

Book Review

Starch: Advances in Structure and Function

T.L. Barsby, A.M. Donald, P.J. Frazier (Eds.); The Royal Society of Chemistry, Cambridge, UK, 2001, viii + 224 pages, ISBN 0-85404-860-X, £59.50

Being such a prevalent carbohydrate polymer—in crops and in a variety of industries—starch attracts a lot of attention in research, and hence conferences and books. *Starch: advances in structure and function* is the second book in its series containing the proceedings of an international conference held in Cambridge. The theme of these proceedings is on starch structure and characterisation, processing and ingredient functionality, and control of starch biosynthesis. Starch, predominantly composed of amylose and amylopectin is a major storage polysaccharide of many higher plants. It also provides an essential carbohydrate food energy source for the global human population. Starch is used widely in both home-prepared and manufactured foods and influences its texture and viscosity. Recent developments are reviewed in the numerous papers grouped together on similar topics.

The broad range of topics covered include: the structure and function relationships; processing structure rheology relationships; modelling and degradation of starch extrusions; various aspects of starch granules in terms of processing, properties and analysis; the effects of genetic changes and sugar on retrogradation and gelatinisation on starch; crys-

tallisation of starch; the biosynthesis of starch in small grained cereals along with synthesis of amylose in another paper; the effects of inter and intra allelic variation on starch granules is also included. The synthesis and degradation of starch in *Arabidopsis* leaves is also discussed in an unusual article. There are investigations on the mechanism of action of porcine amylase on native and heat-treated starch and the health promoting effects of starch obtained from physico-chemical properties. Each paper contains text divided into an introduction, materials and methods and conclusion. There is also a section on poster abstracts giving a summary of other numerous experiments on all aspects of starch.

The end of each paper is presented with numerous references relating to that topic. Also included in the papers presented are easy to comprehend diagrams and tables. The contents of the book cover a multi-disciplinary range and would be most suited for biologists, chemists, food technologists, geneticists, nutritionists and physicist as a valuable reference tool.

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