

## Preface

The title *Biotechnology in Agriculture* suggests a broad area of scientific investigation. In fact, this volume of *Advances in Biotechnological Processes* covers aspects of plant technology designed to improve the quality, consistency, and productivity of cash crops.

Two of the nine chapters examine the derivation and possible applications of secondary products from cell culture, among them the alkaloids used in pharmaceutical preparations and the flavonoids used in the flavor and fragrance industries. Other chapters are devoted to somaclonal variation and growth control as examined through creation and analysis of plant tissue cultures. Laboratory management of plant growth stimulation by electrical treatment is also discussed in some depth, as are strategies for implementing somatic embryogenesis as a means of enhancing the gene pool.

Somatic hybridization by electric gene transfer is also reviewed, as is the range of processes available for production of artificial "seeds" to increase crop uniformity and yield. Another aspect of biotechnology and agriculture presented here is the use of vesicular-arbuscular mycorrhizas (VAM)-inocula to improve germination and yield of such significant food and feed crops as alfalfa, soybeans, potatoes, clover, fava beans, and apples, as well as other fruits. Virus detection with a squash-blot technique is detailed in terms of diagnostics, including availability and ease of application; epidemiology; and breeding.

This volume thus presents a wide range of interesting topics of interest to scientists and students of plant technology, agricultural research, and crop development worldwide.

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