Book Reviews

C. Doré (ed.): Application de la Culture In Vitro a l'Amélioration des Plantes Potagères. Réunion Eucarpia, Section 'Légumes', tenue à Versailles 16-18 Avril 1980. Versailles: INRA, Station de Génétique et de l'Amélioration des Plantes 1980 213 pp. Soft bound ffr 100,–.

The booklet compiles the 30 papers given at the EUCARPIA meeting 'section vegetables' in photoprint. The central conference topic, use of tissue culture techniques in applied vegetable breeding, has up to now not often been discussed, and therefore the book is a very useful summary. However, most of the papers (18) are written in French and not all of them possess an English summary. The following topics are covered in an up-to-date manner: vegetative propagation together with phytosanitary procedures; interspecific hybridization via subsequent embryo culture; haploid induction by anther culture; protoplast culture and regeneration of *Cucumis melo*; natural and induced variability occurring during tissue culture; and vegetative propagation of some *Labiatae* and *Umbelliferae* producing secondary compounds. Predominantly experiments are reported, using the following plants: Asparagus, artichoke, cauliflower, celery, Capsicum, Cucumis, potato, strawberry and tomato.

The book is a worthwhile investment, taken into consideration the low price. G. Wenzel, Grünbach

Levine, L.: Biology of the Gene. 3. Ed. St. Louis-Toronto-London: Mosby Company 1980. 524 pp., 239 figs., Soft bound DM 75,–.

As in most modern textbooks the author starts genetics not with Mendel but with the nature and functions of genetic material, followed by the physical basis of inheritance which then leads to classical genetics of diploid eukaryotes (chapters 3-6). In the seventh chapter haploid (fungal) genetics is briefly introduced in order to explain recombination. Extrachromosomal inheritance, mutation, gene expression, morphogenesis, behavior genetics, genes in populations, race and species formation are dealt with in the next chapters.

The author tries to cover the whole field of genetics. However, it becomes evident that zoological genetics is treated in more detail than botanical (e.g. fungal) genetics or prokaryotic genetics. It is certainly a matter of personal view, whether one tries to give a comprehensive overview rather than to put emphasis on such fields, which at present deliver fascinating results: e.g. compare the broad field of mitochondrial genetics (2 pages) with the special field of 'kappa' in Paramaecium (4 pages). As the author states in the preface, 'new topics have been added'. This is certainly true, but in some cases the reviewer has the impression that these new topics are simply grafted onto the text and not integrated. Episomes are mentioned on 12 lines on p. 269. The word is not used anymore and no hint is given that this is synonymous with plasmids (p. 58). Later, (p. 274-278) plasmid engineering is described.

The detailed treatment of copy choice is a bit outdated (p. 225) and the same holds true for the white house model (p. 23).

Some of the figures, mostly those taken from previous publications, are not very instructive or even partially wrong: e.g. in the Neurospora cycle (p. 214) it is not evident whether micro- or macroconidia are meant, and, fertilization occurs always only on the tip of a trychogyne. This critics shall not diminish the general value of the book, which is certainly improved by the 'questions and problems' at the end of each chapter. In contrast, the reviewer knows from own experience that each textbook author depends on constructive criticism. It seems very probable that the book will find its way to the shelves of the students, as evidently its previous editions have done. K. Esser, Bochum

Wobus, U.: Isolierung, Fraktionierung und Hybridisierung von Nukleinsäuren. Eine Einführung und methodische Anleitung. Weinheim: Verlag Chemie 1981. 229 pp., 33 figs., 5 tabs. Hard bound DM 30.–.

The development of molecular biology would be impossible without improvement of the methods in this field. This book, Volume 12, in the series 'Moderne Biowissenschaften' deals with methods in nucleic acid research.

These methods describe the isolation of DNA, RNA and mRNA, gel electrophoresis of nucleic acids, analysis of DNA with restriction endonucleases, preparative centrifugation of nucleic acids, synthesis of nucleic acids and labelling with ^{125}I *in vitro* and the hybridization of nucleic acids.

The authors describe the experiments step by step and describe what has happened with the treated material at each of these steps. Almost every step is guided by a note in which the author tells what can be done to improve the procedure or to what part the experimentator has to pay special attention. These notes alone with their detailed information make this book a valuable tool for everyone who is working in nucleic acid research. However, the book is written in German so that this book can be an easy tool only for people who can read this language.

J.A.M. Schrauwen, Nijmegen