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Nota di contenuto	Preface -- Biofuels: challenges and the promises of fungi in biofuel production -- Plant pathogenic fungi for bioethanol production: mechanisms of actions -- Plant pathogenic fungi for biodiesel production -- Plant pathogenic fungi for VOCs production -- Plant probiotic fungi as a new source for Bioethanol Production -- Endophytic fungi for biofuel production -- Brown and white rot fungi for biofuel production -- Gut fungi for biofuel production -- Consolidated bioprocessing: highly efficient fungi for biofuel production -- Process design in fungal-based biofuel production systems -- Life cycle assessment (LCA) of fungal-based biofuel production systems -- Thermodynamics aspects of fungal-based biofuel production systems -- Modeling and optimization to enhance

**Sommario/riassunto**

Due to the huge quantity and diverse nature of their metabolic pathways, fungi have great potential to be used for the production of different biofuels such as bioethanol, biobutanol, and biodiesel. This book presents recent advances, as well as challenges and promises, of fungal applications in biofuel production, subsequently discussing plant pathogenic fungi for bioethanol and biodiesel production, including their mechanisms of action. Additionally, this book reviews biofuel production using plant endophytic fungi, wood-rotting fungi, fungal biocontrol agents, and gut fungi, and it investigates highly efficient fungi for biofuel production and process design in fungal-based biofuel production systems. Finally, life cycle assessment of fungal-based biofuel production systems are discussed in this volume.

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