

---

# BJN

## BRITISH JOURNAL OF NUTRITION

---

Volume: 125

---

Number: 11

---

14 June 2021

---

An International Journal  
of Nutritional Science

**British Journal of Nutrition**  
**An International Journal of Nutritional Science**  
*Volume 125, 2021 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](http://journals.cambridge.org/bjn)  
 Tables of contents and abstracts are available free at the same website.

**Editor-in-Chief**

J C Mathers, *Newcastle University, UK*

**Deputy Editors**

J T Brenna, *Cornell University, USA*  
 E Doucet, *University of Ottawa, Canada*  
 K Erickson, *University of California: Davis, USA*  
 K G Jackson, *University of Reading, UK*  
 J Lapointe, *Agriculture and Agri-Food Canada, Canada*  
 L Lauritzen, *University of Copenhagen, Denmark*  
 D N McMurray, *Texas A&M University, USA*  
 A M Minihane, *University of East Anglia, UK*  
 S M Pasiakos, *USARIEM: US Army Research Inst. of Environmental Medicine, USA*  
 D Robertson, *University of Surrey, UK*  
 E Rush, *Auckland University of Technology, New Zealand*  
 A J Sinclair, *Deakin University, Australia*  
 A Sneddon, *University of Aberdeen, Scotland, UK*  
 D L Topping, *CSIRO, Australia*

**Reviews and Horizons Editor**

B A Fielding, *University of Surrey, UK*

**Reviews Editors**

R Elango, *University of British Columbia, Canada*  
 J P Lallès, *Institut National de la Recherche Agronomique, France*  
 D Levitsky, *Cornell University, USA*  
 S J Whiting, *University of Saskatchewan, Canada*

**Supplements Editor**

M McKinley, *Queens University, Belfast, UK*

**Statistics Editors**

Y Bai, *Duke University, USA*  
 S Barton, *University of Southampton, UK*  
 V Bountziouka, *University College London, UK*  
 M Cockeran, *Northwest University, South Africa*  
 S Crozier, *University of Southampton, UK*  
 S Doi, *Australian National University, Australia*  
 G Kelley, *West Virginia University, USA*  
 D Li, *Zhejiang University, China*  
 C Ritz, *University of Copenhagen, Denmark*  
 R Segurado, *University College Dublin, Ireland*  
 R Woodman, *Flinders University, Australia*  
 B Yang, *Zhejiang University, China*  
 C Yuan, *Harvard School of Public Health, USA*

**Editorial Board**

U Alexy, *Rheinische Friedrich-Wilhelms University of Bonn, Germany*  
 N Astbury, *University of Oxford, UK*  
 C Baldwin, *Kings College London, UK*  
 A M Beck, *Herlev University Hospital, Denmark*  
 M B Betancor Quintana, *University of Stirling, UK*  
 G Bosch, *Wageningen University, The Netherlands*  
 F Bravi, *Università degli Studi di Milano, Italy*  
 L Brough, *Massey University, New Zealand*  
 S P Crispim, *Federal University of Paraná, Brazil*  
 P Cutrufello, *University of Scranton, USA*  
 C Damsgaard, *University of Copenhagen, Denmark*  
 K Dhana, *Rush University Medical Center, USA*  
 A Erkkilä, *University of Eastern Finland, Finland*  
 E Gaffney-Stomberg, *USARIEM: US Army Research Inst. of Environmental Medicine, USA*

A-L Heath, *University of Otago, New Zealand*  
 K Hirko, *Michigan State University, USA*  
 J P Karl, *US Army Research Institute of Environmental Medicine, USA*  
 M Kontogianni, *Harokopio University, Greece*  
 L Libuda, *University Hospital Essen, Germany*  
 J Lodge, *Northumbria University, UK*  
 X Luo, *Chinese Academy of Agricultural Science, China*  
 Z Luo, *Huazhong Agricultural University, China*  
 D W Ma, *University of Guelph, Canada*  
 C Maffei, *University of Verona, Italy*  
 C Maloney, *University of New South Wales, Australia*  
 G Maskarinec, *University of Hawaii, USA*  
 B Meyer, *University of Wollongong, Australia*  
 K Murakami, *University of Tokyo, Japan*

M Plourde, *University of Sherbrooke, Canada*  
 R Siddiqui, *Virginia State University, USA*  
 J L Soengas, *University of Vigo, Spain*  
 H Steinshamn, *Norwegian Institute of Bioeconomy Research, Norway*  
 M H Vickers, *University of Auckland, New Zealand*  
 B Vizmanos-Lamotte, *University Centre of Health Sciences, Mexico*  
 R Waagbø, *NIFES: National Inst. of Nutrition and Seafood Research, Norway*  
 N M Wade, *CSIRO, Australia*  
 J Wang, *China Agricultural University, China*  
 M O Weickert, *University Hospitals Coventry & Warwickshire NHS Trust, UK*  
 G Williamson, *University of Leeds, UK*

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](mailto:office@nutsoc.org.uk)

The Nutrition Society Home Page is at <http://www.nutritionandsociety.org>

© Nutrition Society 2021