

Aitkin-Chistie, J., Kozai, T., Smith, M.A.L. (ed.): **Automation and Environmental Control in Plant Tissue Culture**. - Kluwer Academic Publishers, Dordrecht - Boston - London 1994, 574 pp, US\$ 248.00

Plant tissue culture is now a modern technology for the *in vitro* production of a large number of genetically identical plants and has been commercialised for more than 10 years. Most of the companies in high labour cost areas have had to automate or to semi-automate their production system. This book presents a well-matched combination of articles dealing with the challenges faced by plant tissue culture researchers and producers and the biological and engineering perspectives of automation and semi-automation. The first part of the book deals with automation in plant tissue cultures and discusses in detail the economic analysis of automated micropropagation, organogenesis, and somatic embryogenesis, engineering aspects of plant propagation in bioreactors, automation of the bioreactor process for mass propagation and secondary metabolism, and image analysis for plant cell culture and micropropagation and for embryogenesis. The second part Environmental Control focuses on the physical and chemical microenvironment, on vessels, gels, liquid media and support systems, on regulation and manipulation of the carbon assimilation in micropropagated systems, low temperature storage of plant tissue culture and on environmental measurement and control systems. Readers of this book will find a very useful Glossary with definitions that were chosen to fit the context of this volume.

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