

WSSA GUIDELINES FOR REVIEWERS

Why and when should you review?

Peer review is vital to the integrity of our science, filtering out low-grade or questionable papers to maintain the quality and validity of published research. Researchers expect prompt, fair and knowledgeable feedback on submitted manuscripts, but this can only happen if their fellow scientists are willing to step up. To put it bluntly, expecting your peers to review your own papers without contributing as a reviewer yourself is freeloading. Fortunately, peer review is not mere altruism - there are benefits. Reading not-yet-published research keeps you up-to-date with the latest developments in your field; evaluating new manuscripts by your peers stimulates reassessment of your own work and how best to present it; and producing a good review hones your thinking and writing.

All new scientists should develop reviewing expertise, preferably with help from a more experienced mentor. However, if you are that mentor, do not hand off reviews to graduate students or postdocs and then submit them as your own work. Get prior agreement from the Associate Editor handling the manuscript if you want to assign part or all of a review to someone you supervise. Then provide guidance, and ensure that your student or postdoc is appropriately credited for their efforts. Young scientists bring new insights and cutting-edge knowledge, but initially they need help identifying what to look for in a manuscript and negotiating the format, expectations, and protocols of peer review.

You should not review a manuscript if you currently share an employer or institution with one or more of the authors, or if any of the authors is a current collaborator. Contact the Associate Editor if there might be other potential conflicts of interest (e.g. an author is one of your recently-graduated students). Be honest about declining to review manuscripts for which you do not have relevant expertise, and do not offer to review if you know you cannot meet the deadline. However, please help an overworked Associate Editor whenever possible by suggesting someone more suitable.

If you do agree to review, **submit it on time**. As authors we have all experienced the frustration of a manuscript decision delayed by a tardy review - don't be that reviewer.

Reading the manuscript

Do an initial read of the entire manuscript to get an overall sense of the content and whether it should be published. If after this first read-through you consider the paper is not publishable, you must still write a review to provide the editor with sufficient feedback to justify rejection, and to provide the authors constructive criticism to help them avoid similar mistakes in future. Reasons for recommending rejection might be weakness in the underlying concept; serious errors in experimental design or statistical analysis; and lack of novelty or meaningful contribution to the body of knowledge. However, don't recommend rejection for trivial errors. Ask yourself if the paper is worth revising, and if so, what improvements can you suggest to make it publishable? If a paper cannot be salvaged, don't string authors along by proposing revisions - this is a waste of everyone's time. If you do recommend rejection, write your

comments to the authors in a manner you would like to receive yourself. For early career authors publishing their first papers, a vicious review can be severely damaging to morale with lingering impacts throughout their careers. Be courteous, kind, and don't use your anonymity as a reviewer to indulge in unnecessarily harsh criticism.

If after a first reading you decide the manuscript is potentially publishable, read it again, more slowly, while making notes. Many reviewers find it helpful at this point to have figures, tables etc. printed as hard copy or available in a separate file so they can be referred to while reading the text. Brief notes can be inserted directly on the manuscript PDF for transmission to the authors, but longer comments should be submitted as a separate file. When commenting on specific points within the manuscript, **include the line number(s) to which you are referring**. This saves time for the authors and the Associate Editor as they work through your comments.

You must not reveal or exploit the contents of any manuscript entrusted to you as a reviewer. WSSA journals conduct single-blind review, where the authors' names remain on the manuscript and are visible to the reviewer, but only journal Associate Editor and Editor know the identities of the reviewers. You are expected to maintain strict confidentiality regarding the authors and contents of any manuscript that you review. It is also highly unethical to steal for your own use any ideas, text, data or figures from an unpublished manuscript in review.

If you have concerns about plagiarism or other problems with scientific integrity related to the manuscript you are reviewing, contact the Associate Editor and the journal Editor directly. Do not include such concerns in your written remarks to the author.

Writing a good review

Be clear and constructive in your comments, starting with general observations on the manuscript and proceeding to more detailed comments on specific points. Avoid unnecessarily negative or derogatory language. A good review provides feedback the authors can use, either to improve the current manuscript and prepare it for publication, or to reconsider their approach in future manuscripts. Reviewing is not an opportunity to display your superiority or settle scores. **Do not include any recommendation to accept, revise or reject in your remarks to the authors**. Your recommendation should only be communicated via the drop-down menu box in Editorial Manager, and in any private comments you send to the Associate Editor.

Points to consider when writing your review:

1. What is original or novel about the reported research? (A quick online literature search can be very revealing - has anyone done this previously?) How does the research expand our knowledge of the topic? Do the authors clearly communicate justification for the research, and their research objectives?

2. Have the authors provided sufficient context by reviewing and summarizing the relevant literature? If there are key publications that they fail to mention, provide *complete* citations (not just a vague reference to "Smith's paper on this") and brief explanations of why these

references should be included. However, do not instruct authors to cite publications that you authored unless they are uniquely relevant to the topic. Reviewing is not an opportunity to manipulate citations of your own work.

3. Is the manuscript well-written and easy to read? You can make the occasional suggestion for rewording, or point out where the meaning of a sentence or phrase is unclear. However, it is not the reviewer's responsibility to rewrite the manuscript. A poorly-written paper should be recommended for either major revision or rejection with the option of resubmission after the authors have improved the writing. Do not correct minor points of grammar or punctuation in your review - leave final polishing of the text for the copyeditors, and focus on the manuscript content.

4. Abstract: The abstract will be widely available via journal websites and online databases. Readers and researchers will use it to determine whether to access the entire article. Does the abstract present a succinct and accurate summary of the research presented and the conclusions reached?

5. Materials and Methods: Did the authors use the most suitable experimental methods? Did they explain why they chose these methods? Were sample sizes adequate and was the sampling protocol effective and unbiased? Were there adequate controls and levels of replication? Are the data sufficient for any conclusion? Are the statistical analyses appropriate and correctly conducted? (See the references below for additional resources on statistics). This section should provide sufficient information on what was used (including sources of seeds, plants and other materials), and how it was used (details of how data were generated) that someone reading the manuscript could accurately replicate the experiment. The authors should also clearly state when and where the research was conducted.

5. Results and Discussion: Here the authors present their data and statistical analysis, and they describe and evaluate their results. Questions to ask yourself as you review this section include: Are the results clearly and fully presented? Is the authors' interpretation of their results credible and coherent? Did they achieve their objectives by answering the questions they set out to address? Were there unexpected results, and if so, how did the authors interpret them? Are the authors' conclusions supported by the data, or are they speculating too much? Do the authors present a well-informed and objective evaluation of how their results contribute to the broader body of knowledge? Do they make exaggerated or inaccurate statements about the significance of their results? Are there implications of their results that they do not discuss?

6. Tables and figures: Are they all relevant? Is information presented in tables and figures sufficiently important to include in the text, or should it be provided as supplementary material? How does each table or figure contribute to the reader's understanding of the article? Are differences between treatments or trends shown in figures and tables correctly identified in the text? Do any of the tables or figures merely duplicate information provided in the text? Is each table and figure easy to interpret and accurately captioned?

7. References: The copyeditors will cross-check in-text citations with the listed references. However, if you spot a missing or incorrect citation, it is helpful to note it in your review so the authors can correct it when revising the manuscript.

A final note

It is very helpful to editors and authors if you can re-review the revised manuscript if asked, as you will already be familiar with the original manuscript and requested revisions. Authors are understandably frustrated when they receive a completely different set of comments on a revised manuscript that was sent to new reviewers. The exception to this is a reworked manuscript submitted after a decision of reject/revise/resubmit. WSSA editorial policy is to handle this as a new submission and assign it to a new Associate Editor and different reviewers.

RESOURCES FOR REVIEWERS

1. Essentials of peer review

<https://authorservices.wiley.com/Reviewers/journal-reviewers/how-to-perform-a-peer-review/step-by-step-guide-to-reviewing-a-manuscript.html>

<https://www.elsevier.com/reviewers-update/story/peer-review/peer-review-how-exactly-do-i-do-that>

<https://researcheracademy.elsevier.com/navigating-peer-review/fundamentals-peer-review>

Allen et al. (2019) What does better peer review look like? *Learned Publishing* 32: 163–175. Open access at <https://doi.org/10.1002/leap.1222>

2. Statistics guidelines

Ritz et al. (2015) Research methods in weed science: statistics. *Weed Science* 63 (Sp1):166-187. Open access at <https://doi.org/10.1614/WS-D-13-00159.1>

3. Advice from experienced reviewers

<https://www.natureindex.com/news-blog/dont-let-famous-names-scientists-influence-peer-review-journal>

[https://www.cell.com/cell/fulltext/S0092-8674\(19\)30963-8](https://www.cell.com/cell/fulltext/S0092-8674(19)30963-8)