Instructions for Authors IVP

_In Vitro Cellular & Developmental Biology – Plant (IVP)_ publishes peer-reviewed original research and reviews concerned with the latest developments and state-of-the-art research in plant cell and tissue culture and biotechnology from around the globe.

Established in 1965, IVP combines the official journals of the Society for In Vitro Biology’s Plant Section (SIVB) and the International Association for Plant Biotechnology (IAPB).

There are six issues per year, containing highly relevant, original research.

Four issues - published on behalf of the SIVB cover cellular, molecular and developmental biology research using in vitro grown or maintained organs, tissues or cells derived from plants. These follow the matrix categories given below.

Two special issues – published on behalf of the IAPB (numbers 2 and 5, published March/April and September/October) include original manuscripts, feature and review articles, and IAPB official notifications. The IAPB maintains a completely separate and independent international editorial review board for these two issues, which are not divided into the matrix categories listed below. Specifically, IAPB issues are focused on publishing high impact innovative research dealing with plant tissue culture and molecular and cellular aspects of plant improvement, which employ state-of-the-art tools of plant biotechnology to demonstrate an applied application of the research. All articles are peer reviewed and must follow the format for regular original articles. Brief articles will be considered, using the same format as regular articles. Taking into consideration the number of submissions received, it is imperative that the novelty of the contribution is clearly emphasized. Articles must have significant original content including:

- Appropriate experimental design and data analysis procedures
- Understanding of a scientific problem
- Identification of gene(s), physiology or biochemical with measurable and quantifiable impact on agriculture or the environment
- Broad applicability of knowledge to multiple species and environments

When submitting a manuscript for consideration by the SIVB editorial review board, authors should select the matrix heading below which best covers the scope of their manuscript.

**Matrix Areas and Criteria for Consideration:**

1. **Invited Reviews and Feature Articles** - Review and feature articles of current interest that advance our understanding of recent research on focused topics are invited by the Invited Reviews Editor in consultation with the Editors-in-Chief. Authors may submit topics with brief outlines to the Invited Reviews Editor for consideration. **Criteria:** By editorial invitation or pre-approval.

2. **Symposium and Workshop Proceedings** - Papers presented at the annual SIVB Congresses, and to other professional conferences, are encouraged to be written and submitted as Symposium or Workshop Proceedings for peer review. Collections of several papers from the same symposium or conference are encouraged, but individual proceedings articles are also welcomed. **Criteria:** Must satisfy criteria of appropriate matrix subject area below.

3. **Biotechnology/Genetic Transformation/Functional Genomics** - Transformation methods showing recovery of confirmed transgenic plants; transgene expression/ regulation; plant expression vectors; promoter/ enhancer/terminator effects; transgene product structure–function; transgene combinations; field evaluation; bioinformatics. **Criteria:** Significant advance in conceptual knowledge and/or technological efficiency; molecular evidence of independent transformation events (Southern analysis using restriction enzyme that cuts once within the transferred DNA region for primary transformants; PCR analysis plus phenotype analysis for progeny generations; or insertional flanking sequence information); characterization of transgene expression levels (using Real Time PCR or other appropriate technology) and/or characterization of transgene product or functionality; recovery of whole plants.

4. **Cell Biology** - Cell cycle; cytodifferentiation and cytoskeleton; cell-cell interactions/signaling; protein targeting; organelles; structure–function relationships. **Criteria:** Significant advance in conceptual knowledge; molecular characterization of system.

5. **Developmental Biology/Morphogenesis** - Embryogenesis/embryogeny; gametogenesis/ androgenesis; organogenesis; floral differentiation/ development. **Criteria:** Significant advance in conceptual knowledge and/or technological efficiency applicable to multiple genotypes; recovery and characterization of whole plants and/or progeny; histological evidence of novel developmental pathway(s). Manuscripts will NOT be accepted that report on technical improvements on a specific variety/species where previous information is available, or on formation of shoots/roots without indicating the efficiency of recovery of transplantable plants.

6. **Micropropagation** - Automation; bioreactors; contamination control; disease indexing; scale-up; novel applications of technology; commercial production; cryogenic storage. **Criteria:** Significant advance in conceptual knowledge and/or technological efficiency; recovery and characterization of whole plants; detailed molecular characterization of genetic fidelity; demonstrated application for ex situ conservation and/or restoration of endangered species when the efficiency of recovery of transplantable plants, or demonstration of no somaclonal variation through limited molecular analysis in indicated. Manuscripts will be accepted that report on technical improvements on a specific variety/species where a finished and tested protocol for culturing using common techniques of modifying growth regulator ratios and concentrations but where addition data on performance or molecular characterization of regenerants or chemical composition of regenerants is lacking.
7. **Molecular Farming/Metabolic Engineering/Secondary Metabolism** - Transgenic production of recombinant proteins and pharmaceuticals such as antibodies, edible vaccines, industrial enzymes, etc.; biotransformation; metabolic flux; bioactive/medicinal compounds; bioreactors; scale-up. 
*Criteria:* Significant advance in production efficiency for targeted metabolites; analytical characterization of intermediates, products, enzymatic activities, and/or demonstration of biological efficacy; molecular evidence of transformation when applicable.

8. **Physiology** - Plant growth regulators; primary metabolism; regulatory processes; biochemical and/or signal transduction pathways. 
*Criteria:* Significant advance in conceptual knowledge; appropriate molecular, biophysical and/or biochemical characterization of system.

9. **Somatic Cell Genetics** - Somaclonal variation; epigenetics; mutagenesis; somatic hybridization; haploidization; T-DNA/transposon tagging; homologous recombination. 
*Criteria:* Significant advance in conceptual knowledge and/or technological efficiency; molecular characterization of somatic hybrids, haploids, or heritability of mutation(s).

**MANUSCRIPT SUBMISSION REQUIREMENTS**

**Professional Code of Conduct**

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D. In Conclusion
This consensus statement is intended as the minimal criteria authors must adhere to. In the interest of promoting the highest ethics, all authors must adhere to these criteria when submitting a manuscript to a peer-reviewed journal.

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