

# Chapter 1. Manuscript Preparation

The Societies want to maintain their reputation for publishing high-quality papers in their journals, books, and other publications. Authors are strongly urged to have their papers thoroughly reviewed by competent colleagues before submitting those papers for consideration by any ASA–CSSA–SSSA publication.

The format used in ASA–CSSA–SSSA journals differs from that used in books, special publications, and other media (see Chapter 10). This chapter deals mainly with journal formats, but the discussion applies broadly to the other formats.

For questions of English and of scientific style and format beyond what is covered in this manual, consult the style manuals of the American Chemical Society (Dodd, 1997) and the Council of Biology Editors (CBE, 1994). If a question is still not resolved in these sources, consult the *Chicago Manual of Style* (UCP, 2003). All three books provide detailed examples, along with general principles and advice. Recent issues of ASA–CSSA–SSSA journals also provide examples of the desired format. Be consistent in whatever style choices you make.

All manuscripts will be critically reviewed before they are published in any ASA–CSSA–SSSA journal, monograph, book, or special publication. Written guidelines for manuscript submission are published periodically in all ASA–CSSA–SSSA journals and can be accessed online by visiting [www.scijournals.org](http://www.scijournals.org) and clicking on the journal of interest.

## DETAILS OF MANUSCRIPT PREPARATION

### Eligibility of Authors

Membership is not required for publishing in ASA, CSSA, or SSSA publications. Some of the journals, however, assess a surcharge to nonmembers to help offset costs covered by member dues. Authors who wish to join a society to avoid this charge should do so before the paper is accepted for publication. For information on membership, visit [www.agronomy.org](http://www.agronomy.org), [www.crops.org](http://www.crops.org), or [www.soils.org](http://www.soils.org) and click on "Member Services." Eligibility policies, updated as necessary, are summarized in each journal's masthead.

### Publication Charges

Publication charges will vary depending on the journal and whether or not at least one of the authors is a member of ASA, CSSA, or SSSA. These charges are subject to change. Check the journals' mastheads for current information.

Author alterations at the proof stage incur separate charges. Beyond a modest initial subsidy, illustrations are charged to the author on the basis of current production costs. Journals that support color illustrations have individual policies on cost-sharing for this expensive process.

Applicable charges for reprints are shown on the Publications Charge and Reprint Order Form sent with proofs.

## **No Prior Publication, No Simultaneous Submission**

Except for reviews or timely essays, papers published in the scientific journals of the ASA, CSSA, and SSSA must be original reports of research. Submission of a scientific manuscript for review is understood to imply that the work is original and unpublished and not being considered for publication elsewhere. If portions of the paper have been submitted or published elsewhere, the authors are required to disclose that fact at the time of submission and to provide copies of relevant prior publications.

Whether publication in nontechnical outlets constitutes prior publication is decided on a case-by-case basis. In general, publication in nontechnical media will be considered prior publication only if substantially all of the data and conclusions have been published.

## **Manuscript Handling**

Manuscripts are handled by similar, but not identical, procedures in ASA–CSSA–SSSA journals. The basic policy is that at least two independent scientists must agree before a paper is accepted for publication or released back to the author (rejected). Release of a paper by a journal does not preclude its resubmission to that same or another ASA–CSSA–SSSA journal after its weaknesses have been eliminated. For example, a paper released because it needed another year of data may be resubmitted after those data have been gathered and the results incorporated into the paper. Such a resubmission must be accompanied by a copy of the original release letter. A manuscript may be released before review, either because it does not conform to acceptable standards or because the subject matter is outside the scope of the journal.

## **Manuscript Submission**

Authors are encouraged to submit manuscripts to a journal's editorial board using the Societies' online manuscript submission system. Consult the instructions in the masthead and in the instructions to authors of the journal you want to submit to for its requirements and procedures.

Receipt of manuscripts will be acknowledged. Normally, communication from editorial board members and the professional editing staff at headquarters is with the corresponding author only, and normally the submitting author is the corresponding author (see Authorship, below). The cover letter or title page should give the corresponding author's current phone and fax numbers and email address, for use during review and production.

Occasionally the editor of a journal who receives a submission may believe the paper's subject matter is more suitable for a different journal. In those cases, the editor will contact the paper's author or authors before review of the paper begins to investigate the possibility of a transfer. If the author concurs, the editor of the other journal will also be contacted before the transfer is made.

## **Manuscript Processing**

Upon receipt, each paper is assigned a unique manuscript number that identifies both the manuscript and the publication (and, for journals, the year). A typical journal manuscript number is in the form *XNN-nnnn*, where *X* is a letter identifying the journal, *NN*

identifies the year, and *nnnn* is the number of the particular manuscript (e.g., Q03-0042 is the 42nd manuscript submission received for the *Journal of Environmental Quality* in 2003). This number is communicated to the corresponding author along with acknowledgment of receipt. Refer to the manuscript number in all subsequent communications. Authors will be informed (and usually asked for additional input) as the manuscript moves through the various steps involved in review, acceptance or release, and production. (See also Chapter 9.)

After a manuscript has been accepted for publication by the designated scientist member of the editorial board, it will be edited for style and grammar and prepared for printing by the professional editorial staff at headquarters.

### **Anonymous Review**

All papers submitted to ASA–CSSA–SSSA journals are given an anonymous review—meaning that the names of reviewers are not revealed to the authors of the papers, nor to the other reviewers.

*Agronomy Journal* and the *Soil Science Society of America Journal* go one step further and try also to withhold the names of the authors from the reviewers. For these journals, prepare the manuscript with no identifying information (e.g., no byline, addresses/affiliations, acknowledgments, etc.; these will be added after a manuscript has been accepted). Take care, however, to label tables and figures with reference to the paper's title, not author names. Any identification in headers or footers should be similarly anonymous. As a last consideration, authorship may be unintentionally revealed through such software features as document summaries. If this is a concern, consult your local software experts.

When authors submit a manuscript via the Societies' online manuscript submission system, they will be asked to enter contact information into the system database, and the editors will have access to this information so that they can contact the authors about the outcome of the review.

Consult the editor of the journal with any specific questions you may have regarding anonymous review.

### **SUBMISSION SPECIFICS**

All accepted manuscript files will be edited in Microsoft Word.<sup>1</sup> Therefore, authors are encouraged to compose manuscripts in Word although Corel WordPerfect is also acceptable. The manuscript must be double-spaced, with line numbering. Use only one side of the sheet. The double-spacing requirement applies to all written material, including footnotes, references, tables, and figure captions.

Avoid the temptation to use every fancy font and feature available with your word processor. Limited use of italics, bold, and superscripts and subscripts is acceptable.

Don't use such word-processing features as automatic footnoting and outlining. These features interfere with both electronic editing and typesetting. If you need to place a numbered list in your manuscript, enter the numbers and use appropriate tabs and indents by hand instead of using automatic outlining. If your manuscript requires a footnote, manually place it after the author–paper documentation in your manuscript or at the bottom of

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<sup>1</sup> There is an exception for *Journal of Natural Resources and Life Sciences Education*. All accepted manuscript files will be edited in Corel WordPerfect.

the page where it is called out, rather than embedding it with your word processor's footnoting program.

Numbering the lines of each page facilitates communication between authors and the many persons involved in reviewing and editing the paper (e.g., "On page 8, line 7, what does 'flanther' mean?"). Please make use of whatever line-numbering feature is available on your word processor to allow this interaction.

### **Headings and Subheadings**

Headings guide the reader, but too many headings can be distracting. Keep headings short.

For style, examine recent issues of the publication to which the manuscript will be submitted. In most ASA–CSSA–SSSA journals, Level 1 headings (the main headings, such as Materials and Methods, or Results) are centered, and in all-capitals; Level 2 headings are also centered, but with only initial capitalization; Level 3 headings are flush-left, with initial capitalization. The fourth level of heading is the run-in head, typed in the normal paragraph position (i.e., after a tab) with only an initial capital (i.e., sentence capitalization) and ending in a period.

### **Estimating Length of Journal Articles and Book Chapters**

The best length estimates are obtained by counting the number of words; most word-processing software does this quickly and easily. About 1000 words will fill one journal page, and about 500 words will fill one book page.

Space required for figures can be estimated from the size of the originals and the reproduction percentage (usually 40 to 60%, except 60 to 100% for photographs) that will be made in preparing the illustrations for production. Space required for tables can be estimated from the number of lines of headings, subheadings, and data rows. Ten lines require about 25 mm (1 inch) of column space. Tables with many columns or complex data typically require the full width of the published page (two-column width), but a table may fit across half the page (one-column width) if row headings are simple and data columns are few or narrow. A rule of thumb is that a table with more than about 60 characters per row requires two-column width in print.

## **TYPES OF JOURNAL ARTICLES**

By far the most common type of paper to appear in ASA–CSSA–SSSA journals is the standard research paper, and the greatest portion of this section will be devoted to the format of these papers. The journals also publish other sorts of papers, most of which will be outlined first. Consult the instructions to authors of each journal for a description of all current types of papers.

### **Review Papers**

Review papers are usually less formal than full-length articles. Such papers should provide a synthesis of existing knowledge and give new insights or concepts not previously presented in the literature, or at least not with the same level of detail.

These articles should not be considered exhaustive reviews of the literature (as per *Annual Review of Plant Physiology and Molecular Biology*) but should instead include enough literature review to provide a basis for understanding and interpretation of the topic under consideration.

A good review is often one of the most important ways to advance an area of science. Readers expect a review paper to

- deal with an important subject that needs a scholarly review,
- cover the entire spectrum of the subject, not just the segment about which the author of the review paper has published articles,
- present a balanced coverage that is fair to all the work it reviews, and
- add a perspective to the entire subject and contribute significantly to understanding.

### **Issue Papers**

The intent of these papers is to stimulate discussion and possibly a rethinking of current views. They may be provocative and controversial.

Perspectives papers (*Crop Science*) and Forum papers (*Agronomy Journal*) give a broader and often more personal perspective on a subject than a review paper. Although most are invited by the editor, volunteer submissions are welcomed.

Environmental Issues papers (*Journal of Environmental Quality*) include discussion of contemporary environmental issues from a combination of scientific, political, legislative, and regulatory perspectives. These papers will often have more of a philosophical bent to them, but must still be based on a foundation of good science.

### **Notes and Short Communications**

Notes and Short Communications represent a separate category of scientific manuscripts. Papers in this category typically describe research techniques, apparatus, and observations. Observations usually are limited to studies and reports of unrepeatable phenomena or other unique circumstances. These articles are usually shorter than research papers, normally occupying fewer than two or three printed pages in the journal.

Occasionally an editor may believe a paper submitted as a research paper will better fit this category, or vice versa. If the author agrees, the manuscript can be transferred to or from this category of papers.

The review procedure for these papers is identical to that for research papers.

### **Letters to the Editor**

All the journals publish Letters to the Editor. Letters may contain comments on articles appearing in the journals or general discussions about agronomic research and are limited to one printed page. Letters must be approved by the editor and may receive a peer review. If a letter discusses a published paper, the author of that paper will be invited to submit a response to the comments; typically, the response is published along with the letter.

## Research Topic Ideas

This subset of Letters to the Editor is reserved for announcement of incidental or tangential observations that a researcher does not wish to or cannot follow up on, but that might be worth investigating by someone else or in another context (put another way: something that caught your attention while you were working on something else). These contributions are limited to one-quarter of a printed page.

## Executive Summaries

Authors may be asked to prepare a brief summary. These are published separately from the article as a way of highlighting research in the journal. The structure of the summary is as follows:

- Sentence 1: Statement of the problem.
- Sentence 2: Summary of the approach used in the experiments.
- Sentence 3 and (if needed) 4: Summary of key findings.
- Final sentence: Statement of the impact of the findings.

Guidelines for these summaries are published in the journal. The editorial board will assist authors in the refining of their summaries.

## Research Papers

Manuscripts of research papers prepared for ASA, CSSA, and SSSA journals are normally arranged in the following order:

1. Title and byline.
2. Author–paper documentation (addresses/affiliations, email address of the corresponding author, etc.—see below).
3. Abstract.
4. Introduction (including literature review). This is the only section that has no heading.
5. Materials and Methods.
6. Results. This section is sometimes combined with the discussion.
7. Discussion. This may include a subsection for conclusions. No separate summary section is used, because it would duplicate the function of the abstract; a summary statement may, however, be given as a closing paragraph.
8. Acknowledgments (optional).
9. References.
10. Figure captions, then tables, then the figures themselves.

For *Agronomy Journal* and *Soil Science Society of America Journal*, the byline, author–paper documentation, and acknowledgments should not be included at the time of submission to ensure a double-blind review—authors will be asked to add these items once the paper has been accepted (see Anonymous Review, above).

Sometimes a Theory section substitutes for or precedes Materials and Methods. Any section, but especially the Materials and Methods and the Results sections, may include subheadings to guide the reader through significantly different aspects of the topic.

## Manuscript Format

**Title.** The title should represent the article's content and facilitate retrieval in indexes developed by secondary literature services. The terms in the title should be limited to those words that give significant information about the article's content. Start the title with key words—not with words such as 'Effect of' or 'Influence of.' Many readers peruse titles in a journal's table of contents to decide whether to turn to a given paper. A good title briefly identifies the subject, indicates the purpose of the study, and introduces key terms or concepts. It must do all this briefly, or lose its point. The recommended limit is 12 words.

Keep titles free of nonstandard abbreviations, chemical formulas, or proprietary names, and avoid unusual or outdated terminology. Use common names of crops and chemicals. If a crop or microorganism has no common name or if the common name is in dispute, then the scientific name (genus and species, with authority) may be used in the title.

Series titles are used infrequently in ASA–CSSA–SSSA journals. An author contemplating a series of articles on the same subject should refer to the current editorial policy of the journal. Articles in a series are not discouraged as such, but the editors need to be assured that all papers in the series are available for review and that the reader will be able to obtain earlier and later material in that series. Serial publication of papers also presents scheduling concerns in the production of a journal.

Titles may be descriptive (e.g., Variables A and B under C Conditions), declarative (A Relates to B in C Manner), or even a question (Does A do X?). EXAMPLES: Soil-Water and Root Dynamics under Hedgerow Intercropping in Semiarid Kenya (Govindarajan et al., *Agron. J.* 88:513–520); Clipping Foliage Differentially Affects Phytosiderophore Release by Two Wheat Cultivars (Hansen et al., *Agron. J.* 87:1060–1063); Is Soil Temperature Better Than Air Temperature for Predicting Winter Wheat Phenology? (McMaster and Wilhelm, *Agron. J.* 90:602–607).

**Authorship.** The Societies encourage the use of full names in bylines (e.g., Morgan L. Jones or M. Louise Jones instead of just M.L. Jones). The first person listed in the title is, by definition, the *senior author*; however, it is the *corresponding author* who will deal with proofs and, after publication, with reprint requests. An asterisk (\*) follows the name of the corresponding author in the byline, matched to the words “\*Corresponding author” at the end of the author–paper documentation paragraph. Following ordinary American rules of punctuation, the asterisk comes after any comma (e.g., Frances L. Dudeck, Sayeed S. El-Marhawi,\* M. Agnes Santello, and Vernon S. Foell).

**Author–Paper Documentation.** The single-paragraph author–paper documentation appears at the bottom of the first page in the printed journal. The purpose is to give addresses for all authors and an email address for the corresponding author (*author documentation*), as well as the date the paper was received for review and any necessary institutional identification such as a grant support, dissertation requirement, or a journal article number (the *paper documentation*). In the manuscript, put this paragraph after the byline, on the cover page only.

If all authors are at one address, do not repeat the names in the documentation paragraph. Otherwise, group together all authors at a single address in the order they appear in the byline. Give only initials and surname, without professional titles. Following complete addresses for all authors, give any sponsoring institutional information, with brief address-

es; then a statement of “Received [date].”; and lastly “\*Corresponding author” (immediately followed by that person’s email address in parentheses). EXAMPLE:

A. Brandon Holm, Carl D. James,\* Maria C. Dinescu, and Albert F. Barrow

A.B. Holm and A.F. Barrow, Dep. of Crop Sciences, and M.C. Dinescu, Dep. of Natural Resources and Environmental Science, Univ. of Illinois, 1102 S. Goodwin Ave., Urbana, IL 61801; C.D. James, Dep. of Agronomy, Purdue Univ., West Lafayette, IN 47907. Joint contribution of the Illinois and Indiana Agric. Exp. Stn. Purdue Journal no. 1234. Received 11 Jan. 1999. \*Corresponding author (cjames@dept.agry.purdue.edu).

Brief acknowledgment of grant funding is usually included in this documentation paragraph, but extensive support information and personal thanks belong in the acknowledgments section at the end of the paper.

**Footnotes.** Avoid using footnotes, except for any required government or institutional disclaimer in reference to commercial products or trade names mentioned in the text. The preferred position for the text of a footnote is directly after the author–paper documentation and any abbreviations list. Also acceptable is placement at the bottom of the manuscript page where the footnote is called out. Use a superscripted numeral 1 for citation (not asterisks or letters). Do not use the footnoting feature of your word processor to create footnotes.

**Abstract.** An abstract has two typical uses.<sup>2</sup> Printed at the head of a scientific paper, an abstract helps readers decide whether to delve into the paper as a whole; abstracts are also published separately in outlets such as websites and secondary and indexing journals. Thus, the abstract will be seen and read by many more people than will read the paper.

With this in mind, a basic rule emerges: Everything that is important in the paper must be reflected in the abstract. Let the abstract call attention to new techniques, observations, or data. Be specific.

In essence, an *informative abstract* (also called a *substantive abstract*) presents the paper in miniature, complete within itself. It moves from an introductory statement of the rationale and objectives or hypotheses, through materials and methods, to the results and conclusions. (A *descriptive abstract* is more like a table of contents for the paper and is rarely used in scientific publications except, perhaps, for review or opinion papers.) A number of books and articles offer useful advice on preparing abstracts (e.g., O’Connor and Woodford, 1976; O’Connor, 1979; Day, 1988), and an internet search for “informative abstract” is likely to have recent course materials on scientific writing among the results.

Since an informative abstract has to stand alone, do not deflect the reader with promises such as ‘will be discussed’ or ‘will be explained’ (which belong only in a descriptive abstract). For the same reason, do not include reference, figure, or table citations. Equations also are inappropriate in an abstract (unless they are the central finding of the study). Limit your use of abbreviations, and define the ones you do use.

At first mention in the abstract, give the complete scientific name (with authority) for plants and other organisms, the full name of chemicals, and the description of soil series (if a key in interpreting the results). Any such names or descriptions from the abstract do not have to be repeated in the text.

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<sup>2</sup> The statements in this section apply to abstracts of manuscripts submitted to ASA–CSSA–SSSA journals. Abstracts of papers to be presented at meetings or conferences are an entirely different type of literature. Rules for these abstracts are given on the annual meetings website, which can be accessed from the Societies’ home pages.

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**Dryland Grain Sorghum Water Use, Light Interception,  
and Growth Responses to Planting Geometry**

**J.L. Steiner\***

**ABSTRACT**

<i>Rationale</i>	Crop yields are primarily water-limited under dryland production systems in semiarid regions.
<i>Objectives or hypothesis</i>	This study was conducted to determine whether the growing-season water balance could be manipulated through planting geometry.
<i>Methods</i>	The effects of row spacing, row direction, and plant population on the water use, light interception, and growth of grain sorghum [ <i>Sorghum bicolor</i> (L.) Moench] were investigated at Bushland, TX, on a Pullman clay loam (fine, mixed, superactive thermic Torrertic Paleustoll).
<i>Results</i>	In 1983, which had a dry growing season, narrow-row spacing and higher population increased seasonal evapotranspiration (ET) by 7 and 9%, respectively, and shifted the partitioning of ET to the vegetative period. Medium population crops yielded 6.2 and 2.3 Mg ha <sup>-1</sup> of dry matter and grain, respectively. High population resulted in high dry matter (6.1 Mg ha <sup>-1</sup> ) and low grain yield (1.6 Mg ha <sup>-1</sup> ), whereas low population resulted in low dry matter (5.4 Mg ha <sup>-1</sup> ) and high grain yield (2.3 Mg ha <sup>-1</sup> ). Row direction did not affect water use or yield. In 1984, dry matter production for a given amount of ET and light interception was higher in the narrow-row crops. Evapotranspiration was less for a given amount of light interception in the narrow-row crops and in the north-south row crops.
<i>Conclusions</i>	Narrow-row planting geometry appears to increase the partitioning of ET to the transpiration component and may improve the efficiency of dryland cropping systems.

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Write the abstract as a single paragraph, with a limit of 250 words (1250 characters) for full-length papers and 150 words (750 characters) for notes. Some abstracting services truncate text beyond a certain length; what is lost is most likely the conclusions.

With permission of the author, we reproduce a published abstract with its structure labeled. This example shows both the overall construction of the abstract and the contents of its parts. (From *Agron. J.* 78:720–726 [1986], updated to conform to new style guidelines.)

**Introduction.** Use the introduction to review published literature and issues related to your topic. A thorough introduction will help the reader recognize what your research contributes to the current knowledge in your subject area. Begin your article by clearly identifying its subject, and state the hypothesis or definition of the problem the research was designed to solve. To orient readers, give a brief reference to previous concepts and research. Limit literature references to essential information, and do not rely on old references when newer ones are available.

Keep the introduction short, but include (i) a brief statement of the problem that justifies doing the work, or the hypothesis on which it is based; (ii) the findings of others that will be further developed or challenged; and (iii) an explanation of the general approach and objectives. This last part may indicate the means by which the question was examined, especially if the methods are new.

**Materials and Methods.** In the Materials and Methods section, give enough detail to allow a competent scientist to repeat the experiments, mentally or in fact.

In the materials section, describe the preparation method, equipment, and measurements, including SI units. Not all materials need to be identified by brand name and manufacturer. Consider first whether the particular product is essential to the outcome of the research, and then how readily available that particular product might be to other researchers. For example, if any standard test tube will work, it is not necessary to state the manufacturer of the tubes you used. If, however, the test tube must be lined with Teflon or be made of Pyrex (or in any other way differ from standard), then say so and, if such a test tube is not readily available, tell where it can be obtained.

When a product must be identified by trade name, add the name and location of the manufacturer or a major distributor parenthetically after the first mention of the product. EXAMPLE: "Soil respiration was measured with a CO<sub>2</sub> analyzer (Model LI-6251, LI-COR, Lincoln, NE)." If the particular product is both essential to the research and no longer commercially available, describe a suitable substitute and its source.

In the case of specially procured or proprietary materials, give the pertinent chemical and physical properties (e.g., purity, pH, concentration). Chemical rather than trade names are preferred. EXAMPLE: "Reference Suwannee River fulvic acid (IHSS-FA) and humic acid (IHSS-HA) were purchased from the International Humic Substance Society (IHSS)."

Any plants, animals, other organisms, and soils not mentioned in the abstract should be identified accurately by scientific name (with authority for plants, pests, and pathogens), applicable cultivar name, soil taxonomy, and special characteristics. Identify soils by Great Group name at least, and preferably by soil series name and description.

Cite references for your methods, and reference the edition you actually used. (For example, if you used the second edition of a statistics book because the methods are appropriate for your work, cite that edition, even if later editions are available.) If the techniques are widely familiar, use only their names. If a method is modified, outline the modification or cite a reference, unless the modification is trivial. Give details of unusual experimental designs or statistical methods.

The Materials and Methods section may be arranged chronologically, by a succession of techniques, or in any other logical manner, such as by experiment or location, and may include tables and figures.

**Results.** Use tables, graphs, and other illustrations in the Results section to provide the reader with a clear understanding of representative data obtained from the experiments. Call attention to significant findings and special features (e.g., one quantity is greater than another, one result is linear across a range, or a particular value is optimum), but do not repeat in detailed prose what is already clear from an examination of the graphics.

If you have minimal results, describe them in the text. For more complicated results, you may want to summarize them in tables or figures.

If you do not have a separate Discussion section, relate the results to your objectives, and to each other.

**Discussion.** Use the Discussion section to interpret your results. Give particular attention to the problem, question, or hypothesis presented in the introduction. A good discussion will typically cover most or all of the following steps:

1. Relate the results to the original objectives.
2. Explain the principles, relationships, and generalizations that can be supported by the results.

3. Address any exceptions or lack of correlation that qualify the findings, or difficulties that point to areas for further investigation.
4. Explain how the results relate to previous findings, whether in support, contradiction, or simply as added data.
5. Present conclusions, supported by a summary of the evidence.

Whether it is combined with the Results section or stands alone, use the Discussion section to focus on the meaning of your findings, not to recapitulate them.

Scientific speculation is encouraged, but it should of course be reasonable, firmly founded in observation, and subject to tests. It must also be identified as such. Where results differ from previous results for unexplained reasons, possible explanations should not be labored. Controversial issues should be discussed clearly and fairly.

**References.** The References section lists only the literature cited in the paper. Authors are encouraged to cite only significant, published, and up-to-date references. (See below for examples and details.)

**Figure Captions, Tables, and Figures.** Group the captions for all figures together on the page or pages following the references. Tables, each one starting on a new page, follow the figure captions. No separate list of table titles is needed. Place original figures last of all. In journal production, figure captions and tables are edited and typeset along with the text, with reference to the paper manuscript and/or the disk provided. Figures themselves cannot be edited, and depend entirely on the quality of the original paper copy submitted. Identify each panel of multipart figures that require more than one page in the original, and include a sketch or mock-up to show the intended layout. Try a test reduction on a reducing copier, to be sure the figure will fit the printed page.

For books, figures are sometimes separated into black-and-white illustrations published within chapters and full-color illustrations published as a set for the whole book. If your manuscript has such a mixture of black-and-white and full-color illustrations, label the black-and-white ones *figures* and the full-color ones *plates*, with separate numbers. Thus, a single book chapter might have three sets of numbers: for example, Fig. 1, Fig. 2; Plate 1, Plate 2, Plate 3; Table 1, Table 2. If your book chapter contains both figures and plates, list their captions separately from the text and from each other, one page of figure captions and another of plate captions.

The sequence of these final elements in a book manuscript is as follows: The figure caption pages (and plate caption page, if there is one) follow the reference list and are followed by the tables, in numerical order. Do not intersperse the tables within the text of the paper.

## REFERENCES

The purpose of a reference list is to give readers a document that they can use to retrieve information from the same sources the authors used. To that end, the reference list must contain accurate information about material that is readily available. In short, if the information is not readily available from a recognized print or electronic source, it should not be included in the reference list. And, if it does appear in the list, it should be recorded accurately.

If you have consulted abstracts, theses or dissertations, extension bulletins, or secondary materials during your research or for early drafts of the paper, check again upon

acceptance for publication: has this information by now been published in a more readily available source?

### Standard Print Sources

In ASA–CSSA–SSSA publications, only literature available through libraries or other readily accessible public media may be cited. All other material, such as personal communications (information from someone other than the authors) or unpublished data (information from one or more author named in the byline), is cited in the text as parenthetical matter. Give both the source and the date for the information. EXAMPLES:

(R.D. Jackson, personal communication, 1997)  
(unpublished data, 1998) [*when all authors are responsible for the data*]  
(Faribault, unpublished data, 1998) [*when only the author Faribault is responsible for the data*]

Placing “unpublished data” or “personal communication” between the name and year clearly distinguishes these citations from those keyed to the reference list.

The terms *in review* and *in press* are not synonymous. Material that is in press has been accepted for publication but has not yet appeared in print. This material may be listed in reference sections because the reader will eventually be able to locate it. Material submitted for publication but not yet accepted may be included in the reference list of your paper during the review process, but upon your paper’s acceptance these entries must be converted to citations of unpublished data or personal communication. If the change from review status to in press status occurs before or by the proof stage, the citation can be restored and completed.

Reviewers and editors cannot be expected to verify the accuracy of the literature citations. Authors should check the alphabetical reference list against the citations in the body of the manuscript as one of the last steps before submitting the manuscript for publication.

### Citation Style

The author–year notation system is required; do not use numbered notation. For within-text citations of papers with two authors, name both. With three or more authors, use ‘et al.’ For two or more articles using the same within-text citation, add a distinguishing lowercase letter to the year in both the text and references list. Separate citations with a semicolon. For citations of multiple works by the same authors, the author names do not need to be repeated. EXAMPLES:

(Murphy, 2001; Murphy and Smith, 2001; Murphy et al., 2001)  
(Murphy, 2001; Murphy and Wong, 2001, 2001b; Murphy et al., 2001)  
(Murphy, 2001; Murphy et al., 2001, 2002; Murphy and Davis, 2002)

### Citing Quotations

Direct quotations from a book or very long chapter require a page number in the text citation, to spare the reader a tedious hunt for the original wording in context. When practical, the exact page number is preferred for any quotation.

EXAMPLE [from Weidenhamer, 1996: *Agron. J.* 88:867]: Harper (1977, p. 372), who called for a Koch's postulates type of approach..., remained skeptical about the feasibility of designing "an experiment that conclusively tests the toxin hypothesis of plant interaction."

### Preparing the Reference List

References are subject to at least two sources of error. The first involves inaccurate copying of the bibliographic information and/or inaccurate compilation of the reference section after the paper is written (including inconsistency in spelling or year between text and list, as well as errors in the list entry, as when authorship, title, or publication details are mistranscribed). The second source of error arises when references are added or dropped from the list (or text) without the matching change in the text (or list). Keep both possibilities in mind when preparing and checking references. See Appendix B for a list of helpful websites.

### Preparing the Reference Entry

Each reference to a periodical publication must include, in order, the authors, year of publication, full title of the article, publication in which it appears, and volume and inclusive page numbers. (See examples at the end of this chapter.)

The entry for a chapter or article within a larger work such as a book or proceedings volume must give the authors, year, chapter title, pages, the italicized word '*In*', any editors, and the publication title, followed by the volume (for multivolume works) and edition (when more than one has been published). Last comes the publisher and city of publication.

An entry for conference proceedings requires all of the above, and two more pieces of information: the place of the meeting, immediately after the title and ending in a period, then the date. For numbered conferences, the ordinal comes at the end of the conference name (to standardize alphabetization). Be sure to give the publisher and city of publication, even if the place is the same as the conference location. (See examples, below.)

In the reference list itself, give the names of all authors. Optionally, if the paper has more than six authors, the rest may be abbreviated to 'et al.'

For different articles by the same author or authors published within a single year, distinguish them by adding lowercase letters to the year. Repeat identical author names in full; that is, do not use a rule to indicate names repeated from the prior entry. Do not use 'ibid.' or 'op cit.' (See also Alphabetization, below.)

Capitalize the first letter of the first word of title and subtitles of articles, bulletins, or books, as well as capitalizing proper names as usual. Capitalize each word in conference names and journal titles, abbreviated or not.

Journal titles are abbreviated according to an international standard, as given in *Chemical Abstracts Service Source Index* (CASSI, updated yearly). CASSI is available in most research libraries. See Appendix A for guidelines and examples. If you are unsure of the correct abbreviation, write out the title in full (or at least the part in question). The staff editors at headquarters can quickly and easily abbreviate titles, but can lose much time trying to verify the existence of incorrectly abbreviated journals and other publications. When in doubt, consult a reference librarian for the correct bibliographic citation of difficult material.

For publications without consecutive pagination (i.e., each issue within the volume begins with page 1), include the issue number. EXAMPLE: 11(2):5–10.

Use acronyms or commonly understood abbreviations (e.g., SSSA, USEPA, ICRISAT, U.S. Gov. Print. Office) for publishers in the reference list and in the text citation. A list of abbreviations appropriate for use in references is included in Appendix A. For institutional authors, spell out acronyms and abbreviations. As an exception, acronyms are used for the international agricultural research centers of the Consultative Group on International Agricultural Research (CGIAR) system ([www.cgiar.org](http://www.cgiar.org)). Use standard English abbreviations for names of states in journal titles or for publishers; with publisher locations, use postal ZIP code abbreviations to identify U.S. states or Canadian provinces.

For dissertations that are available on microfilm or in abstract form, give the numbers and publication data. If available, please supply the dissertation abstract number or the University Microfilm number; titles and numbers can be searched online at [wwwlib.umi.com/dissertations](http://wwwlib.umi.com/dissertations).

Extensive rules and examples for references of all kinds are given in the *Chicago Manual of Style* (UCP, 2003, Chapters 17 and 18), *Scientific Style and Format* (CBE, 1994, Chapter 30), and the *ACS Style Guide* (Dodd, 1997, Chapter 6). The examples given may not always conform to the details of ASA–CSSA–SSSA style, but can be used to prepare reference entries that contain all the required elements.

### Electronic Sources

As with any reference, the idea is to make it possible for the reader to locate the exact source cited. Give all the usual information as for print publications—author, year, and title—but then provide also the entire uniform resource locator (URL) address, and a date. This date should be the date when the information had last been updated (e.g., from the date-posted line on a web page) or when the information was accessed (either by the author citing the work or the editor checking the reference). When in doubt, include more information rather than less.

Some electronic sources are the equivalent of personal communications or unpublished data (e.g., email, an online interview or chat session, or information posted on an individual home page). Cite these in the text only; include the full URL address and the date.

### Alphabetization

Arrange the list alphabetically by the surnames of authors. Two or more articles by the same author (or authors) are listed chronologically; two or more articles with the same in-text citation are indicated by the letters a,b,c, etc. All single-authored articles of a given individual should precede multiple-author articles of which the individual is senior author. Alphabetize entries with the same first author according to surnames of succeeding coauthors and then by year, when the names are repeated exactly. EXAMPLE:

- Shotwell, C.A., and G.W. Smith. 2001.
- Shotwell, O.L. 1998.
- Shotwell, O.L., M.L. Goulden, and C.W. Hesseltine. 1994.
- Shotwell, O.L., C.W. Hesseltine, and M.L. Goulden. 1993a.
- Shotwell, O.L., C.W. Hesseltine, and M.L. Goulden. 1997.

- Shotwell, O.L., C.W. Hesseltnine, E.E. Vandegraft, and M.L. Goulden. 1993b.  
Shotwell, O.L., W.F. Kwolek, M.L. Goulden, L.K. Jackson, and C.W. Hesseltnine.  
1991.  
Shotwell, O.L., and D.W. Zweig. 1994.

## REFERENCES: EXAMPLES

Some common types of references are shown below. Consult other style manuals for further examples (UCP, 2003; CBE, 1994; Li and Crane, 1996; Dodd, 1997).

### Journal Article

- Bordoli, J.M., and A.P. Mallarino. 1998. Deep and shallow banding of phosphorous and potassium as alternatives to broadcast fertilization for no-till corn. *Agron. J.* 90:27–33.
- Lemmon, H. 1986. Comax: An expert system for cotton crop management. *Science* (Washington, DC) 233:29–32.
- Lyle, W.M., and J.P. Bordovsky. 1995. LEPA corn irrigation with limited water supplies. *Trans. ASAE* 38:455–462.
- Tiessen, H., E. Cuevas, and P. Chacon. 1994. The role of soil organic matter in sustaining soil fertility. *Nature* (London) 371:783–785.

### Article in Serial Publication

- Brown, P.D., and M.J. Morra. 1997. Control of soil-borne plant pests using glucosinolate-containing plants. *Adv. Agron.* 61:167–231.
- Edwards, A.C., and M.S. Cresser. 1992. Freezing and its effect on chemical and biological properties of the soil. *Adv. Soil Sci.* 18:59–79. [*After Vol. 20, Advances in Soil Science is no longer published as a serial with volume numbers. Treat listings in later editions as you would a chapter in a book.*]

### Article Not in English

#### With English Abstract

*Title translated into English*

- Rosolem, C.A., J.C.O. Silverio, and O. Primaves. 1982. Foliar fertilization of soybean: II. Effects of NPK and micronutrients. (In Portuguese, with English abstract.) *Pesq. Agropec. Bras.* 17:1559–1562.

*Title in original language*

- Rosolem, C.A., J.C.O. Silverio, and O. Primaves. 1982. Adubação foliar de soja: II. Efeitos de NPK e micronutrientes. (In Portuguese, with English abstract.) *Pesq. Agropec. Bras.* 17:1559–1562.

#### Without English Abstract (Translated Title)

- Vigerust, E., and A.R. Selmer-Olsen. 1981. Uptake of heavy metals by some plants from sewage sludge. (In Norwegian.) *Fast Avfall.* 2:26–29.

### Article with Known Erratum Follow-Up

- Baker, J.M., E.J.A. Spaans, and C.F. Reece. 1996. Conductimetric measurement of CO<sub>2</sub> concentration: Theoretical basis and its verification. *Agron. J.* 88:675–682 [erratum: 88(6):vi].

### Magazine Article

- Davenport, C.H. 1981. Sowing the seeds. *Barron's*. 2 March, p. 10.  
Mulvaney, D.L., and L. Paul. 1984. Rotating crops and tillage. *Crops Soils* 36(7):18–19.

### Book

(including bulletins, reports, multivolume works, series)

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Food and Agricultural Organization. 1994. Production and trade yearbook, 1993. FAO, Rome.  
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Snedecor, G.W., and W.G. Cochran. 1989. Statistical methods. 8th ed. Iowa State Univ. Press, Ames.  
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Southern Cooperative Series. 1983. Reference soil test methods for the southern region of the United States. *S. Coop. Ser. Bull.* 289. Georgia Agric. Exp. Stn., Athens, GA. [Publisher varies as the series rotates among institutions.]  
Steel, R.G.D., and J.H. Torrie. 1960. Principles and procedures of statistics, with special reference to the biological sciences. 1st ed. McGraw-Hill, New York.  
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- Taylor, B.N. 1995. Guide for the use of the International System of Units (SI). NIST Spec. Publ. 811. U.S. Gov. Print. Office, Washington, DC.
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- Buresh, R.J., P.C. Smithson, and D.T. Hellums. 1997. Building soil phosphorus capital in Africa. p. 111–149. *In* R.J. Buresh et al. (ed.) Replenishing soil fertility in Africa. SSSA Spec. Publ. 51. SSSA, Madison, WI.
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### **Electronic Sources**

Treat electronic sources as you would the same kind of material in print. Start with the author, date, article or web page title, and further information essential to the online reference. Because of the potentially ephemeral nature of electronic publications, if a publication exists in both print and electronic versions, cite the print version only.

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