

Plant Tissue Culture, Development, and Biotechnology



Under the vast umbrella of Plant Sciences resides a plethora of highly specialized fields. Botanists, agronomists, horticulturists, geneticists, and physiologists each employ a different approach to the study of plants and each for a different end goal. Yet all will find themselves in the laboratory engaging in what can broadly be termed biotechnology.

Addressing a wide variety of related topics, **Plant Tissue Culture, Development, and Biotechnology** gives the practical and technical knowledge needed to train the next generation of plant scientists regardless of their ultimate specialization. With the detailed perspectives and hands-on training signature to the authors' previous bestselling books, *Plant Development and Biotechnology* and *Plant Tissue Culture Concepts and Laboratory Exercises*, this book discusses relevant concepts supported by demonstrative laboratory experiments. It provides critical thinking questions, concept boxes highlighting important ideas, and procedure boxes giving precise instruction for experiments, including step-by-step procedures, such as the proper microscope use with digital photography, along with anticipated results, and a list of materials needed to perform them.

Integrating traditional plant sciences with recent advances in plant tissue culture, development, and biotechnology, chapters address germplasm preservation, plant growth regulators, embryo rescue, micropropagation of roses, haploid cultures, and transformation of meristems. Going beyond the scope of a simple laboratory manual, this book also considers special topics such as copyrights, patents, legalities, trade secrets, and the business of biotechnology.

Focusing on plant culture development and its applications in biotechnology across a myriad of plant science specialties, this text uses a broad range of species and practical laboratory exercises to make it useful for anyone engaged in the plant sciences.



CRC Press

Taylor & Francis Group
an informa business

www.crcpress.com

6000 Broken Sound Parkway, NW
Suite 300, Boca Raton, FL 33487
270 Madison Avenue
New York, NY 10016
2 Park Square, Milton Park
Abingdon, Oxon OX14 4RN, UK

ISBN: 978-1



9 781420 083117

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