

British Journal of Nutrition
Volume 106, 2011 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 Fulfillment 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 2011 comprise Volume 105, the twelve issues starting July 2011 comprise Volume 106.

Annual subscription rates:

Volumes 105/106 (24 issues):
Internet/print package £1021/\$1990/€1635
Internet only: £835/\$1630/€1334
Print only: £973/\$1895/€1580

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.nutritionociety.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, non-governmental, 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 Abstracts™, Global Health, BIOSIS® Database, EMBASE/Excerpta Medica and Elsevier BIOBASE/Current Awareness in Biological Sciences, CINAHL, and Chemical Abstracts Service.

(Contents continued from back cover)

Strawberry anthocyanin and its association with postprandial inflammation and insulin. <i>I. Edirisinghe, K. Banaszewski, J. Cappozzo, K. Sandhya, C. L. Ellis, R. Tadapaneni, C. T. Kappagoda & B. M. Burton-Freeman</i>	913–922
Comparative effects of dried plum and dried apple on bone in postmenopausal women. <i>S. Hooshmand, S. C. Chai, R. L. Saadat, M. E. Payton, K. Brummel-Smith & B. H. Arjmandi</i>	923–930
<i>Dietary Surveys and Nutritional Epidemiology</i>	
Association between parenting styles and own fruit and vegetable consumption among Portuguese mothers of school children. <i>B. Franchini, R. Poínhos, K.-I. Klepp & M. D. V. de Almeida</i>	931–935
Dietary folate, vitamin B ₆ , vitamin B ₁₂ and methionine intake and the risk of breast cancer by oestrogen and progesterone receptor status. <i>C.-X. Zhang, S. C. Ho, Y.-M. Chen, F.-Y. Lin, J.-H. Fu & S.-Z. Cheng</i>	936–943
<i>Innovative Techniques</i>	
Prediction and validation of total and regional fat mass by B-mode ultrasound in Japanese pre-pubertal children. <i>T. Midorikawa, M. Ohta, Y. Hikiyama, S. Torii, M. G. Bembien & S. Sakamoto</i>	944–950
<i>Letter to the Editor</i>	
<i>n</i> -6 Fatty acids and risk for CHD: consider all the evidence. <i>W. S. Harris, I. A. Brouwer & D. Mozaffarian</i>	951–952
Don't disregard the essential distinction between PUFA species. <i>C. E. Ramsden, J. R. Hibbeln, S. F. Majchrzak-Hong & J. M. Davis</i>	953–957
Comment on Ramsden <i>et al.</i> <i>P. Clifton</i>	958
Response to Clifton. <i>C. E. Ramsden, J. R. Hibbeln, S. F. Majchrzak-Hong & J. M. Davis</i>	959–960

British Journal of Nutrition

Directions to Contributors - Concise Version

(Revised August 2007)

The *British Journal of Nutrition* is an international peer-reviewed journal that publishes original papers, review articles, technical notes and short communications in English in all branches of nutritional science. **Prospective authors should note that they (or their institutions) now retain the copyright of their material published in the *British Journal of Nutrition*.** As a contributor you are asked to follow the guidelines set out below. For detailed information on the presentation of the technical content of your paper please see the full version of the **Directions to Contributors**, which can be downloaded from the Nutrition Society website (<http://www.nutrition.society.org>). Prospective authors may also contact the Publications Office directly on + 44 (0)20 7605 6555 (telephone), +44 20 7602 1756 (fax), or edoffice@nutsoc.org.uk (email).

Papers should be accompanied by a statement to the effect that the conditions laid down in the full Directions to Contributors are accepted. The statement should affirm that the submission represents original work that has not been published previously and which is not currently being considered by another journal. It should also confirm that each author has seen and approved the contents of the submitted paper. At the time of acceptance the authors should provide a completed copy of the 'Licence to Publish' (in lieu of copyright transfer). The Licence to Publish is available on the Nutrition Society website (<http://www.nutrition.society.org>). All relevant financial interests should be declared.

Text. Papers should be submitted with 1.5 line spacing and margins of at least 2 cm on each side. Text should be printed without underlining, bold or italics (except for scientific names). Standard abbreviations (e.g. Fig. and Figs.) and SI units should be used. **Typescripts can be submitted as Word, WordPerfect, EPS, Text, Postscript or RTF files. A Word processing format is required for production purposes once papers have been accepted. When substantial revisions are required to typescripts, authors are given the opportunity to do this once only, the need for any further changes should at most reflect any minor issues.**

Title Page. The first page should include a concise, informative title together with the names and addresses of the authors. A contact name for correspondence should be given and telephone, fax and email addresses provided. Authors should supply three or four key words or phrases (each containing up to three words). A short title of up to 45 characters is required as a running head.

Abstract. Each paper should commence with an accurate and informative abstract, written as a single paragraph. It should be complete in itself and intelligible without reference to the text or figures, and should not exceed 250 words.

Tables. Tables should be reduced to the simplest form, and should not duplicate information in the text or figures. They should be typed on separate pages, one page for each Table, at the end of the article and carry headings describing their content.

Illustrations. The original illustrations should accompany the submitted typescript. Text figures, line drawings, computer-generated figures and graphs should be of sufficient size and quality to allow for reduction by half or two-thirds. Half-tone photographs are acceptable where they clearly contribute to the text. All figures should be numbered and legends should be provided.

Note that authors will be charged 350 GBP for the publication of colour figures. Authors from countries entitled to free journal access through HINARI will be exempt from these charges.

References. References should be based on the numbered (Vancouver) system. **When an article has more than ten authors, only the names of the first three should be given followed by *et al.*; give abbreviated journal titles and conform to the following styles:**

- Goel V, Cheema SK, Agellon LB, Ooraikul B & Basu TK (1999) Dietary rhabarb (*Rheum rhabarbarum*) stalk fibre stimulates cholesterol 7 α -hydroxylase gene expression and bile acid excretion in cholesterol-fed C57BL/6J mice. *Br J Nutr* **81**, 65–71.
- Jenkins DJ, Kendall CW, Marchie A, *et al.* (2003) The effect of combining plant sterols, soy protein, viscous fibres, and almonds in treating hypercholesterolemia. *Metabolism* **52**, 1478–1483.
- Brandtzaeg P (2003) Role of local immunity and breast-feeding in mucosal homeostasis and defence against infections. In *Nutrition and Immune Function*, pp. 273–320 [PC Calder, CJ Field and HS Gill, editors]. Wallingford, Oxon: CAB International.
- Stock M & Rothwell NJ (1982) *Obesity and Leanness: Basic Aspects*. London: John Libbey.

Citations should be numbered consecutively in the order in which they first appear in the text using superscript Arabic numerals in parentheses, e.g. 'The conceptual difficulty of this approach has recently been highlighted^(1,2-4). If a reference is cited more than once the same number should be used each time.

Referees. Authors are asked to submit the names of up to four scientists who would be well-qualified to review the paper; however, no more than one such reviewer will be used. The email addresses and institutions of the named reviewers should be given.

Proofs. PDF page proofs will be emailed to authors for checking, and should be returned within 3 days (by fax or Express mail) to the BJN Production Editor, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU, UK; fax +44 1223 325802, email bjnproduction@cambridge.org

Typescripts. The *British Journal of Nutrition* operates an on-line submission and reviewing system (eJournalPress). **Authors should submit to the following address:** <http://bjn.msubmit.net/> If any difficulties are encountered please contact the Publications Office (details above) immediately.

Professor Philip Calder
Editor-in-Chief
British Journal of Nutrition
The Nutrition Society
10 Cambridge Court
210 Shepherds Bush Road
London W6 7NJ
UK

Tel: +44 (0)20 7605 6555
Fax: +44 20 7602 1756
Email: edoffice@nutsoc.org.uk

Volume 106 No. 6 28 September 2011

British Journal of Nutrition

Contents

Editorial

- More citations, but a fall in impact factor.
P. C. Calder 789–792

Invited Commentary

- Protecting the bowel of premature infants.
S. Eaton 793–794

Review Articles

- Potential applications of fish oils rich in *n*-3 fatty acids in the palliative treatment of advanced pancreatic cancer.
A. Arshad, D. Al-Leswas, J. Stephenson, M. Metcalfe & A. Dennison 795–800
- Retinal risks of high-dose ornithine supplements: a review.
S. Hayasaka, T. Kodama & A. Ohira 801–811

Molecular Nutrition

- Proline betaine and its biotransformation products in fasting urine samples are potential biomarkers of habitual citrus fruit consumption.
A. J. Lloyd, M. Beckmann, G. Favé, J. C. Mathers & J. Draper 812–824

Metabolism and Metabolic Studies

- The effect of choline and cystine on the utilisation of methionine for protein accretion, remethylation and trans-sulfuration in juvenile shrimp *Penaeus monodon*.
L. Richard, C. Vachot, A. Surget, V. Rigolet, S. J. Kaushik & I. Geurden 825–835
- Chloroplast thylakoids reduce glucose uptake and decrease intestinal macromolecular permeability.
C. Montelius, K. Gustafsson, B. Weström, P.-Å. Albertsson, S. C. Emek, M. Rayner & C. Erlanson-Albertsson 836–844

Developmental Biology

- Impact of early malnourishment on the chronic inflammatory response and its implications for the effect of indomethacin on Wistar rats.
T. de Oliveira Assis, T. G. da Silva, E. de Souza Franco, A. C. R. Leite, S. R. A. de Moraes & M. B. de Sousa Maia 845–851

Nutritional Immunology

- Fetal lipopolysaccharide exposure modulates diet-dependent gut maturation and sensitivity to necrotising enterocolitis in pre-term pigs.
M. S. Ciliborg, M. Schmidt, K. Skovgaard, M. Boye, N. R. Weber, P. M. Heegaard, D. G. Burrin & P. T. Sangild 852–861
- Cinnamaldehyde enhances *in vitro* parameters of immunity and reduces *in vivo* infection against avian coccidiosis.
S. H. Lee, H. S. Lillehoj, S. I. Jang, K. W. Lee, M. S. Park, D. Bravo & E. P. Lillehoj 862–869
- Glutamine supplementation improves intestinal barrier function in a weaned piglet model of *Escherichia coli* infection.
J. B. Ewaschuk, G. K. Murdoch, I. R. Johnson, K. L. Madsen & C. J. Field 870–877
- Activation of PPAR γ and δ by dietary puniceic acid ameliorates intestinal inflammation in mice.
J. Bassaganya-Riera, M. DiGuardo, M. Climent, C. Vives, A. Carbo, Z. E. Jouni, A. W. C. Einerhand, M. O'Shea & R. Hontecillas 878–886

Microbiology

- Effects on weight gain and gut microbiota in rats given bacterial supplements and a high-energy-dense diet from fetal life through to 6 months of age.
C. L. J. Karlsson, G. Molin, F. Fåk, M.-L. J. Hagslätt, M. Jaksevic, Å. Håkansson, B. Jeppsson, B. Weström & S. Ahrne 887–895

Human and Clinical Nutrition

- Antibacterial peptides derived from caprine whey proteins, by digestion with human gastrointestinal juice.
H. Almaas, E. Eriksen, C. Sekse, I. Comi, R. Flengsrud, H. Holm, E. Jensen, M. Jacobsen, T. Langsrud & G. E. Vegarud 896–905
- Leptin and insulin growth factor 1: diagnostic markers of the refeeding syndrome and mortality.
M. O. Elnenaï, J. Alaghband-Zadeh, R. Sherwood, M. A. Awara, C. Moniz & C. W. le Roux 906–912

(Contents continued facing inside back cover)