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Plant DNA Fingerprinting and Barcoding

Methods and Protocols

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 **Humana Press**

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Preface

Over the last 25 years or so, molecular cloning and DNA-based analysis have become part of every molecular life science laboratory. The rapid adoption of DNA-based techniques has been facilitated by the introduction of the polymerase chain reaction (PCR) over 20 years ago, which has made cloning and characterization of DNA quick and relatively simple. PCR is part of virtually every variation of the plethora of approaches used for DNA fingerprinting today. Looking back at the rapid development and change in methodology used for DNA fingerprinting between the publication of the first (1) and second (2) editions of their book entitled “DNA Fingerprinting in Plants,” the authors wondered what a similar book might look like in 2015. This volume may serve as a waypoint. A significant part of this volume deals with DNA barcoding, a term that did not even appear in the previously published compendium on DNA fingerprinting (2).

We have tailored this volume principally for those who seek to augment their current methods of plant analysis and quality control using genome-based approaches. We aim to bring together the different currently available genome-based techniques into one repository. Included also are several discussions around the broader issues of genome-based approaches in order to provide a sound understanding of the principles of these methods so that this volume may be useful to others involved in different plant sciences.

This book contains detailed protocols for the preparation of plant genomic DNA, fingerprinting of plants for the detection of intraspecies variations as well as the use of DNA barcoding. Methods for the bioinformatics analysis of data are also included.

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