# CARBOHYDRATE POLYMERS

# An International Journal Devoted to Scientific and Technological Aspects of Industrially Important Polysaccharides

Carbohydrate Polymers covers the study and exploitation of the industrial applications of carbohydrate polymers in areas such as food, textiles, paper, wood, adhesives, pharmaceuticals, oil field applications and industrial chemistry. Topics include:

- studies of structure and properties
- \* biological and industrial development
- \* analytical methods
- \* chemical and microbiological modifications
- \* interactions with other materials

In addition to original research papers the journal publishes review articles and also welcomes contributions to its News and Views section, which reports on academic and industrial developments in the field and includes patent and literature surveys.

# **Editors**

### PROFESSOR J. F. KENNEDY

Professor of Applied Chemistry,
The North Fast Wales Institute, Dog

The North East Wales Institute, Deeside, Clwyd, UK, and

Research Laboratory for the Chemistry of Bioactive Carbohydrates and Proteins, Department of Chemistry; University of Birmingham,

PO Box 363, Birmingham B15 2TT, UK

#### DR J. R. MITCHELL

Department of Applied Biochemistry and Nutrition, School of Agriculture, University of Nottingham, Sutton Bonington, Loughborough LE12 5RD, UK

# DR P. A. SANDFORD

Director, Product Development, Bio Applications Group, Protan Inc., PO Box 1632, Woodinville, WA 98072, USA

#### Editorial Board

#### G. O. Aspinall

York University, Ontario, Canada

#### E. D. T. Atkins

University of Bristol, UK

#### J. E. BeMiller

Purdue University, West Lafayette, Indiana, USA

#### C. G. Biliaderis

The University of Manitoba, Winnipeg, Canada

# J. M. V. Blanshard

School of Agriculture, University of Nottingham, Loughborough, UK

#### W. Burchard

University of Freiburg, FRG

#### H. Chanzy

Centre de Recherches sur les Macromolécules Végétables, Grenoble, France

#### V. Crescenzi

University of Rome, Italy

# I. C. M. Dea

Leatherhead Food R.A., UK

# H. Flowers

The Weizmann Institute of Science, Rehovot, Israel

# T. Harada

Kobe Women's University, Kobe-shi, Japan

# B. Lindberg

University of Stockholm, Sweden

#### B. V. McCleary

Biological and Chemical Research Institute, New South Wales, Australia

#### D. J. Manners

Heriot-Watt University, Edinburgh, UK

#### E. R. Morris

Cranfield Institute of Technology, Bedford, UK

# V. J. Morris

Food Research Institute, Norwich, UK

#### R. A. A. Muzzarelli

University of Ancona, Italy

#### H. Neukon

Swiss Federal Institute of Technology, Zurich, Switzerland

# W. Pilnik

Agricultural University, Wageningen, The Netherlands

## V. S. R. Rao Indian Institute

Indian Institute of Science, Bangalore, India

#### C. K. Rha

Massachusetts Institute of Technology, Cambridge, USA

# L. Slade

Nabisco Brands Inc., East Hanover, New Jersey, USA

#### O. Smidsrod

University of Trondheim, Norway

#### B. A. Stone

La Trobe University, Bundoora, Victoria, Australia

# R. J. Sturgeon

Heriot-Watt University, Edinburgh, UK

#### I. W. Sutherland

Institute of Cell and Molecular Biology, Edinburgh, UK

# S. Tokura

Department of Polymer Science, Hokkaido University, Sapporo, Japan

#### V. B. Tolstoguzov

Academy of Sciences of the USSR,

Moscow, USSR

# C. A. White

Fisons Scientific Equipment, Loughborough, UK

# M. Yalpani

The NutraSweet Company, Illinois, USA

# H. F. Zobel

ABC V Starch Associates, Darien, Illinois, USA