

# Guide for Authors

This manuscript preparation guide is published to aid authors in writing and editors in expediting review and publication.

**Scope.** The JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY places special emphasis on the chemical aspects of agriculture and food processing. Pesticides, plant nutrients and regulators, chemistry of food processing, biochemistry of nutrition, chemistry of flavors, and compounds isolated from food materials are of chief interest.

The Journal serves chemists, chemical engineers, agronomists, entomologists, nutritionists, and others interested in the broad fields of agricultural and food chemistry. Contributions may report on work at any stage from basic research to testing of products or processes in actual use.

Most contributed articles report results of original research. Review articles are considered only if they summarize information in a field in which the literature is scattered, or if they treat published data or other information so as to provide a new approach or stimulate further worthwhile research.

Material already published in easily available outlets, including technical bulletins and house organs, is not reprinted. An author may use his own patent disclosures as the basis for an article for the Journal, but patents of others must be regarded as prior publications.

**Text.** For general style, consult a recent issue of the Journal and the "Handbook for Authors of Papers of the Journals of the American Chemical Society." For manuscripts in which gas chromatographic methods are used, follow American Society for Testing Materials' "Recommended Practice for Gas Chromatography of Terms and Relationships" as a general guide. See "Reporting of Gas Chromatographic Methods" by Morton Beroza and Irwin Hornstein for style and format [J. AGR. FOOD CHEM. 17, 408 (1969)].

**Introduction.** Discuss relationships of your work to previously published work, but do not repeat. If a recent article has summarized work on the subject, cite the article without repeating individual citations.

**Apparatus.** List only devices of specialized nature.

**Reagents.** List and describe preparation of special reagents only. Reagents normally found in the laboratory and preparations described in standard handbooks or texts need not be listed.

**Procedure.** Omit details of procedures which are common knowledge to those in the field. Brief highlights of published procedures may be included, but details must be left to literature cited. Describe pertinent and critical factors involved in reactions so method can be reproduced, but avoid excessive description.

**Results and Discussion.** Be complete but concise. Avoid comparisons or contrasts which are not pertinent. Do not use a summary or conclusion to repeat information previously mentioned in the text.

**Graphs and Tables.** Do not use graphs to duplicate information already in tables or text, or vice versa. Omit straight-line calibration curves, giving information in tabular form or in a sentence or two in the text. Furnish tables with appropriate titles and number them consecutively. Type tables (double-spaced lines, wide margins) on separate pages.

**Organization.** Keep information pertinent to a section within that section. Center heads and side heads provide sufficient sectionalizing for most reports. Do not use footnotes; include the information in the text.

**Abstract.** Authors' briefs are now used directly for *Chemical Abstracts*. Make yours a clear, concise (100 to 150 words) one-paragraph summary—informative rather than descriptive—giving scope and purpose, methods or procedures, significant new results, and conclusions. Write for literature searchers as well as journal readers.

**Title.** Use specific and informative titles. Avoid using subtitles and series numbers. If trade names are mentioned, give generic names in parentheses.

**Authorship.** Be consistent in authorship designation. First name, middle initial, and last name are generally adequate for correct identification. Omit titles. Give complete mailing address of place where work was conducted. If current address of an author is different, include it in a footnote on title page of article.

**Nomenclature.** Follow nomenclature style of *Chemical Abstracts*; avoid trivial names. If trade names are used, define at point of first use.

Use consistent units of measurement (preferably metric). If nomenclature is specialized, include a "Nomenclature" section at end of paper, giving definitions and dimensions for all terms. Write out names of Greek letters and special symbols in margin of manuscript at point of first use.

Write all equations and formulas clearly and number equations consecutively. Place superscripts and subscripts accurately; avoid superscripts that may be confused with exponents. Identify typed letters and numbers which might be misinterpreted—i.e., "oh" for zero, "el" for one, etc.

In any fertilizer paper, grades or ratios should be handled as follows:

When fertilizer grades or ratios are first mentioned in the text, give figures on elemental (N-P-K) basis, followed immediately by corresponding figures on oxide (N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O) basis, in parentheses. Thereafter, give each grade or ratio only on elemental basis. In tables, grades and ratios should be given on elemental basis only.

**Safety.** Authors are requested to call special attention—in both their manuscripts and their correspondence with the editors—to safety considerations such as explosive tendencies, special precautionary handling procedures, and toxicity.

**Acknowledgment.** Include essential credits in an "Acknowledgment" section at end of text, but hold to an absolute minimum. Omit academic and social titles. Give meeting presentation data or information regarding financial support of the work in a note following Literature Cited.

**Literature Cited.** References should be listed on a separate sheet in alphabetical order according to author, patentee, or equivalent. (Do not use "Anonymous.") Give complete information as in the examples below. Use *Chemical Abstracts* abbreviations for journal titles. References should be cited in the text by the last name of the author (both authors when only two; first author *et al.* when more than two) and year. Do not number references.

Alumot, E., Calderon, M., *J. Sci. Food Agr.* 16, 464 (1965). Association of Official Agricultural Chemists, "Official Methods of Analysis," 7th ed., p. 13, 2,26, 1950.

Berck, B., *J. AGR. FOOD CHEM.* 13, 373 (1965).

*Chem. Eng. News* 44, 12 (Dec. 26, 1966).

Shriner, R. L., Fuson, R. C., Curtin, D. Y., "The Systematic Identification of Organic Compounds," pp. 298-9, Wiley, New York, 1964.

Thurston, J. T. (to American Cyanamid Co.), U. S. Patent 2,525,247 (Oct. 10, 1950).

Wilkins Instrument and Research, Walnut Creek, Calif., Aerograph Research Notes, fall issue, 1964.

Zemany, P. D., General Electric Co., Schenectady, N. Y., private communication, 1961.

**Communications.** Short articles on research methods or results which do not warrant full length papers, but are of value if published promptly, will be considered as "Communications."

**Notices.** Information about meetings and publications of interest to readers will be welcomed and listed on a page of Notices.

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**Page Charges.** To help defray mechanical and handling costs, ACS Board of Directors has authorized a charge of \$50.00 per printed page for papers published in this journal. Payment of such a charge in connection with publication of the results of sponsored research is expected. Such payment is *not* a prerequisite to publication; the Editor's decision to publish is made independently of page charge considerations.

**Copy Requirements.** Send ribbon copy and two legible copies of manuscript typed on one side only (double-spaced lines) on  $8\frac{1}{2} \times 11$  inch paper. Duplicated copies on white bond paper are acceptable if very clear. Send only complete copies with illustrations of a size that can be mailed to reviewers under one cover with manuscript. If pertinent references are "in press" or unpublished for any reason, furnish copies of work or sufficient information to enable reviewers to evaluate the manuscript.

Submit original drawings (or sharp prints) of graphs, diagrams, and structural formulas, and clear glossy photographs. Prepare original drawings on tracing cloth or high quality paper; use black India ink and a lettering set. Typing does not reproduce well. Capital letters, numerals, and symbols should be the same size and large enough to be legible after at least one-half reduction when the illustration is reduced to column width or an appropriate size. All illustrations should

be drawn in proportion to one another. Choose graph papers with blue cross-sectional lines; other colors interfere with good reproduction. Enclose graphs on all sides. Significant coordinate lines should be overruled in black India ink but not so heavily as the curves. Label ordinates and abscissas of graphs along the axes and outside the graph proper. (Figure captions and legends are set in type and need not be lettered on the drawings.) Number all illustrations consecutively. Supply double-spaced typed list of captions on a separate page.

If drawings are mailed under separate cover, identify by name of author and title of manuscript. Advise editor if drawings or photographs are to be returned to the authors.

Send manuscript with covering letter to Manager, Manuscript Reviewing, JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, 1155 Sixteenth St., N. W., Washington, D. C. 20036.

## Reporting of Gas Chromatographic Methods

The following guidelines to aid in the preparation of manuscripts in which gas chromatographic methods are discussed were prepared by Morton Beroza and Irwin Hornstein, U. S. Department of Agriculture, Agriculture Research Center, Beltsville, Md. These recommendations have been endorsed by the Advisory Board of the JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY and approved by the Editor.

As a general guide, use American Society for Testing and Materials' "Recommended Practice for Gas Chromatography Terms and Relationships," which is based on International Union of Pure and Applied Chemistry's recommendations. *Describe only what is essential for satisfactory performance.* Always state conditions for the starred items below and for other items as the author deems necessary.

### Apparatus

#### Instrument

Detector Type\*. Thermal conductivity, flame ionization, electron capture, etc.

#### Recorder Range

#### Detector Voltage

#### Bridge Current

#### Column\*

Length\* and Diameter\*. Inside diameter is preferred but outside diameter with wall thickness is acceptable; both may be given

Material\*. Glass, copper, stainless steel

Packing\*. Weight per cent of liquid phase on support (give mesh size and pretreatment of support—e.g., silanization)

Capillary\*. No packing, only liquid phase; support—coated liquid phase; or other type column

#### Temperatures\*, °C.

##### Injection Port\*

##### Detector\*

Column\* (oven). Isothermal\* or Temperature Programmed\*. Give initial and final temperature and rate of temperature rise

Specify other arrangements if made

**Flow Rate of Gases.** In milliliters per minute (ml. per min.) at exit port

#### Carrier Gas\*

#### Other Gases

**Sample.** Volume injected in microliters ( $\mu$ l.), milliliters (ml.) if gas, concentration of solution

#### Solvent Used

Retention Time of Compounds\*. Minutes

Relative Retention Time. Standard component(s)—e.g., Kovats Index, etc.

#### Quantitation

Methods\*. Peak area, peak height, integrator, planimeter, etc.

### Precision. Repeatability

Recovery of Added Amounts. Accuracy. Correction, if made

Weight. Expressed as weight, volume, or mole per cent.

State conditions on which calculation is based—e.g., dry weight, sample as received, etc.

Minimum Detectable Limits. Basis,  $2 \times$  noise level or  $2 \times$  interference

Standards. Internal standard used for calibration

Interference of Substrate. Baseline correction

### Calculations

Corrections. If made

Mathematics

### Chromatogram

Typical Analysis. May be very useful

Retention Time (Horizontal) vs. Recorder Response (Vertical)

Labels. Peaks, attenuation, temperature program, title

Gas Holdup. Air peak, solvent front

### Special

Column conditioning procedure

Adequate extraction (exhaustive) of compound(s) from sample

Specificity of analysis

Speed of analysis

Interfering compounds related to those analyzed

Dual-column operation, background subtraction

Reaction gas chromatography—e.g., hydrogenation, pyrolysis, etc.

Backflush technique

Modifications. Valves, injection devices, stream splitters, trapping, flow controllers, equipment for transfer to other instruments (e.g., spectrometers). Full description of material or apparatus not available commercially

Technique for selecting representative samples

Collaborative results

Errors to be avoided

How to keep apparatus clean and functional

### Abbreviations

To be selected from ASTM listing

### References

Book of ASTM Standards, Part 30, pp. 1071-8 (1967)

International Union of Pure and Applied Chemistry [Pure Appl. Chem. 1, 177-86 (1960)]