

Publishing papers in international journals

I B Ferguson

The Horticulture & Food Research Institute of New Zealand

Private Bag 92169

Auckland

New Zealand

iferguson@hortresearch.co.nz

1. Introduction

There is increasing pressure for scientists in all countries, including China, to publish their research in international journals. This is necessary for personal careers, as well as for the reputations of universities and other research organizations. Additionally, with the continued growth in international scientific research and the speed with which advances are being made, an active and successful researcher needs to take part in the global circulation of results and information on new technologies.

Despite moves towards electronic forms of communication, electronic journals are still not the currency of information distribution. Although this may change rapidly in the future, printed journals are still the preferred communication route. However, there is a perception that Chinese researchers have difficulty publishing in international journals. The reasons for this may not be peculiar to Chinese research, but more to do with inexperience in writing papers for the international publishing community. The following notes have

been assembled with the intention of providing some thoughts on international publishing, and the problems that may be encountered.

2. Pressure on the journals

The situation in international publishing does not favour the researcher. There is increasing pressure on journals, with most experiencing increasing numbers of submissions each year. At the same time, journal sales, or subscriptions, are not generally increasing, with many university libraries trying to cut costs by reducing subscription numbers. Publishing costs increase as well. It is probable that there are too many journals, with not enough people or institutions buying them.

To counter this pressure, most editors maintain high rejection rates, almost certainly over 50%. This is also a reflection of the need for high quality; the success of a journal is very dependent on the quality of the papers published. Other measures include restricting page numbers, and applying page charges.

The result of this pressure, and of the publishing and editorial response, is that it has become increasingly difficult to get papers published in reputable journals. Thus it is all the more important that researchers write papers properly.

3.Format

Authors must follow the journal guidelines. These are available on the journal websites and in the current issues of the journal. Authors are often either

not able to understand guidelines (although they are usually very clearly laid out) or are simply too lazy to look for and follow them. Many editors will simply return unreviewed manuscripts to the authors immediately if the guidelines are not followed; if there are more papers being submitted than can be published, why bother handling a paper that doesn't follow the required format (for instance, try editing a paper in single spaced text!).

Get your paper read by an accomplished English speaker. Most editors have considerable sympathy with non-English speaking authors. However, time and publishing pressure does not allow even a sympathetic author to spend hours correcting English.

4. Hypotheses and objectives

It is surprising how many papers fail to show specifically what is being addressed. Even studies which are largely data collecting have underlying hypotheses or a framework of scientific issues which drive the research. These need to be provided, both briefly in the Abstract, and in the Introduction. Unfortunately, the absence of such reasoning in many papers may reflect its absence in the experimentation itself. The pressure to publish leads, at times, to mindless data collection, without adequate rationalisation. It is increasingly difficult to publish this sort of research.

5. Context

In past years, access to international journals has been difficult in some countries. This is becoming less so in recent years, with extensive online availability of journals and searching facilities. However, there are still papers being written where the authors ignore relevant published work. One of the most common reasons for rejecting papers is the absence of reference to both current and older literature. Research must be presented in the context of what is already known. In some cases, it looks as though the fault is not only with writing up the work. There are many instances where an experimental programme has obviously been conducted without sufficient knowledge of published work.

6. Novelty

The most common reason for rejecting papers is that the work is not new or novel enough. We recognize that with the amount of research being done internationally, it is increasingly difficult to find new things to do, to develop new approaches to old problems, and to produce results which are new and provide unique information of value in the progress of science. For example, in the biological sciences, we often see work that is the same as that already published, but on a different plant or animal species. This is not enough to warrant publication, unless some unique result or understanding eventuates.

7. Writing the paper

The Abstract or Summary of a paper is the part of the paper which is the most read, probably then followed by the Results and then the Methods. It is likely that the Introduction and the Discussion are the least read. Remember that you are not only writing for the general scientific audience in your field, but as a first step, you are writing for two or three Referees. In terms of assembling a paper, think how they will be reading it.

Title

This should be brief yet descriptive. Do not claim things in the title that are not delivered in the paper.

Abstract or Summary

Most journals have a restriction on the number of words in an Abstract, and this must be adhered to. The Abstract should include some indication of the rationale for the work, some description of what was done, and a summary of the results. A sentence at the end with the major conclusion is useful. Remember that the Abstract may be used in an abstracting service or search database, and so should be informative and complete on its own. It may be the only way in which your work reaches other scientists.

Introduction

Your Introduction should not be a review. Keep the reference numbers down to those which are strictly relevant. Most readers are probably already familiar

with the subject. The Introduction must include the objectives of the work, clearly written, usually expressed as a consequence of research already published.

Materials and Methods

The test for this section is whether someone else could repeat your experiments from the details provided in the paper. Many authors use references for some methods. This is acceptable, so long as those references are easily accessible.

Some of the most important information required in the methods is that on the design and statistical treatment of the results. For instance, if there is no indication of replication and sampling numbers, then a reader is not able to assess the validity of the data. The other associated aspect is an analysis of the levels of error or variation in the data. This essentially is what statistics provide. Biologists these days seem to believe that the provision of standard errors or standard deviations is sufficient. However, this is not always the case: often the experimental design does not allow certain statistics to be used. Statisticians or biometricians should be consulted, not only in the handling of data, but in the experimental design.

Results

Keep this section focused and concise. Unless this is a combined Results and Discussion section, keep comments and reference to the literature out, or at a minimum. Table and Figure captions should be able to stand alone; they should

have enough information to be understood without constant reference to the text.

Tables and Figures should also be readable. Authors need to remember that Figures will be reduced in size in the journal, and so symbols, lines and captions should be designed so that they can be read, at a minimum, in a single column format in the printed journal.

Discussion

The Discussion should not simply be a repeat of the results but a clearly written section which draws conclusions from the results and places them in the context of the literature. Speculation is usually heavily penalised by Referees and Editors, and neither should the Discussion be a literature review.

8. Referees and Editors

It is likely that if you get one referee recommending acceptance and one rejection, you will almost certainly get rejected. A negative review, even if unnecessarily harsh, will put enough doubts in an editor's mind to result in rejection, particularly where there is pressure from too many papers being submitted. However, good editors will over-rule referees if they feel that the comments have not been fair. Similarly, if they feel that the refereeing has not been rigorous enough, they may reject the paper despite more favourable reviews. Be prepared to argue some points with the editor; an editor will accept reasonable arguments. It is also acceptable, in special cases, to request that

particular scientists not be used to review the paper, if there is known conflict or competition. Most editors will accept this.

Papers tend to be graded into accept, revise, and reject categories. In the revise category, there is often a division between minor and major revision. Because of publishing pressure, some journals are now not accepting papers which require major revision. Thus the standards and barriers are continually rising.

9. Conclusions

It is not going to get any easier to publish internationally. However, if you do good work, with new information, and can present it acceptably, then you should get published. Thus the key to getting published lies in the research more than in writing the paper. Conversely, good writing and presentation will not hide bad research in these competitive days.