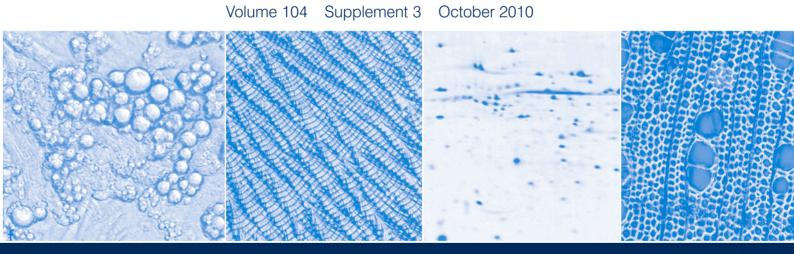
British Journal of Nutrition

BJN An International Journal of Nutritional Science



Supplement Fruit polyphenols and health Guest editor: D. I. McCarthy

Published on behalf of The Nutrition Society by Cambridge University Press ISSN 0007-1145

British Journal of Nutrition

An International Journal of Nutritional Science Volume 104, 2010 ISSN: 0007-1145

Aims and Scope

The *British Journal of Nutrition* is an international, peer-reviewed journal publishing original papers, review articles, short communications and technical notes on human and clinical nutrition, animal nutrition and basic science as applied to nutrition. Correspondence is encouraged in a Nutrition Discussion Forum. The Journal recognizes the multidisciplinary nature of nutritional science and encourages the submission of material from all of the specialities involved in research and clinical practice. The Journal also publishes supplements on topics of particular interest.

The British Journal of Nutrition is published twice monthly by Cambridge University Press on behalf of

The Nutrition Society.

The *British Journal of Nutrition* is available online to subscribers at journals.cambridge.org/bjn Tables of contents and abstracts are available free at the same website.

Editor-in-Chief

P C Calder, School of Medicine, University of Southampton, Southampton, UK

Deputy Editors

F Bellisle, INRA, University of Paris, Bobigny, France

D R Jacobs Jr, School of Public Health, University of Minnesota, Minneapolis, MN, USA

R J Wallace, Gut Health Programme, Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, UK

S J Whiting, College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Sask., Canada

I S Wood, Department of Medicine, University of Liverpool, Liverpool, UK

Reviews Editors

J C Mathers, Institute of Ageing and Health, Newcastle University, Newcastle upon Tyne, UK

P Aggett

Systematic Reviews Editor

M Makrides, Women's and Children's Health Research Institute and University of Adelaide, Adelaide, Australia

Supplements Editor

C Seal, School of Agriculture, Food and Rural Development, Newcastle University, Newcastle upon Tyne, UK

Book Reviews Editor

O B Kennedy, School of Food Biosciences, University of Reading, Reading, UK

Editorial Board

J J B Anderson, Chapel Hill, NC, USA D Attaix, Ceyrat, France Y Bao, Norwich, UK J H Beattie, Aberdeen, UK G Bell, Stirling, UK M Blaut, Bergholz-Rehbrücke, Germany K Botham, London, UK G C Burdge, Southampton, UK A E Buyken, Dortmund, Germany J Buyse, Leuven, Belgium K D Cashman, Cork, Ireland M S Choi, Daegu, Korea A Chwalibog, Frederiksberg, Denmark S J Duthie, Aberdeen, UK K Eder, Giessen, Germany A Esmaillzadeh, Isfahan, Iran C J Field, Edmonton, Alta., Canada B A Fielding, Oxford, UK J L Firkins, Columbus, OH, USA J K Friel, Winnipeg, MB, Canada M Fukushima, Obihiro City, Japan S Garnett, Sydney, Australia

B A Griffin, Surrey, UK E Herrera, Madrid, Spain M M Hetherington, Leeds, UK D J Hoffman, New Brunswick, NJ, USA E J Johnson, Boston, MA, USA S J Kaushik, Saint Pée-sur-Nivelle, France D S Kelley, Davis, Ca., USA C W C Kendall, Toronto, Ont., Canada H J Lightowler, Oxford, UK A M López-Sobaler, Madrid, Spain J A Lovegrove, Reading, UK H C Lukaski, Grand Forks, ND, USA R D Mattes, West Lafavette, IN, USA C Mayer, Aberdeen, UK S McCann, Buffalo, NY, USA N M McKeown, Boston, MA, USA G McNeill, Aberdeen, UK J G Mercer, Aberdeen, UK A M Minihane, Auckland, New Zealand T A Mori, Perth, Australia M Murphy, Reus, Spain

P Nestel, Southampton, UKU Nöthlings, Kiel, Germany M C Ocké, Bilthoven, The Netherlands J H Y Park, Chuncheon, Korea C J Petry, Cambridge, UK V Ravindran, Palmerston North, New Zealand W D Rees, Aberdeen, UK G Rimbach, Kiel, Germany S M Robinson, Southampton, UK E Ros, Barcelona, Spain S Salminen, Turku, Finland M B Schulze, Nuthetal, Germany A J Sinclair, Geelong, Australia C R Sirtori, Milan, Italy K S Swanson, Urbana, IL, USA M W A Verstegen, Wageningen, The Netherlands F Visioli, Paris, France M S Westerterp-Plantenga, Maastricht, The Netherlands B Woodward, Guelph, Ont., Canada

Publications Staff

C Goodstein (Publications Manager), C Jackson (Deputy Publications Manager), L Weeks, H Zdravics and C T Hughes (Publications Officers)

The Nutrition Society has as its objective the advancement of the scientific study of nutrition and its applications to the maintenance of human and animal health.

Application of membership is invited from anyone whose work has contributed to the scientific knowledge of nutrition, whether such work has been in the laboratory, the field or the clinic, and whether experimental, clinical, agricultural or statistical in nature. There is also a student membership scheme with reduced subscriptions.

Particulars of The Nutrition Society and application forms for membership are available from The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, London W6 7NJ, UK. Tel: +44 (0)20 7602 0228, Fax: +44 (0)20 7602 1756, Email: office@nutsoc.org.uk

The Nutrition Society Home Page is at http://www.nutritionsociety.org

© Nutrition Society 2010

British Journal of Nutrition Volume 104 Supplement Number 3 October 2010

Fruit polyphenols and health

Editor Danielle I. McCarthy

British Journal of Nutrition Volume 104, 2010 ISSN: 0007-1145

Publishing, Production, Marketing, and Subscription Sales Office:

Cambridge University Press The Edinburgh Building Shaftesbury Road Cambridge CB2 8RU, UK

For Customers in North America:

Cambridge University Press Journals Fullfillment Department 100 Brook Hill Drive West Nyack New York 10994-2133 USA

Publisher: Katy Christomanou

Special sales and supplements:

This Journal accepts relevant advertisements and inserts. We also provide bulk reprints of suitable papers to meet teaching or promotional requirements. The journal also publishes supplements on behalf of academic and corporate collaborators. Please contact Katy Christomanou at the Cambridge address for further details. E-mail: kchristomanou@cambridge.org

Subscription information:

British Journal of Nutrition is an international journal published by Cambridge University Press on behalf of The Nutrition Society. The twelve issues starting January 2010 comprise Volume 103, the twelve issues starting July 2010 comprise Volume 104.

Annual subscription rates:

Volumes 103/104 (24 issues): Internet/print package £954/\$1860/€1528 Internet only: £803/\$1566/€1283 Print only: £909/\$1772/€1477

Any **supplements** to this journal published in the course of the annual volume are normally supplied to subscribers at no extra charge.

Back volumes are available. Please contact Cambridge University Press for further information.

Claims for non-receipt of journal issues will be considered on their merit and only if the claim is received within six months of publication. Replacement copies supplied after this date will be chargeable. **US POSTMASTERS:** please send address corrections to *British Journal of Nutrition*, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133.

Directions to Contributors are available from the Society at the address below or can be found on the Society's website at http://www.nutritionsociety.org (an abbreviated Notes for Authors can be found inside the back cover).

Offprints: The author (or main author) of an accepted paper will receive a copy of the PDF file and a voucher copy of the issue in which their paper has been published. There will be an option to purchase paper offprints, these should be ordered at proof stage. No page charges are levied by this journal.

Copyright: As of 1 July 2000 the copyright of all articles submitted to *British Journal of Nutrition* are retained by the authors or their institutions. For articles prior to this date permission for reproduction of any part of the journal (text, figures, tables or other matter) in any form (on paper, microfiche or electronically) should be sought directly from the Society, at: The Publications Office, The Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush Road, Hammersmith, London W6 7NJ, UK.

Disclaimer: The information contained herein, including any expression of opinion and any projection or forecast, has been obtained from or is based upon sources believed by us to be reliable, but is not guaranteed as to accuracy or completeness. The information is supplied without obligation and on the understanding that any person who acts upon it or otherwise changes his/her position in reliance thereon does so entirely at his/her own risk. Neither the Society nor Cambridge University Press accepts responsibility for any trade advertisement included in this publication.

This journal is printed on acid-free paper from renewable sources. Printed in the UK by Bell & Bain Ltd., Glasgow.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, nongovernmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see www.fsc.org for information.

British Journal of Nutrition is covered in Current Contents[®]/Agriculture, Biology & Environmental Sciences, SciSearch[®], Research Alert[®], Current Contents[®]/Life Sciences, Index Medicus[®] (MEDLINE[®]), AGRICOLA[®], CAB AbstractsTM, Global Health, BIOSIS[®] Database, EMBASE/Excerpta Medica and Elsevier BIOBASE/Current Awareness in Biological Sciences, CINAHL, and Chemical Abstracts Service.

Vol. 104 Supplement No. 3 October 2010

British Journal of Nutrition

Contents

Postprandial metabolic events and fruit-derived phenolics: a review of the science.	
B. Burton-Freeman	S1-S14
Fruit polyphenols, immunity and inflammation.	
J. González-Gallego, M. V. García-Mediavilla, S. Sánchez-Campos & M. J. Tuñón	S15-S27
Fruit polyphenols and CVD risk: a review of human intervention studies.	
M. FF. Chong, R. Macdonald & J. A. Lovegrove	S28-S39
The impact of fruit flavonoids on memory and cognition.	
J. P. E. Spencer	S40-S47
Colonic metabolites of berry polyphenols: the missing link to biological activity?	
G. Williamson & M. N. Clifford	S48-S66
Berry flavonoids and phenolics: bioavailability and evidence of protective effects.	
D. D. Rio, G. Borges & A. Crozier	S67-S90
The future of flavonoid research.	
C. D. Kay	S91-S95