

detail, and there is a lot to learn for those struggling with less well-characterised systems. For example, the oncogene studies deal essentially with the control of cell division and differentiation, and as such are clearly relevant to work on control of development of plants as well as animals. Similarly, the classic work on gene regulation on *E. coli* and its phage has formed the basis for models of eukaryotic gene regulation. Work in progress with plant and animal systems is now putting them to the test.

I can certainly recommend this book as informative and enjoyable reading for the novice as well as the devoted molecular biologist. Whether he will also wish to purchase a copy will probably depend on his precise range of interests.

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Haploids of higher plants *in vitro*. Hu Han and Yang Hongyuan. China Academic Publishers, Beijing; Springer-Verlag, Berlin. 1986. Pp. xi+211. Price DM248.00. ISBN 3 540 16003 5.

Over the last decade Chinese scientists have been at the forefront of developments in plant tissue culture and its application in agriculture. This is particularly true for research on haploids. This book is, therefore, a timely compilation of advances made in haploid production techniques and utilisation in different laboratories in China, particularly those of the Institute of Genetics, Beijing, where many advances in this field have been made.

The book is divided into two parts—the first covering haploid production via anther and pollen culture and the second *in vitro* methods utilising the megaspore. Altogether there are 12 chapters covering methods of production in different species, and the utilisation of the products of these techniques, doubled haploids, in plant breeding, and in genetic and cytogenetic studies.

The first three chapters describe in great detail the influence of genotype, developmental stage, pretreatments, culture conditions and media on the induction of callus and the regeneration of plantlets. These chapters deal with rice (Chen Ying), wheat (Ouyang Junwen) and woody species (Chen Zhenghua) and provide clear, detailed protocols for the different species. These essentially summarise the conclusions of years of patient, hard work in getting the “cookery” right.

Chapters 4 and 5 describe the genetic variability observed in the products of anther culture in wheat (Hu Han) and in maize (Gu Mingguang). These authors review the types of chromosome aberrations observed and discuss possible causes. This is further explored at

the ultrastructural level in the next chapter by Huang Bin which describes in great detail the developmental events which occur during pollen development *in vivo* and *in vitro*. This first part of the book is concluded by three chapters describing how these techniques have been applied, and can be applied, to produce new varieties of rice, wheat and maize.

The second half of the book details with the culture of unfertilised ovaries, technologies which, as yet, are not as far advanced, particularly in terms of application, as anther culture. Although there are only three rather short chapters in this section, nevertheless, they give much interesting and useful information in an area of tissue culture which is proving a difficult nut to crack.

Overall, although essentially aimed at the specialist in this field the book contains much of interest to others. It is a nicely produced, and generally well written book with numerous good photographs and well stocked bibliographies. Since many of the original papers are relatively inaccessible to western workers because they were written in Chinese this book should prove a valuable source of information for researchers and plant breeders alike.

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Human chromosomes: Structure, behavior, effects (2nd Edition). Eeva Therman. Springer-Verlag, New York. 1986. Pp. xvi+313. Price DM89.00. ISBN 3 540 96173 9.

This, the second edition of Eeva Therman's “*Human chromosomes*”, is a much expanded and rewritten version of the original book and brings the reader up to date with developments in this fast-moving field. The book is intended as an introduction to human chromosomes and will provide the reader with an excellent grounding in human cytogenetics and cytogenetics in general. It should appeal to a wide audience.

The 28 chapters each cover a clearly defined subject area and are further subdivided into smaller topics which aid clarity. The subject matter covers the history of cytogenetics, general cytogenetics, including chromosome structure and cell division, and more specific subjects areas such as double minutes and homogeneously stained regions, oncogenes, and the mapping of human chromosomes. At the end of each chapter there is an extensive reference list and a comprehensive index provides easy access to the material. The well planned layout of this book will make it particularly valuable both as a textbook for the student and as a reference book in the laboratory.

It is pleasing to find, in a book on human chromosomes, that reference is made throughout the text to research on plant and other animal species. My only disappointment is that the photograph of a normal