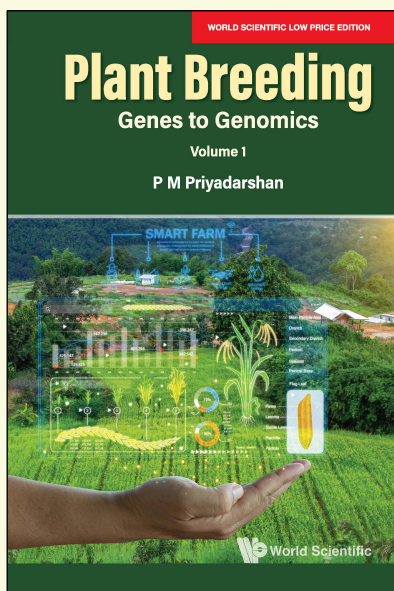


# Plant Breeding

## Genes to Genomics (Volume 1)



By **P M Priyadarshan**  
(*Rubber Research Institute of India, India*)

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### ABOUT THE BOOK

This book provides an in-depth look at traditional and contemporary methods of plant breeding. In 27 chapters, it examines the many facets of the discipline, from foundational principles to the latest advances.

The material is designed to meet the needs of learners worldwide. Contemporary techniques such as genetic engineering, molecular breeding, and genomics are explored in depth to establish a solid foundation and prepare readers for advanced study. Each chapter is structured to provide comprehensive coverage of the subject, with nearly all topics required for MS curricula included. Chapters conclude with suggestions for further reading, while boxes present the most up-to-date information.

With its clear organization, global perspective, and inclusion of the latest developments, this book serves as an essential reference manual for MS students and an invaluable resource for researchers in plant breeding.

### READERSHIP

Undergraduate biology students; Graduate agricultural sciences students with specialization on Plant Breeding; Faculties who teach Plant Breeding.

### CONTENTS

- **Generalia:**
  - Introduction to Plant Breeding
  - Objectives, Activities, Centres of Origin
  - Germplasm Conservation
- **Developmental Aspects:**

- Reproduction and Apomixis
- Incompatibility
- Male Sterility
- Basic Statistics
- **Methods of Breeding:**
  - Selection
  - Hybridization
  - Backcross Breeding
  - Breeding Self-Pollinated Crops
  - Breeding Cross-Pollinated Crops
  - Special Breeding Populations
  - Quantitative Genetics
- **Specialized Breeding:**
  - Heterosis
  - Induced Mutations and Polyploidy Breeding
  - Distant Hybridization
- Host Plant Resistance Breeding
- Breeding for Abiotic Stress Adaptation
- Genotype-by-Environment Interactions
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  - Genetic Engineering
  - Molecular Breeding
  - Genomics
  - Breeding for Nutritional Quality
  - Emerging Breeding Technologies
- **Varietal Release:**
  - Maintenance Breeding and Variety Release

## ABOUT THE AUTHOR

**Dr P M Priyadarshan** is a prominent Hevea rubber breeder. He commenced his research career by breeding triticale and wheat. During the 1980s he engaged with in vitro culture of spices. He joined the Rubber Research Institute of India (Rubber Board, Ministry of Commerce, Govt. of India) as a Plant Breeder in 1990 and specialized in breeding Hevea rubber under sub-optimal environments. In 2009 he became the Deputy Director of the institute, and managed its Central Experiment Station till 2016. As a scientist, he has been involved in breeding cereals, spices and Hevea rubber for the past 36 years. He has published several research papers and chapters in journals and books of international repute. He has edited books on *Breeding Plantation Tree Crops*, *Breeding Major Food Staples*, *Genomics of Tree Crops* and *Cash Crops*. He also authored books on *Biology of Hevea rubber* and on *Plant Breeding*. The book on *Plant Breeding* is for PG students. Almost all his books are published by Springer Nature. The latest book is on *Digital Agriculture* published by Springer Nature. He was a visiting scientist at the Hardwood Tree Improvement and Regeneration Center of Purdue University, United States.

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