Record Nr. UNINA9910130878003321 Plant metabolism and biotechnology / / edited by Hiroshi Ashihara, **Titolo** Alan Crozier, Atsushi Komamine Pubbl/distr/stampa Chichester, West Sussex, : Wiley, 2011 **ISBN** 1-283-40532-6 9786613405326 1-119-99323-7 1-119-99132-3 1-119-99131-5 Descrizione fisica 1 online resource (422 p.) SCI007000 Classificazione Altri autori (Persone) AshiharaHiroshi CrozierAlan KomamineAtsushi <1929-> Disciplina 660.6 Plants - Metabolism Soggetti Plant biotechnology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Plant Metabolism and Biotechnology; Contents; List of Contributors; Nota di contenuto Preface; 1 Biosynthesis and Metabolism of Starch and Sugars; 1.1 Introduction: 1.2 Carbon Partitioning in Mesophyll Cells: 1.3 Sucrose Biosynthesis in Source Leaves; 1.3.1 Regulatory Enzymes of the Pathway; 1.4 Starch Metabolism in Source Leaves; 1.4.1 Starch Synthesis within the Chloroplast; 1.4.2 Starch Breakdown in Leaves and Metabolism of its Degradation Products in the Cytosol; 1.5 Sucrose to Starch Conversion in Storage Organs; 1.6 Metabolic Engineering of Carbohydrate Metabolism; 1.6.1 Increasing Starch Content 1.6.2 Altering Starch Quality1.7 Engineering Soluble Sugars; 1.8 Production of Novel Carbohydrates in Transgenic Plants; 1.9 Network Analysis of Carbohydrate Metabolism: Acknowledgements: References: 2 Lipid Biosynthesis; 2.1 Introduction; 2.2 Fatty Acid Synthesis; 2.3 Fatty Acid Desaturases; 2.3.1 -9 Desaturases; 2.3.2 -12 Desaturases; 2.3.3 -3 Desaturases; 2.4 Lipid Signals; 2.5 Algae; 2.6 Membrane

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Sommario/riassunto

Various plant metabolites are useful for human life, and the induction and reduction of these metabolites using modern biotechnical technique is of enormous potential important especially in the fields of agriculture and health. Plant Metabolism and Biotechnology describes the biosynthetic pathways of plant metabolites, their function in plants, and some applications for biotechnology. Topics covered include: biosynthesis and metabolism of starch and sugarslipid biosynthesissymbiotic nitrogen fixationsulfur metabolismnucleotide metabolismpurine alkaloid metab