

BOOK REVIEW

Biotechnology of Plants and Microorganisms. Edited by O. J. Crocomo, W. R. Sharp, D. A. Evans, J. E. Bravo, F. C. A. Tavares and E. F. Paddock. 1986. Ohio State University Press, 1050 Carmack Rd., Columbus. 473 p. \$60 cloth.

This book has arisen from a collaboration between the College of Agriculture and Home Economics at Ohio State University and the Escola Superior de Agricultura "Luiz de Quieroz," Universidade de Sao Paulo, Brazil. This collaboration has largely determined the contributors so that the range of topics covered is somewhat more limited than would be expected from a volume of this size and title.

There are 34 chapters which fall into a number of groups. The first five chapters are overviews concerning biotechnology and genetic engineering in the food and pharmaceutical industries, human health, and agriculture. The chapter by de Araujo et al. on an economic perspective of agricultural biotechnology in developing countries, with special reference to Brazil, points to both the benefits and problems which can arise from a biotechnological revolution.

The next nine chapters are basically concerned with plant tissue culture. The approaches range from the use of culture to produce somaclonal variants to the production of secondary metabolites. The content of the chapters varies considerably, with some giving a very general overview while others are packed with information. Two crops, namely cotton and sugar cane, get such detailed treatment. There is some degree of repetition between the chapters as well as material that seems inappropriate

in this volume. One example is the use of four pages to describe the regulation of the lac operon and Jacob and Monod type regulation. I find it rather surprising that a book of this kind can fail to mention the use of *Agrobacterium tumefaciens* transformation at all. The two chapters dealing with plant DNA are woefully weak. The one concerned with the recombinant DNA of plant genes is little more than a description of a method for cloning cDNAs best left to the many excellent manuals now available.

The rate of progress in the microbial field has been even more rapid than in the genetic engineering of plants. Thus the chapters on the biotechnology of microorganisms appear even more out of date. Perhaps an exception may be made for the chapters on fermentation and fermentation technology. However, it is unlikely that this book could be considered a primary source for such information.

The jacket claims that this volume is a "Comprehensive study of biotechnology and its applications in both the developed and less developed countries . . . and is designed to provide an up-to-date review of the newest techniques." It clearly fails this description. The impression left is that the papers included were written some years in advance of the 1986 publication date and are now so out of date that the majority of the chapters are no longer of interest or relevance.

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