
Preface

Plant genotyping is a rapidly advancing field. The ability to produce vast amounts of DNA sequence data has enabled the discovery of molecular markers in a vast array of plant species, meaning that genotyping rather than marker development becomes the rate limiting factor. This volume is aimed at plant biologists working on plants from model organisms and crops, to orphan species and focuses on all the different marker types available. The volume would also be of interest to researchers who would benefit from an introduction to the different marker systems available for plant research.

Plant genotyping is required for a variety of end uses including marker-assisted selection, associating phenotype with polymorphism, DNA barcoding, genetic diversity analysis, conservation genetics, and improving genome assemblies. The most suitable genotyping system to use depends on the throughput requirements, facilities available, and questions to be answered. Chapters within this volume focus on the diverse range of genotyping methods available, with guidelines as to what methods may be suitable for the different needs of the researchers. Overviews are provided in the early chapters. Given the issues with polyploidy in some plant species, information is included describing how to handle this data. Information is also provided on bioinformatics tools for marker discovery, databases hosting existing markers, and software for data analysis. Chapters providing details on specific genotyping methods are then included.

Scientific research progresses rapidly and the technologies for genotyping evolve with this. In this volume we have covered the different methods available to date, many of which will continue to increase in throughput as these technologies increase and researchers are encouraged to frequently review which may be the most applicable method for their research.

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Plant Genotyping

Methods and Protocols

Batley, J. (Ed.)

2015, XI, 315 p. 55 illus., 34 illus. in color., Hardcover

ISBN: 978-1-4939-1965-9

A product of Humana Press