

Book review

Plant tissue culture – Methods and applications in agriculture, 1981. Academic Press, New York. 379 pp, 24 figures cloth bound. Price \$ 23.50.

The interest in plant tissue culture in the elimination of pathogens, mainly viruses, dates back to 1952, when Morel and Martin presented their first results in this field. Since then these techniques have gained wide commercial application in the propagation of plants, mainly horticultural species.

The Plant Biology Panel of ICRO (International Cell Research Organization) of UNESCO, designating the teaching of plant tissue culture as one of its high priorities, organized its first international training course in plant tissue culture methods in Campinas, Brazil, in 1978. This course is at the basis of this book, that was set up as a laboratory manual of plant tissue culture technology.

One of its striking features is the presentation of laboratory protocols in detail. Part A emphasizes methodology, Part B the applications. The first chapters present the requirements for a tissue culture facility and then discuss nutrition, media, and characteristics of cultured plant cells and their growth and behaviour in vitro, particularly with reference to embryo-genesis and organ formation. The remaining chapters of part A deal with protoplasts, mutagenesis, in vitro selection, meristem culture, freeze preservation and cytogenetic techniques. In Part B androgenesis, in vitro fertilization, and embryo culture are discussed, followed by chapters on the application of tissue culture techniques to crops such as rice, sugar cane, coffee and forest trees. The final chapter deals with the potential of tissue culture in the biosynthesis of secondary products.

The total of 14 chapters is written by 23 tissue culture specialists, most of them working in the USA, Canada and Brazil, some from Denmark, Taiwan, France and Japan. The editor has very well succeeded in avoiding the heterogeneity in their presentation, to which this might well have led. Each chapter offers a selection of recommended literature, and a comprehensive index adds to the accessibility of the book.

The authors have designed their chapters for scientists who wish to apply in vitro methods to management and breeding of plants of economic importance. This goal has certainly been reached: anyone who plans to apply tissue culture techniques in solving problems in agriculture and horticulture, amenable to this approach, should not fail to consult this book.

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