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Nota di contenuto	Front Cover; Starch: Chemistry and Technology; Copyright Page; Contents; Preface to the Third Edition; List of Contributors; Chapter 1 History and Future of Starch; I. History; 1. Early History; 2. 1500-1900; 3. 1900-Present; II. Development of Specialty Starches; 1. Waxy Corn Starch; 2. High-amylose Corn Starch; 3. Chemically Modified Starches; 4. Other Naturally Modified Corn Starches; III. Other Products from Starch; 1. Sweeteners; 2. Ethanol; 3. Polyols; 4. Organic Acids; 5. Amino Acids; IV. Future of Starch; 1. Two New Starches for Industry; 2. Present American Companies; V. References Chapter 2 Economic Growth and Organization of the US Corn Starch IndustryI. Introduction; II. Extent and Directions of Market Growth; III. High-fructose Syrup Consumption; IV. Fuel Alcohol; V. Technical Progress; VI. Plant Location; VII. Industry Organization; VIII. Effects of Corn Price Variability; IX. International Involvement; X. Future Industry Prospects; XI. References; Chapter 3 Genetics and Physiology of Starch Development; I. Introduction; II. Occurrence; 1. General Distribution; 2. Cytosolic Starch Formation; 3. Starch Formed in Plastids; III. Cellular Developmental Gradients

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20. Amylose-extender Sugary Waxy21. Amylose-extender Sugary-2 Waxy; 22. Dull Sugary Sugary-2; 23. Dull Sugary Waxy; 24. Dull Sugary-2 Waxy; 25. Sugary Sugary-2 Waxy; 26. Amylose-extender Dull Sugary Waxy; VIII. Conclusions; IX. References; Chapter 4 Biochemistry and Molecular Biology of Starch Biosynthesis; I. Introduction; II. Starch Synthesis in Plants: Localization; 1. Leaf Starch; 2. Starch in Storage Tissues; III. Enzyme-catalyzed Reactions of Starch Synthesis in Plants and Algae and Glycogen Synthesis in Cyanobacteria; IV. Properties of the Plant 1,4--Glucan-Synthesizing Enzymes
1. ADP-glucose Pyrophosphorylase: Kinetic Properties and Quaternary Structure

Sommario/riassunto

The third edition of this long-serving successful reference work is a 'must-have' reference for anyone needing or desiring an understanding of the structure, chemistry, properties, production and uses of starches and their derivatives. * Includes specific information on corn, wheat, potato, rice, and new chapters on rye, oat and barley (including waxy barley) starches * Covers the isolation processes, properties, functionalities, and uses of the most commonly used starches. * Explores the genetics, biochemistry, and physical structure of starches * Presents curre