

Seminar Series for Postgraduate Students

How to Write a Scientific Review

Monday, 14th December, 2020 at 15:00 (PST)



Vice Chancellor
Prof. Dr. Qamar-uz-Zaman
PMAS-Arid Agriculture
University, Rawalpindi



Keynote Speaker
Dr. Muhammad Waqas Alam
Assistant Professor, ASAB
National University of Sciences & Technology



Moderator
Rizwan Rafique
PhD Scholar
Horticulture, PMAS-AAUR



Discussant
Muhammad Ajmal Bashir
PhD Scholar Horticulture
PMAS-AAUR / Research Fellow
University of Tuscia, Italy



Discussant
Muhammad Basir Shah
PhD Scholar UIBB
PMAS-AAUR



Organized By

Postgraduate Research Students
PMAS-Arid Agriculture University Rawalpindi



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Tuscia

Writing a Scientific Review!

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Ph. D Scholar (PMAS-AAUR)

Senior Research Fellow (University of Tuscia, Italy)

In collaboration with (CREA-Council for Agricultural Research and Economics, Italy)



Why is a review paper very popular?

A **scientific review** of a specific topic which provides!

Sufficient and in-depth interpretation and **synthesis** of published work

Extensive review & critical evaluation of the published literature

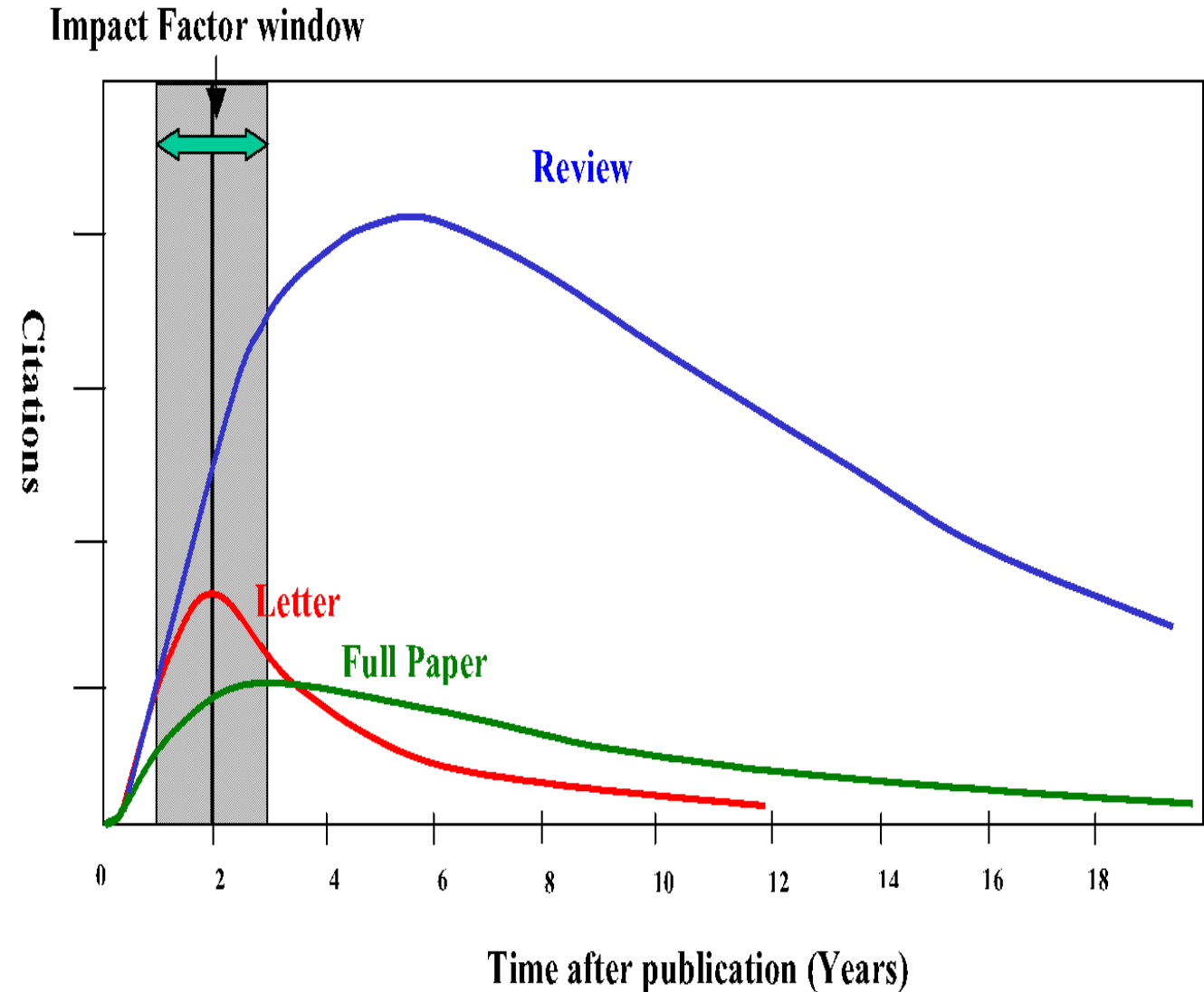
A **voice** that you convey to a **scientific community** about advanced research



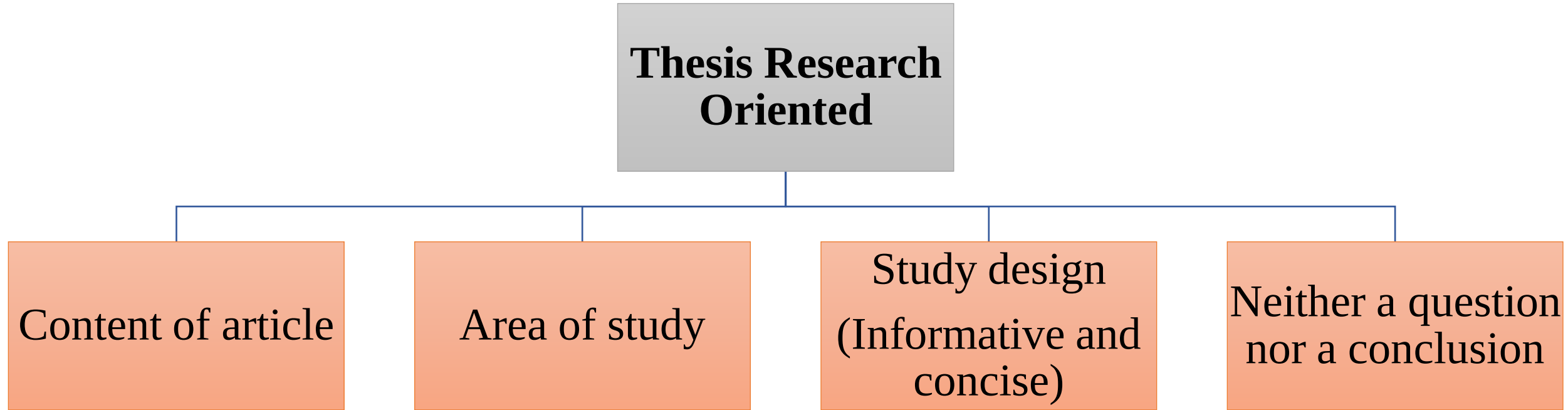
Importance of Review Article

Which type of publication?

- **Research articles** in peer-reviewed journals (preferably with high impact factor)
- **Short communication/Letter**
- **Review articles**
(usually highly cited)
- **Conference proceeding**



Selecting title of the review



Thesis title

Evaluation of Olive Mutants and Transgenic Lines Over-expressing Osmotin Gene for Drought and Salinity Stress Tolerance



plants



Review

Osmotin: A Cationic Protein Leads to Improve Biotic and Abiotic Stress Tolerance in Plants

Muhammad Ajmal Bashir ^{1,2}, Cristian Silvestri ^{2,*}, Touqeer Ahmad ¹, Ishfaq Ahmad Hafiz ¹, Nadeem Akhtar Abbasi ¹, Ayesha Manzoor ³, Valerio Cristofori ² and Eddo Rugini ²



**Where do I look for
resources for my
literature review?**



Sources & organizations providing publications



WEB OF SCIENCE



Scopus®



- Academic libraries
- Public libraries
- National libraries
- Archives
- Special issues
- Commercial organizations/databases
(**SCOPUS, Google scholar & Web of knowledge**)
- Textbooks, Articles, Thesis
- Government publications
- Conference papers, Statistics



Contents of a review article

Title

- Between 8 to 12 words
- Helping readers to decide whether they should read the text or not
- No repetition

List of authors

- Declare intellectual ownership of the work
- Provide contact information

Abstract

- Emphasis on main objectives and result of the review article
- Usually 200 to 250 words

Introduction

- Information about the context
- Motivation for the review
- Defines the research question
- Explains the text structure
- Between 10% to 20% of the core text

Contents of a review article

Body: Main Part of the Review

- Methodological approaches
- Extent of support for a given hypothesis
- Studies that agree with one another versus studies that disagree
- Geographical location
- 70 to 90% of the core text

Conclusions

- Answer the research question set in the introduction
- 5% to 10% of the core text

Acknowledgements

- Thank those who either helped with the experiments, or made other important contributions, such as discussing the protocol, commenting on the manuscript

References

- Shows interested readers how to find the literature mentioned in the text
- A range between 50-100 references



Research review paper

Genetic improvement of olive (*Olea europaea* L.) by conventional and *in vitro* biotechnology methods

E. Rugini *, V. Cristofori, C. Silvestri

Department of Agricultural and Forestry Science (DAFNE), University of Tuscia, Via San Camillo de Lellis, 01100 Viterbo, Italy



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Importance of figures and diagrams in review paper

- *Reviewers interest

- *Too much text is not attractive

- *Journal's criteria

- *Figures & schemes

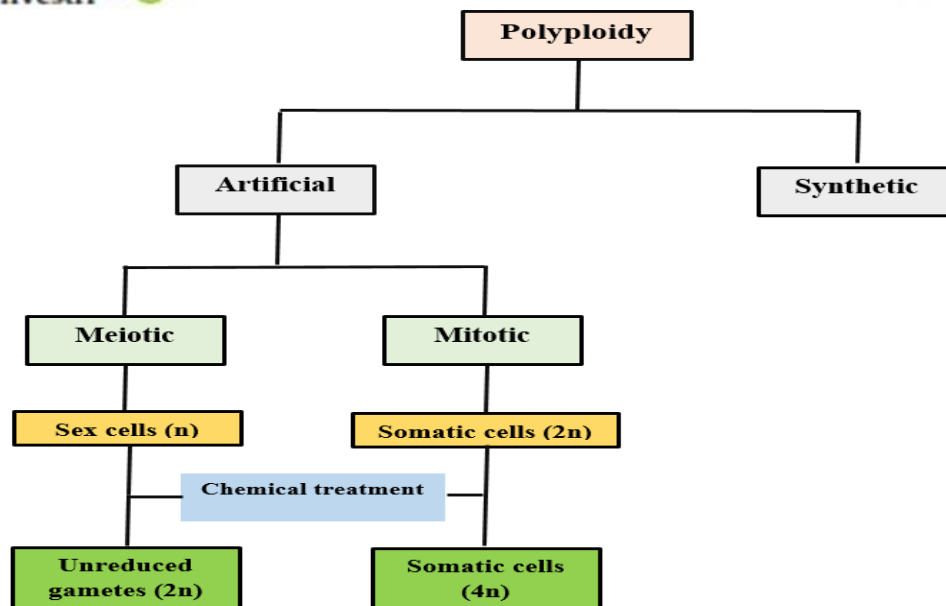


Figure 1. Systematic diagram of polyploidy induction through artificial means

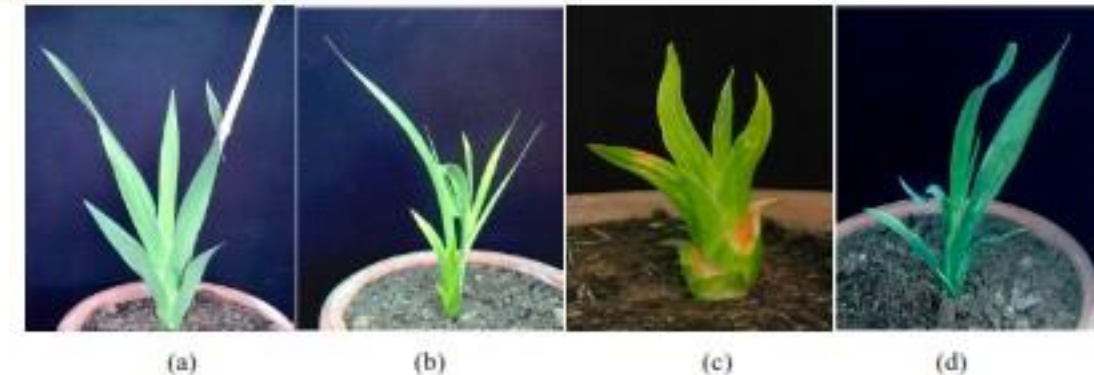


Figure 2. Production of foliar abnormalities in gladiolus cv. White Prosperity at different concentrations of colchicine: normal shaped leaves in control (a) but different abnormal leaves shapes observed in 0.1% (b), 0.2% (c) and 0.3% colchicine (d).

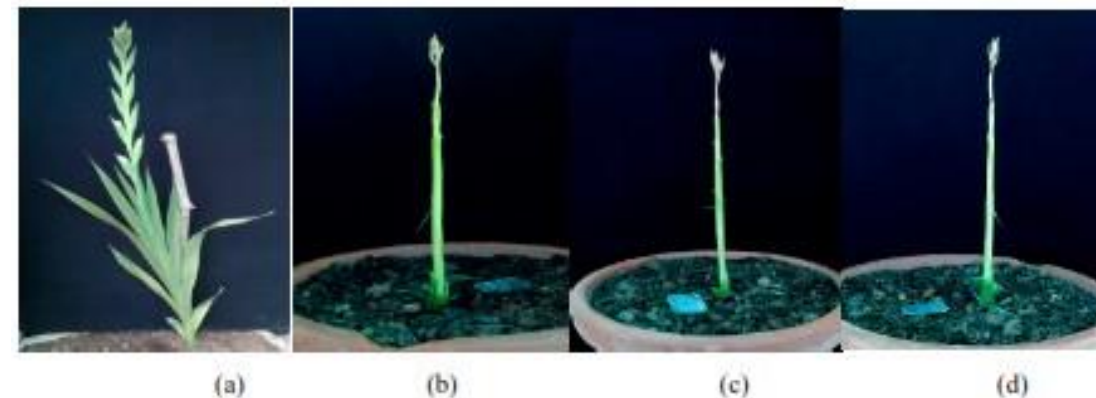


Figure 3. Impact of polyploidy on floral spike formation in gladiolus cv. White Prosperity: Floral spike emerged in control (a) however, in treated plants floral spike formation initiated but it did not elongate at 0.1% (b) 0.2% (c) and 0.3% colchicine concentration (d).

Review

Osmotin: A Cationic Protein Leads to Improve Biotic and Abiotic Stress Tolerance in Plants

Muhammad Ajmal Bashir ^{1,2}, Cristian Silvestri ^{2,*}, Touqeer Ahmad ¹, Ishfaq Ahmad Hafiz ¹, Nadeem Akhtar Abbasi ¹, Ayesha Manzoor ³, Valerio Cristofori ² and Eddo Rugini ²

Table 1. Overexpression of OLPs confer stress tolerance in plants.

Crop	OLPs	Overexpression	Reference
Chili (<i>Capsicum sp.</i>)	<i>CaOSM1</i>	Induced resistance to bacterial and fungal pathogens	Hong et al. (2004) [6]
Soybean (<i>Glycine max</i>)	<i>GmOLPa</i> - acidic isoform	Induced in roots and leaves to protect plants from dehydration and salt stress	Onishi et al. (2006) [60]
Potato (<i>Solanum tuberosum</i>)	<i>OSM</i>	Improved plant resistance to salt stress	Aghaei et al. (2008) [34]
Soybean (<i>Glycine max</i>)	<i>GmOLPa</i>	Developed resistance in plant against salinity and drought	Tachi et al. (2009) [72]
Potato (<i>Solanum tuberosum</i>)	<i>OSM-1</i>	Overexpression induced resistance to late blight disease (<i>Phytophthora infestans</i>)	EL-Komy et al. (2010) [73]
Sodom apple (<i>Calotropis procera</i>)	<i>CpOSM</i>	Induced in latex and protect plants from bitter rot (<i>Colletotrichum gloeosporioides</i>) and red bread mold (<i>Neurospora sp</i>)	de Freitas et al. (2011) [57]
Black pepper (<i>Piper colubrinum</i>)	<i>PcOSM2</i>	Antifungal activity against wilt disease (<i>Phytophthora capsici</i>) and basal rot (<i>Fusarium oxysporum</i>)	Mani et al. (2012) [74]
Sodom apple (<i>Calotropis procera</i>)	<i>CpOSM</i>	Initiate defense mechanism against root rot (<i>Fusarium solani</i>) spores	Ramos et al. (2015) [75]
Chili (<i>Capsicum sp</i>)	<i>CaOSM1</i>	Confer tolerance to salt stress	Maurya et al. (2015) [76]
Cacao (<i>Theobroma cacao</i>)	<i>TcOsm1</i>	Inhibited growth of yeast and phytopathogenic fungi	Falcao et al. (2016) [66]
Rice (<i>Oryza sativa</i>)	<i>OsOSM1</i>	Induced in leaf sheath at booting stage and overexpression enhance resistance to sheath blight disease	Xue et al. (2016) [77]
Syrian rue (<i>Peganum harmala</i>)	<i>OSM</i>	Induced resistance to salinity	Karam et al. (2016) [78]
Grapes (<i>Vitis vinifera</i>)	<i>VvOSM1</i>	Overexpression improved salinity tolerance	Saleh and Alshehada, (2018) [79]
Sugar beet (<i>Beta vulgaris</i>)	<i>OSM</i>	Overexpressed under PEG induced drought stress	Youssef et al., (2018) [80]
Eucalyptus (<i>E. tereticornis</i> and <i>E. camaldulensis</i>)	<i>OSM34</i>	Protect nursery plants from induced water stress	Amrutha et al. (2019) [81]
Chinese ginseng (<i>Panax notoginseng</i>)	<i>PnoLP1</i>	Involved in defense response against <i>Fusarium solani</i>	Zhao et al., (2020) [82]

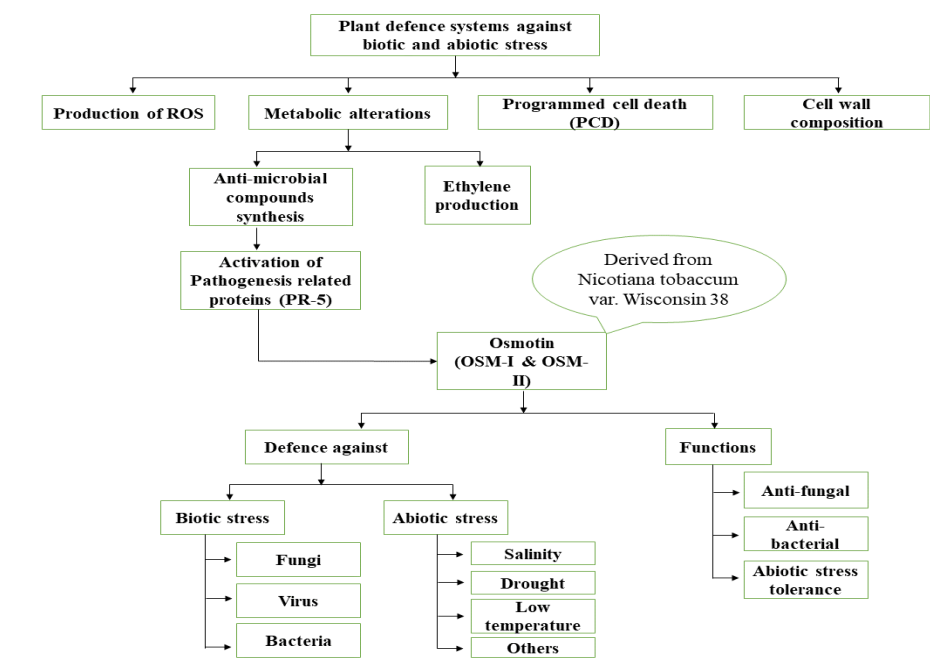


Figure 1. Schematic representation of the role of osmotin in plant defense mechanisms

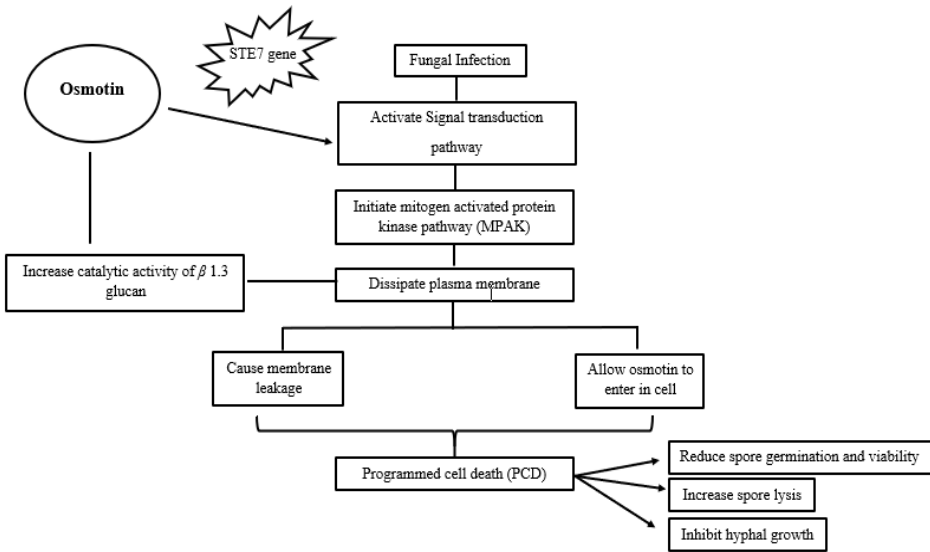


Figure 2. Schematic diagram representing the osmotin mechanism in inducing tolerance to fungal infections

Tips to write a superb literature review

Be **focused** and **avoid**
hassle

Have a process and
develop your style

Timeliness and **figures**
make a huge difference

Stay updated and be
open to suggestions

Make **good use of technology**

Reference Managers i.e. EndNote; Mendeley; Zotero;
Collaborative Writing Tools i.e. Manubot; Latex; Google
Docs



Who is the audience of review articles?

- **Experts in specific research areas**

- **Students**

- Want integrated system
- Browsing is crucial
- Reluctant & jump straight to topic
- Want to read less

- **Decision-makers**

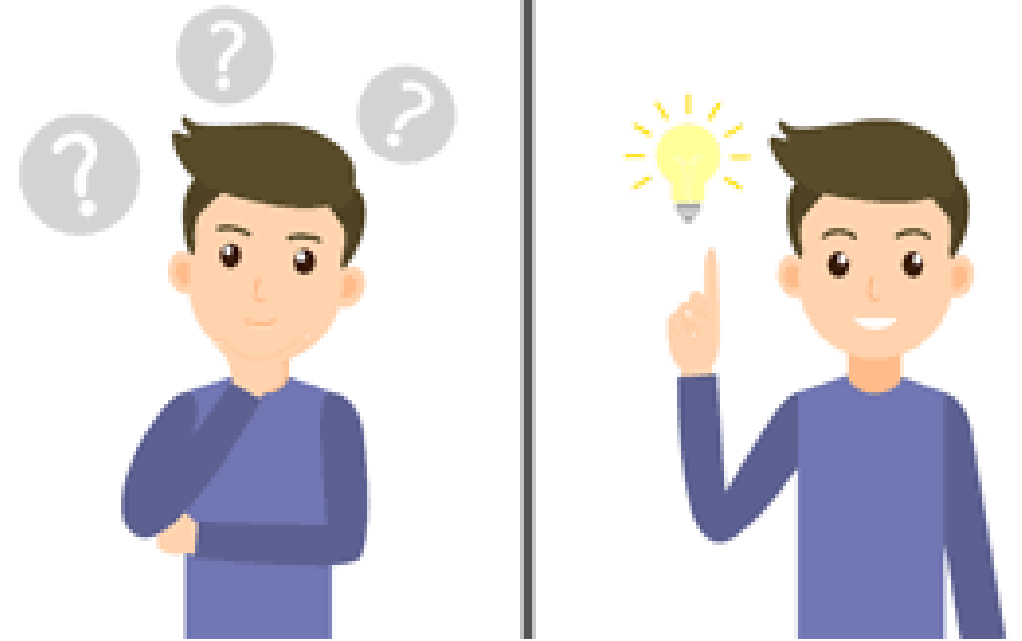


Before deciding to write a review paper, ask the following questions

Do I know the stuff sufficiently?

Would it be considered at all?

Which journal to publish my review?



First thing first...

Do a thorough literature search

Consult the Journal Editor



Approach to do a literature review!

READ PUBLISHED WORK

Study a wide range of print and web-based materials

INTERPRETATION

Explain the **significance** & interpret the **evidence** presented in each piece of literature; not simply listing what others have written

SYNTHESIS

Creation of an **integrated & Coherent** argument of the topic that you are reviewing

Approach to do a literature review!

It is impossible to read all the research ever published in your area...

The key is...

be selective in what you read –
or else you'll get drown in too
much information!



Selecting the Journals!

- Select your journal carefully
- Read the **aims and scope**
- Think about your **target audience**
- **Follow the guidelines**
- Articles should **not** be submitted to more than one journal at a time

IF: 5.908
Journal of
Experimental
Botany



IF: 2.072
agriculture

 **frontiers**
in Plant Science

IF: 4.407

IF: 10.744

Biotechnology Advances 34 (2016) 687–696



Contents lists available at ScienceDirect

Biotechnology Advances

journal homepage: www.elsevier.com/locate/biotechadv



Research review paper

Genetic improvement of olive (*Olea europaea* L.) by conventional and *in vitro* biotechnology methods



E. Rugini *, V. Cristofori, C. Silvestri

Department of Agricultural and Forestry Science (DAFNE), University of Tuscia, Via San Camillo de Lellis, 01100 Viterbo, Italy



plants

IF: 2.762



Review

Osmotin: A Cationic Protein Leads to Improve Biotic and Abiotic Stress Tolerance in Plants

Muhammad Ajmal Bashir ^{1,2}, Cristian Silvestri ^{2,*}, Touqeer Ahmad ¹, Ishfaq Ahmad Hafiz ¹, Nadeem Akhtar Abbasi ¹, Ayesha Manzoor ³, Valerio Cristofori ² and Eddo Rugini ²

Consulting with the journal editor

Write a convincing cover letter & explain...

- **Logical basis** why you want to write about the topic
- **How you would handle** the subject matter
- **Why you are qualified** to write on the proposed topic
- **Estimated length** (excluding figures & tables)
- **Estimated date** of completion



Article Submission

Proofreading before submission

- Are terms used consistently throughout?
- Do citations in text match references?
- Are Syntax and Grammar acceptable?



After submission of paper!



STEP 1

Click the paper submission button.



STEP 2

Click the "Go to submit" and log into the system.



STEP 3

Click the submission tab.



STEP 4

Click the Submission tab in the full paper column.

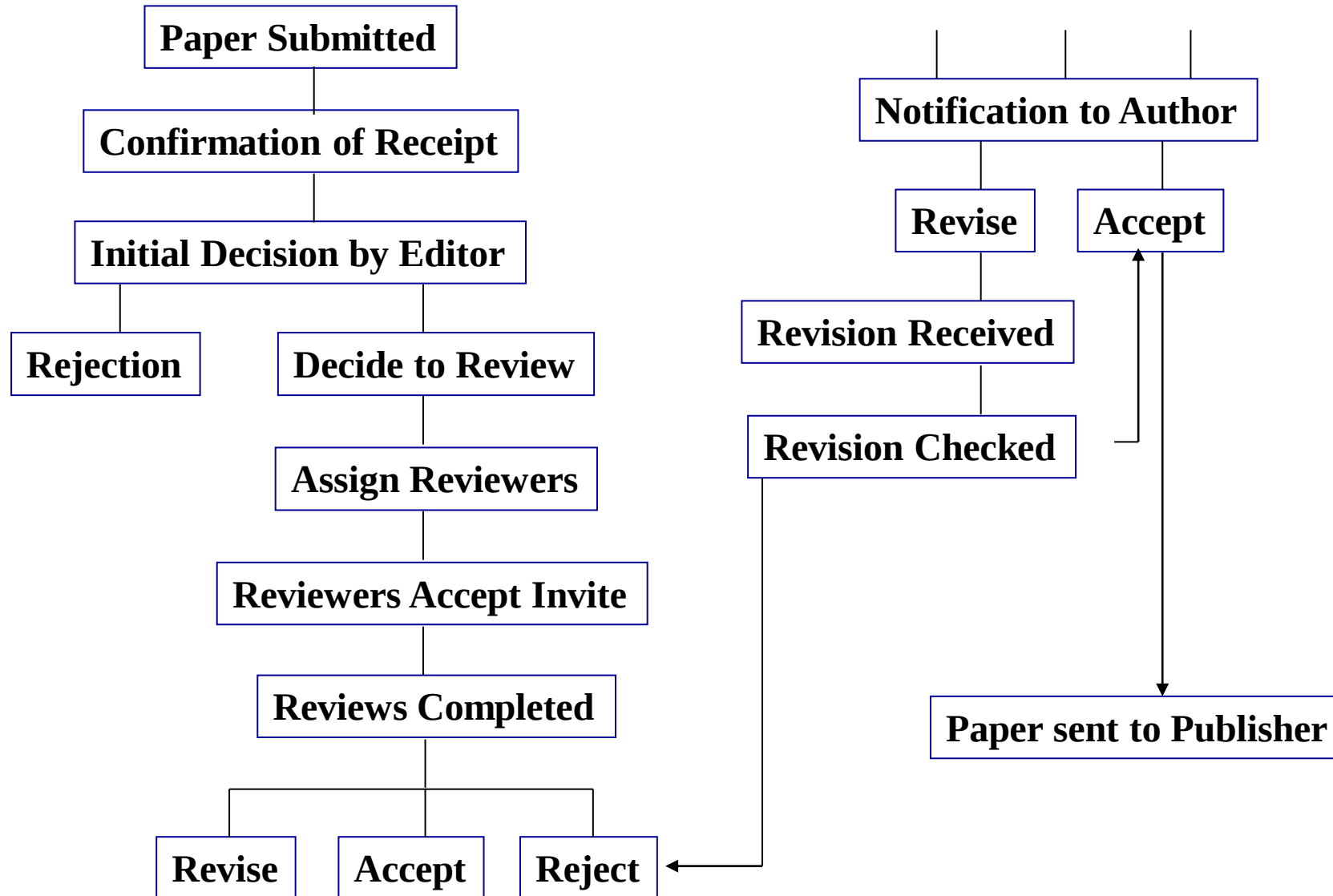


STEP 5

Acknowledgement of your submission will be sent via e-mail.

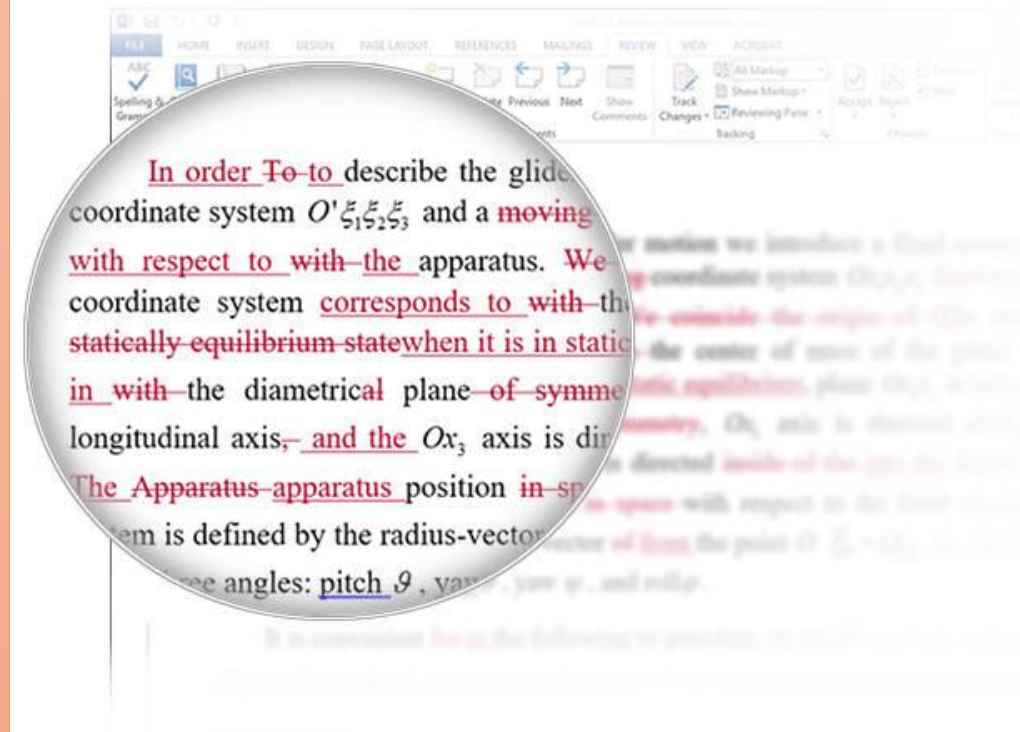


Overview of peer review process



Getting the reviews of your paper

- “The reviewer is always right”
(whether they are or not!)
- Don’t respond quickly
Digest reviews
- Balance the Reviewers’ suggestions
- Editor’s decision



If your paper was rejected...



- Was it sent out for review?
if not, consider changing type of journal
- If reviews don't suggest changes
send it out quickly to another journal
- The 3 journal rule

Contributions in a good review

Authors

Intellectual contribution
Defend the data and conclusions

Professors

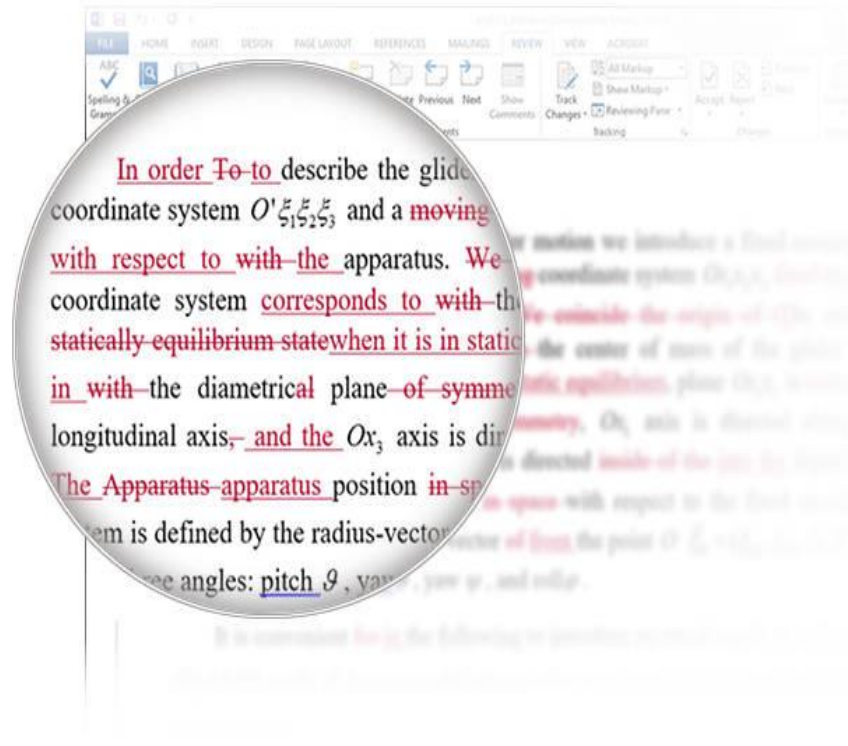
Designing the research
Approves the final version

Editors

Initial screening/final decision
Communicates b/w reviewer & author

Reviewers

Indicates drawbacks in manuscript
Key role in manuscript improvement



Conclusion

Research is to see what everybody else has seen, and to think what nobody else has thought

(Albert Szent-Györgyi)

- Writing a good paper starts with good preparation
the pivotal point is identifying the question that is going to form the basis for the research
- A good research paper represents a good researcher
researchers should be very careful to prepare their paper



Review

Osmotin: A Cationic Protein Leads to Improve Biotic and Abiotic Stress Tolerance in Plants

Muhammad Ajmal Bashir ^{1,2}, Cristian Silvestri ^{2,*}, Touqeer Ahmad ¹, Ishfaq Ahmad Hafiz ¹, Nadeem Akhtar Abbasi ¹, Ayesha Manzoor ³, Valerio Cristofori ² and Eddo Rugini ²

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<http://www.pakjas.com.pk>

A REVIEW OF GENETIC IMPROVEMENT OF MAIN FRUIT TREES THROUGH MODERN BIOTECHNOLOGICAL TOOLS AND CONSIDERATIONS OF THE CULTIVATION AND RESEARCH OF THE ENGINEERED PLANT RESTRICTIONS

Eddo Rugini ^{1,*}, Muhammad Ajmal Bashir ², Valerio Cristofori ¹, Bruno Ruggiero ¹ and Cristian Silvestri ¹

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Review

Studies on Colchicine Induced Chromosome Doubling for Enhancement of Quality Traits in Ornamental Plants

Ayesha Manzoor ¹, Touqeer Ahmad ^{2,*}, Muhammad Ajmal Bashir ^{2,3}, Ishfaq Ahmad Hafiz ² and Cristian Silvestri ^{3,*}

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16 *Oleaceae*

16.1 *Olea europaea* Olive

Eddo Rugini ¹, Luciana Baldoni ², Christian Silvestri ¹, Roberta Mariotti ², Isabel Narváez ³, Niccolò Cultrera ², Valerio Cristofori ¹, Muhammad Ajmal Bashir ¹, Soraya Mousavi ², Elena Palomo-Ríos ³, José Angel Mercado ³ and Fernando Pliego-Alfaro ³

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References

- Andy T. (2020). How to write a superb literature review. <https://doi.org/10.1038/d41586-020-03422-x>.
- **Bashir, M. A.**, Silvestri, C., Ahmad, T., Hafiz, I. A., Abbasi, N. A., Manzoor, A., Cristofori, V. & Rugini, E. (2020). Osmotin: A cationic protein leads to improve biotic and abiotic stress tolerance in plants. *Plants*, 9(8), 992.
- Jadav, H. (2015). How to write a review article. <https://www.slideshare.net/harshit172/how-to-write-a-review-article-45247380>.
- Manzoor, A., Ahmad, A., **Bashir, M. A.**, Hafiz, I.A. & Silvestri, C. (2019). Studies on colchicine induced chromosome doubling for enhancement of quality traits in ornamental plants. *Plants*. 8 (7), 194.
- Rugini, E., Cristofori, V., & Silvestri, C. (2016). Genetic improvement of olive (*Olea europaea* L.) by conventional and in vitro biotechnology methods. *Biotechnology advances*, 34(5), 687-696.
- Rugini, E., Baldoni, L., Silvestri, C., Mariotti, R., Narváez, I., Cultrera, N., Cristofori, V., **Bashir, M.A.**, Mousavi, S., Palomo-Rios, E. & Mercado, J. A. (2020). *Olea europaea* olive. *Biotechnology of fruit and nut crops*, (Ed. 2), 343-376.



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Prof. Valerio Cristofori

Dr. Samanta Zelasco (CREA-Italy)

Università degli studi della Tuscia, Italy



Thank you &
Good Luck!