

#### **Editors:**

P. F. Fox, Cork, Ireland. Edmonton, Canada.

#### **Editorial Board:**

Editorial Board:

E.J. Mann (Chairman)
Reading, UK.
L. Bjorck
Uppsala. Sweden.
M. Carie
Vlahovica, Yugoslavia.
C. Champagne
Quebec, Canada.
M. Cheryan
Urbana, USA
L. K. Creamer
Palmerston North, New Zealand,
M. El-Soda
Alexandria, Eavot Palmerston North, New Zealand
M. El-Soda
Alexandria, Egypt
J. C. Gripon,
Jouy-en-Jossa, France.
V. H. Holsinger
Philadelphia, USA.
M. Jurez.
Madrid, Spain.
M. Kalab
Ottawa, Canada.
M. H.G. Kessler
Weihenstephan, W. Germany.
M. Kroger
Pennsylvania, USA.
B.A. Law
Reading, UK.
C. V. Morr
Columbus, USA.
N. F. Olson
Madison, USA.
N. F. Olson
Madison, USA.
P. Paquin
Quebec, Canada
J. J. Wartherian
J. P. Varianachi
Tokyo, Japan.

#### For IDF:

Helsingor, Denmark
R. Doyle
Ottawa, Canada.
D. B. Emmons
Ottawa, Canada. G. Odegaard Oslo, Norway.

A. Øterholm
Oslo, Norway. M. Teuber
Zürich, Switzerland

# INTERNATIONA

Published by Elsevier from 1991 International Dairy Journal ISSN 0958-6946 Volume 1 (1991), 4 Issues £88.00 Worldwide Delivery

#### Research and Application

The International Dairy Journal publishes original, refereed research papers and critical reviews on all aspects of dairy science and technology. Within this scope, the journal pays particular attention to applied research and to the interface of the dairy and food industries.

#### **International Communication**

Published in association with the International Dairy Federation, the journal provides a truly international forum for the communication of research in dairy science, including the research and development of dairy and allied products.

The journal's coverage includes:

- · Biosynthesis, chemistry and physico-chemical properties of milk constituents.
- · Microbiology, enzymology, biotechnology and bioengineer-
- Dairy engineering and new developments in processing.
- · Relevant emulsion science, food structure and texture.
- · Raw material quality; milk assembly.
- · Flavour and off flavour development.

- · Milks from non-bovine species.
- Product development and usage of dairy ingredients in other foods.
- Relevant sensory science/ consumer studies.
- · Analytical, nutritional, environmental and legal subjects.



Please send	me a <b>free</b>	Sample	Copy of	the	International	Dairy	Journal

Address

Name

Please return order form to: Anton Molenaar, Promotion Manager, Elsevier Applied Science, Crown House, Linton Road, Barking, Essex IG11 8JU, UK

or for customers in North America: Journal Information Center, Elsevier Science Publishing Co, Inc., 655 Avenue of the Americas, New York, NY 10010, USA.



**ELSEVIER** APPLIED SCIENCE

# Nutrition Journals from Cambridge

#### The British Journal of Nutrition

"Recommended for academic or special libraries supporting programmes in nutrition research."

#### MAGAZINES FOR LIBRARIES

The British Journal of Nutrition publishes original work in all branches of nutrition: clinical and non-clinical human nutrition; the nutrition of farm, domestic and laboratory animals and basic studies of nutrient metabolism. The journal aims to advance nutritional concepts on a sound scientific base and to provide the kind of information needed to make rational decisions on practical nutritional questions.

Volumes 65 & 66 in 1991 (6 issues each year), plus annual supplement Nutrition Research Reviews. £205 for UK subscribers, £210 elsewhere, airmail £31.50 extra per year. ISSN 0007-1145

### The Proceedings of the Nutrition Society

"...should be on the shelves of major research libraries."

#### MAGAZINES FOR LIBRARIES

The Proceedings contains full versions of papers which The Nutrition Society commission to be read at their Symposia. Invited speakers come from all over the world and the topics of the Symposia cover a wide variety of nutritional fields. Some relate mainly to clinical and human nutrition, others to the nutrition of farm, domestic and other animals while some deal with underlying nutritional principles common to all.

Volume 50 in 1991 (3 issues a year). £90 for UK subscribers, £93 elsewhere, airmail £13 per year extra. ISSN 0029-6651

#### **Nutrition Research Reviews**

This annual publication contains authoritative reviews of research on a variety of nutritional problems. Contributors are invited as internationally recognised experts and innovators to provide global reviews of recent research developments in specified areas. Individual topics range widely from those which deal mainly with problems of human nutrition to those which are concerned mainly with the nutrition of domestic and farm animals. A principal objective of Nutrition Research Reviews is to encourage the exchange of fundamental ideas between workers whose principal interest and practical concerns may lie in very different nutritional fields.

Volume 4 in 1991 (1 issue per year), £40, airmail £13 peryear extra. ISSN 0954-4224.

NB Nutrition Research Reviews comes free with a subscription to The British Journal of Nutrition.

Further information and sample copies are available from: Journals Marketing Department, Cambridge University Press, FREEPOST\*, The Edinburgh Building, Cambridge CB2 1BR, England TEL: (0223) 325806 or FAX (0223) 315052

(\* no postage stamp necessary if posted in UK)

In US & Canada, write to Cambridge University Press, 40 West 20th Street, New York, NY 10011-4211, USA



## Agriculture Journals from Cambridge

#### The Journal of Agricultural Science

Published in six parts a year, this leading journal is concerned with the advance of agriculture and the use of land resources throughout the world. It publishes original scientific work related to strategic and applied studies in all aspects of agricultural science, including agronomy and crop physiology, breeding, genetics and pathology; soil science; animal nutrition, physiology and genetics; and the mathematical and statistical methods used in experimentation and data analysis. The journal also publishes book reviews and invited short reviews of scientific topics of current agricultural relevance.

ISSN 0021-8596

#### **Experimental Agriculture**

This quarterly journal publishes the results of analytical research into the agronomy of crops, particularly the food, forage and industrial crops of the warmer regions of the earth. International in scope, it is especially concerned with experimental work conducted in the field and is designed to explain agronomic results in biological and environmental terms. It publishes accounts of new methods of experimental crop production and discussions of problems arising from the rapid expansion of agricultural production. Particular emphasis is placed on papers covering Farming Systems and sustainability in tropical regions.

ISSN 0014-4797



#### Order Form Please enter my subscription to: The Journal of Agricultural Science, Volumes 116 & 117, 1991 @ ☐ £175 for UK subscribers; ☐ £184 elsewhere; airmail £29 per year extra Experimental Agriculture, Volume 27, 1991@ $\square$ £68 for UK subscribers; $\square$ £70 elsewhere: £35 for Tropical Agriculture Association Members; ☐ airmail £15 per year extra ☐ I enclose a cheque (payable to Cambridge University Press and drawn against a UK bank) ☐ Please invoice me ☐ Please send me a **free** sample copy of The Journal of Agricultural Science/Experimental Agriculture (institutions only) Name Address\_ Send to: Journals Marketing Dept., Cambridge University Press, \*FREEPOST, The Edinburgh Building, Cambridge CB2 1BR, UK. Tel: (0223) 325806 Fax: (0223)

315052 (\*No postage stamp necessary if posted in the UK)

DAR91

#### DIRECTIONS TO CONTRIBUTORS

#### GENERAL

Two copies of manuscripts should be sent to the Editor, Journal of Dairy Research, Dr B. A. Rolls, AFRC Institute of Food Research, Reading Laboratory, Shinfield, Reading RG2 9AT, UK. Submission of a paper will be held to imply that it reports unpublished original work, that it is not under consideration for publication elsewhere, and that if accepted for the Journal it will not be published elsewhere in any language, without the consent of the Editors

#### FORM OF PAPERS

The author should follow these directions carefully, and consult a current issue of the *Journal* for guidance on details of typographical and other conventions.

Every paper should be headed with its title, the names and initials of the authors (each author supplying one given name) and the name and address of the laboratory where the work was done.

Papers should be in English, using the spelling of the Concise Oxford English Dictionary. They should be typed with double spacing, on one side only of the sheets, and with ample margins for editorial annotations.

Papers should in general be divided into the following parts in the order indicated: (a) Summary, brief and self-contained; (b) Introductory paragraphs, briefly explaining the object of the work but without giving an extensive account of the literature; (c) Experimental or Materials and Methods; (d) Results; (e) Discussion and Conclusions; (f) Acknowledgements without a heading; (g) References. With some types of material headings other than (c), (d) and (e) may be preferable.

The use of footnotes should be avoided if possible. Underlining should be used only to indicate italics. Proper nouns, including trade names, should be given a capital initial letter. Manufacturers or suppliers of materials and equipment, with their addresses, should be given. The typescript should carry the name and address of the person to whom the proofs are to be sent, and give a shortened version of the paper's title, not exceeding 45 letters and spaces, suitable for a running title in the *Journal*.

#### **TABLES**

Tables should be numbered and should carry headings describing their content. They should be comprehensible without reference to the text. They should be typed on separate sheets and their approximate positions in the text indicated. To minimize the cost of printing, the number and size of tables should be kept to an absolute minimum.

#### ILLUSTRATIONS

Line drawings and photographs, which must be originals, should be numbered as Figures in Arabic numerals. Drawings should be in Indian ink, on Bristol board or cartridge paper. However, a technique which may be more convenient to authors is to use a double-sized folded piece of tracing paper, or translucent graph paper, with the drawing on one half and the other half acting as a flyleaf. There should be no lettering or numerals on the drawing itself.

Attached to every figure there should be a translucent flyleaf cover on the outside of which should be written legibly: (a) title of paper and name of author; (b) figure; (c) the figures and lettering, which are intended to appear on

the finished block, in the correct positions relative to the drawing underneath. Each paper should have a separate typed sheet listing figure numbers with their legends, and the approximate positions of illustrations should be indicated in the text.

The photographs and diagrams should be about twice the size of the finished block and not larger overall than the sheets on which the paper itself is typed. For a figure measuring  $250 \text{ mm} \times 150 \text{ mm}$  all lines, axes and curves should be 0.4 mm thick, thus \_\_\_\_\_\_. Graph symbols in order of preference are  $\bigcirc \bigcirc$ ,  $\triangle \triangle$ ,  $\bigcirc \bigcirc$ ,  $\times$  +, and for a  $250 \text{ mm} \times 150 \text{ mm}$  graph the circles should be 3 mm in diam. The triangles should be equilateral of 3 mm side, and the squares also of 3 mm side. The crosses should have lines 3 mm long at right angles. Scale marks on the axes should be on the inner side of each axis and should be 3 mm long.

#### SHORT COMMUNICATIONS

Short communications or notes of not more than 2500 words or the equivalent space in print and without a summary will also be published.

#### REFERENCES

In the text, references should be quoted by whichever of the following ways is appropriate: Arnold & Barnard (1900); Arnold & Barnard (1900a); Arnold & Barnard (1900a, b); Arnold et al. (1900). Give both names for two authors. For three or more authors give the first name et al. on all occasions, adding a, b, etc. to the date if there is any ambiguity.

References should be listed alphabetically at the end of the paper. Titles of journals should be given in full, authors' names should be in caps and their initials included. Each reference should be punctuated and set out thus: ARNOLD, T. B., BARNARD, R. N. & COMPOUND, P. J. 1900. Title of paper. Journal of Dairy Research 18, 158–165, and references to books should include names of authors, year of publication, title, names of editors, town of publication and name of publisher in that order, thus: ARNOLD, T. B. 1900 In Dairying, vol. 1, pp. 5–11 (Ed. R. W. Brown). London: Brown and Chester.

It is the duty of the author to check all references.

#### UNITS, SYMBOLS AND ABBREVIATIONS

SI units must be used, as explained in British Standards Institution publication BS 5555: 1981 (Specification for SI units and recommendations for the use of their multiples and of certain other units). Until SI units are widely understood, it is permissible to give the equivalent value in other units in parenthesis. Symbols and abbreviations used are those of British Standard. 5775 (Specification for Quantities, Units and Symbols).

#### DESCRIPTIONS OF SOLUTIONS

Normality and molarity should be indicated thus: N-HCl,  $0.1 \text{ M-NaH}_2\text{PO}_4$ . The term '%' means g/100 g solution. For ml/100 ml solution the term '% (v/v)' should be used and for g/100 ml solution the correct abbreviation is '% (w/v)'.

#### **OFFPRINTS**

Order forms giving quotations for offprints are sent to authors with their proofs.

### JOURNAL OF DAIRY RESEARCH

#### Volume 58 Number 3 August 1991

#### CONTENTS

Original articles	Pages
Extraction of plasma triacylglycerols by the mammary gland of the lactating cow G. E. THOMPSON and W. W. CHRISTIE	251–255
Elevation of bovine serum C-reactive protein and serum amyloid P component levels by lactation	
M. MORIMATSU, A. WATANABE, K. YOSHIMATSU, T. FUJINAGA, M. OKUBO and M. NAIKI	257–261
Influence of milk flow rate on new intramammary infection in dairy cows R. J. GRINDAL and J. E. HILLERTON	263-268
Denaturation, aggregation and heat stability of milk protein during the manufacture of skim milk powder H. SINGH and L. K. CREAMER	269–283
In vitro proteolysis and functional properties of reductively alkylated $\beta$ -casein derivatives	
JM. CHOBERT, A. TOUATI, C. BERTRAND-HARB, M. DALGALARRONDO, MG. NICOLAS and T. HAERTLE	285–298
Size distribution and average size parameters of casein micelles determined by electron microscopy in bovine milk between pH 5·5 and 6·7. A comparison of several evaluation methods	
H. J. VREEMAN, B. W. VAN MARKWIJK and P. BOTH	299–312
Antioxidant activity of casein and Maillard reaction products from casein-sugar mixtures	
B. J. McGookin and MA. AUGUSTIN  A method for determination of macropeptide by cation-exchange fast protein liquid	313–320
chromatography and its use for following the action of chymosin in milk  J. LÉONIL and D. MOLLÉ	321–328
Effect of temperature on the moisture sorption isotherms of a heat-treated whole milk product, khoa	
I. K. SAWHNEY, G. P. PATIL and B. KUMAR	329–335
Structural changes in sweetened condensed milk during storage: an electron microscopy study	
A. I. ALVAREZ DE FELIPE, B. MELCÓN and J. ZAPICO  Effects of speed and duration of cutting in mechanized Cheddar cheesemaking on curd	337–344
particle size and yield  K. A. JOHNSTON, F. P. DUNLOP and M. F. LAWSON	345–354
Effect of lactic starter inoculation on chemical, microbiological, rheological and sensory characteristics of La Serena cheese	
M. MEDINA, B. FERNANDEZ DEL POZO, M. A. RODRÍGUEZ-MARIN, P. GAYA and M. NUÑEZ	355-361
Production, isolation and identification of low molecular mass peptides from blue cheese by high performance liquid chromatography	
D. GONZALES DE LLANO, M. C. POLO and M. RAMOS	363-372

© Proprietors of Journal of Dairy Research 1991
Printed in Great Britain by the University Press, Cambridge