprehensive account of the procedures involved. However, the divisions are not entirely comfortable—for example, the chapter on genetic interpretation of gels would be better as part of the data analysis section. The authors are particularly good at providing just the required amount of methodological background for the novice. The book is well illustrated with photographs and diagrams which are essential in a practical guide of this type. The chapter on general experimental procedures is particularly well illustrated with a clear series of pictures taking the reader through the process of making and running gels. However, while acknowledging that starch gels are notoriously difficult to photograph, I found the quality of some of the photographs, used as a guide to interpreting gels, left much to be desired. In such an introductory book this might well lead inexperienced workers to over-interpret their gels with serious consequences. In addition, in a chapter on genetic interpretation of gels I find it amazing that the authors fail to stress the importance of performing a range of controlled crosses to analyse the genetic control of isozyme systems. Though appreciating the difficulty with many species of such an approach it forms the basis of proper genetic analysis and must be performed if at all possible.

The staining protocols are well presented with a clear description of each staining reaction followed by the protocol in a format suitable for photocopying to keep on the laboratory bench. In general the protocols are correct and logically set out though there are some minor points of irritation. I see no good reason to make up 2 litres of 2M sodium malate, which is a rather hazardous

operation, when a much smaller volume of stock solution would suffice. In addition, there are some inaccuracies in the authors descriptions of certain chemical compounds e.g. "malic" acid for sodium malate and the omission of necessary detail of which particular salts are used for many of the substrates, such as fructose-6-phosphate, which could lead to considerable confusion if the reader uses alternative suppliers.

Though the authors correctly stress that a "trial and error" approach may be required to adapt the methodology to new species I do feel that they might have suggested some appropriate strategies, identifying, for example, some of the key areas, such as the choice of extraction buffer or stain pH, which can be systematically explored.

The section on data analysis is fairly complete and is at the appropriate level for a book of this size and audience. The only serious omission is a section on linkage analysis and one might argue that a worked example would help beginners cope with the difficult concept of genetic distance.

In conclusion, though highlighting some of the faults of this book in this review, I have to recommend it as a text which should give many novices a useful introduction to the subject. It has been well worth the effort of translation from the original French edition.

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**Exercises in Applied Genetics.** Lynn Burnet. Cambridge University Press 1988. Pp. viii + 120. Price \$4.95. ISBN 0-521-33883-2.

Exercises in Applied Genetics is something of a misnomer for this book. The majority of the pages comprise six chapters which are principally script, and which skim the cream of the subject in a rapid-fire style of writing, and buzz words picked out in bold type. The author should be given credit for attempting a fresh approach aimed at stimulating the student, and for providing some interesting and new exercises. There is no practical component. It is clearly stated that a knowledge of basic Mendelian genetics is required, as well as appreciation of the structure and function of nucleic acids. Chromosomes and nuclear division in eukaryotes receive scant attention, and presumably all of that background is taken for granted as well. The problem faced by the author is the one which is well known to all teachers of genetics—