Lumsden, P.J., Nicholas, J.R., Davies, W.J. (ed.): **Physiology, Growth and Development of Plants in Culture**. - Kluwer Academic Publishers, Dordrecht - Boston - London 1994. 427 pp. US $ 199.00.

Micropropagation has passed through various stages. However, its development as industrial plant production process has not been as rapid as many expected. The theoretical background is not still properly understood and the economics restrict application. The aim of the conference "Physiology, Growth and Development of Plants and Cells in Culture", held at Lancaster University in September 1992 was to shed some light on the limitation to growth and development of *in vitro* cultured material and to enhance its use in plant production. The book resulted from this conference is well balanced containing both the theoretical and practical data. It is divided into two main sections. The first section dealing with aspects of the *in vitro* environment has parts "Light", "Nutrients", "Water" and "Gas"; the second one dealing with applied aspects of the culture process has parts "Morphogenesis and Regeneration", "Rooting and Acclimatization", "Rejuvenation" and "Contamination and Contaminants". Within each section there are contributions from the invited speakers, written as reviews, which give a general background to the particular area. The most important reviews in the first section are focused on environmental constrains to photosynthesis, photomorphogenesis, mineral nutrition, carbon sources, gaseous environment, cell expansion, stomatal physiology, *etc*; in the second section on regeneration and acclimatization of plantlets as affected by phytohormones, surfactants, carbon dioxide, air humidity, microbial contaminants, *etc*. The other papers solving special tasks are presented in each part as experimental papers with methods, results, discussion, *etc*. The connection of these two types of contributions gives a coherent view of a particular area. The scientific level of this book is very high as authors are mostly well-known specialists in their fields. In addition the book is well arranged (texts with many photos and figures) and printed. During the past decade a considerable effort has been invested to reduce the empirical nature of micropropagation and this book significantly contributes to elucidation of biological processes during micropropagation and tries to show way ahead. It will be certainly stimulatory reading for researchers as well as university teachers.

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