SILVIA REGINA GALLETI
https://orcid.org/0000-0002-0745-5716
INSTITUTO BIOLÓGICO

BEST EDITORIAL PRACTICES: A MAPPING OF THE AGRICULTURAL SCIENCE JOURNALS IN THE SCIELO BRASIL COLLECTION

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SILVIA REGINA GALLETI
Scientific Researcher - Instituto Biológico (IB/APTA/SAA)
Editor-in-Chief - Arquivos do Instituto Biológico
https://orcid.org/0000-0002-0745-5716

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1 INTRODUCTION

Best editorial practices represent a set of criteria and guidelines regarding scientific publishing and the roles of the main actors involved in the process, both from an ethical and operational point of view (ANPAD, 2011). The adoption of these best practices in the management of scientific journals certainly contributes strongly to the consolidation of the different fields of the scientific knowledge on the world stage.

Best editorial practices should be clearly defined and presented to the journal's authors, reviewers, and editors. They will be described in the journal's editorial policy, and it is the editor's role and responsibility to keep it up to date and available for access (CSE, 2018).

Among the precepts related to best publishing practices, among the most traditional are the responsibility to bring to its readers new and relevant knowledge within its subject area, in addition to an editorial process executed in a systematic and efficient manner (ANPAD, 2011). This process must also be transparent, that is, offer the possibility of monitoring by the parties involved as much as possible (TRZESNIAK, 2009). In the 21st century, best publishing practices recommend that journals should also have dissemination, quality, and ethical conduct policies (ANPAD, 2011). Currently, in addition to maintaining all the precepts already established, other behaviors are required by the journals to comply with best practices. These include the requirement for authors to provide their Open Researcher and Contributor ID (ORCID) and their appropriate contributions that justify their participation in the article.

When considering all the best publishing practices, one notes that the current landscape of scholarly communication is extremely dynamic in other respects as well. The scientific community has been demonstrating the need for new publication models that can express the complexity and dynamics of contemporary scientific research (SANTOS; NASSI-CALÒ, 2020). In consonance with this scenario, we have the arrival, and consolidation, of the so-called open science.

Open science is a movement that encourages transparency in scientific research from the concept of investigation to the use of open software (NOSEK et al., 2015; SILVA; SILVEIRA, 2019). The set of initiatives that shape what is known as open science, such as open access, open data, collaborative platforms, among others, constitutes an approach to scientific practice that applies new digital technologies and collaborative tools to promote joint research and evaluation efforts, as well as to disseminate and use the knowledge produced as quickly and widely as possible (CABALLERO-RIVERO et al., 2019; FOSTER; DEARDORFF, 2017).

In total agreement with this movement, Brazil has the Scientific Electronic Library Online (SciELO), a cooperative model of digital publication of scientific journals, the result of

a Brazilian initiative project, which aims to develop a common methodology for the preparation, storage, dissemination and evaluation of scientific production in electronic format (www.scielo.br). It is worth mentioning that this is a Brazilian initiative and that, currently, the following countries also participate in the SciELO network: South Africa, Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Spain, Mexico, Peru, Portugal, Uruguay, and Venezuela.

Scientific Electronic Library Online is a support program for research infrastructure with the objectives of contributing to the advancement and systematic and sustainable increase of the visibility and scientific, cultural, social and economic impact of scientific research, communicated by journals of increasing quality in Brazil, published in open access in a multilingual context and progressively aligned with open science communication practices, with the aim of maximizing the transparency of the journals' production processes, the reproducibility of the research they communicate, and the sharing and reuse of the data and other research content underlying the texts of the articles (SCIELO, 2020).

Integrating the collection means that the journal has an acceptable degree of compliance with international standards for scholarly communication, such as professionalization, internationalization, and operational and financial sustainability, as well as compliance with open science. In other words, the journals in the SciELO collection are a reference in promoting compliance with best editorial practices.

Scientific Electronic Library Online Brazil covers a selected collection of scientific journals comprising about 300 titles from all areas of knowledge (Agricultural Sciences, Biological Sciences, Exact and Earth Sciences, Human Sciences, Applied Social Sciences, Engineering, and Linguistics, Literature and Arts), with very strict criteria for admission and permanence (SCIELO, 2020). With 40 active titles, the Agricultural Sciences area publishes 18% of the total number of articles in SciELO Brazil.

Agriculture and agribusiness play a crucial role in the economy in Brazil. This importance is reinforced by scientific publications in the area. Agricultural Science journals have become the most efficient and sustainable journals with international standard (OLIVEIRA et al., 2017). In light of this prominence, journals in this area should be committed to meeting best editorial practices, thus keeping up with international trends.

Therefore, the general objective of this work is to map the adoption of best editorial practices by the journals in the field of Agricultural Sciences indexed in SciELO Brazil with the aim of establishing joint actions for their effective adoption and implementation.

To this end, the specific objectives are:

a. To identify best practices and the respective stages of adoption by the journals analyzed;

b. To characterize the status of the adoption of best practices by the journals analyzed in order to strengthen the SciELO objectives;

c. Systematize actions to enable the adoption of best editorial practices for Agricultural Sciences journals in the shortest possible time.

2 METHODOLOGY

The approach applied in this study was quanti-qualitative. For this, the instrument used was a questionnaire for data collection. This questionnaire was forwarded to the editors of the Agricultural Sciences journals in the SciELO Brazil collection in December 2020. Thus, the research universe was delimited by the 40 journals that compose the collection in this area.

Google Forms was used to send the questionnaire, aiming to obtain the positioning and impressions of the editors of the area of Agricultural Sciences that integrate the SciELO Brazil collection with respect to some ethical issues, compliance with scholarly communication standards, and alignment with open science practices.

The questionnaire was designed with questions that covered three contexts: 1) best editorial practices already implemented by the journal; 2) level of agreement with the adoption of the best practices; 3) anticipated implementation of open science. To this end, nine questions with the following topics were proposed:

1. Identification of the publisher and journal;
2. Journal's condition in meeting other issues of best editorial practice;
3. Viewpoint of the journals of Agricultural Sciences regarding the alignment and empowerment of those involved in the editorial process to meet open science;
4. Forecast implementation of the journal's actions regarding the adoption of open science;
5. Opinion about the need for resources (human, infrastructure and/or financial) to implement the actions related to the adoption of open science;
6. Journal's condition of having resources (human, infrastructure, and/or financial) for open science adoption (preprints, openness and referencing of data, openness of peer review).

Except for the first question, for which the answers were descriptive, the other answers were multiple choice.

The answers were analyzed and organized in tables and/or graphs for better interpretation of the results obtained.

3 RESULTS AND DISCUSSION

Of the 40 forms sent to the editors of the Agricultural Sciences journals that are part of the SciELO Brazil collection, 16 answered the questionnaire, corresponding to 40% of the survey universe.

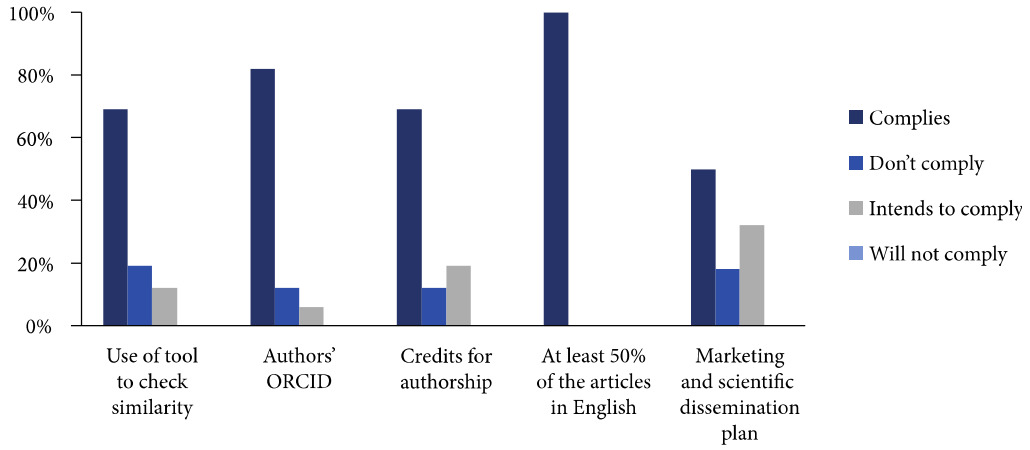
To preserve the identity of the respondents, the journal titles and the name of the publisher were kept anonymous in this study.

3.1 Identification of best practices adopted by the journals

Since its creation in 1998, SciELO Brazil has been improving its compliance with best editorial practices and, consequently, the adherence of the journals to them. Among these best practices, here are three examples already practiced by SciELO journals: i) since 2014, all articles in the collection must mention the Digital Object Identifier (DOI); ii) because it is an open access collection, SciELO adopts the Creative Commons licenses in all journals. The standard license used, since 2015, is CC-BY (Creative Commons Attribution), international for article texts, and CC0 (Creative Commons Zero or public domain) for article metadata; iii) since 2017, all SciELO journals must be indexed in the Directory of Open Access Journals (DOAJ) (SCIELO, 2020).

In recent years, other criteria have been demanded and required by SciELO in order to meet best editorial practices, which are expected to be in the process of being implemented or already implemented by the journals in the collection. Among these best practices are i) issues of article similarity checking; ii) the authors' data regarding their ORCID identifier and their contribution to the article; iii) maximizing the number of articles published in the English language; and iv) the establishment of a marketing and scientific outreach plan by the journals.

It can be seen in Figure 1 that most journals in the area of Agricultural Sciences meet the criteria of using some tool for similarity checking (69%); authors inform the ORCID (82%) and establish criteria that justify their participation as an author of the article (69%); 50% of the journals have a marketing and scientific dissemination plan established; and 100% of the editors who responded to the form publish at least 50% of their articles in English.



Source: The author.

Figure 1 – Compliance of the Agricultural Sciences journals in the SciELO collection with best editorial practices.

It is worth noting that no journal answered the option that it "will not comply" with one of these best practices. This confirms the commitment of the Agricultural Sciences journals to effective compliance with best editorial practices.

These results highlight the fact that all journals in the Agricultural Sciences area meet the requirement of publishing at least 50% of their articles in English. As stated by Vargas et al. (2014), the predominance of English in Agricultural Sciences publications can be explained due to the visibility it gives to publications; however, it has to be taken into account that there is still a group of researchers who tend to publish in their native language. In addition, the use of the English language in publications also propitiates their internationalization and favors their indexing in the main indexing databases. From the total of 330 Brazilian journals indexed in Scopus, 22.4% belong to the area of Agricultural Sciences. Regarding the Web of Science, which indexes a total of 165 Brazilian titles, Agricultural Sciences journals from Brazil represent 27% of the amount indexed there (OLIVEIRA et al., 2017).

The results presented for the question of authors' contribution to the article confirm that journals in the Agricultural Sciences are attaching due importance to this issue and applying fair and consistent standards to the published papers. As also recommended by SciELO, several journals adopt the Contributor Roles Taxonomy (CRediT) as a way to clearly demonstrate the role of each author in a given article (PADULA et al., 2018). By requesting the ORCID of authors and, also, their contribution based on the CRediT taxonomy, the journal provides the combination of these informations and makes it possible to link author data with their publications, capture author contributions in journal metadata, and track and retrieve

researcher's authorship contributions across their publications and through time (NASSI-CALÓ, 2018).

3.2 Characterization of the status of best practice adoption by journals

From 2020, the SciELO Brazil criteria began to promote adherence to best practices of open science communication in the policies, management and editorial operation of the journals. To this end, the journals in the collection are being required to make the relevant adjustments.

Table 1 presents the editors' perceptions regarding the alignment and empowerment of those involved in the scientific publishing process to meet open science. It can be seen that in the understanding of the editors of the journals of the Agricultural Sciences, 50% of them state that the journals of the SciELO collection should lead the actions to address open science in Brazil, while other 19% disagree with this statement. Similar values were obtained regarding the question of having a joint action within the area for the promotion of open science (50% agree), against 12% who disagree that this type of action would result in benefit. With this, the editors demonstrate that they partially believe in both SciELO's leadership and in the collective action of the area for the successful implementation of open science practices by the journals of the Agricultural Sciences.

The majority of publishers (88%) say that their editorial policies would not be updated by the end of 2020 to be aligned with open science. But this does not denote, as will be seen in the results obtained later, a refusal to comply with SciELO requirements. It only reflects that, for this moment, journals are not fully aligned with open science, but that they certainly will in the near future.

Table 1 also highlights the high percentages of disagreement regarding the training of those involved in the editorial process to attend to open science. Most editors in the Agricultural Sciences believe that authors, reviewers, and editors are not yet prepared to respectively submit, evaluate, and manage manuscripts within the principles of open science.

As mentioned, 88% of the editors stated that they would not meet the updates in their journal's editorial policy in 2020. Corroborating this result, it can be seen in Table 2 that a minority of the publishers stated that they already meet or would meet this SciELO requirement by the end of 2020. The only exception observed was for the publication, in the final version of the article, of the identity of the editor responsible for the evaluation of the work, which obtained 31% of respondents stating that they already apply this practice in their journals.

Table 1 – Perception of editors of Agricultural Sciences journals regarding the alignment and empowerment of those involved in the editorial process to meet open science.

	Agree (%)	Neither agree nor disagree (%)	Disagree (%)
SciELO journals are expected to lead the promotion and adoption of open science practices in Brazil.	50	31	19
The editorial policy of SciELO journals, in favor of alignment with open science practices, should be updated by the end of 2020.	6	6	88
A joint action of the journals of the Agricultural Sciences, by adopting open science, will facilitate decision making.	50	38	12
Authors are prepared to submit manuscripts within the principles of open science.	0	6	94
The reviewers are prepared to evaluate manuscripts within the principles of open science.	0	6	94
The editors are prepared to manage manuscripts within the principles of open science.	0	25	75

Source: The author.

Although a reasonable portion of publishers state that they will meet SciELO requirements in 2021 in complying with open science practices, it can be seen that the majority focuses on the options "no forecast" and "need more information" (Table 2). Given this behavior of the editors, it is evident that the slowness in taking action to implement the practices of open science by the journals of Agricultural Sciences is due to the lack of elucidation on the subject.

Among the three main pillars of open science that constitute its practices (preprints, open data, and open peer review) and that were evaluated in this study, it was evidenced that actions involving the adoption of preprint and open data have already been initiated by some journals and will be implemented by others later in 2021. Contrary to this situation, the adoption of open peer review shows no action taken by journals and has the lowest rate of journals that will implement it in 2021, with only 12% of editors stating such initiative (Table 2).

It is worth noting that the adoption of open peer review was the only open science practice surveyed that had a total of 23% of editors ticking the "will not adopt the practice" option. This indicates that, although editors of journals in the Agricultural Sciences are willing to implement the actions for the adoption of preprints and open data in their editorial policy or,

at least, are willing to have more information for such action, the adoption of open peer review already shows clear rejection by editors in this area.

Table 2 – Expected implementation by the journals of the actions related to open science in the proper guidelines in their editorial policies.

ACTIONS	Already complies (%)	Comply by the end of 2020 (%)	Comply in 2021 (%)	No forecast (%)	Need more information (%)	Will not adopt the practice (%)
Preprints						
Instruct and encourage authors/define recommended servers	12	2	27	23	36	0
Open Data						
Instruct and encourage authors/define recommended repositories	8	3	33	22	34	0
Open peer review						
Opening of the evaluation process and consequent publication of the evaluators' identities and opinions in the article	0	0	12	38	33	17
Publication of the editor's name on the article	31	0	25	19	19	6

Source: The author.

The position of the Agricultural Science journals for the implementation of these pillars of open science reveals a contradiction here. While on one hand publishers are willing to implement the practices of preprint, on the other hand they state that they will not adopt open peer review. But, as Souza (2019) states, the adoption of the preprints model directly dialogues with the advocacy of open science and, consequently, applying to the end of the double-blind model, which can be understood as a concern on the part of the scientific community and, on the other hand, as a move towards more transparency in the manuscript evaluation process.

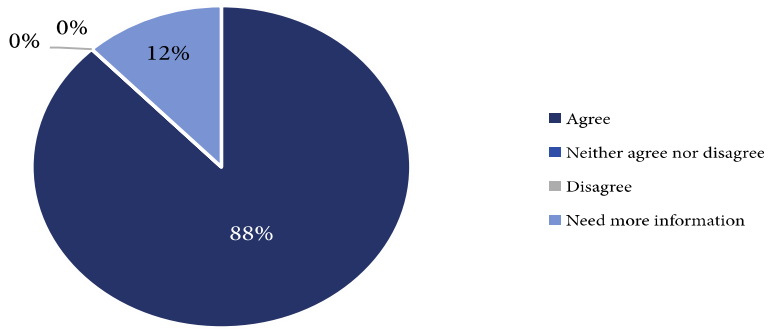
With regard to the opening of the manuscript review process, the position of the editors of Agricultural Sciences in stating that "there are no plans" or that "they will not adopt the practice" of opening peer review reveals the willingness to maintain the current model used by most journals: double-blind. In a study conducted with journals from the Portal Brasileiro de Publicações Científicas em Acesso Aberto (oasisbr), it was found the undeniable notoriety of double-blind evaluation that figures as the evaluation used by 95.3% of the journals in the sample being considered more efficient by 95.1% of the editors (VILAS BOAS, 2017).

The need for more information noted by the editors of Agricultural Sciences seems to be the same as that observed for Nursing and Health Sciences. Souza (2019) states that, in Brazil, the preprints theme seems to be poorly explored, even in areas outside the country that have traditionally adopted this form of publications for decades and that, in these areas, still find few spaces for discussion about the particularities facing this "new" type of publication, which is progressively starting to integrate the debate in specific forums and events.

3.3 Actions required for the adoption of best editorial practices

For the adoption of some actions to meet best editorial practices it is necessary that the journal has resources, mainly financial, for its implementations. Best practices that require financial resources include assigning the DOI for each article and hiring a similarity checking system. Other best practices may require hiring specific professionals for certain actions, such as a foreign language proofreader to correct texts, or even a professional to promote the digital marketing of the journal.

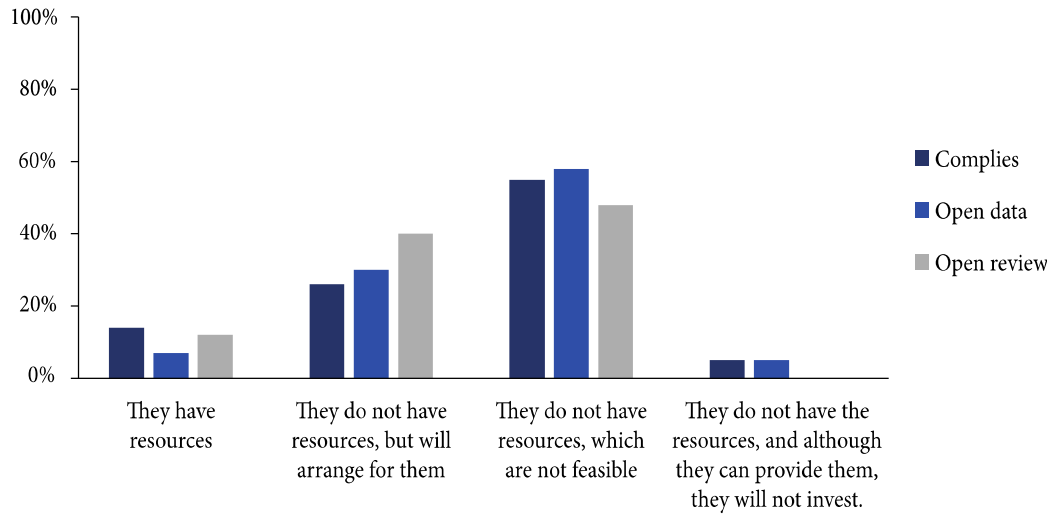
For the adoption of open science practices, the publishers' perception is no different. The majority of the editors of the Agricultural Sciences (88%) understand that there is a need for some kind of resource for the implementation of this new practice by the journal (Figure 2).



Source: The author.

Figure 2 – Agricultural Sciences editors' perception of the need for resources to implement open science.

A very concerning factor is the lack of resources noted by editors in the Agricultural Sciences to invest in the adoption of open science (Figure 3). More than half of the editors in this area say that they do not have the resources to adopt any of the pillars of open science (preprints, open data, and open peer review), and that obtaining such resources is infeasible for the journal's reality. This fact may explain the significant indexes obtained in the forecast of the implementation of open science for the options "no forecast" and "need more information" (Table 2), denoting that the lack of resources causes insecurity in assuming such responsibility of action in the face of the SciELO demand. One positive aspect is the approximately 26 to 40% of journals that do not have the resources yet, but are able to provide them to support the implementation of open science practices. This group of journals, if added to those that already have resources, would reach almost 50% of the Agricultural Sciences journals with the resources to meet SciELO's objectives regarding adherence to open science.



Source: The author.

Figure 3 – Resource condition of journals for open science adoption.

In the study by Oliveira et al. (2017) revealed that, of the 74 journals of Agricultural Sciences evaluated, 55 (74%) receive sponsorship from some funding agency. Of those, 32% have both sponsorship and a fee for processing the articles. It is believed that such resources could help enable the implementation of open science for these journals.

The presence of open science in all disciplinary areas is not yet an established practice and its integration into scientific communities remains a challenge. Open access to research publications presents one of the necessary steps towards open science as a whole, which is still

far from its full potential, since this requires a substantial transformation based on the principles of transparency, sharing, and collaboration (GALLETI et al., 2021; SILVA; SILVEIRA, 2019).

Moreover, actions in open science are seen with enthusiasm by a portion of scientists, but they also encounter a lot of resistance by another portion, not only because of the difficulty of learning to deal with these new practices, but also because of the power shifts that such changes often involve (ALBAGLI et al., 2014).

This will be no different for the area of Agricultural Sciences. An organization of Agricultural Sciences publishers will be needed to cope with these changes and the new reality of scientific communication imposed by the new *modus operandi* of open science.

CONCLUSIONS

1. Most of the journals in the Agricultural Sciences area that integrate the SciELO Brazil collection already meet the main best editorial practices, confirming that they are in line with the world publishing trends;
2. In short and medium time frames, the implementation of actions related to open science by the journals of Agricultural Sciences will be based on preprints and open data;
3. Lack of resources prevents editors of Agricultural Science journals from taking on the implementation of open science;
4. Although it is necessary to promote more information and clarification about the adoption of open science practices in order to effectively position publishers to meet SciELO Brazil's objectives, the journals in the Agricultural Sciences have the potential to successfully implement best editorial practices.

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