

Micropropagation Of Orchid

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2021-12-28

PAOLA SPENCE

Orchid-wise : Notes on the Biology, Culture and Propagation Techniques of Orchids Springer Science & Business Media

This greatly expanded and updated edition of a classic reference work comprises two volumes offering a compendium of methods for multiplying orchids through micropropagation. A detailed collection of procedures and methods for multiplying orchids, including organ, tissue, and cell culture techniques in vitro Presents classic techniques that have been in the forefront of orchid propagation since they were first developed in 1949 Detailed procedures are appended with tables and complete recipes for a large number of culture media Includes many illustrations, chemical formulas, historical vignettes, and seldom seen illustrations of people, orchids, apparatus and tools "... an excellent resource like its predecessor, ...both informative and captivating, and served as a reminder of why we go to such extremes in our quest to propagate these plants." American Orchid Society, 2009 "...in the sense of its universal value and importance, this Second Edition will undoubtedly be considered a classic, if only because it will serve as a sole and invaluable resource on the subject." Plant Science Bulletin, 2009

Orchid Grower's Companion Royal Botanic Gardens Kew

History, uniqueness, habit, habitat, orchid seed and their germination, distribution, evolutionary status, hybridization, registration of hybrids, taxonomy, methods of cultivation and orchid-mycorrhizal association are discussed to the extent necessary for a scientist. The status of world floriculture industry and India's position is also explained. The next focus of the book is on plant biotechnology. History, prospects, potentials and techniques are discussed in detail. Since the present trend in plant biotechnology is to produce genetically modified plants by transgenesis, importance has been given to the techniques related to this process. Methods of transgenesis, transgenic crops, and the related controversies are treated in separate chapters. Different methods by which foreign genes can be introduced into an organism are described with specific examples. These techniques are discussed for plant systems in general and also for orchids in particular. Protoplast isolation, fusion and culture techniques are also reviewed for plants in general and orchids with specific examples. A chapter dedicated to cytological techniques has also been introduced, which also includes the methods for the preparation of different types of stains used in cytology. Tissue culture technique forms the backbone of biotechnology and hence various steps of the technique are described in detail for orchids which of course is not much different for other plants. The last section carries protocols for the micropropagation of four different orchid hybrids and also includes original results obtained during morphogenetic studies carried out by the author. The contents and design of the chapters in the book will meet the needs of students, researchers, trainees, professional scientists, and research scholars as well as to orchid lovers and floriculturists. *The Culture of Greenhouse Orchids* Brooklyn Botanic Garden

This is a new release of the original 1955 edition.

Growing Orchids from Seed LAP Lambert Academic Publishing

This greatly expanded and updated edition of a classic reference work comprises two volumes offering a compendium of methods for multiplying orchids through micropropagation. A detailed collection of procedures and methods for multiplying orchids, including organ, tissue, and cell culture techniques in vitro Presents classic techniques that have been in the forefront of orchid propagation since they were first developed in 1949 Detailed procedures are appended with tables and complete recipes for a large number of culture media Includes many illustrations, chemical formulas, historical vignettes, and seldom seen illustrations of people, orchids, apparatus and tools "... an excellent resource like its predecessor, ...both informative and captivating, and served as a reminder of why we go to such extremes in our quest to propagate these plants." American Orchid Society, 2009 "...in the sense of its universal value and importance, this Second Edition will undoubtedly be considered a classic, if only because it will serve as a sole and invaluable resource on the subject." Plant Science Bulletin, 2009

Characterization and Micropropagation of Some Orchid Species Wiley-Blackwell

Cultivating a few plants on a windowsill or nurturing an ever-expanding collection in a greenhouse or under lights. Book jacket.

Orchid Propagation: From Laboratories to Greenhouses—Methods and Protocols World Scientific

Commercial Propagation of Orchids in Tissue Culture: Seed-Flasking Methods is an illustrated laboratory manual that describes in easily understood language the stepwise process of propagating orchids from seed using tissue-culture technology. This comprehensive volume also presents pros-and-cons re seed-flasking versus cloning, details re media components and preparation, and guidelines re sterile technique. An invaluable appendix presents an 8-page table of orchid pod-collection times, including 471 species/hybrids among 124 genera. A glossary and comprehensive index complete the book. An 8.5"x14" trifold companion Quick Reference Guide (QRG) summarizes all the media and propagation methods presented in greater detail within the book and guides the user bench-side AFTER he's read and studied the manual. This book won an Award of Excellence from The Intermountain Chapter of The Society for Technical Communication in the 2002-2001 Publications Competition.

Plant Cell Culture in Crop Improvement Asian Educational Services

The purpose of this book is to provide the advances in plant in vitro culture as related to perennial fruit crops and medicinal plants. Basic principles and new techniques, now available, are presented in detail. The book will be of use to researchers, teachers in biotechnology and for individuals interested to the commercial application of plant in vitro culture.

Plants from Test Tubes Taylor & Francis

In Vitro Culture of Higher Plants presents an up-to-date and wide-ranging account of the techniques and applications, and has primarily been written in response to practical problems. Special attention has been paid to the educational aspects. Typical methodological aspects are given in the first part: laboratory set-up, composition and preparation of media, sterilization of media and plant material, isolation and (sub)culture, mechanization, the influence of plant and environmental factors on growth and development, the transfer from test-tube to soil, aids to study. The question of why in vitro culture is practised is covered in the second part: embryo culture, germination of orchid seeds, mericlone of orchids, production of disease-free plants, vegetative propagation, somaclonal variation, test-tube fertilization, haploids, genetic manipulation, other applications in phytopathology and plant breeding, secondary metabolites.

Micropropagation of Orchids Springer Science & Business Media

Contributed articles with special reference to India.

Culture of the Phalaenopsis Orchid Timber Press (OR)

Thirty years ago, in vitro propagation was a new technique for producing plants, and Lydiane Kyte's *Plants from Test Tubes* became the standard work on the topic. The new fourth edition has been thoroughly revised and updated to reflect the many advances in science and technology, including the five accepted sequential stages of micropropagation. Ten new plants have been added. This in turn has greatly expanded the already extensive bibliography. Among the new topics that have been introduced or expanded on are embryo culture for breeding, somaclonal variation, anther culture, somatic embryogenesis, cryopreservation, and genetic engineering. More ornamental plant examples are given and many new illustrations provided, including a chronology of discoveries in micropropagation.

Biotechnology of Orchids Springer Science & Business Media

Acclaimed as the most practical guide to plant tissue culture, the book is now even better and introduces new developments in biotechnology, such as genetic engineering and cell culture.

Orchids Are Easy to Grow Humana Press

The study of in-vitro micropropagation has assumed enormous importance with the tremendous pace of progress in different disciplines of biological sciences. The tissue culture will play an important role in solving the problems of conventional methods for propagation, hybridization, embryo rescue, production of secondary metabolites, production of virus free plants and paternity disputes. This book help the orchid grower to keep themselves abreast of the latest developments along with methods of mass propagation through various explants as well as conservation of endangered and rare orchids. This book also provide the technique for horticulturist those carries commercial purpose. This book will cater to the immediate needs of students, researcher, faculty members and horticultural industries.

Plant Cell Culture Protocols Springer Science & Business Media

Orchid Biotechnology IV presents a series of recent work on both basic and applied researches in biotechnology progress for Phalaenopsis, Oncidium and Erycina pusila orchids. These include breeding of Phalaenopsis orchids of black flower, big-white flower and small and floriferous flowers, physiology for shipping and photosynthesis, SSR markers and mitochondrial DNA markers, virus detection and antiviral immunity, embryogenesis and relationship with mycorrhiza symbiosis, transposon and retrotransposon, orchid genome and evolution, regulation of orchid floral scent, floral color modification, and abiotic stress tolerance. The diversity and specialization in orchid floral morphology have fascinated botanists and collectors for centuries. The orchid industry has been growing substantially worldwide. To advance the orchid industry, enhancement of basic research as well as advanced biotechnology will provide a good platform to improve the flower quality and the breeding of new varieties. This book provides a first-hand and up-to-date information on orchid breeding, orchid genome evolution, detection of virus in nanotechnology, molecular markers for cultivar identification for orchid lovers, researchers and industry growers.

Orchids BoD - Books on Demand

Modern vandas are among the more spectacular of all cultivated orchids, offering a dramatic range of colors as well as long-lasting, frequent-blooming flowers. Addressing the concerns of amateur growers, botanists, and professional horticulturists alike, this thorough and accurate treatment is a must for all orchid fanciers.

Orchid Biotechnology Timber Press

The current and potential importance of plant tissue culture techniques in crop improvement is hard to overemphasize. There are few areas where these techniques will have more possible impact than in tropical agriculture, where the availability of high productivity varieties is sadly lacking in many species. The potential for the rapid, clonal propagation of elite individuals and the use of controlled multiline planting could have a major effect on crop yield and disease resistance in many areas of the world. This volume is a collection of papers presented at the Conference on "Crop Improvement Through Tissue Culture", held at the Base Institute, Calcutta, India in December 1981. It attempts to bring together local research workers, familiar with the agricultural resources of the area and tissue culture and molecular level workers. It was the hope of the conference that the "cross fertilization" of ideas would lead to new approaches and activity in this area. The editors trust that this collection of papers will stimulate late interest and research in the tissue culture and improvement of crop plants everywhere. v ACKNOWLEDGEMENTS The symposium from which the papers in this book are drawn was held at Bose Institute, Calcutta on December 6 to December 10, 1981.

Tissue Culture as a Plant Production System for Horticultural Crops LAP Lambert Academic Publishing

Robert Hall and a panel of expert researchers present a comprehensive collection of the most frequently used and broadly applicable techniques for plant cell and tissue culture. Readily reproducible and extensively annotated, the methods cover culture initiation, maintenance, manipulation, application, and long-term storage, with emphasis on techniques for genetic modification and micropropagation. Many of these protocols are currently used in major projects designed to produce improved varieties of important crop plants. Plant Cell Culture Protocols's state-of-the-art techniques are certain to make the book today's reference of choice, an indispensable tool in the development of new transgenic plants and full-scale commercial applications.

Orchids Phytochemistry, Biology and Horticulture Timber Press (OR)

This manual comprises a range of techniques for research workers in the fields of cell and molecular biology, physiology, plant breeding and propagation, and genetic engineering.

Orchid Biotechnology I. K. International Pvt Ltd

This greatly expanded and updated edition of a classic reference work comprises two volumes offering a compendium of methods for multiplying orchids through micropropagation. A detailed collection of procedures and methods for multiplying orchids, including organ, tissue, and cell culture techniques in vitro Presents classic techniques that have been in the forefront of orchid propagation since they were first developed in 1949 Detailed procedures are appended with tables and complete recipes for a large number of culture media Includes many illustrations, chemical formulas, historical vignettes, and seldom seen illustrations of people, orchids, apparatus and tools "... an excellent resource like its predecessor, ...both informative and captivating, and served as a reminder of why we go to such extremes in our quest to propagate these plants." American Orchid Society, 2009 "...in the sense of its universal value and importance, this Second Edition will undoubtedly be considered a classic, if only because it will serve as a sole and invaluable resource

on the subject." *Plant Science Bulletin*, 2009

[Recent Advances in Plant in vitro Culture](#) Wiley-Blackwell

Growing orchids is a pursuit more than two millennia old. This guide explains, in accessible detail, the natural habitat of some 400 orchid species, hybrids, and variants, providing the information leading directly into practical propagation and cultivation guidance. Illustrated throughout.

[Comprehensive Micropropagation of Horticultural Crops](#) Wiley

Divided into three volumes, *Micropropagation of Orchids* Third Edition retains the exhaustive list of micropropagation protocols for many genera and updates each section to include new and/or revised information about: Culture media and vessels Techniques and procedures for both orchids

which were previously cultured and for those which were not Plant hormones and growth regulators Media components Methods for tissue decontamination Historical information Procedures for the cultivation for plantlets which have been removed from flasks Sources of light and illumination methods Written by two globally acknowledged experts in the field, the third edition of this definitive text on the micropropagation of orchids is a detailed and comprehensive collection of procedures and methods for multiplying orchids, including organ, tissue, and cell culture techniques in vitro and is intended for researchers in plant science and propagation, professional and amateur orchid growers, and plant breeding professionals. Much of the general information about techniques and procedures can be applied to plants other than orchids.