

PROCEEDINGS OF THE NUTRITION SOCIETY

DIRECTIONS TO CONTRIBUTORS

(Revised May 1979—Vertical bars in the margin indicate the main changes introduced)

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

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in the way outlined in the letter of invitation, at least, a fortnight before the meeting, and that the papers will not be published elsewhere in the same form, in English or any other language, without the consent of the Chairman of the Editorial Board.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*. Abstracts of short communications shall normally be precirculated and may be withdrawn from publication in the *Proceedings of The Nutrition Society* at the request of the author(s) or of the Council.

General. Contributors who reside outside Europe are requested to nominate somebody in Great Britain willing to correct their proofs. Such contributors will receive, by airmail, an additional proof (but not the typescript) together with an order form for reprints.

Authors' names should be given without titles or degrees. Women are requested to give one forename in full to avoid confusion. 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 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.

Papers should be in double-spaced typing on one side of sheets of uniform size with large margins. A sheet of 50 mm should be left at the top of the first sheet. The paper be written in English, the spelling being that of the *Concise Oxford English Dictionary 6th ed.*, Oxford: Clarendon Press 1976.

References. References should be given in the text thus: Osborne & Mendel (1916), (Cuthbertson & Thomas, 1934); where a paper to be cited has more than two authors, citations should appear thus (Osborne *et al.* 1919). Where more than one paper by the same authors has appeared in one year the reference should be given as follows: Osborne & Mendel (1914a); Osborne & Mendel (1914b); or Osborne & Mendel (1914a,b); (Osborne & Mendel, 1914b, 1916; Cuthbertson & Thomas, 1934). In the text, references should be given in chronological order. Where the lists of authors of two papers appearing in the same year begin with the same name but differ subsequently, references should include sufficient names to differentiate between the two papers, e.g. Thomas, Smith *et al.* (1960), Thomas, Wilson

et al. (1960). At the end of the paper, on a page(s) separate from the text, references should be listed in alphabetical order according to the names of the first author of the publication quoted, names with prefixes being entered under the prefix, and should include the author's initials; the title of the paper (except that of a thesis) should not be included. Names and initials of authors of unpublished work should be given in the text and not included in the References. Titles of journals should be abbreviated as in the *World List of Scientific Periodicals*, 4th ed. London: Butterworths, 1963–5. References to books and monographs should include the town of publication and the number of the edition to which reference is made. Thus:

- Ahrens, E. H. Jr, Hirsch, J., Insull, W. Jr & Peterson, M. L. (1958). In *Chemistry of Lipids as Related to Atherosclerosis*, p. 222 [I. H. Page, editor]. Springfield Ill.: C. C. Thomas.
- Cuthbertson, C. C. & Thomas, B. H. (1934). *Rep. Iowa agric. Exp. Stn* 1933–4, p. 51.
- Fairey, N. H. (1938). *Nature, Lond.* **142**, 1156.
- King, H. (1941). *J. chem. Soc.* p. 338.
- Osborne, T. B. & Mendel, L. B. (1914a). *J. biol. Chem.* **17**, 325.
- Osborne, T. B. & Mendel, L. B. (1914b). *J. biol. Chem.* **18**, 1.
- Osborne, T. B. & Mendel, L. B. (1916). *Biochem. J.* **10**, 534.
- Osborne, T. B. & Mendel, L. B. & Ferry, E. L. (1919). *J. biol. Chem.* **37**, 233.
- Starling, E. H. (1915). *Principles of Human Physiology*, 2nd ed. London: J. & A. Churchill.
- Summerson, W. H. (1938). *J. biol. Chem.* **123**, cxix.
- Wilson, J. (1965). Leber's disease. PhD Thesis, University of London.

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

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 weight, 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. In general, it is not necessary to publish all the individual results of replicated tests. A statement of the number, their mean value and some appropriate measure of their variability is usually sufficient.

The methods of analysis followed should be indicated, but statistical details, such as tables of analysis of variance, should be given only if they are relevant to the discussion. A statement that the difference between the means for two groups of values is statistically significant should include an indication of the level of significance attained.

Where means are quoted, normally the measure of variation most appropriate is the standard error of the mean; occasionally, as for instance where there is specific interest in the distribution of the individual values in the sample on which the mean is based, the standard deviation may be more appropriate. The measure adopted must be clearly stated in the text and in each table. Where the measure of variation is presented as a separate column \pm need not be repeated before each value.

Figures. These include graphs, histograms, complex formulas, metabolic pathways. 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, \circ , \bullet , \triangle , \blacktriangle , \square , \blacksquare , \times , $+$. 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.

Numbers and letters should be written not on the figure but in the correct position on a flyleaf of tracing paper firmly attached. On the flyleaf should be typed or stencilled: (a) the title of the paper and names of the authors; (b) the figure number. Legends for all figures should be typed on one separate sheet (two or more, if necessary) and numbered corresponding to the relevant figures. 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. Glossy photographs 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: $[1 \mu\text{m}]$. 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 Press. Do not write details on the back of prints, bend, use paper-clips 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 sub-divided by ruled lines. Their approximate position should be indicated in the margin of the text thus: 'Table 1 near here'.

Diagrams. Diagrams to appear as tables (e.g. flow diagrams) should be prepared as for tables using Letraset or stencils. No flyleaf is required.

Chemical Formulas. These should be written as far as possible on a single horizontal line. With inorganic substances, formulas may be used at the discretion of the Editors. 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. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, $\text{CuSO}_4 \cdot \text{H}_2\text{O}$.

Description 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*. London: The Royal Society, 1972 (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. These have been published in *Nutr. Abstr. Rev.*, 1970, **40**, 395.

<i>Previous name</i>	<i>Recommended name</i>
Vitamin A ₁	Retinol
Retinene or retinal	Retinaldehyde
Vitamin A acid	Retinoic acid
Vitamin A ₂ or 3-dehydroretinol	Dehydroretinal
Retinene ₂ or 3-dehydroretinol	Dehydroretinaldehyde
Vitamin D ₂ or calciferol	Ergocalciferol
Vitamin D ₃	Cholecalciferol
Vitamins E	See <i>Generic descriptors</i>
Vitamin K ₁ or phyloquinone	Phylloquinone
Vitamin K ₂ series	*Menaquinones
Vitamin K ₃ , menadione or menaphthone	Menaphthone
Vitamin B ₁ , aneurin(e) or thiamine	Thiamin
Vitamin B ₂ or riboflavine	Riboflavin
Nicotinic acid or niacin	Nicotinic acid
Niacinamide or nicotinic acid amide	Nicotinamide
Folic acid or folacin(e)	Pteroylmonoglutamic acid
Vitamin B ₆ , adernic or Pyridoxal	Pyridoxine
Pyridoxamine	Pyridoxal
Vitamin B ₁₂ or cobalamin	Pyridoxamine
Vitamin B ₁₂ ^a , B ₁₂ ^b or hydroxocobamide	Cyanocobalamin
	Hydroxocobalamin

*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 *Biochem. J.*, 1967, **102**, 15).

Vitamin B ₁₂ ^c	Nitritocobalamin
Inositol or meso-inositol	myo-Inositol
Pantothenic acid	Pantothenic acid
Biotin	Biotin
Choline	Choline
p-Aminobenzoic acid	p-Animobenzoic acid
Vitamin C or L-ascorbic acid	Ascorbic acid
L-dehydroascorbic acid	Dehydroascorbic acid

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 phyloquinone (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 acids. The term **folic acid** may be used to designate the naturally occurring pteroylglutamic acids.

Vitamin B₆. The term **vitamin B₆** should be used as the generic descriptor for all 2-methylpyridine derivatives exhibiting qualitatively the biological activity of pyridoxine.

Vitamin B₁₂. The term **vitamin B₁₂** 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 B₁₂**.

Amounts of vitamins and summation. All amounts of vitamins should be expressed in terms of their mass rather than in terms of i.u. See *Metric Units, Conversion Factors and Nomenclature in Nutritional and Food Sciences*. London: The Royal Society, 1972 (paras. 8 and 14–20).

Nomenclature of Fatty Acids. In the description of results obtained for the analysis of fatty acids by conventional gas-liquid chromatography, the shorthand designation proposed by Farquhar, J. W., Insull, W., Rosen, P., Stoffel, W. & Ahrens, E. H. (*Nutr. Rev.*, 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 18 carbon atoms and 1 double bond; if the position and configuration of the double bond is unknown, this fatty acid should not be referred to as oleic acid. 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 triglycerides...'. 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 18:2 Δ^9 -*cis*, 12-*cis* (positions of double bonds related to the α -carbon atom). However, when essential and related fatty acids derived from animal tissues are being considered, it is preferable to refer to fatty acids such as linoleic acid as 18:2 ω 6 and arachidonic acid as 20:4 ω 6 (position of double bonds related to the ω -carbon

atom); it is assumed that the double bonds are methylene-interrupted and are of the *cis*-configuration (see Holman, R. T. in *Progress in the Chemistry of Fats and Other Lipids*, vol. 9, part 1, p. 3. Oxford: Pergamon Press, 1966). 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 C₂₀ fatty acids or C₂₀ polyunsaturated fatty acids. Impure samples of fatty acids such as those used in the preparation of diets should be referred to, for example, as 'linoleic acid'.

Nomenclature of Enzymes. The nomenclature should be that of the Recommendations of the Commission on Enzymes of the International Union of Biochemistry, 1972 (*Enzyme Nomenclature*. Amsterdam: Elsevier Publishing Co., 1973). 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 brackets 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 current International Code of Zoological Nomenclature.

The following books may be found useful:

- Bergey's Manual of Determinative Bacteriology*, 8th edn (1974), edited by R. E. Buchanan and N. E. Gibbons. Baltimore: The Williams and Wilkins Co.
- The Yeasts, a Taxonomic Study*, 2nd edn (1970), edited by J. Lodder. Amsterdam: North Holland Publishing Co.
- Ainsworth and Bisby's Dictionary of the Fungi*, 6th edn (1971). Kew: Commonwealth Mycological Institute.

Other Nomenclature, Symbols and Abbreviations. Authors should follow current numbers of the *Proceedings of The Nutrition Society* in this connexion. The IUPAC Rules on chemical nomenclature should be followed, and the Recommendations of the IUPAC-IUB Commission on Biochemical Nomenclature (see *Biochem. J.* (1978) 169, 11).

The symbols and abbreviations, other than units, are essentially those listed in *British Standard* 1991: 1967 *Letter Symbols, Signs and Abbreviations*: Part 1. General (incorporating amendment no. 1, issued 7 July 1970). Day should be abbreviated to d, for example 7 d; except for example, 'each day', '7th day' and 'day 1'.

When an element, e.g. nitrogen, is referred to frequently, the first mention, both in the synopsis and the main text, should be in full, after that by its chemical symbol N. 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. Well-known terms which are used frequently may be abbreviated in a similar fashion (the abbreviation being in small capitals (underlined twice in the typescript)), thus: basal metabolic rate or basal metabolism (BMR); biological value (BV); dry matter (DM); metabolizable energy (ME). 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).

Spectrophotometric terms and symbols are those proposed in *IUPAC Manual of Symbols and Terminology for*

Physicochemical Quantities and Units (1975) London: Butterworths. For mathematical notation and numerals, the rules laid down in *Proc. R. Soc. A*, 1909, 72, 14 should be followed. The attention of authors is particularly drawn to the following symbols: m (=milli) = 10^{-3} , μ (=micro) = 10^{-6} , n (=nano) = 10^{-9} and p (=pico) = 10^{-12} . Note also that ml (millilitres) should be used instead of cc, μm (micrometre) instead of μ (micron) and μg (microgramme) 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, ninety-nine flasks, three times (but with decimals, 2.5 times), 100 patients, 120 cows, 136 samples.

Ethics of Human Experimentation. The notice of contributors is drawn to the guide-lines in the Declaration of Helsinki (1964) (*Br. med. J.*, 1964, ii, 177) and to the Report of ELSE as reprinted in *Br. J. Nutr.*, 1973, 29, 149. 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.

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