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Descrizione fisica	1 online resource (585 p.)
Collana	Advances in Plant Biology, , 2363-8451 ; ; 5
Disciplina	570 571.32 580 581.35
Soggetti	Plant breeding Plant science Botany Plant anatomy Plant development Plant genetics Plant Breeding/Biotechnology Plant Sciences Plant Anatomy/Development Plant Genetics and Genomics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Chloroplast Gene Expression – RNA Synthesis and Processing -- Chloroplast Gene Expression – Translation -- The Chloroplast Genome and Nucleo-Cytosolic Crosstalk -- An Overview of Chloroplast Biogenesis and Development -- Dynamic Architecture of Plant Photosynthetic Membranes -- Plastid Division -- Stromules -- The Apicoplast: A Parasite's Symbiont -- Mechanisms of Chloroplast Protein Import in Plants -- Protein Routing Processes in the Thylakoid -- Protein Transport into Plastids of Secondary Evolved Organisms -- Processing and Degradation of Chloroplast Extension Peptides -- Molecular Chaperone Functions in Plastids -- Plastid Proteases -- Photoprotective Mechanisms: Carotenoids -- Regulation of Electron

Transport in Photosynthesis -- Ion Homeostasis in the Chloroplast -- Synthesis of Recombinant Products in the Chloroplast -- Hydrogen and Biofuel Production in the Chloroplast.

Sommario/riassunto

Plastids are the sites of conversion of solar energy into the chemical energy usable to sustain life. They are also responsible for the production of the vast majority of oxygen in the atmosphere. Through these activities they play a unique role in the biosphere, producing two critical products upon which life on Earth depends. This book provides the scientific community with a critical overview of the state of research in plastids that include those from green and non-green plants and from apicomplexan protists. It covers actively investigated areas of plastid biology, from biosynthesis to function to their uses in biotechnology. Contributed by world renowned plant biologists, as the fifth title in the Advances in Plant Biology book series, Plastid Biology is therefore both timely and unique in scope. Essential topics cover the differentiation and development of different plastid types and internal organization. They are followed by an in depth look at biogenesis and assembly of plastid proteins and protein complexes, and then by the important metabolic functions in plastids. The book ends with two chapters discussing the role of plastid biology in protein expression biotechnology and in hydrogen and biofuel production. It will serve as a reference resource for instructors and researchers for many years to come.