Record Nr. UNINA9911018666403321 Autore Gantait Saikat Titolo Conservation of Plant Genetic Resources: Strategies, Progress and Prospect / / edited by Saikat Gantait, Pawe Chmielarz Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2025 Pubbl/distr/stampa **ISBN** 981-9683-31-9 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (472 pages) Altri autori (Persone) ChmielarzPawe Disciplina 631.52 660.6 Soggetti Plant biotechnology Plant cells and tissues Plant molecular biology Plant Biotechnology Plant Cell Biology Plant Molecular Biology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Chapter 1. Advancements in In Vitro Seed Germination of Rare. Nota di contenuto **Endangered Plants: Optimization Methods and Environmental Factors** -- Chapter 2. Slow-Growth Strategies for Prolonged Storage for Conservation of Rare and Endangered Germplasm -- Chapter 3. Cryopreservation of cell suspension cultures and protoplasts --Chapter 4. Conserving the Genetic Resources of Exceptional Plant Species Through Pollen Banking -- Chapter 5. Pollen Cryobank As An Additional Strategy For Conservation Of Genetic Resource: A Case Study On Papaya -- Chapter 6. Cryopreservation of Embryos and Embryogenic Samples to Conserve Plant Genetic Resources -- Chapter 7. Conserving Aesthetics: Cryopreservation of Ornamental Plant Genetic Resources -- Chapter 8. Progress, Challenges and Prospects of In Vitro Conservation of Tree Species Using Non-Embryonic Tissue and Organs -- Chapter 9. Biotechnological Approaches For In Vitro Conservation of Petiveria alliacea Germplasm -- Chapter 10. Multi-Omics Approaches

Future Prospects.

for Conservation of Endangered Orchids: Advances, Applications, and

## Sommario/riassunto

This book discusses validated in-vitro biotechnological interventions that have reshaped the landscape of plant genetic resource conservation. It covers essential topics such as collection processes, disease indexing, in-vitro culture establishment, multiplication techniques, and storage solutions ranging from short- to long-term strategies like cryopreservation. By addressing the challenges of exsitu conservation management, this work offers a guide to preserving rare and endangered plants against the backdrop of climate change and unsustainable utilization. The chapters delve into critical themes such as slow growth strategies and synthetic seed technology for midterm storage solutions. This book is for academicians, postgraduate students, and researchers in botany and plant biotechnology sectors, as well as molecular biologists and conservation enthusiasts.