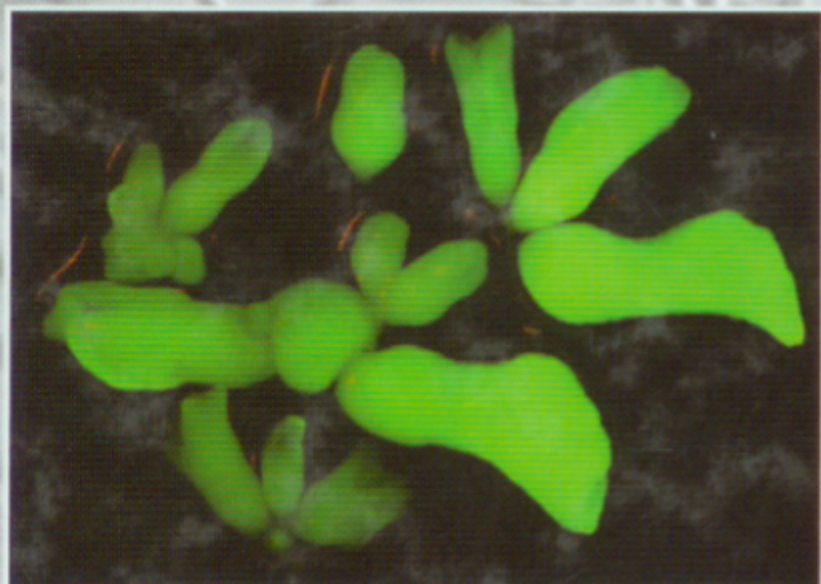


Plant Development and Biotechnology



Biotechnology revolutionized traditional plant breeding programs. This rapid change produced new discussions on techniques and opportunities for commerce, as well as a fear of the unknown. **Plant Development and Biotechnology** covers the major issues in the field, with chapters on broad topics written by specialists. The book employs an informal style to address the major aspects of development and biotechnology with minimal references, without sacrificing information or accuracy.

Divided into five primary parts, this volume explores how the field emerged from its early theoretical base to the technical discipline of today. It also covers progress being made with genetically engineered plants, providing a snapshot of the field's controversial present. The authors discuss methods for preparing media, creating solutions and dilutions, and accomplishing sterile culture work. They also investigate common methods for visualizing and documenting studies, and quantifying responses of tissue culture in research.

This book delivers the essential foundation of plant tissue culture, introducing the three types of commonly used culture regeneration systems. It also integrates propagation techniques with other methodologies for the modification and manipulation of germplasm. The book concludes with special sections on *in vitro* plant pathology, recent research into genetic and phenotypic variation, the mechanics of commercial plant production, the importance of clean cultures, and problems associated with maintaining *in vitro* cultures.

Features

- Integrates traditional plant sciences with recent advances in molecular genetics and biology
- Includes chapters on hot topics such as genetic engineering technologies, genetically modified plant controversies, and biotechnology entrepreneurialism
- Introduces the three types of commonly used culture regeneration systems: micropropagation; organogenesis; and nonzygotic embryogenesis
- Contains detailed information on establishing a tissue culture laboratory
- Examines ways of visualizing and documenting studies, including histology and microscopy/photography

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