

Starch: Properties and Potential. Edited by T.Galliard. John Wiley and Sons for Society of Chemical Industry, Chichester, 1987. viii + 151 pp., ISBN 0-471-91326X. Price: £31.00.

This book is Volume 13 in the series *Critical Reports on Applied Chemistry* (CRAC) published by the Society of Chemical Industry (SCI). This volume, together with Volume 5 in the CRAC series (on Biophysical Methods in Food Research) has been produced by the Food Group of the SCI.

Although the potential uses of starch go beyond the food and drink industries, much of the recent interest in starch has been its application in these areas. This volume, therefore, emphasises starch and its derivatives in the context of edible products.

This volume consists of five chapters written by authors well recognised in their respective fields. Chapter 1 covers the importance of starch in nutritional aspects, production and commercial availability and uses. Chapter 2 discusses the recent advances in the physical chemistry of ultrastructure and gelatinisation of starch. Chapter 3 describes the current knowledge of morphological differences between important commercial starches and on the content and functions of minor components of starch granules. Chapter 4 reviews the recent developments in physically modified starches such as modifications of the structure with conservation of the granular shape, modifications of the structure with destruction of the granular shape and modification at the molecular level. The major sales application for starch is in the use of its hydrolysates such as glucose, maltose, isoglucose etc. which are obtained by enzymic, chemical and, more recently, fermentation processes. Chapter 5 reviews the potential of starch as a fermentation substrate and describes starch-degrading enzymes, industrial applications of starch processing and fermentation processes.

The large number of references (573) which cover the literature up to 1986, and the very good use of tables, figures and diagrams to amplify the written text result in this volume being an excellent overview of the current research and uses of starch.

We can thoroughly recommend this book to all scientists involved in the research and analysis of starch and its derivatives, non-scientific managers and non-specialist scientists in starch industry and biotechnological industries (brewing, food etc.) who will gain an overall insight into the potential of starch. Also researchers in the starch producing industry and starch users who will gain up-to-date information on starch, and lecturers, students and research workers in academic and government institutions involved in the study of starch, including chemists,

biochemists, biologists, biotechnologists and nutritionalists who will gain valuable detailed information on starch and utilization and a broader insight into the overall potential of starch as a renewable resource which could replace oil as a source of petrochemicals and other fine chemicals.

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