Proceedings of the Nutrition Society

Directions to Contributors

(*Revised February 1998*)

The Nutrition Society will publish in its *Proceedings* papers presented by invitation and original communications given at the symposia and meetings of the Society.

Invitations to read papers at symposia are issued on the understanding that the persons invited send their papers for publication in the *Proceedings of the Nutrition Society* in the way outlined in the letter of invitation, preferably a fortnight before the meeting, and that the papers will not be published elsewhere in the same form, in English or any other language, without the consent of the Chairman of the Editorial Board.

Original communications presented at other meetings of the Society will be recorded in the *Proceedings* by means of an abstract not exceeding 400 words or the equivalent space in print. These abstracts should be submitted as stated in notices calling such meetings. The style of references, abbreviations, symbols and illustrations should be that of the *Proceedings of the Nutrition Society*. Original communications shall normally be precirculated and may be withdrawn from publication in the *Proceedings of the Nutrition Society* at the request of the author(s) or of the Council, or by a vote of members at the meeting.

General. Authors' names should be given without titles or degrees and one forename may be given in full. The name and address of the laboratory or institution where the work was performed should be given. Any necessary descriptive material about the author, e.g. Beit Memorial Fellow, should appear in parentheses after the author's name or at the end of the paper and not in the form of a footnote.

Typescripts should bear the name and address, together with telephone and fax numbers and email address, of the person to whom the proof of the paper is to be sent.

Copyright. Authors will be asked to assign their copyright on certain conditions to The Nutrition Society to help protect their material, particularly in the USA.

Form of Papers Submitted for Publication. The onus of preparing a paper in a form suitable for sending to press lies in the first place with the author. Authors should consult a current issue in order to make themselves familiar with the practice of the *Proceedings of the Nutrition Society* as to typographical and other conventions, use of cross-headings, layout of tables, etc.

The maximum length of papers is eight printed pages; this corresponds to approximately 7000 words. The inclusion of tables and figures must be at the expense of text and references (one half-page Table or Figure is equivalent to about 500 words in two columns or 250 words in one column). Use double line spacing in both text and references, and use line numbering. Include an address for correspondence. The spelling used in the paper should be that of the *Concise Oxford Dictionary*, 9th ed. Oxford: Clarendon Press, 1995.

Abstracts. Detailed directions for the preparation of abstracts are given in the Gazette sent to all members of the Society. Further copies may be obtained from the Editorial Office. Authors must include in the text of their abstract sufficient information to justify its use as a scientific reference and to make it informative for those not able to attend the meeting. Papers by non-members must be introduced by members of the Society. Authors are reminded that all abstracts shall be approved for publication in *Proceedings of the Nutrition Society* by a vote of members at the meeting.

It is the responsibility of the authors to provide the final version of their abstract in camera-ready form, incorporating all required amendments, before publication in the *Proceedings*.

References. References should be given in the text thus: Sebrell & Harris (1967) showed that..., or...has been shown (Wallace & West, 1982); where a paper to be cited has more than two authors, citations should appear thus: (Peto *et al.* 1981). Where more than one paper has appeared in one year for which the first name in a group of three or more authors is the same, the reference should be given as follows: Adams *et al.* (1962*a*, *b*, *c*)..., or...(Adams *et al.* 1962*a*, *b*, *c*). In the text, references grouped together should be given in chronological order thus:...(Wallace & West, 1982; Lau, 1988). At the end of the paper, on a page(s) separate from the text, references should be listed in alphabetical order according to the name of the first author of the publication quoted, names with prefixes being entered under the prefix, and should include each author's initials and the title of the paper. Names and initials of authors of unpublished work should be given in the text and not included in the References. Titles of journals should appear in full. References to books and monographs should include the town of publication and the number of the edition to which reference is made. Thus:

Ablett JG & McCance RA (1971) Energy expenditure of children with kwashiorkor. *Lancet* **ii**, 517–519.

Adams RL, Andrews FN, Gardiner EE, Fontaine WE & Carrick CW (1962*a*) The effects of environmental temperature on the growth and nutritional requirements of the chick. *Poultry Science* **41**, 588–594.

Adams RL, Andrews FN, Rogler JC & Carrick CW (1962*b*) The protein requirement of 4-week-old chicks as affected by temperature. *Journal of Nutrition* **77**, 121–126.

Adams RL, Andrews FN, Rogler JC & Carrick CW (1962*c*) The sulfur amino acid requirement of the chick from 4 to 8 weeks as affected by temperature. *Poultry Science* **41**, 1801–1806.

Agricultural Research Council (1981) *The Nutrient Requirements of Pigs*. Slough: Commonwealth Agricultural Bureaux.

Edmundson W (1980) Adaptation to undernutrition: how much food does man need? *Social Science and Medicine* **14 D**, 19–126.

European Communities (1971) *Determination of Crude Oils and Fats, Process A*. Part 18, *Animal Feeding-stuffs*, pp. 15–19. London: HM Stationery Office.

Hegsted DM (1963) Variation in requirements of nutrients – amino acids. *Federation Proceedings* **22**, 1424–1430.

Heneghan JB (1979) Enterocyte kinetics, mucosal surface area and mucus in gnotobiotes. In *Clinical and Experimental Gnotobiotics. Proceedings of the VIth International Symposium on Gnotobiology*, pp. 19–27 [TM Fliedner, H Heit, D Niethammer and H Pflieger, editors]. Stuttgart: Gustav Fischer Verlag.

Hill DC (1977) Physiological and biochemical responses of rats given potassium cyanide or linamarin. In *Cassava as an Animal Feed. Proceedings of a Workshop held at University of Guelph, 1977. International Development Research Centre Monograph* 095e, pp. 33–42 [B Nestel and M Graham, editors]. Ottawa, Canada: International Development Research Centre.

Lau EMC (1988) Osteoporosis in elderly Chinese (letter). *British Medical Journal* **296**, 1263.

Louis-Sylvestre J (1987) Adaptation de l'ingestion alimentaire aux dépenses energétiques (Adaptation of food intake to energy expenditure). *Reproduction Nutrition Développement* **27**, 171–188.

Martens H & Rayssiguier Y (1980) Magnesium metabolism and hypomagnesaemia. In *Digestive Physiology and Metabolism in Ruminants*, pp. 447–466 [Y Ruckebusch and P Thivend, editors]. Lancaster: MTP Press Ltd.

Ministry of Agriculture, Fisheries and Food (1977) *Energy Allowances and Feeding Systems for Ruminants. Technical Bulletin* no. 33. London: HM Stationery Office.

Peto R, Doll R, Buckly JD & Sporn MB (1981) Can dietary beta-carotene materially reduce human cancer rates? *Nature* **290**, 201–208.

Sebrell WH Jr & Harris RS (1967) *The Vitamins*, 2nd ed., vol. 1. London: Academic Press.

Statistical Analysis Systems (1985) *SAS User's Guide, Statistics*. Cary, NC: SAS Institute Inc.

Statistical Package for Social Sciences (1988) *Base Manual + V2.0.* Chicago, IL: SPSS Inc.
Technicon Instruments Co. Ltd (1967) *Technicon Methodology Sheet* N-36. Basingstoke: Technicon Instrument Co. Ltd.
Van Dokkum W, Wesstra A & Schippers F (1982) Physiological effects of fibre-rich types of bread. 1. The effect of dietary fibre from bread on the mineral balance of young men. *British Journal of Nutrition* **47**, 451–460.
Wallace RJ & West AA (1982) Adenosine 5′ triphosphate and adenylate energy charge in sheep digesta. *Journal of Agricultural Science, Cambridge* **98**, 523–528.
Wilson J (1965) Leber's disease. PhD Thesis, University of London.
World Health Organization (1965) *Physiology of Lactation. Technical Report Series* no. 305. Geneva: WHO.

Units. Results should be presented in metric units according to the International System of Units (see *Quantities, Units, and Symbols* (1971) London: The Royal Society, and *Metric Units, Conversion Factors and Nomenclature in Nutritional and Food Sciences* (1972) London: The Royal Society—as reproduced in *Proceedings of the Nutrition Society* (1972) **31**, 239–247).

Energy measurements should be expressed in joules.

For substances of known molecular weight, e.g. glucose, urea, Ca, Na, Fe, K, P, values should be expressed as mol/l: for substances of indeterminate molecular weights, e.g. phospholipids, proteins, and for trace elements, e.g. Cu, Zn, g/l should be used.

Time. The 24 h clock should be used, e.g. 15.00 hours.

Statistical Treatment of Results. The experimental design and method of analysis should be described in sufficient detail to permit anyone wishing to reproduce the experiment and its analysis to do so.

In general, it is not necessary to publish the individual results of replicated tests, and statistical details, such as analysis of variance tables, should be given only if they are relevant to the discussion. A statement of the number of replicates, their average value and some appropriate measure of variability is usually sufficient. Where means are quoted, the most appropriate measure of variability is usually the standard error (SE) of the mean, although when there is specific interest in the distribution of the individual values in the sample the standard deviation (SD) is more useful. In either case, the measure adopted and number of values on which it is based must be clearly stated. The notation '±' should not be used when presenting SE or SD; forms such as 'mean 3·51 (SE 0·67) μmol' are suitable.

A statement that the difference between the means for two groups of values is statistically significant should include the level of significance attained and, where a pooled estimate of variance has been used, the corresponding degrees of freedom should be quoted.

Figures. These include graphs, histograms, complex formulas, metabolic pathways. Provide figures without wording or numbers, but supply the text and numbering on a separate sheet. Supply legends for figures on separate sheets. Legends, text and numbering will be inserted by the printer. The quality of figures should be suitable for direct photographic copying; laser-printed figures and matt photographic copies of figures are appropriate. Originals and one photocopy should be submitted, each on a separate sheet, not larger overall than the sheets on which the paper itself is typed, and packed flat. Mounting on heavy cardboard is undesirable. Photographs of line drawings are acceptable if printed on matt paper. In curves presenting experimental results, the determined points should be clearly shown, the symbols used being, in order of preference, ○, ●, △, ▲, □, ■, ×, +. Curves and symbols should be drawn with a mechanical aid and not free-hand, and should not extend beyond the experimental points. Scale-marks on the axes should be on the inner side of each axis and should extend beyond the last experimental point.

Each figure, with its legend, should be comprehensible without reference to the text. The approximate position of each should be indicated in the margin of the text thus: 'Fig. 1 near here'.

Plates. Black and white positive prints of good quality are required, and should be accompanied by a legend prepared as above. The size of photomicrographs may have to be altered in printing. To avoid mistakes, the magnification will be shown by a scale on the photograph itself, e.g. thus: ⌊ 1 μm ⌋. The scale with the appropriate unit should be drawn by the author on the flyleaf together with any lettering and will be inserted by the printer. Do not write details on the back of prints, bend, use paperclips or mark in any way. The plate number, title of the paper and authors' names should be typed on a label and pasted on to the back of the print.

Tables. Tables should carry headings describing their content and should be comprehensible without reference to the text. The dimensions of the values, e.g. mg/kg, should be given at the top of each column and not repeated on each line of the table. Tables should not normally be included in the body of the text, but should be typed on separate sheets. Tables should not be subdivided by ruled lines. Abbreviations in tables must be defined in footnotes. Signs for footnotes should be used in the sequence: * † ‡ § ‖ ¶, then ** etc. (omit * or †, or both, from the sequence if they are used to indicate levels of significance). The approximate position should be indicated in the margin of the text thus: 'Table 1 near here'.

Key Words. Authors should supply two or three key words or phrases (each containing up to three words) on the title page of typescripts. These will be used to compile subject indexes of published papers.

Chemical Formulas. These should be written as far as possible on a single horizontal line. With inorganic substances, formulas may be used from first mention. With salts, it must be stated whether or not the anhydrous material is used, e.g. anhydrous $CuSO_4$, or which of the different crystalline forms is meant, e.g. $CuSO_4 . 5H_2O$, $CuSO_4 . H_2O$.

Descriptions of Solutions, Compositions and Concentrations. Solutions of common acids, bases and salts should be defined in terms of molarity (M), e.g. 0·1 M-NaH_2PO_4. Compositions expressed as mass per unit mass (w/w) should have values expressed as ng, μg, mg or g per kg; similarly for concentrations expressed as mass per unit volume (w/v), the denominator being the litre. Concentrations or compositions should not be expressed on a percentage basis. The common measurements used in nutritional studies, e.g. digestibility, biological value and net protein utilization, should be expressed as decimals rather than as percentages, so that amounts of available nutrients can be obtained from analytical results by direct multiplication. See *Metric Units, Conversion Factors and Nomenclature in Nutritional and Food Sciences* (1972) London: The Royal Society (para. 8).

Nomenclature of Vitamins. Most of the names for vitamins and related compounds that are accepted by the Editors are those recommended by the IUNS Committee on Nomenclature. See *Nutrition Abstracts and Reviews* A (1978) **48**, 831–835.

Acceptable Name	Other Names*
Vitamin A	
Retinol	Vitamin A_1
Retinaldehyde, retinal	Retinene
Retinoic acid (all-*trans* or 13-*cis*)	Vitamin A_1 acid
3-Dehydroretinol	Vitamin A_2
Vitamin D	
Ergocalciferol, ercalciol	Vitamin D_2 calciferol
Cholecalciferol, calciol	Vitamin D_3
Vitamin E	
α-, β- and γ-tocopherols plus tocotrienols	
Vitamin K	
Phylloquinone	Vitamin K_1
Menaquinone-n (MK-n)†	Vitamin K_2
Menadione	Vitamin K_3, menaquinone, menaphthone
Vitamin B_1	
Thiamin	Aneurin(e), thiamine
Vitamin B_2	
Riboflavin	Vitamin G, riboflavine, lactoflavin
Niacin	
Nicotinamide	Vitamin PP
Nicotinic acid	
Folic Acid	
Pteroyl(mono)glutamic acid	Folacin, vitamin B_c or M
Vitamin B_6	
Pyridoxine	Pyridoxol
Pyridoxal	
Pyridoxamine	
Vitamin B_{12}	
Cyanocobalamin	
Hydroxocobalamin	Vitamin B_{12a} or B_{12b}
Aquocobalamin	
Methylcobalamin	
Adenosylcobalamin	
Inositol	
Myoinositol	Meso-inositol
Choline	

https://doi.org/10.1079/PNS19980002 Published online by Cambridge University Press

Pantothenic acid	
Biotin	Vitamin H
Vitamin C	
Ascorbic acid	
Dehydroascorbic acid	

* Including some names which are still in use elsewhere, but are not used by the *Proceedings of the Nutrition Society*.

† Details of the nomenclature for these and other naturally occurring quinones should follow the Tentative Rules of the IUPAC-IUB Commission on Biochemical Nomenclature (see *Biochemical Journal* (1975) **53**, 15–18).

Generic descriptors. The terms **vitamin A**, **vitamin C** and **vitamin D** may still be used where appropriate for example in phrases such as 'vitamin A deficiency', 'vitamin D activity'.

Vitamin E. The term **vitamin E** should be used as the descriptor for all tocol and tocotrienol derivatives exhibiting qualitatively the biological activity of α-tocopherol. The term **tocopherols** should be used as the generic descriptor for all methyl tocols†. Thus, the term **tocopherol** is not synonymous with the term **vitamin E**.

Vitamin K. The term **vitamin K** should be used as the generic descriptor for 2-methyl-1,4-naphthoquinone (menaphthone) and all derivatives exhibiting qualitatively the biological activity of phylloquinone (phytylmenaquinone).

Niacin. The term **niacin** should be used as the generic descriptor for pyridine 3-carboxylic acid and derivatives exhibiting qualitatively the biological activity of nicotinamide.

Folic acid. Due to the wide range of derivatives of carbon-substituted, unsubstituted, oxidized, reduced and mono- or polyglutamyl side-chain derivatives of pteroylmonoglutamic acid which exist in nature, it is not possible to provide a complete list. Authors are encouraged to use either the generic name or the correct scientific name(s) of the derivative(s), as appropriate for each circumstance.

Vitamin B_6. The term **vitamin B_6** should be used as the generic descriptor for all 2-methylpyridine derivatives exhibiting qualitatively the biological activity of pyridoxine.

Vitamin B_{12}. The term **vitamin B_{12}** should be used as the generic descriptor for all corrinoids exhibiting qualitatively the biological activity of cyanocobalamin. The term **corrinoids** should be used as the generic descriptor for all compounds containing the corrin nucleus and thus chemically related to cyanocobalamin. The term **corrinoid** is not synonymous with the term **vitamin B_{12}**.

Vitamin C. The terms **ascorbic acid** and **dehydroascorbic acid** will normally be taken as referring to the naturally occurring L-forms. If the subject matter includes other optical isomers, authors are encouraged to include the L- or D-prefixes, as appropriate. The same is true for all those vitamins which can exist in both natural and alternative isomeric forms.

Amounts of vitamins and summation. Weight units are acceptable for the amounts of vitamins in foods and diets. For concentrations in biological tissues, SI units should be used; however, the authors may, if they wish, also include other units, such as weights or international units, in parentheses.

See *Metric Units, Conversion Factors and Nomenclature in Nutritional and Food Sciences* (1972) London: The Royal Society (paras. 8 and 14–20).

Nomenclature of Fatty Acids and Lipids. In the description of results obtained for the analysis of fatty acids by conventional gas–liquid chromatography, the shorthand designation proposed by Farquhar JW, Insull W, Rosen P, Stoffel W & Ahrens EH (*Nutrition Reviews* (1959) **17**, Suppl.) for individual fatty acids should be used in the text, tables and figures. Thus 18:1 should be used to represent a fatty acid with eighteen carbon atoms and one double bond; if the position and configuration of the double bond is unknown, this fatty acid should not be referred to as oleic acid. The shorthand designation should also be used in the synopsis but sentences should be constructed so that it is clear to the non-specialist reader that 18:1 refers to a fatty acid; for example, '... resulted in an increase in the concentration of the fatty acid 18:1 in the liver triacylglycerols ...'. If the positions and configurations of the double bonds are known, and these are important to the discussion, then a fatty acid such as linoleic acid may be referred to as *cis*-9, *cis*-12-18:2 (positions of double bonds related to the carboxyl carbon atom 1). However, to illustrate metabolic relationships between different unsaturated fatty acid families, it is sometimes more helpful to number the double bonds in relation to the terminal methyl carbon atom, *n*. The preferred nomenclature is then: 18:3*n*-3 and 18:3*n*-6 for α-linolenic and γ-linolenic acids respectively; 18:2*n*-6 and 20:4*n*-6 for linoleic and arachidonic acids respectively and 18:1*n*-9 for oleic acid. Positional isomers such as α- and γ-linoleic acid should always be clearly distinguished. It is assumed that the double bonds are methylene-interrupted and are of the *cis*-configuration (see Holman RT in *Progress in the Chemistry of Fats and Other Lipids* (1966) vol. 9, part 1, p. 3. Oxford: Pergamon Press. Groups of fatty acids that have a common chain length but vary in their double bond content or double bond position should be referred to, for example, as C_{20} fatty acids or C_{20} polyunsaturated fatty acids. The modern nomenclature for glycerol esters should be used, i.e. triacylglycerol, diacylglycerol, monoacylglycerol *not* triglyceride, diglyceride, monoglyceride. The form of fatty acids used in diets should be clearly stated, i.e. whether ethyl esters, natural or refined fats or oils. The composition of the fatty acids in the dietary fat and tissue fats should be stated clearly, expressed as mol/100 mol or g/100 g total fatty acids.

Nomenclature of Enzymes. The nomenclature should be that of the Recommendations of the Nomenclature Committee of the International Union of Biochemistry (*Enzyme Nomenclature* (1992) London: Academic Press). Relevant *EC* numbers should be given.

Nomenclature of Micro-organisms. The correct name of the organism, conforming with international rules of nomenclature, must be used: if desired, synonyms may be added in parentheses when the name is first mentioned. Names of bacteria must conform with the current Bacteriological Code and the opinions issued by the International Committee on Systematic Bacteriology. Names of algae and fungi must conform with the current International Code of Botanical Nomenclature. Names of protozoa must conform with the current International Code of Zoological Nomenclature.

The following books may be found useful:

Holt JG, Krieg NR, Sneath PHA, Staley JT & Williams ST (1994) *Bergey's Manual of Determinative Bacteriology*, 9th ed. Baltimore: The Williams and Wilkins Co.

Kreger-van Rij NJW (editor) (1984) *The Yeasts, a Taxonomic Study*. Amsterdam: Elsevier Science Publishers.

Ainsworth and Bisby's Dictionary of the Fungi (1983) 7th ed. Kew: Commonwealth Mycological Institute.

Nomenclature of Plants. For plant species where a common name is used that may not be universally intelligible, the Latin name in italics should follow the first mention of the common name. The cultivar should be given where appropriate.

Other Nomenclature, Symbols and Abbreviations. Authors should follow current numbers of the *Proceedings of the Nutrition Society* in this connection. The IUPAC rules on chemical nomenclature should be followed, and the Recommendations of the IUPAC-IUB Commission on Biochemical Nomenclature (see *Biochemical Journal* (1978) **169**, 11–14). The symbols and abbreviations, other than units, are essentially those listed in *British Standard* 5775 (1979–1982). *Specification for Quantities, Units and Symbols*, parts 0–13. Day should be abbreviated to d, for example, 7 d: except, for example, 'each day', '7th day' and 'day 1'.

Elements and simple chemicals (e.g. Fe and CO_2) can be referred to by their chemical symbol or formula from the first mention in the text; titles can be taken as an exception. Well-known abbreviations for chemical substances may be used without explanation, thus: RNA for ribonucleic acid and DNA for deoxyribonucleic acid. Other substances that are mentioned frequently may also be abbreviated, the abbreviation being placed in parentheses at the first mention, thus: free fatty acids (FFA), after that, FFA. Terms such as 'bioavailability' or 'available' may be used providing that the use of the term is adequately defined.

Spectrophotometric terms and symbols are those proposed in *IUPAC Manual of Symbols and Terminology for Physicochemical Quantities and Units* (1979) London: Butterworths. The attention of authors is particularly drawn to the following symbols: m (= milli) = 10^{-3}, μ (= micro) = 10^{-6}, n (= nano) = 10^{-9}, p (= pico) = 10^{-12}. Note also that ml (millilitre) should be used instead of cc, μm (micrometre) instead of μ (micron) and μg (microgram) instead of γ.

Numbers. Figures should be used with units, for example, 10 g, 7 d, 4 years (except when beginning a sentence, thus: 'Four years ago ...'): otherwise, words (except when 100 or more), thus: one man, ten ewes,

https://doi.org/10.1079/PNS19980002 Published online by Cambridge University Press

ninety-nine flasks, three times (but with decimal 2·5 times), 100 patients, 120 cows, 136 samples.

Ethics of Human Experimentation. The notice of contributors is drawn to the guidelines in the Declaration of Helsinki (1964) (*British Medical Journal* (1964) **ii**, 177–178), the Report of ELSE as printed in *British Journal of Nutrition* (1973) **29**, 149, the *Guidelines on the Practice of Ethics Committees Involved in Medical Research Involving Human Subjects*, (1990) (London: The Royal College of Physicians) and to the *Guidelines for the Ethical Conduct of Medical Research Involving Children*, published in 1992 by the British Paediatric Association, 5 St Andrew's Place, Regents Park, London NW1 4LB. A paper describing any experimental work on human subjects should include a statement that the Ethical Committee in the Institution in which the work was performed, where such a committee exists, has approved it. A paragraph headed *Ethical considerations* in which the experiments are discussed and justified from an ethical standpoint should form the last paragraph of the Experimental section.

Animal Experimentation. The Editors will reject papers reporting work carried out using inhumane procedures. In general, the criteria that they will adopt are set out in *Guidelines on the Use of Living Animals in Scientific Investigations*, published in 1987 by the Biological Council, Institute of Biology, 20 Queensbury Place, London SW7 2DZ.

Proofs. Proofs are sent to authors in order that they make sure that the paper has been correctly set up in type and not that they may add new material. Otherwise, increased printing charges are inevitable. Excessive alteration may have to be disallowed or made at the author's expense. Authors will not receive the typescript of their paper with the proof. The symbols used to indicate corrections should be those laid down in *British Standard* 5261 C (1976). All corrections should be made in ink in the margins: marks made in the text should be only those indicating the place to which the correction refers.

Corrected proofs should be returned without delay to Dr I. E. Sambrook, Executive Editor, *Proceedings of the Nutrition Society*, 10 Cambridge Court, 210 Shepherds Bush Road, London W6 7NJ, UK.

Offprints. Order forms for offprints should be returned to the Editorial Office. Fifty offprints will be supplied free of cost to the corresponding author of each paper, and additional offprints may be ordered on the same form.

https://doi.org/10.1079/PNS19980002 Published online by Cambridge University Press