

PROCEEDINGS OF THE NUTRITION SOCIETY

DIRECTIONS TO CONTRIBUTORS

(REVISED NOVEMBER 1970)

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in the way outlined in the letter of invitation, at least a fortnight before the meeting, and that the papers will not be published elsewhere in the same form, in English or any other language, without the consent of the Chairman of the Editorial Board.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*.

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.

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 space of 5 cm should be left at the top of the first sheet. The paper be written in English, the spelling being that of the *Oxford English Dictionary*.

References. References should be given in the text thus: Osborne & Mendel (1916), (Culbertson & Thomas, 1934); where a paper to be cited has more than two authors, the names of all the authors should be given when reference is first made, e.g. (Osborne, Mendel & Ferry, 1919); subsequent citations should appear thus (Osborne *et al.* 1919). When 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; Culbertson & Thomas, 1934). Where the lists of authors of two papers appearing in the same year begin with the same name but differ subsequently, references after the first full reference 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, references should be given 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 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* (1963-5): 4th ed. London: Butterworths. Examples of such abbreviations will be found in the current numbers of the *Proceedings of The Nutrition Society*. References to books and monographs should include the town of publication and the name of the publisher, as well as the date of publication and the number of the edition to which reference is made. Thus:

Ahrens, E. H. Jr, Hirsh, 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.

Culbertson, C. C. & Thomas, B. H. (1934). *Rep. Iowa agric. Exp. Stn* 1933-4, p. 51.

Doisy, E. A., Somogyi, M. & Shaffer, P. A. (1923). *J. biol. Chem.* 55, xxxi.

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. and A. Churchill.

Wilson, J. (1965). *Leber's disease*. PhD Thesis, University of London.

Units. Results should be presented in metric units according to the Systeme International d'Unités (see *Metri-cation in Scientific Journals*: The Royal Society, 1968).

Energy measurements should be expressed in joules or calories, but important mean values and other important values should be given in both units, the second being added in parentheses (4·184 J=1 cal).

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.

Illustrations. As a rule, illustrations should be about twice the size of the finished block, each on a separate sheet, not larger overall than the sheets on which the paper itself is typed, and packed flat. Legends should be typed on a separate sheet and numbered corresponding to the relevant illustrations. Each illustration, with its legend, should be comprehensible without reference to the text. The approximate position of each should be indicated in the text thus: 'Fig. 1 near here'.

Diagrams and line-drawings, which must all be originals, should be drawn in indian ink on Bristol-board or on cartridge-, tracing- or faintly blue-lined paper. For general guidance in preparing diagrams, it is suggested that for a figure measuring 250 mm \times 150 mm all lines, axes and curves should have a thickness of 0.4 mm thus —. 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 , $+$. For a 250 mm \times 150 mm figure, the diameter of the circles, the vertical height of the squares and equilateral triangles, and the span of the crosses should be 3 mm. Curves and symbols should be drawn with a mechanical aid and not freehand, and should not extend beyond the experimental points. Scale marks on the axes should be on the inner side of each axis, 3 mm long, and should extend beyond the last experimental point. For plates, glossy photographs are required and they should not be marked by paper-clips.

A flyleaf of tracing-paper should be firmly attached to each illustration. On it should be written in ink: (a) the title of the paper and names of the authors; (b) the figure or plate number; (c) the figures and lettering which are to appear on the finished block, in their correct positions relative to the illustration.

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 $\frac{1}{100}\mu$. The scale with the appropriate unit should be drawn by the author on the flyleaf and will be inserted by the Press.

Tables. Tables should carry headings describing their content and should be comprehensible without reference to the text. The dimensions of the values, e.g. g/100 ml, 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. Their approximate position in the text should be indicated thus: 'Table 1 near here'.

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. Solutions of common acids, bases and salts are preferably defined in terms of normality (N) or molarity (M), e.g. N-HCl; 0.1 M NaH_2PO_4 . The term '%' must be used in its correct sense, i.e. g/100 g of solution. 10% HCl means 10 g of hydrogen chloride in 100 g of aqueous solution, and should never be used to indicate a tenfold dilution of laboratory concentrated hydrochloric acid. For 'per cent by volume', i.e. ml/100 ml, the term '% (v/v)' may be used. To indicate that a given weight of substance is contained in 100 ml of solution, the term '% (w/v)' may be used.

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.*, **40**, 395.

<i>Previous name</i>	<i>Recommended name</i>
Vitamin A ₁	Retinol
Rethinene or retinal	Retinaldehyde
Vitamin A acid	Retinoic acid
Vitamin A ₂ or 3-dehydroretinol	Dehydroretinol
Retinene 2 or 3-dehydroretinal	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 , adermin or pyridoxol	Pyridoxine
Pyridoxal	Pyridoxal
Pyridoxamine	Pyridoxamine
Vitamin B ₁₂ or cobalamin	Cyanocobalamin
Vitamin B _{12a} , B _{12b} or hydroxocobamide	Hydroxocobalamin
Vitamin B _{12c}	Nitritocobalamin
Inositol or meso-inositol	myo-Inositol
Pantothenic acid	Pantothenic acid
Biotin	Biotin
Choline	Choline
p-Aminobenzoic acid	p-Aminobenzoic acid

*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 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**.

Summation. For vitamin A and its provitamins, summation should be made in mg (μ g) retinol equivalent. (In mg (μ g) β -carotene equivalent for separate summation of provitamins.) For vitamin E, summations should be made in mg (μ g) α -tocopherol equivalent. Other members of vitamin families suggested for purposes of summation are:

Vitamin D	Cholecalciferol equivalent
Vitamin K	Phylloquinone equivalent
Vitamin B ₁₂	Cyanocobalamin equivalent
Folic acid	Folic acid equivalent
Niacin	Nicotinic acid equivalent

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. (*Nutrition Reviews*, 1959, 17, Supplement) 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*, 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 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, 1964, *Enzyme Nomenclature*, 1965. Amsterdam: Elsevier Publishing Co.

Nomenclature of Micro-organisms. *Bacteria.* Scientific names of bacteria should be binominals, the generic name only with a capital, and should be underlined once (for *italic*) in the typescript. Names for new species of genera, or new combinations of generic and specific names, should be formed in accordance with the International Bacteriological Code published in *J. Bact.* 1948, 55, 287, and (in 1949) in *Int. Congr. Microbiol.* iv (1948), *Copenhagen*, p. 587. Wherever possible, the names of recognized species should be those used in Topley & Wilson's *Principles of Bacteriology and Immunity* (1964: 5th ed. London: Edward Arnold and Co.). However, where authors wish for good reasons to use some other name (e.g. one used in Bergey's *Manual of Determinative Bacteriology*, 1957: 7th ed. London: Baillière, Tindall and Cox), the Topley & Wilson name should be inserted in parentheses at the first citation thus: *Serratia marcescens* (*Chromobacterium prodigiosum*).

A name must be given in full at the first mention in a paper; in subsequent mention the generic name (e.g. *Staphylococcus*, *Streptococcus*) may be abbreviated, but the abbreviations must be unambiguous. Single letter abbreviations should, in general, be avoided (thus: *Staph. aureus*, *Strep. pyogenes*, not *S. aureus*, *S. pyogenes*). When the generic name is used to define a group, it should have a capital but should not be italicized; trivial names, or generic names used as adjectives, should not have capitals or be italicized. Examples of 'trivial names' are: staphylococci, streptococci, and meningococci or meningococcus (generic name is *Neisseria*). *Staphylococcus* and *Streptococcus* are generic names and the following passage illustrates the correct usage. 'This investigation is concerned with *Salmonella enteritidis*, because this *Salmonella* is important as a cause of disease in man and, because of experimental salmonella infections in the mouse, it is the most easily controlled. Tests with staphylococci, including *Staphylococcus aureus*, have not contributed to the understanding of susceptibility to staphylococcal infection. Thus, further tests with *Staph. aureus* have not been made.'

Microfungi should be designated as in Ainsworth & Bisby's *A Dictionary of the Fungi* (1954: 4th ed. 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 chemical nomenclature adopted is that of the Chemical Society 'see *Handbook for Chemical Society Authors* (Special Publication no. 14, 1961, 2nd ed. London: The Chemical Society)). For nomenclature of amino acids, this Handbook (p. 186) and *Br. J. Nutr.* 1953, 7, 1 should be consulted. 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 in such expressions as '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, thereafter by the 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), thereafter FFA. Well-known terms which are used frequently may be abbreviated in a similar fashion (the abbreviation being in small capitals), 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 asterisks or daggers from the sequence if they are used to indicate levels of significance).

Spectrophotometric terms and symbols are those proposed by the Society of Public Analysts and other Analytical Chemists (see *Analyst, Lond.* 1942, 67, 164). For mathematical notation and numerals, the rules laid down in *Proc. R. Soc. A*, 1909, 82, 14, should be followed. The attention of authors is particularly drawn to the following symbols: m(=milli)= 10^{-3} , μ (=

micro)= 10^{-6} , n or m μ (=nano or millimicro)= 10^{-9} and p or $\mu\mu$ (=pico or micromicro)= 10^{-12} . Note also that ml (millilitres) should be used instead of c.c., 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.

Proofs. Proofs are sent to authors in order that they may 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. The symbols used to indicate corrections should be those laid down in *British Standard* 1219C: 1958.

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