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12. Biosurfactants: a multifunctional microbial metabolite -- 13. Bioproduction of polyhydroxyalkanoate from plant oils -- 14. Microbial Synthesis of Polyhydroxyalkanoates: Diversification -- 15. Microbe derived itaconic acid: Novel route for biopolyamides -- 16. Basics of Methanogenesis in Anaerobic Digester -- 17. Laccases: Blue Copper Oxidase in Lignocellulose Processing. .

Sommario/riassunto

This contributed volume provides insights into multiple applications using microbes to promote productivity in agriculture, to produce biochemicals or to respond to challenges in biomedicine. It highlights the microbial production of nanocompounds with medical functionality alongside new anti-mycobacterial strategies, and introduces plant-growth-promoting Rhizobacteria as well as the correlation between biofilm formation and crop productivity. Further, the authors illustrate the green synthesis of biochemical compounds, such as hydroxamid acid or biosurfactants, using microbial and fungal enzymes. It inspires young researchers and experienced scientists in the field of microbiology to explore the combined use of green, white and red biotechnology for industrial purposes, which will be one of the central topics for future generations.