



Practical Manual on

**PLANT
CYTOGENETICS**

Earlier books on the handling of plant chromosomes have not included many of the innovations in cytological techniques for many important crops that have become available in recent years, including information on associating genes with chromosomes. The aim of this book is to compile all the plant cytogenetic techniques, previously published in earlier books, into a laboratory manual. The first part of the book describes standard cytological techniques that are routinely used by students. The second part covers methods used for specific crops for which common cytological methods do not work satisfactorily. The third part discusses cytogenetic techniques (cytology and genetics) for physically locating genes on specific chromosomes. This novel book will be highly useful to students, teachers, and researchers as it is a convenient and comprehensive reference for all plant cytogenetic techniques and protocols.

This book

- Presents conventional methods for handling plant chromosomes
- Illustrates the methodology for fluorescence and genomics *in situ* hybridization
- Describes flow analysis and sorting of plant chromosomes
- Describes pollen staining methods
- Elucidates pictorial description of mitotic and meiotic cell division in layman's terms
- Includes the description of modes of reproduction (both sexual and asexual) in plants, as well as the methodology for producing amphidiploids
- Features classical and cytogenetic methods for associating genes with chromosomes
- Updates information on broadening the genetic base of crops through wide hybridization
- Presents a glossary of all important terms in cytogenetics

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6000 Broken Sound Parkway, NW
Suite 300, Boca Raton, FL 33487
711 Third Avenue
New York, NY 10017
2 Park Square, Milton Park
Abingdon, Oxon OX14 4RN, UK

www.crcpress.com