



Editorial

Some suggestions and guidelines for preparation of manuscripts for submission for consideration for publication

Abstract

This editorial discusses principles that may be useful in guiding authors in preparation of manuscripts to be submitted for consideration for publication in Animal Feed Science and Technology (AFST). The editorial highlights some of the difficulties with manuscripts that can lead to problems with reviewers and editors, and outlines approaches to manuscript preparation that the Co-Editors in Chief have found to be successful. The editorial is not meant as an exhaustive treatise on manuscript preparation for all situations, but as a general guide to preparation of manuscripts that will avoid the common failings that can lead to rejection of manuscripts from publication in AFST.

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1. Introduction

Preparation of a manuscript that will successfully pass through the peer review process is not intuitive. While it is clear that a high quality manuscript should reflect high quality science, the manuscript itself should attract and hold a reviewer's attention by being easy to read, grammatically correct and following style and format guidelines of Animal Feed Science and Technology (AFST). As an author, you do not want your manuscript to elicit an initial response from a reviewer that it will be a substantial effort to decide if is good science simply due to poor manuscript preparation.

As research in animal feed science and production has increasingly moved beyond the bounds of its traditional base in English speaking and European countries, more authors

Abbreviation: AFST, animal feed science and technology

than ever with English as a second language are choosing to submit manuscripts to AFST. While the Co-Editors in Chief of AFST welcome these manuscripts, the reality is that their acceptance rates have, in general, been well below historical levels. The recent availability of on-line submission has also led to a sharp increase in the number of manuscripts submitted to AFST, largely not from its traditional author base, as well as an equally sharp decrease in manuscript acceptance rates. This has led to an unprecedented need for reviewers and, since reviewing a manuscript with a recommendation for rejection is generally much less fulfilling than reviewing a manuscript with a recommendation for acceptance, a general deterioration in the review experience has resulted. A very unfortunate reality is that manuscripts are increasingly being rejected based upon style, format, grammar, sentence structure and presentation issues in general, rather than purely on scientific merit since, in far too many cases, reviewers and editors cannot decide if the science is sound, and/or due to reviewer fatigue (*i.e.*, reviewers give up).

The objective of this editorial is to provide guidelines on preparing manuscripts for consideration for publication in AFST. The Co-Editors in Chief note that they have some expertise in publishing scientific manuscripts (over 350 among them) and some experience in dealing with manuscripts that have been assessed by AFST reviewers (over 3000 among them). Thus, the guidelines that are in this editorial represent a combination of their collective experiences as authors, reviewers and editors. These guidelines are presented with a hope that they will be of use to potential AFST authors by helping them to write manuscripts that will result in reviewer (and editor) assessments that reflect their scientific merit rather than their presentation.

2. Before you start to write

The first step should be to consult the AFST website and the most recent ‘Guide for Authors’ to determine if your subject area is suitable for AFST, as well as to review manuscript submission rules. If this is one of your first manuscripts, or the first manuscript in a new area for you, it is often very wise to examine recent issues of AFST and identify articles that address issues similar to yours and/or have a similar experimental design. These articles can be particularly useful as they represent manuscripts that successfully passed the review process and have formats that at least some reviewers and one editor have found to be acceptable.

If this is a first manuscript, or one after some initial unsuccessful manuscripts, it will be worthwhile to consult a book on writing scientific manuscripts. The Co-Editors in Chief recommend two (Day, 1989; Malmfors *et al.*, 2004), although there are others.

Finally, examine carefully the sample manuscript that is posted at the AFST website to see what an acceptable AFST manuscript looks like. Keep in mind that the manuscript format differs substantially from that of the published article.

3. The role of co-authors

The selection of co-authors, and their order on the manuscript, is largely the decision of the first named author, who is generally also the contact author. The criteria for inclusion as

an author differ somewhat among sciences and countries but, in general, a co-author should have provided sufficient scientific and/or creative input to have substantively impacted on the design of the study or its interpretation. However, individuals that provided inputs without which the manuscript could not have been prepared may also warrant inclusion as authors. Individuals that provided services for hire (an increasingly common event) or technical services or advice may, or may not, warrant mention in the 'Acknowledgements'.

The first named author is ultimately responsible for all aspects of the manuscript, including its final preparation and submission. However all authors should be involved in preparation of the manuscript, either *in toto* or relative to a specific section. If a co-author has no role in preparation of any aspect of the manuscript then this should raise the question of their suitability as a co-author. While it may seem obvious, no person should be included as a co-author without their expressed consent, and all co-authors should approve a final version of the manuscript prior to its submission for publication.

4. Writing the manuscript

All authors develop a style of writing and strategy of manuscript preparation. The following comments represent some tactical suggestions on manuscript preparation that the Co-Editors in Chief have, in general, found to be successful in many cases.

4.1. Write the 'Materials and methods' first

This section should address the word 'how', as in 'how was the study completed'. Many authors find that this is a good section to write first. In fact, it is often possible to largely write this section prior to initiating the study since, in many cases, it will likely have already been written as a part of a proposal or protocol. Recognize that your objective for this section is to describe fully how you completed the study by including, as a general guideline, sufficient information to allow others to repeat your study without having to consult you.

Items of particular importance in this section include descriptions of your experimental conditions (*e.g.*, location, experimental units, diets, conditions of the study), description of your experimental model, description of all experimental methods (use the originally published method as much as possible although if the method was 'modified', then describe the modification). Finally, consult the AFST 'Guide for Authors' and the AFST methods editorial (Udén *et al.*, 2005) to be sure that all terms and conventions used are consistent with AFST guidelines.

The 'Materials and methods' should generally finish with a section that describes the statistical models. It is important that this section is complete (*i.e.*, describes all models that were used), consistent with the experimental design (or designs) that were described in the 'Materials and methods', and with the hypothesis that was proposed in the 'Introduction'. It is not sufficient to simply say that 'data were analyzed by ANOVA' or 'ANOVA was conducted by GENSTAT'. It is often very wise to state clearly the probability levels that are being accepted as representative of statistical differences and, possibly, trends to differences and, if these diverge from general conventions, clearly state your rationale. Finally, consult the 'Guide for Authors' and the AFST statistics editorial (Robinson *et al.*, 2006) to be sure

that all terms and conventions are consistent with AFST guidelines. It is very unwise to describe the statistical methods incompletely as reviewers are much more likely than in the past to make initial assessments (which can lead to a recommendations for rejection) based upon incomplete, inconsistent and/or confusing descriptions of statistical methods.

4.2. Structure the tables and figures

The tables and figures should be presented in a clear and concise format that, in general, utilize intuitively logical terms and abbreviations, and are fully described either in the body of the table or figure (or in its legend) and only by direct reference to another section of the manuscript if absolutely necessary. Many authors find that this is a good section to draft after the ‘Materials and methods’ is largely complete. Keep in mind that tables can generally be structured in advance of data actually becoming available, and completed later, although figures often should be reserved to highlight particularly important impacts of treatments (reviewers and readers often examine figures prior to tables due to their visual appeal).

Do not make tables too big (a single page is a good guideline) but put similar data together to eliminate several small tables. Avoid multiple reporting of the same data (*e.g.*, dry matter intake in kg/d, as a proportion of body weight, as a proportion of metabolic body weight and as kg per experimental period). Figures should be presented as you would like to see them in a published format and they should not be used simply to repeat data presented in tables. Avoid many small figures and avoid small figures in general to enhance readability by reviewers.

4.3. Write the ‘Results’

This section should in general address the word ‘what’, as in ‘what were the results of the study’. Many authors find that this is a good section to write either in conjunction with drafting the tables and figures or immediately after doing so.

A general guideline in writing the ‘Results’ is to recognize that readers can and will examine the tables and figures, albeit to widely varying degrees. Thus it is not necessary to highlight every treatment difference in every response parameter, but to provide a focus on those treatment differences that are both statistically significant and biologically (and/or economically in some cases) important. In general, use a minimum of text in this section, at least partly by not stating that response parameters were not influenced by treatments. It is often best to present data in a very logical sequence by table and figure, and avoid moving back and forth among tables or figures.

Be consistent with the criteria that you defined in the statistics sub-section of the ‘Materials and methods’. Try hard not to treat numerical differences and trends to differences as being equivalent to statistical differences. Confusion between numerical differences, trends and statistical differences is a fast road to difficulties with reviewers and editors.

4.4. Write the hypothesis/objectives paragraph and the ‘Conclusions’

Many authors find that this is a good section to write after they have fully assessed the results of the study. The hypothesis/objectives paragraph will generally be the final

paragraph of the ‘Introduction’ and should have been previously written in a proposal or protocol. However, there will likely be a need for modifications due to changes in the study after its initial writing. In general, this section should address the word ‘why’ the study was initiated, as in ‘why was it important to do this work’, but should also clearly and very concisely describe what was to be done and the resources used. In studies where a hypothesis can be formulated, it should be included and be consistent with the statistical analysis.

The ‘Conclusions’ should be directly connected to the objectives and hypothesis statements (*i.e.*, indicate how the objectives were met in full or in part). They should both summarize the key findings of the study and indicate their implications. This section should generally be between 1/4 and 1/2 of a page of text. If the results were generally consistent with the expectations (*i.e.*, no surprise results) then often only two paragraphs will suffice (*i.e.*, summarize key findings and then indicate their implications). However if there are unanticipated results that are somewhat peripheral to the original objectives, it is often best to highlight that in a middle paragraph, but integrate their implications with those of the other findings in the final paragraph.

4.5. Write the ‘Introduction’

Writing the ‘Introduction’ should consist of revisiting the justification section of a proposal or protocol that was written prior to initiating the study in order to adapt your original logic by the publications, discussions, thinking and/or results that have occurred after its preparation. Many manuscripts submitted to AFST are rejected on grounds of not presenting any new information. This section is often vital in convincing the editor and reviewers that your paper is worth publishing.

While AFST does not formally restrict the length of the ‘Introduction’, it is best to be as concise as possible. In general, this section should clearly and concisely describe key relevant prior research. Referencing all research is generally not desirable at this point since it can be integrated into the ‘Discussion’. The ‘Introduction’ section should lead logically to an understanding by the reader as to what is not known that led to the hypothesis/objectives. The ‘Introduction’ should lead seamlessly to the ‘objectives/hypothesis’ statement that will generally be its final paragraph.

4.6. Write the ‘Discussion’

The ‘Discussion’ should in general address the word ‘how’, as in ‘how did the results occur biologically’, and it should be fully consistent with the ‘Introduction’. It is often a good idea to use the first paragraph of the ‘Discussion’ to clearly outline limitations of the study, if any, which may impact interpretation of the results and how the authors dealt with those limitations.

It is extremely important that results of the study be discussed in a biologically integrated fashion, both within the study as well as relative to results of other scientists. Thus, it is important to avoid re-reporting results of your study in favour of integrating your results to address the biology of how they occurred. In this context, it is often very useful to re-structure the sub-sections within the ‘Discussion’, *versus* those that were in the ‘Results’, to facilitate a focus on biology. For example, a study may have examined the impact of an inoc-

ulant on silage fermentation and its composition at feeding, as well as intake, digestibility, blood metabolite profiles and production of animals. In this case, the 'Results' might best be structured between silage characteristics, feed intake and digestibility, blood profiles, and then animal performance. However, the 'Discussion' would be better structured in a way that integrates all findings to present and discuss a unified hypothesis as to how the inoculant elicited changes in silage quality that led to, for example, improvements in some aspects of animal performance in the absence of, for example, an impact on blood metabolites or nutrient digestibility. An effective 'Discussion' does not consist of comparing your results, within response parameter, to those of others (although such comparisons can be integrated into the 'Results' where appropriate). Occasionally new tables may be added to the 'Discussion' in which literature data is compared with your own findings.

4.7. Revisit the 'Conclusions'

After completing the 'Discussion', it is often a good idea to revisit and edit the 'Conclusions', particularly if the process of writing the 'Discussion' has changed your initial thinking and/or introduced findings of importance that had not previously been recognized. Be absolutely certain that this section highlights what is new (*i.e.*, what is known after completion of the study that was not known before it was initiated).

4.8. Prepare the 'References'

The list of references will probably have been growing as preparation of the manuscript progressed. However at this point it is advisable to double-check that all references are in AFST format, that all listed references are referred in the text, that all references are needed (try not to use excessive numbers of references) and that all references to publications in the text have a listed reference. Double-check the completeness and accuracy of all references (and their correct use in the text) since many reviewers will do so. Inaccurate references lead to a lack of confidence in other areas of the manuscript. Several reference management programs exist that can help to organize and correctly format the references.

4.9. Write the 'Abstract' last

The 'Abstract' does have keystroke limitations and it is important that the final version complies with AFST guidelines. An effective 'Abstract' is a capsule summary of the manuscript that includes a brief background (usually 1 sentence), objectives statement, very brief statement of resources employed, key results, interpretation of the findings, and implications. Avoid excessive reporting of numbers in the 'Abstract'.

5. Reviewing the completed manuscript

At this point it is often a good idea to revisit the title of the manuscript to be certain that the original version still captures the essence of the study, is concise and contains the important words that will attract people with a potential interest in the subject. This is also

the opportunity to select words for the 'keywords' section, and it is generally best to include important words or terms that are not in the title (*i.e.*, avoid selecting 'keywords' that are already in the title).

Circulate the final version of the manuscript to all co-authors for comments and suggestions. Be sure to highlight individually for each of them the sections where you would like them to provide specific input or comment. Ask them to review the sections that they either wrote, or to which they provided key input, for accuracy and relevance.

Once all co-author comments are received and integrated to the manuscript, consider an informal review by a colleague with expertise in the area, who was not involved in the study and who can, if possible, meet with you to discuss his/her comments. It is often possible to target problem areas in the manuscript by identifying the parts of it that were confusing to this reviewer. If English grammar and sentence structure could be deficient due to author limitations, seriously consider enlisting the aid of a fully capable English speaker to create a grammatically clear and concise text. Be aware that AFST manuscripts may have one or more non-first language English speaking reviewers and that interpretative problems tend to compound in such cases if the manuscript is not written clearly.

Finally, review the manuscript again for AFST style and format guidelines, as well as neatness, grammar and sentence structure, and then read and edit it at least twice more for scientific logic and clarity of statements. Polish the manuscript. If you do not appear to take your manuscript seriously, then reviewers tend to be dubious about other aspects of it. Next: forget about it for 2 weeks! After that period, read and edit it yet again for AFST style and format, as well as neatness, grammar, sentence structure, scientific logic and clarity of statements. It is often surprising how many errors will be discovered.

6. Submitting the manuscript for consideration for publication

It is important that the *e*-submission rules are followed precisely as the Elsevier *e*-submission system, like all *e*-systems, is not forgiving of errors. Be certain that you receive an e-mail confirmation of a successful submission.

7. Final comments

Animal Feed Science and Technology is a scientific journal with a wide international authorship that in recent years has enjoyed a sharp increase in the numbers of manuscripts submitted. Many of these manuscripts are from outside the traditional AFST author base and it is these articles that have tended to suffer a very high rate of rejection relative to traditional rates. Unfortunately, many of these manuscripts are not recommended for publication by reviewers due to issues of style, format, grammar, sentence structure and manuscript section structure that preclude an assessment of the scientific merit of the manuscript and/or simply lead reviewers to give up in frustration. This has also led to problems in attracting qualified reviewers for submitted manuscripts since reviewers become fatigued by reviewing poorly prepared manuscripts and will tend avoid others.

The Co-Editors in Chief hope that the comments in this editorial will be of assistance to authors in preparing high quality AFST manuscripts that will result in reviewer comments that focus on scientific merit rather than on issues of style, format, grammar and structure.

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