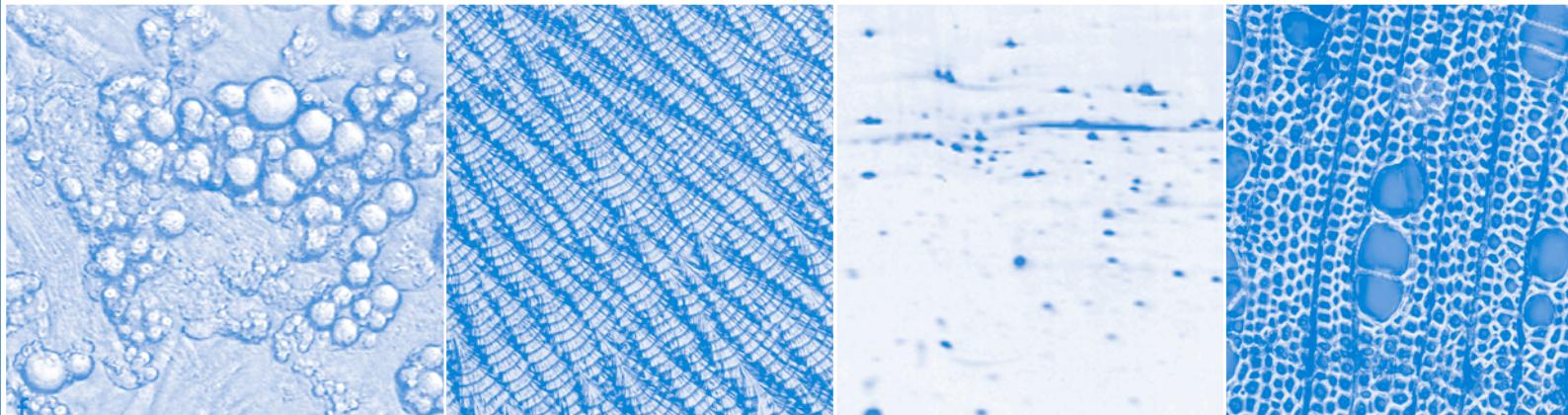


British Journal of Nutrition

Published online by Cambridge University Press

BJN An International Journal of Nutritional Science

Volume 106 Number 11 14 December 2011



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 106, 2011 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*

Reviews Editors

D J Millward, *Faculty of Health and Medical Sciences, University of Surrey, UK*

P Aggett, *School of Medicine and Health, Lancaster University, Lancaster, UK*

Systematic Reviews Editor

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

Supplements Editor

J Woodside, *Nutrition and Metabolism Group, Centre for Public Health, Queen's University, Belfast, UK*

Editorial Board

J J B Anderson, *Chapel Hill, NC, USA*

Y Bao, *Norwich, UK*

J H Beattie, *Aberdeen, UK*

G Bell, *Stirling, UK*

M Blaut, *Bergholz-Rehbrücke, Germany*

S Brix Pedersen, *Lyngby, Denmark*

G C Burdge, *Southampton, UK*

A E Buyken, *Dortmund, Germany*

J Buyse, *Leuven, Belgium*

K D Cashman, *Cork, Ireland*

R S Chapkin, *College Station, TX, USA*

M S Choi, *Daegu, Korea*

A Collins, *Oslo, Norway*

S J Duthie, *Aberdeen, UK*

U Ekelund, *Cambridge, UK*

A Esmaillzadeh, *Isfahan, Iran*

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*

J C G Halford, *Liverpool, UK*

W Hendriks, *Wageningen, The Netherlands*

E Herrera, *Madrid, Spain*

D J Hoffman, *New Brunswick, NJ, USA*

E J Johnson, *Boston, MA, USA*

S J Kaushik, *Saint Péé-sur-Nivelle, France*

D S Kelley, *Davis, CA, USA*

C W C Kendall, *Toronto, Ont., Canada*

J P Lallès, *Rennes, France*

A Laviano, *Rome, Italy*

H J Lightowler, *Oxford, UK*

A M López-Sobaler, *Madrid, Spain*

J A Lovegrove, *Reading, UK*

R D Mattes, *West Lafayette, IN, USA*

C Mayer, *Aberdeen, UK*

S McCann, *Buffalo, NY, USA*

J P McClung, *Natick, MA, USA*

N M McKeown, *Boston, MA, USA*

S McMullen, *Nottingham, UK*

D McMurray, *College Station, TX, USA*

S McNaughton, *Burwood, Australia*

J G Mercer, *Aberdeen, UK*

A M Minihane, *Norwich, UK*

T A Mori, *Perth, Australia*

H Mukhtar, *Madison, WI, USA*

M Murphy, *Reus, Spain*

P Nestel, *Southampton, UK*

U Nöthlings, *Kiel, Germany*

C M Nyachoti, *Winnipeg, MB, Canada*

M C Ocké, *Bilthoven, The Netherlands*

P Palozza, *Rome, Italy*

J H Y Park, *Chuncheon, Korea*

E Perissinotto, *Padova, Italy*

C J Petry, *Cambridge, UK*

S M Phillips, *Hamilton, Ont., Canada*

S Proctor, *Edmonton, Alta., Canada*

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*

T Sheehy, *Cork, Ireland*

A J Sinclair, *Geelong, Australia*

C R Sirtori, *Milan, Italy*

K S Swanson, *Urbana, IL, USA*

D Tomé, *Paris, France*

D Topping, *Adelaide, Australia*

F Visioli, *Madrid, Spain*

M R Yeomans, *Sussex, UK*

Publications Staff

C Goodstein (*Publications Manager*), C Jackson (*Deputy Publications Manager*), L Weeks,
 H Zdravics and C T Hughes (*Publications Officers*) and S Hui and D Owen (*Publications Assistants*)

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.nutritonsociety.org>

© Nutrition Society 2011

Contents

Horizons in Nutritional Science

- Towards prevention of vitamin D deficiency and beyond: knowledge gaps and research needs in vitamin D nutrition and public health.
K. D. Cashman & M. Kiely 1617–1627

Invited Commentary

- Prebiotics in infancy and childhood; clinical research warranted.
C. E. West 1628–1629
 Time to refine the use of urinary iodine to assess iodine intakes in populations.
O. Dary 1630–1631

Meta-analysis

- Effect of vitamins C and E supplementation on *Helicobacter pylori* eradication: a meta-analysis.
G. Li, L. Li, C. Yu & L. Chen 1632–1637

Review – Systematic with Meta-Regression

- A systematic review and meta-regression analysis of the vitamin D intake–serum 25-hydroxyvitamin D relationship to inform European recommendations.
K. D. Cashman, A. P. Fitzgerald, M. Kiely & K. M. Seamans 1638–1648

Meta-analysis

- Dietary glycaemic index and glycaemic load in relation to the risk of type 2 diabetes: a meta-analysis of prospective cohort studies.
J.-Y. Dong, L. Zhang, Y.-H. Zhang & L.-Q. Qin 1649–1654

Molecular Nutrition

- Oil palm vegetation liquor: a new source of phenolic bioactives.
R. Sambanthamurthi, Y. Tan, K. Sundram, M. Abeywardena, T. G. Sambandan, C. Rha, A. J. Sinskey, K. Subramaniam, S.-S. Leow, K. C. Hayes & M. B. Wahid 1655–1663
 Positive outcomes of oil palm phenolics on degenerative diseases in animal models.
R. Sambanthamurthi, Y. Tan, K. Sundram, K. C. Hayes, M. Abeywardena, S.-S. Leow, S. D. Sekaran, T. G. Sambandan, C. Rha, A. J. Sinskey, K. Subramaniam, S. Fairus & M. B. Wahid 1664–1675
 Antioxidant micronutrient supplementation increases erythrocyte membrane fluidity in adults from a rural Chinese community.
X.-X. Han, M. Zhang, A.-G. Ma, S. Ge, X.-X. Shi, Y.-Y. Sun, Q.-Z. Wang & H. Liang 1676–1682

Metabolism and Metabolic Studies

- Effect of fast dietary proteins on muscle protein synthesis rate and muscle strength in *ad libitum*-fed and energy-restricted old rats.
S. Walrand, A. Zangarelli, C. Guillet, J. Salles, K. Soulier, C. Giraudet, V. Patrac & Y. Boirie 1683–1690
 Bioavailability of phenols from a phenol-enriched olive oil.
M. Suárez, R. M. Valls, M.-P. Romero, A. Macià, S. Fernández, M. Giralt, R. Solà & M.-J. Motilva 1691–1701
 Effect of reduced heifer nutrition during *in utero* and post-weaning development on glucose and acetate kinetics.
R. C. Waterman, A. J. Roberts, T. W. Geary, E. E. Grings, L. J. Alexander & M. D. MacNeil 1702–1712
 Up-regulation of PPAR γ , heat shock protein-27 and -72 by naringin attenuates insulin resistance, β -cell dysfunction, hepatic steatosis and kidney damage in a rat model of type 2 diabetes.
A. K. Sharma, S. Bharti, S. Ojha, J. Bhatia, N. Kumar, R. Ray, S. Kumari & D. S. Arya 1713–1723

Human and Clinical Nutrition

- Vitamin A deficiency in patients with hepatitis C virus-related chronic liver disease.
W. A. F. Peres, G. V. Chaves, J. C. S. Gonçalves, A. Ramalho & H. S. M. Coelho 1724–1731
 The effects of repeated ingestion of high and low glucose–electrolyte solutions on gastric emptying and blood $^2\text{H}_2\text{O}$ concentration after an overnight fast.
G. H. Evans, S. M. Shirreffs & R. J. Maughan 1732–1739

Do prebiotics reduce the number of fever episodes in healthy children in their first year of life: a randomised controlled trial.

M. van Stuijvenberg, A. M. Eisses, C. Grüber, F. Mosca, S. Arslanoglu, G. Chirico, C. P. Braegger, J. Riedler, G. Boehm, P. J. J. Sauer & for the Multicenter Infection Prevention Study-1 (MIPS-1) Study Group

1740–1748

Dietary Survey and Nutritional Epidemiology

Current trends of 24-h urinary iodine excretion in German schoolchildren and the importance of iodised salt in processed foods.

S. A. Johner, A. L. B. Günther & T. Remer

1749–1756

Behaviour, Appetite and Obesity

Effects of oligofructose on appetite profile, glucagon-like peptide 1 and peptide YY3-36 concentrations and energy intake.

S. P. M. Verhoef, D. Meyer & K. R. Westerterp

1757–1762

Letter to the Editor

Comment on Jia *et al.*

B. J. Boucher

1763

Response from Chapkin to Letter from Boueler

R. S. Chapkin

1764

Probiotic and prebiotic claims in Europe: seeking a clear roadmap.

F. Guarner, M. E. Sanders, G. Gibson, T. Klaenhammer, M. Cabana K. Scott, G. Reid, N. M. Delzenne, G. C. Fahey Jr, & C. Hill

1765–1767

Is physical activity in weight management more about ‘calories in’ than ‘calories out’?

J.-P. Chaput & A. M. Sharma

1768–1769

Health claims on foods: promoting healthy food choices or high salt intake?

F. P. Cappuccio & I. Pravst

1770–1771

Characteristics and nutrient intake of Taiwanese elderly vegetarians: evidence from a national survey.

T. H. T. Chiu, M. N. Lin & C. L. Lin

1772