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Special Issue Reprint

Sexual and Asexual Reproduction in Forest Plants

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The following Special Issue focuses on recent advances in the sexual and asexual reproduction of forest plants, which are vital for forest biodiversity, ecological resilience, and sustainable management under global change. Integrating physiology, genetics, molecular biology, and ecology, it addresses core issues in forest plant reproductive biology by combining theory and technological innovation. Covering woody oilseed trees, ornamentals, clonal dioecious plants, and other taxa, it highlights reproductive strategies, sexual dimorphism, in vitro regeneration, dormant bud cryopreservation, nitric oxide and hormonal signals in seed dormancy and germination, and chemical control of reproductive pathogens. It also explores clonal dynamics, chromosome doubling for horticultural improvement, and biotic/abiotic effects on pollination, fertilization, and gene flow. This Reprint collates high-quality original research and technical advances, including optimized tissue culture, signal regulation of embryo germination, and efficient cryopreservation of woody germplasm. It offers a key reference for researchers, foresters, breeders, and policymakers, supporting reproductive efficiency, genetic conservation, industrial propagation, and ecological restoration. By summarizing progress in reproductive evolution and environmental adaptation, it advances sustainable forestry and biodiversity conservation globally.



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