Debergh, P.C., Zimmerman, R.H. (ed.): **Micropropagation. Technology and Application.** - Kluwer Academic Publishers, Dordrecht - Boston - London 1991. 484 pp.

Micropropagation has many advantages over a conventional vegetative propagation and its commercial use in horticulture, agriculture and forestry is currently expanding world-wide (more than 300 million of plants are produced by micropropagation every year). However, their production cost is still relatively high and so great attention is paid to the research of genetics and physiology of plantlets and to the improvement of cultivation techniques. Thus the survey of up-to-date knowledge in these fields, as it is presented in this book, is surely welcome.

The book enters with a review of general principles of the *in vitro* cultivation including the characterization of the preparation stage, the initiation of culture, the multiplication, the elongation and root induction and the transfer to the greenhouse conditions. The second chapter describes the proper laboratory design. The following four chapters are devoted to the serious problems that occur during micropropagation: a) the culture contamination, b) the vitrification, c) the acclimatization of micropropagated plants to the greenhouse and the field and d) the variability of micropropagated plants. The attention is further paid to the economic considerations and to the marketing. The survey of the commercial production of micropropagated plants around the world is presented in seven chapters. In the following seven chapters the possibilities of application of the *in vitro* cultures for propagation of a broad range of species (the ornamentals, the temperate zone fruit and nut crops, the tropical and subtropical fruits, the vegetables, the agronomic crops, the forest trees and the estate crops) are discussed. The last chapters deal with special tasks: a) the automation, b) the somatic embryogenesis and polyembryogenesis, c) the application of bioreactors and d) the micropropagation under photoautotrophic conditions.

The book is well balanced containing both the theoretical and the practical data. The individual chapters are mostly based on a comprehensive experimental work as well as on a critical analysis of literature. The book contains numerous tables and illustrations. It can be recommended to everybody involved in the *in vitro* cultivation.

J. POSPÍŠILOVÁ (*Praha*)

Palade, E.G., Alberts, B.M., Spudich, J.A. (ed.): **Annual Review of Cell Biology.** Volume 7. - Annual Reviews , Palo Alto 1991. 752 pp. USA & Canada $41.00, elsewhere $ 46.00.

Providing a forum for many related disciplines, this Annual Review brings together the work of international scientists who critically assess new findings in cell biology. The following topics are reviewed: bacterial photosynthetic reaction centers, ubiquitination, laminin receptors, microtubule dynamics, axon growth and guidance, *Drosophila* transduction, legume root nodule, cell cycle regulation in yeasts, lymphocyte tyrosine phosphorylation, role of vitronectine, structure and function of centromeres, cortical cytoskeleton, yeast chromosome replication, spindle fiber and chromosome movement, neuroblast segregation, vertebrate mitochondrial DNA, T-cell effector functions, adhesion molecules in *Drosophila*, pre-mRNA splicing, ras proteins, yeast cytoskeleton, cell death and signal transduction pathway in yeast. The reviews clearly demonstrate the unity of the molecular and cellular organizations of all living systems. As the Annual Reviews Inc. is a non-profit scientific publisher, the price of this publication is low compared to other similar books.

T. GICHNER (*Praha*)