



Agricultural Science

Journal editorial policy

Review and viewpoint articles are approved for refereeing by the Advisory Committee. We publish critical review articles that indicate fruitful areas of further research and are original and innovative. Reviews should not exceed 10 printed pages in length. If new experimental data are included in the review, sufficient detail about methods should be included so that other investigators can repeat the work.

IAST requires that all authors of a multi-authored paper agree to its submission. This journal will use its best endeavours to ensure that work published is that of the named authors except where acknowledged and, through its reviewing procedures, that any published results and conclusions are consistent with the primary data. It takes no responsibility for fraud or inaccuracy on the part of the contributors.

PDFs of published papers are now provided free of charge to corresponding authors.

Animal experimentation

Experiments involving animals are expected to have been conducted in accordance with the guidelines set out in the joint publication of the National Health and Medical Research Council of Australia, CSIRO and the Australian Agricultural Council entitled 'Australian Code of Practice for the Care and Use of Animals for Scientific Purposes' (National Health and Medical Research Council: Canberra, 1997). Papers should include a statement of the relevant ethics approval process. Editors will take account of animal welfare issues and reserve the right not to publish.

Submission Procedure

Please submit all articles **electronically** to:

The Managing Editor
Agricultural Science
IAST
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Email: peterfin8@bigpond.com

Checklist for preparation of manuscripts

1. Manuscripts should be double-spaced throughout, including references, figure captions, and tables.
2. Main headings (**Introduction, Materials and methods, Results, Discussion, Acknowledgments, and References**) are set in **bold roman** (not italic) type. Minor headings are set in *light italic* type.
3. Check that all references mentioned in the text are in the References, and *vice versa*.
4. List references in the text in chronological order, separated by semi-colons. List references in the References list in alphabetical order. In the text, do not use a comma between the author's name and the date.
5. Give full journal and book titles in the References list.
6. Use Arabic numerals in the text, except at the start of a sentence. Type a space between a numeral and its unit (e.g. 3 mm).
7. Prepare figures with symbols and letters appropriate for the reduction intended; a lettering guide is available on request. Use Helvetica or another sans-serif font in figures.
8. Check that stippling and/or symbols in figures are legible at the Size likely to be used in the published article.
9. Tables should be self-explanatory. Use headings, headnotes and footnotes.
10. Place tables and figures at the end of the manuscript, each on a separate page. Figure captions should be on a separate page.
11. Indicate approximate positions of figures and tables on the manuscript.
12. Check that figures and tables are numbered in the order in which they are discussed in the text.
13. Suggest a running head for the paper of not more than 50 characters (including spaces).
14. Include addresses for all authors and an email address for the corresponding author.

Guidelines for the preparation of manuscripts

General presentation

The work should be presented in concise and clear English. The Introduction should not exceed what is necessary to indicate the reason for the work and its essential background. Sufficient experimental detail should be given to enable the work to be repeated. The Discussion should explain the significance of the results. An internal institutional review of content and English prior to submission is strongly recommended.

Supplementary material of a detailed nature which may be useful to other workers but which is not essential to the printed paper, may be lodged as an Accessory Publication with the Managing Editor, provided that it is submitted with the manuscript for inspection by the referees. Such material will be made available on request and a note to this effect should be included in the paper.

Manuscripts

Manuscripts must be double-spaced throughout. Make the left-hand margin at least 2 cm wide. Place tables, figures, and captions to figures after the text, and number all pages of the manuscript consecutively. Refer to each figure and table in the text. Electronic files of the text and illustrations should be sent. The text and figure captions should be sent as a single Word file, and the tables as separate Word files. If you are unable to supply files in Word, please contact the Managing Editor for acceptable alternatives. We advise authors to read recent issues of the journal to note details of headings, tables, illustrations, style, and layout. Observance of these and the following details will shorten the time between submission and publication. Poorly prepared and unnecessarily lengthy manuscripts have less chance of being accepted.

Title

This should be concise and appropriately informative and should contain all keywords necessary to facilitate retrieval by modern searching techniques. An abridged title suitable for use as a running head at the top of the printed page and not exceeding 50 letter spaces should also be supplied. If the paper is one of a numbered series, a reference to the previous part should be given as a footnote on the first page. If a part not yet published needs to be consulted for a proper understanding of the paper, a copy of that manuscript should be supplied to assist the referees.

Abstract

The Abstract (preferably less than 200 words) should state concisely the scope of the work and give the principal findings. It should be complete enough for direct use by abstracting services. Acronyms and references should be avoided in the Abstract.

Footnotes

Footnotes are not permitted.

References

No editorial responsibility can be taken for the accuracy of the references; authors are requested to check these with special care. References are cited chronologically in the text by author and date and are not numbered. All references in the text must be listed at the end of the paper, arranged alphabetically; all entries in this list must correspond to references in the text. In the text the names of 2 coauthors are linked by 'and'; for 3 or more the first author's name is followed by '*et al.*'

Reference titles must be included for all references, and titles of books and journals must be given in full. Papers that have not been accepted for publication may not be included in the list of references and must be cited either as 'unpublished data' or as 'pers. comm.'; the use of such citations is discouraged.

Units Authors are requested to use the International System of Units (Système International d'Unités) for exact measurements of physical quantities and where appropriate elsewhere. For complex groupings of units use the form such as kg/ha.year. **Note:** A list of SI units is available from the editor on request.

Concentration of ionic species. When a known ionic charge concentration is referred to, units of moles of charge per m³ (molc/m³) or moles of charge per L (molc/L) should be used. Inclusion of (+) or (−) is not needed; it should be apparent from the context in which the units are used.

Exchangeable ions and ion exchange capacity. The units of moles of charge per kg (molc/kg) or centimoles of charge per kg (cmolc/kg) should be used. The latter has the advantage of being numerically identical to the non-SI, but still widely recognised, milliequivalents per 100 g. Inclusion of (+) or (−) is not needed; it should be apparent from the context in which the units are used.

Electrical conductivity. The recommended unit is dS/m, but mS/cm is acceptable.

Enzyme nomenclature The names of enzymes should conform to the Recommendations of the Nomenclature Committee of the IUB on the Nomenclature and Classification of Enzymes as published in 'Enzyme nomenclature 1984' (Academic Press, Inc., New York, 1984). If there is good reason to use a name other than the recommended name, at the first mention of the alternative name in the text it should be identified by the recommended name and EC number. The Managing Editor should be advised of the reasons for using the alternative name.

Mathematical formulae These should be carefully typed with symbols in correct alignment and adequately spaced. Judicious use should be made of the solidus to avoid 2-line mathematical expressions wherever possible and especially in the running text. Each long formula should be displayed on a separate line with at least 2 lines of space above and below. Equations must be in editable electronic format, i.e. not inserted as 'pictures'.

Chemical nomenclature The nomenclature of compounds such as amino acids, carbohydrates, lipids, steroids, vitamins, etc. should follow the recommendations of the IUPAC-IUB Commission on Biochemical Nomenclature. Other biologically active compounds such as metabolic inhibitors, plant growth regulators, and buffers should be referred to once by their correct chemical name (which is in accordance with IUPAC rules of Chemical Nomenclature) and then by their most widely accepted common name. For pesticides, the latest issue of 'Pesticides — synonyms and chemical names' (Australian Government Publishing Service) should be followed. Where there is no common name, trade names or letter abbreviations of the chemical may be used.

Microbiological nomenclature The names of bacteria should conform to those used in 'Approved List of Bacterial Names' (American Society for Microbiology, Washington, DC, 1980). Fungal nomenclature should conform to the International Code for Botanical Nomenclature. The names used for viruses should be those approved by the International Committee on Taxonomy of Viruses (ICTV) and published in the fourth report of the ICTV 'Classification and Nomenclature of Viruses', *Intervirolgy*

1982, **17**(1–3), 1–199. Synonyms may be added in parentheses when the name is first mentioned. Approved generic (or group) and family names should also be used.

Crop variety pedigrees The Purdy system (*Crop Science* 1968, **8**, 405–406) should be followed.

Hormone assays The validation of biological and binding assays and the statistical treatment of results should conform to the recommendations as set out in the *Journal of Endocrinology* 1977, **72**, 1–4. In particular, the minimum detectable amount of standard in the assay and the procedure for obtaining this calculated value should be given, as should an assessment of intra- and inter-assay precision. If only a few observations are available the dispersion is better indicated by the range. If the distribution is particularly skewed it may be justifiable to give both the standard deviation and the range. No test establishes absolute specificity; this lack of specificity is a particular problem with peptide hormones where reference to more rigorous physicochemical procedures such as g.l.c.–mass spectrometry is not possible. Activity of fractions obtained by column separation should therefore be included whenever possible as this provides a useful index of possible heterogeneity. Whenever practicable the tests used should be repeated for each novel physiological or pathological situation.

Statistical evaluation of results The design and conduct of experiments must be sufficiently explained that readers can judge for themselves the validity of the results. Details of treatments such as genotype, soil properties, and levels of factors must be matched by adequate description of the field and controlled environment conditions, including the number of sites and years over which the validity of the conclusions is established. Authors should describe how measurements were made and indicate how treatments were assigned to units or blocks, and the number of replicates. When common experimental designs such as randomised block or split-plot designs are used a reference is not necessary, but it is appropriate to cite a reference for little-used methods or designs, in which case the use of these methods should be justified. The experimental design dictates the proper method of statistical analysis and the basis of assessing the precision of treatment means. The precision achieved should be reported by a standard error of the treatment mean or a coefficient of variation. Wherever possible the assumptions implicit in the analysis should be checked. Treatment comparisons such as the least significant difference (l.s.d.) may be made

when the variance ratio (F value) is significant, but authors must be aware of the limitations to the use of multiple comparisons. Where treatments have logical structure, as in factorial designs, orthogonal contrasts among treatments should be made. Brief analysis of variance (ANOVA) tables with mean squares and degrees of freedom may be published where, in designs with logical treatment structure, as in factorial designs for instance, they are an efficient way to summarise the relative importance of the various effects. Ultimately, the statistical analyses should highlight the biological principles embodied in the results.

Tables All tables should be constructed using the Table option in Word or Excel, and each value should have its own cell. These must be numbered with Arabic numerals and each must be accompanied by a heading. A headnote containing material relevant to the whole table should start on a new line. Tables should be arranged with regard to the dimensions of the printed page (17.5 by 22.5 cm) and the number of columns kept to a minimum. Excessive subdivision of column headings is undesirable and long headings should be avoided by the use of explanatory notes, which should be incorporated into the headnote. The first letter only of headings to rows and vertical columns should be capitalised. The symbol for the unit of measurement should be placed in parentheses beneath the column heading. Prefixes for units should be chosen to avoid an excessive number of digits in the body of the table or scaling factors in the headings. When scaling factors cannot be avoided, the quantity expressed should be preceded by the power of 10 by which the value has been multiplied. For example, the value 0.05 would appear as 5 under the heading $10^2 \times N$ and the value 500 would appear as 5 under the heading $10^{-2} \times N$. Horizontal rules should be inserted only above and below column headings and at the foot of the table. Vertical rules should not be used. Each table must be referred to in the text. Only in exceptional circumstances will the presentation of essentially the same data in both tabular and graphical form be permitted; where adequate, the graphical form should be used. Short tables can frequently be incorporated into the text as a sentence or as a brief untitled tabulation.

Illustrations Authors are encouraged to prepare their illustrations electronically (both line diagrams and photographs). Please use either a draw or chart/graph program such as Illustrator, Excel, Sigmaplot, Harvard Graphics, or Cricket Graph and save the files in one of the following formats: encapsulated postscript (.eps) (preferred), Illustrator, Excel (provided the Excel files have been saved with the chart encapsulated), or as pictures in a Word file.

Line drawings. Lettering should be in sans-serif type (Helvetica preferred) with the first letter of the first word and any proper names capitalized. Grid marks should point inwards; legends to axes should state the quantity being measured and be followed by the appropriate SI units in parentheses.

Photographs. Photographs must be of the highest quality with a full range of tones and of good contrast. Photographs must be trimmed squarely to exclude features not relevant to the paper and be separated from neighbouring photographs by uniform spaces that will be 2 mm wide after reduction. Lettering should be in a sans-serif type and contrast with its background; thus, white lettering should be used on darker backgrounds. A scale bar must be inserted on each photomicrograph and electron micrograph. Important features to which attention has been drawn in the text should be indicated. Suitable electronic formats for photographs are TIFF and EPS files at required resolution of 300 d.p.i. Electronic files of colour figures or photographs should be saved in CMYK colour rather than in RGB colour as this is required for our printing purposes. Authors should note that colour may change when converted to CMYK from RGB colour, and hence may not be a true reproduction of the hard copies provided. The journal does not cover the cost of colour printing. Please speak to the editors if you wish to publish photographs in colour.