DATA SCIENCE - EXTRACTING INSIGHTS
Open Journal

Review

The Plant Journal Actively Supports Open Science and Data Transparency

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BACKGROUND

An essential principle of academic research is that results of research and the resources developed are shared with the wider community. In the past, publishing the work in a peer-reviewed journal and adhering to journal guidelines with respect to sharing of materials such as plasmids, antibodies and seeds has been sufficient to ensure that this principle operates. However, technological advances have turned biology into a much more data-intensive science with very large datasets often a key part of the research. These datasets are a resource in their own right to be re-used and combined with other datasets for extraction of additional layers of insight and information. Because of their size, these datasets cannot be reported in the traditional way, embedded as tables within a paper, but instead are usually provided as supplemental files associated with the online version of the paper. While access to such an unprecedented amount of data is of immense value, in practice the accessibility of such "associated data" is fragmentary and meta-information concerning important experimen- tal details is often difficult to trace.

To ensure that large datasets associated with papers published in The Plant Journal are fully accessible and readily re-usable by other researchers, the Editorial Board have comprehensively revised the journal's data reporting policy. In doing so we have kept in mind the FAIR principles (Wilkinson et al., 2016) that aim to ensure that data are findable, accessible, interoperable and re-usable. The types of data covered by this policy and full details of how these data should be reported can be found at https://onlinelibrary.wiley.com/pb-assets/assets/1365313X/181011_TPJ_data_policy_final_FB-1548414651237.pdf.

We expect that large-scale datasets, genome sequences and computational models/code are freely available in an appro- priate public repository at time of publication. For TPJ Resource Articles, this is mandatory. Given that we expect reviewers to evaluate the datasets and not merely the extracted results, it is also expected that these datasets are deposited in a rele- vant repository prior to submission (provided the repository has a mechanism for private access) to enable reviewers to con- sider these data as part of the peer review process. Again, for TPJ Resource Articles, this is mandatory.

We also strongly recommend that authors associate their ORCID identifier with their Scholar One account to ensure that their paper contains ORCID identifiers, allowing the datasets to be unambiguously linked to the correct authors. Instructions explaining how to do this are provided here: https://authorservices.wiley.com/author-resources/Journal-Authors/submission- peer-review/orcid.html.

We have endeavored to make complying with the new data policy as simple as possible, simply requiring the answering of several tick boxes during the submission process. To promote papers that contain correctly reported open datasets, 'Open Data' badges will be added to such papers.

The Plant Journal supports the growing movement to make research more open, facilitating faster and more effective research discovery by enabling reproducibility and verification of data, methodology and reporting standards. This revision of our data policy is a first step. Looking forward, our aspiration is that The Plant Journal will be at the vanguard of developments in Open Science and Open Access publishing, while still generating a healthy revenue to support the activities of the Society of Experimental Biology, the part-owners of the journal.

REFERENCES

Wilkinson, M.D., Dumontier, M., Aalbersberg, I.J. et al. (2016) The FAIR Guiding Principles for scientific data management and stewardship. Scientific Data,3, 160018.