Chapter 1. Manuscript Preparation

The American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) have a 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, and SSSA publication.

The format used in ASA, CSSA, and SSSA journals differs from that used in books, special publications, and other media (see Chapter 9). This chapter deals mainly with journal formats, but the discussion applies broadly to the other formats.

Publications of ASA, CSSA, and SSSA for the most part follow the *Publication Manual of the American Psychological Association*, 7th edition (APA, 2020). For questions of scientific style and format beyond what is covered in this manual and the APA *Publication Manual*, consult the style manuals of the American Chemical Society (Coghill & Garson, 2006) and the Council of Science Editors (CSE, 2006). Recent issues of ASA, CSSA, and SSSA journals also provide examples of the desired format. Be consistent in whatever style choices you make.

All manuscripts are critically reviewed before they are published in any ASA, CSSA, or SSSA journal, monograph, book, or special publication. Written guidelines for manuscript submission are published periodically in all ASA, CSSA, and SSSA journals and can be accessed online.

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. 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 https://www.agronomy.org/renewals, http://www.crops.org/renewals, or http://www.soils.org/renewals. Eligibility policies, updated as necessary, are summarized in each journal's author instructions.

Publication Charges

Publication charges vary depending on the journal and whether at least one of the authors is a member of ASA, CSSA, or SSSA. These charges are subject to change. Check the journals' instructions to authors for current information.

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 details 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.

Posting of preprints to a preprint server is considered acceptable but requires citing of the preprint. Note the use of a preprint server in the cover letter, and as appropriate,

state how the manuscript has been adjusted/updated between the preprint version and the version submitted to the journal. Failure to alert the journal in your cover letter to any prior publication of your submission may be viewed as an ethical violation.

Manuscript Handling

Manuscripts are handled by similar, but not identical, procedures in ASA, CSSA, and 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

Manuscripts are submitted via the journal's online manuscript submission system. Consult the instructions to authors for details.

Receipt of manuscripts will be acknowledged. Communication from editorial board members and the editing staff at headquarters is usually with the corresponding author only; 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 number and email address for use during review and production.

Occasionally, a journal editor may determine that the submitted paper's subject matter is more suitable for a different society journal. In those cases, the editor will release the paper before review and contact the corresponding author regarding the possibility of a transfer.

Manuscript Processing

Upon receipt, each paper is assigned a unique manuscript number that identifies both the manuscript and the publication. A typical journal manuscript number is in the form *X-NNNN-MM-nnnn*, where *X* is a group of letters identifying the journal, *NNNN* identifies the year, *MM* identifies the month, and *nnnn* is the number of the particular manuscript (e.g., jeq-2019-02-0042 is the 42nd manuscript submission received for the *Journal of Environmental Quality* in 2019). 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 8.)

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 publication by the headquarters editorial staff.

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 or to the other reviewers.

Most ASA, CSSA, and SSSA journals use a single-blind review process, where the authors do not know the names of the reviewers. Some of our journals use a double-blind process and also withhold the names of the authors from the reviewers. Check the individual journal's instructions to authors for details on the review process. For journals that use a double-blind process, 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 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. Authorship may also 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 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.

SUBMISSION SPECIFICS

All accepted manuscript files will be edited in Microsoft Word. Therefore, authors are encouraged to compose manuscripts in Microsoft Word. The manuscript must be double-spaced, with continuous line numbering.

Do not use complicated fonts and features available in Microsoft Word. Limited use of italics, bold, and superscripts and subscripts is acceptable.

Do not 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 manually instead of using automatic outlining.

Headings and Subheadings

Headings guide the reader, but too many headings can be distracting. Keep headings short. Abbreviations are allowed in Level 2, 3, and 4 headings.

Differentiate between the heading levels in your manuscript. For style, examine recent issues of the publication to which the manuscript will be submitted. In most ASA, CSSA, and SSSA journals, Level 1 headings (the main headings) are used for the main sections, such as Introduction, Materials and Methods, Results, and Discussion, with Level 2 headings used for subsections. Level 3 and Level 4 headings are allowed, but use them sparingly.

TYPES OF JOURNAL ARTICLES

The most common type of paper to appear in ASA, CSSA, and SSSA journals is the standard research paper. The journals also publish other paper types. 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 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. Our journals use different headings for such appers, such as "Perspectives," "Forum" papers, or "Environmental Issues." Check the individual journal's online About pages for details.

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 four or fewer printed pages in the journal.

Occasionally, an editor may determine that 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 our 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 be peer reviewed. 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.

Core Ideas

At submission, most journals ask authors to to prepare three to five core ideas (up to 115 characters each, spaces included), which will appear with the accepted article and on the journal's table of contents.

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. Core Ideas
3. Author–paper documentation (addresses/affiliations, email address of the corresponding author, etc.—see below)
4. Abstract
5. Abbreviations
6. Introduction (including literature review)
7. Materials and Methods
8. Results. This section is sometimes combined with the discussion section

9. Discussion. 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.
10. Conclusions (optional; this may be a titled section or part of the discussion section)
11. Data Availability statement (optional)
12. Acknowledgments (optional)
13. Author Contributions (this is generated from metadata provided during submission)
14. Conflict of Interest statement
15. References
16. Figure captions and tables should be placed in the main text close to where they are first called out for submitted manuscripts. For *accepted manuscripts*, figure captions and tables appear after the reference list, and figures should be submitted as separate high-resolution image files in the following acceptable formats: EPS, TIF, PDF, or JPG.

For journals with a double-blind review process, the byline, author–paper documentation, and acknowledgments should not be included at the time of submission to ensure anonymity—authors will be asked to add these items once the paper has been accepted.

Sometimes a Theory section substitutes for or precedes Materials and Methods. Any section 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. It is best to 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 read a given paper. A good title briefly identifies the subject, indicates the purpose of the study, and introduces key terms or concepts. 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 (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 journal's current editorial policy. 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.

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., *Agronomy Journal*, *88*:513–520); Clipping Foliage Differentially Affects Phytosiderophore Release by Two Wheat Cultivars (Hansen et al., *Agronomy Journal*, *87*:1060–1063); Is Soil Temperature Better Than Air Temperature for Predicting Winter Wheat Phenology? (McMaster and Wilhelm, *Agronomy Journal*, *90*, 602–607).

Authorship. (Added at acceptance for double-blind journals.) We encourage the use of full names in bylines (e.g., Morgan L. Jones or M. Louise Jones instead of M. L. Jones). The first person listed in the title is, by definition, the *senior author*; the *corresponding author* deals with proofs and, after publication, with reprint requests. The authors of the

paper decide the sequence of author names; the order should be agreed upon by all authors involved.

Author–Paper Documentation. (Added at acceptance for double-blind journals.) The author–paper documentation appears on the first page of the published article. 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, the date the paper was accepted, 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. Alternatively, any necessary institutional identification can be placed in the Acknowledgments section.

If all authors are at one address, do not repeat the names in the documentation. Otherwise, group together all authors at a single address in the order they appear in the byline. Do not include professional titles. Following complete addresses for all authors, give any sponsoring institutional information, with brief addresses; and lastly "Corresponding author" immediately followed by corresponding author's email address in parentheses. EXAMPLE:

Neha Kothari, B. Todd Campbell, Jane K. Dever, and Lori L. Hinze

N. Kothari and J.K. Dever, Texas A&M AgriLife Research, 1102 East FM 1294, Lubbock, TX 79403, USA; B.T. Campbell, USDA-ARS, 2611 W. Lucas St., Florence, SC 29501, USA; L.L. Hinze, USDA-ARS, 2881 F&B Rd., College Station, TX 77845, USA. Corresponding author (lori.hinze@ars.usda.gov).

If an author has moved, the current address can be added, but if the previous address is a funder, then it should not be removed. The address where the work was done should go first; the current address normally goes at the end (except SSSAJ):

A. Smith and B. Jones, Univ. of Illinois, 1102 S., Goodwin Ave., Urbana, IL, 61801, USA; A. Smith, current address: Purdue Univ., West Lafayette, IN 47907, USA.

Acknowledgment of grant funding, support information, and personal thanks belong in the acknowledgments section at the end of the paper. Any required government or institutional disclaimer in reference to commercial products or trade names mentioned in the text should also be placed in the acknowledgments section.

Footnotes. Footnotes are not allowed.

Abstract. A journal abstract has two typical uses. Printed at the head of a scientific paper, an abstract helps readers decide whether to delve into the paper; abstracts are also published via abstracting and indexing services. Because the abstract will be seen and read by many more people than will read the paper, everything that is important in the paper must be reflected in the abstract. The abstract should 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 & 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.

Because an informative abstract has to stand alone, do not deflect the reader with phrases such as "will be discussed" or "will be explained." 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. The scientific names of plants should be repeated at the first mention in the main text. In the main text, give scientific names of other organisms, including causal agents of diseases. The scientific names for larger animals (e.g., sheep) do not need to be given unless germane to the article and/or there may be confusion as to what animal is being discussed. Complete soil series descriptions should be provided upon first mention in the main text; they do not need to be given in the abstract. Using the common names of chemicals is acceptable. The full names of chemicals can be provided at first mention in the main text if germane to the article.

Write the abstract as a single paragraph, with a limit of 250 words (~1,500 characters) for full-length papers and 150 words (~900 characters) for notes. Some abstracting services truncate text beyond a certain length; what is lost is most likely the conclusions.

Reproduced below (with permission of the author) is a published abstract with its structure labeled. This example shows both the overall construction of the abstract and the contents of its parts. (From *Agronomy Journal*, *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 helps 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 (a) a brief statement of the problem that justifies doing the work, or the hypothesis on which it is based; (b) the findings of others that will be further developed or challenged; and (c) 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.

Abbreviations and acronyms defined in the abstract should also be defined in the main body of the text.

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, using SI-acceptable 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 of the manufacturer or a major distributor parenthetically after the first mention of the product. EXAMPLE: “Soil

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

J. L. Steiner

ABSTRACT

Rationale	Crop yields are primarily water-limited under dryland production systems in semiarid regions.
Objectives or hypothesis	This study was conducted to determine whether the growing-season water balance could be manipulated through planting geometry.
Methods	The effects of row spacing, row direction, and plant population on the water use, light interception, and growth of grain sorghum [*Sorghum bicolor* (L.) Moench] were investigated at Bushland, TX, on a Pullman clay loam (fine, mixed, superactive thermic Torrertic Paleustoll).
Results	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^{-1} of dry matter and grain, respectively. High population resulted in high dry matter (6.1 Mg ha^{-1}) and low grain yield (1.6 Mg ha^{-1}), whereas low population resulted in low dry matter (5.4 Mg ha^{-1}) and high grain yield (2.3 Mg ha^{-1}). 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.
Conclusions	Narrow-row planting geometry appears to increase the partitioning of ET to the transpiration component and may improve the efficiency of dryland cropping systems.

respiration was measured with a CO_2 analyzer (Model LI-6251, LI-COR)." 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)."

Plants and other organisms, including viruses, insects, bacteria, and pathogens should be identified accurately at first mention by scientific name (with authority for plants) and cultivar name if applicable. Scientific names for larger animals (e.g., sheep) should be given if relevant to the article and/or there may be confusion as to what animal is being discussed. 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 used. 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. You may want to summarize more complicated results 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 typically covers 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 combined with the Results section or standing alone, the Discussion section should focus on the meaning of your findings, not recapitulate them.

Scientific speculation is encouraged, but it should 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.

Figure Captions, Tables, and Figures. In the *submitted manuscript*, tables and figures (review quality) with captions should be placed into the text document at first mention. Figures can also be submitted separately as image files in the following acceptable formats: EPS, TIF, PDF, or JPG.

For *accepted manuscripts*, figure captions and tables appear after the reference list, and figures should be submitted as separate high-resolution image files in the following acceptable formats: EPS, TIF, PDF, or JPG. No separate list of table titles is needed.

Color figures of accepted manuscripts must adhere to our color policy (see Chapter 5 and the online "ASA, CSSA, SSSA Editorial Policies" page for details). To maintain clear contrast, use line patterns instead of shading and avoid thin, light lines. As feasible, plan for reduction to one-column width (84 mm, or ~3.25 inches). The original should be one-third to one-half larger than the intended final size. Keep relative sizes in mind when adding symbols, letters, and numbers.

For book chapters, consult the book editor for the sequence of the final elements.

See Chapter 5 for more information on figures and tables.

SUPPLEMENTAL MATERIAL

Journals of ASA, CSSA, and SSSA accept supplemental material that will enhance and support your research. Supplemental files will appear online and will be accessible from the issue TOC and article-level pages. Authors are encouraged to submit materials that contribute to the content and quality of the article or to use supplemental material as a means to shorten the text of manuscripts. Ancillary information such as some experimental data, including schematics of apparatus and maps of study sites, or material of interest mainly to specialists are examples of potential supplemental material. When using

supplemental material to shorten the text of a manuscript, keep in mind that the Materials and Methods section should provide enough detail to allow the reader to determine whether the interpretations are supported by the data.

Supplemental material undergoes peer review and so should be submitted along with the original manuscript. A brief description of the supplemental material should be included in the main manuscript directly preceding the reference list. Supplemental tables and figures should be cited in order in the main manuscript.

Supplemental material should be formatted with a cover sheet listing authors and manuscript title, and the number of pages, figures, and tables. Tables and figures should be numbered Supplemental Table S1, S2, Supplemental Figure S1, S2, etc.

Ideally, the supplement should consist of a single PDF or MS Word file (rather than a series of files with individual images or structures); however, most file types are allowed, including video, spreadsheets, and PowerPoint files. To keep file size down, please compress the files if possible. The following are not allowed: executables (.exe) of any kind or TeX.

CITATION STYLE

Journals of ASA, CSSA, and SSSA follow the APA citation style as found in the *Publication Manual of the APA,* 7th edition (APA, 2020) The author–year notation system is required; do not use numbered notation.

Two authors. For within-text citations of papers with two authors, name both authors. Use an amersand for citations in parentheses.

Murphy and Jones (2018) supported...; (Murphy & Jones, 2018)

Three or more authors. With three or more authors, use the first author's last name plus "et al."

Murphy et al. (2018)

(Murphy et al., 2018)

Exception: If two references with the same year shorten to the same form (e.g., Murphy, Smith, Davis, & Xu, 2018, and Murphy, Xu, Smith, Jones, & Davis, 2018; both shorten to Murphy et al., 2018), cite as many of the authors' surnames as needed to distinguish the two references, followed by "et al."

Murphy, Smith, et al. (2018) and Murphy, Xu, et al. (2018)

Two or more works within the same parentheses. Separate citations with a semicolon.

(Murphy, 2001a; Murphy & Wong, 2001; Murphy et al., 2001)

(Murphy, 2001; Murphy et al., 2001, 2002; Murphy & Davis, 2002)

Two or more articles by the same author(s) in the same year. Add a distinguishing lowercase letter (a, b, c, etc.) to the year in both the text and references list. Separate citations with a comma.

(Murphy, 2001a, 2001b)

Authors with the same last name. Use first initials with the last names to help prevent confusion.

(E. Murphy, 2001; C. Murphy, 2011)

See APA (2020) for additional examples.

Citing Quotations

Direct quotations from a book or very long chapter require a page number in the text citation. When practical, the exact page number is preferred for any quotation.

Example: *[from Weidenhamer, 1996: Agronomy Journal, 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."

Citing Unpublished Sources

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) and 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, 4 March 2018)
(unpublished data, 2019) *[when all authors are responsible for the data]*
(Faribault, unpublished data, 2019) *[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 in 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 are not 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 before submitting the manuscript for publication.

REFERENCES

Journals and books of ASA, CSSA, and SSSA follow the APA reference style as found in the *Publication Manual of the APA,* 7th edition (APA, 2020).

Preparing the Reference List

Authors are responsible for the completeness and accuracy of all references.

If you have consulted abstracts, theses or dissertations, extension bulletins, in-press articles, or secondary materials during your research or for early drafts of the paper, check again upon acceptance for publication whether this this information has been published in a more readily available source.

Alphabetization

Arrange the list alphabetically by the surnames of authors. 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. Two or more articles by the same author (or authors) are listed chronologically and then by title. Articles by the same author or authors published within a single year by adding lowercase letters, a, b, c, etc., to the year. EXAMPLE:

Shotwell, C. A., & Smith, G. W. (2001).
Shotwell, O. L. (1998a).
Shotwell, O. L. (1998b).

Shotwell, O. L., Goulden, M. L., & Hesseltine, C. W. (1994).
Shotwell, O. L., Hesseltine, C. W., & Goulden, M. L. (1993).
Shotwell, O. L., Hesseltine, C.W., & Goulden, M. L. (1997).
Shotwell, O. L., Hesseltine, C. W., Vandegraft, E. E., & Goulden, M. L. (1992).

Authors

An author can be a person, committee, organization, or other party responsible for the work. Only when no author can be determined for a document should "anonymous" be used. For web pages, it is most common to use the name of the organization as the author. EXAMPLES:

University of Wisconsin Extension. (2012). University of Wisconsin automated weather observation network. http://www.soils.wisc.edu/wimnext/awon/awon.html

Food and Agriculture Organization. (1994). *Production and trade yearbook, 1993*. FAO.

The author's name is listed by last name first, followed by initials (Smith, J. R.). For works by more than one author, all authors' names are inverted (Smith, J. R., Li, L., & Rosen, C.). For works by two authors, use an ampersand (&) between the names. For works by 3 to 20 authors, list all authors, with an ampersand before the final author. For works by more than 20 authors, list the first 19. After the 19th author, use an ellipsis (...) in place of the author names. Then provide the final author's name. There should be no more than 20 names (Basso, B., Dumont, B., Maestrini, B., Shcherbak, I., Robertson, G. P., Porter, J. R., Smith, P., Paustian, K., Grace, P. R., Asseng, S., Bassu, S., Biernath, C., Boote, K. J., Cammarano, D., De Sanctis, G., Durand, J.-L., Ewert, F., Gayler, S., Hyndman, D. W., ... Rosenzweig, C.).

Titles

Use sentence-style capitalization for titles and subtitles of articles, book chapters, bulletins, and books, capitalizing the first letter of the first word as well as proper nouns and adjectives. Capitalize journal titles. Book and journal titles should be italicized.

Acronyms

Use acronyms or commonly understood abbreviations (e.g., SSSA, USEPA, ICRISAT) for publishers in the reference list and in the text citation. For institutional authors, it is usual to spell out acronyms and abbreviations. As an exception, acronyms are used for IPCC and the international agricultural research centers of the Consultative Group on International Agricultural Research (CGIAR) system (www.cgiar.org). Use postal state abbreviations with publisher locations to identify U.S. states or Canadian provinces (see Table 2–2).

Style of the Reference List

Some common types of references are shown below. Extensive rules and examples for references of all kinds are given in the APA *Publication Manual* (APA, 2020).

Periodicals

Each reference to a periodical publication must include, in order, the author(s), year of publication, full title of the article, publication in which it appears, and volume and inclusive page numbers. 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. An article ID may take the place of the page range.

First author, second author, & third author. (Year). Title of article. *Journal Title, Vol no.*(issue no.)*,* page range. DOI (Digital Object Identifier).

Journal article without a DOI.

Bordoli, J. M., & Mallarino, A. P. (1998). Deep and shallow banding of phosphorous and potassium as alternatives to broadcast fertilization for no-till corn. *Agronomy Journal, 90,* 27–33.

Journal article with a DOI.

Doerge, T. A. (2002). Variable-rate ntirogen management creates opportunities and challenges for corn producers. *Crop Management, 1.* https://doi.org/10.1094/cm-2002-0905-01-RS

Kato, C., Nishimura, T., Imoto, H., & Miyazaki, T. (2011). Predicting soil moisture and temperature of Andisols under a monsoon climate in Japan. *Vadose Zone Journal, 10,* 541–551. https://doi.org/10.2136/vzj2010.0054

Basso, B., Dumont, B., Maestrini, B., Shcherbak, I., Robertson, G. P., Porter, J. R., Smith, P., Paustian, K., Grace, P. R., Asseng, S., Bassu, S., Biernath, C., Boote, K. J., Cammarano, D., De Sanctis, G., Durand, J.-L., Ewert, F., Gayler, S., Hyndman, D. W., ... Rosenzweig, C. (2018), Soil organic carbon and nitrogen feedbacks on crop yields under climate change. *Agricultural & Environmental Letters*, *3*, 180026. https://doi.org/10.2134/ael2018.05.0026

Article in serial publication.

Brown, P. D., & Morra, M. J. (1997). Control of soil-borne plant pests using glucosinolate-containing plants. *Advances in Agronomy, 61,* 167–231.

Edwards, A.C., & Cresser, M.S. (1992). Freezing and its effect on chemical and biological properties of the soil. *Advances in Soil Science, 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., Silverio, J. C. O., & Primaves, O. (1982). Foliar fertilization of soybean: II. Effects of NPK and micronutrients. (In Portuguese, with English abstract.) *Pesquisa Agropecuária Brasileira*, *17*, 1559–1562.

Title in original language

Rosolem, C. A., Silverio, J. C. O., & Primaves, O. (1982). Adubação foliar de soja: II. Efeitos de NPK e micronutrientes. (In Portuguese, with English abstract.) *Pesquisa Agropecuária Brasileira, 17*, 1559–1562.

Article not in English and without English abstract (translated title).

He, X., Xie, W., Deng, S., & Lu, S. (1983). The problems and achievements about improving use of red-yellow soil in China. (In Chinese.) *Chinese Journal of Soil Science, 2,* 1–4. https://doi.org/10.19336/j.cnki.trtb.1983.02.001

Articles in press.

For an in-press article, use the current year as the date. If the manuscript has been posted online ahead of publication, include the DOI.

Author. (Year). Article title. *Journal title.* DOI link (in press).

Preprint papers.

Include the DOI or other persistent indentifier if one is given. For articles without a DOI, include the URL.

Al-Halbouni, D., Watson, R. A., Holohan, E. P., Meyer, R., Polom, U., Dos Santos, F. M., Comas, X., Alrshdan, H., Krawczyk, C. M., & Dahm, T. (2021). *Dynamics of hydrological and geomorphological processes in evaporite karst at the eastern Dead Sea: A multidisciplinary study*. Hydrology and Earth Systems Science Discussions. https://doi.org/10.5194/hess-2021-37

Huijser, D., Goodman, J., & Brewer, B. J. (2015). *Properties of the affine invariant ensemble sampler in high dimensions*. arXiv. https://arxiv.org/pdf/1509.02230.pdf

Magazine article.

Davenport, C. H. (1981, 2 March). Sowing the seeds. *Barron's*, p. 10.

Mulla, D. (2021). Trends in satellite remote sensing for precision agriculture. *Crops and Soils, 54*(1), 3–5. https://doi.org/10.1002/crso.20093

Books (including bulletins, reports, multivolume works, series)

Author. (Year). *Book title.* Publisher.

Brown, J. (1966). *Soils of the Okpilak River region, Alaska* (CRREL Research Report 188). U.S. Army Cold Regions Research Engineering Laboratory.

Budavari, S. (Ed.). (1996). *The Merck index* (12th ed.). Merck.

California Certified Organic Farmers. (1995). *California Certified Organic Farmers certification handbook*. CCOF.

Chemical Abstracts Service. (1989). *Chemical Abstracts Service source index: 1907–1984 cumulative, plus annual supplements*. Chemical Abstracts Service.

Doty, W. T., Amacher, M., & Baker, D. E. (1982). *Manual of methods: Soil and environmental chemistry laboratory*. Department of Agronomy, Pennsylvania State University.

Dzombak, D. A., & Morel, F. M. M. (1990). *Surface complexation modeling: Hydrous ferric oxide*. John Wiley & Sons.

Fehr, W. R., & Caviness, C. E. (1977). *Stages of soybean development* (Special Report 80). Iowa Agricultural and Home Economics Experiment Station, Iowa State University.

Food and Agriculture Organization. (1994). *Production and trade yearbook, 1993*. FAO.

Goering, H. K., & Van Soest, P. J. (1971). *Forage fiber analysis (apparatus, reagents, procedures, and some applications)* (USDA Agriculture Handbook 379). U.S. Government Printing Office.

Schneiter, A. A. (Ed.). (1997). *Sunflower technology and production*. ASA, CSSA, and SSSA.

Snedecor, G. W., & Cochran, W. G. (1989). *Statistical methods* (8th ed.). Iowa State University Press.

Soil Survey Staff. (1999). *Soil Taxonomy: A basic system of soil classification for making and interpreting soil surveys* (Agriculture Handbook 436, 2nd ed.). U.S. Government Printing Office.

Southern Cooperative Series. (1983). *Reference soil test methods for the southern region of the United States* (Southern Cooperative Series Bulletin 289). Georgia Agricultural Experiment Station. *[Publisher varies as the series rotates among institutions.]*

Steel, R. G. D., & Torrie, J. H. (1960). *Principles and procedures of statistics, with special reference to the biological sciences*. McGraw-Hill.

Steel, R. G. D., & Torrie, J. H. (1980). *Principles and procedures of statistics: A biometrical approach* (2nd ed.). McGraw-Hill.

Taylor, B. N. (1995). *Guide for the use of the International System of Units (SI)* (NIST Special Publication 811). U.S. Government Printing Office.

USEPA. (1981). *Process design manual for land treatment of municipal wastewater* (USEPA Report 625/1-77-008, COE EM1110-1-501). U.S. Government Printing Office.

Westerman, R. L. (Ed.). (1990). *Soil testing and plant analysis* (3rd ed.). SSSA.

Online Books

Online books usually correspond to printed versions, and the reference style is similar. Use the DOI if available.

Boverhof, D. R., & Gollapudi, B. B. (Eds.). (2011). *Applications of toxicogenomics in safety evaluation and risk assessment*. John Wiley & Sons. https://doi.org/10.1002/9781118001042

Chapter in a Book

The entry for a chapter or article within a larger work must give the author(s), year, chapter title, the word "In," any editors, and the publication title, followed by the volume (for multivolume works), edition (when more than one has been published), page range, publisher, and DOI if known.

Author. (Year). Chapter title. In Editor name(s) (Ed.), *Book title* (page range). Publisher. DOI

Boutton, T. W. (1991). Stable carbon isotope ratios of natural materials: II. Atmospheric, terrestrial, marine, and freshwater environments. In D. C. Coleman & B. Fry (Eds.), *Carbon isotope techniques* (pp. 173–185). Academic Press.

Buresh, R. J., Smithson, P. C., & Hellums, D. T. (1997). Building soil phosphorus capital in Africa. In R. J. Buresh et al. (Eds.), *Replenishing soil fertility in Africa* (pp. 111–149). SSSA. https://doi.org/10.2136/sssaspecpub51.c6

Gardner, W. H. (1986). Water content. In A. Klute (Ed.), *Methods of soil analysis: Part 1. Physical and mineralogical methods* (2nd ed., pp. 493–544). ASA and SSSA.

Online Chapter in a Book

Casado, M. R., Corstanje, R., Bellamy, P., & Marchant, B. (2013). Issues of sampling design in wetlands. In R. D. DeLaune et al. (Eds.), *Methods in biogeochemistry of wetlands* (pp. 1–19). SSSA. https://doi.org/10.2136/sssabookser10.c1

Conference, Symposium, or Workshop Proceedings and Transactions

An entry for conference proceedings is similar to an entry for a book. Conference proceedings often have two titles: the title of the book of proceedings and the name of the conference or symposum. Capitalize the name of the conference; use sentence style for the name of the book.

Published proceedings.

Editor. (Year). *Title of book: Number and Name of Conference.* Publisher.

Faw, W. (Ed.). (1992). *Forages '92, grassroots of animal agriculture: 1992 American Forage Grassland Council Proceedings.* AFGC.

Pascale, A. J. (Ed.). (1989). *Proceedings of the World Soybean Research Conference IV*. Orientación Gráfica Editora S.R.L.

Wilkinson, D. (Ed.). (1993). *Proceedings of the 49th Annual Corn and Sorghum Industry Research Conference*. American Seed Trade Association.

Chapter in a proceedings volume.

Papers published in a proceedings volume are treated much like a book chapter. If only an abstract of the article appears in the proceedings, insert "[Abstract]" after the article title and before the period. Include the DOI at the end if one is available.

Dawson, J. C., & Goldringer, I. (2009). Direct or indirect selection in breeding for organic agriculture. In H. Østergård et al. (Eds.), *Proceedings of the BioExploit/Eucarpia Workshop on the Role of Marker Assisted Selection in Breeding Varieties for Organic Agriculture* (pp. 15–18). BioExploit Project.

Golding, K. A., Davidson, D. A., & Wilson, C. A. (2010). Micromorphological evidence for the use of urban waste as a soil fertiliser in and near to historic Scottish towns. In R. J. Gilkes & N. Prakongkep (Eds.), *Proceedings of the 19th World Congress of Soil Science, Brisbane, Australia: Soil solutions for a changing world* (pp. 12–15). IUSS.

Power, J. F., & Biederbeck, V. O. (1991). Role of cover crops in integrated crop production systems. In W. L. Hargrove (Ed.), *Cover crops for clean water: The Proceedings of an International Conference, West Tennessee Experiment Station, April 9–11, Jackson, Tennessee* (pp. 167–174). Soil and Water Conservation Society.

Abstracts.

Cite meeting abstracts only until a more formal publication becomes available.

Caldwell, B. A. (1997). Fatty acid esterase activity in forest soils and ectomycorrhizal mat communities. In *1997 Agronomy abstracts* (p. 223). ASA.

Krischnamurti, G. S. R., & Huang, P. M. (1991, October). The role of Al in Fe(II) transformation. In *Abstracts, Annual Meeting, Clay Mineral Society* (p. 96). Clay Mineral Society.

Papers and poster sessions presented at meetings.

Use the following format when citing unpublished conference papers. Include the month of the meeting. When possible, avoid citing conference papers older than two years. If subsequent publication is known, cite the published form.

Author. (Date). *Title of paper* [Paper or poster presentation]. Conference name, Place of Conference. DOI or URL

Kaeppler, S., De Leon, N., Sekhon, R., Hansey, C., Buell, C., Lin, H., & Childs, K. (2011, 16–19 October). *Expression analysis supporting functional genomics research in maize* [Paper presentation]. 2011 ASA, CSSA, and SSSA International Annual Meeting, San Antonio, TX.

Miscellaneous

Dissertations and theses.

Christianson, L. E. (2011). *Design and performance of denitrification bioreactors for agricultural drainage* [Doctoral dissertation, Iowa State University]. Iowa State University Digital Repository. https://lib.dr.iastate.edu/etd/10326

Oba, M. (2015). *Adsorption selectivity of cations in constrained environments* [Master's thesis, University of Connecticut]. UCONN Library. https://opencommons.uconn.edu/gs_theses/781/

Software and software documentation.

References are not needed for common software such as Microsoft Excel and SAS software.

Abacus Concepts. (1991). *SuperANOVA user's guide* (Release 1.11). Abacus Concepts.

Minitab. (1998). *MINITAB 12* [Software]. Minitab.

Map.

Cite a map separately only if it is a stand-alone publication. If there is no author for a map, do not use "Anonymous." In such cases, the name of the map stands in for the author.

Author. (Year). *Map title* [map type, e.g., demographic map]. Map number (if included). Publisher. Notes (e.g., scale).

Patent and plant patent.

Dudeck, A. E. (1995). *Bermudagrass plant 'FHB-135'* (U.S. Plant Patent No. 9030). U.S. Patent and Trademark Office.

Titcomb, S. T., & Juers, A. A. (1976). *Reduced calorie bread and method of making same* (U.S. Patent No. 3,979,523). U.S. Patent and Trademark Office.

Performance and variety test.

Pietsch, D., Gaas, R., Rosenow, D. T., Miller, F., & Peterson, G. C. (1992). *Grain sorghum performance tests in Texas: 1991* (Technical Report 92-2). Texas Agricultural Experiment Station.

Schapaugh, W. T., & Roozeboom, K. L. (1993). *1992 Kansas performance tests with soybean varieties* (Report of Progress 673). Kansas State University.

Tyler, J. M., & Bell, P. P. (1998). *Uniform soybean tests, southern states, 1997.* USDA-ARS.

Crochet, W. D. (2011). T*he uniform soybean tests, northern states: 2010.* USDA-ARS.

Standard.

Institution. (Year). *Title* (Rule number). Publisher.

ASABE (1993). *Manure production characteristics* (ASABE Standard D384.1). ASABE.

ASTM. (2003). *Specification for concrete aggregates* (ASTM Standard C33). ASTM International. https://doi.org/10.1520/C0033-03

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. When citing an entire website, give the URL in text only.

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's home page). Cite these in the text only as personal communication; include the date (F. Li, personal communication, 29 January 2019).

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Title. Book and journal titles are usually clearly stated on a website. For original content from online sources, other than formally published documents such as journal articles and books, include as much of the following as can be determined: Author of the content, date, title or description of the page, website name, and the URL. Citations to databases should include the URL or preferably, the DOI if one is given. Include the site name for web pages on websites.

For citing an online document that gives no publication date, use n.d. If the author is the same as the website name, omit the site name to avoid repetition.

Author. (Year). *Title of document*. Site name. URL

Rummer, B., Prestemon, J. P., May, D., Miles, P., Vissage, J., McRoberts, R., Liknes, G., Shepperd, W. D., Ferguson, D., Elliot, W., Miller, S., Reutebuch, S., Barbour, J., Fried, J., Stokes, B., Bilek, E., & Skog, K. (2003). *A strategic assessment of forest biomass and fuel reduction treatments in western states*. USDA Forest Service. http://www.fs.fed.us/research/pdf/Western_final.pdf

Soil Survey Staff. (n.d.). *Web soil survey: Soil data mart*. USDA-NRCS. http://websoilsurvey.nrcs.usda.gov

USEPA. (2002). *National Water Quality Inventory: 2000 report* (EPA-841-R-02-001). http://www.epa.gov/305b/2000report/

Electronic, Non-Internet Sources

It is standard practice to indicate a publication is not in print format by placing after the title a word that describes the specific nonprint medium. Use brackets, such as [CD].

Watschke, T. L., DiPaola, J. M., & Shepard, D. P. (2012). *Turf growth regulation* [CD]. CSSA.