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##### **CHECKLIST FOR REVIEWERS**

**Title of the manuscript:** The Effects Of Growth Regulators On *In Vitro* Axillary Shoot Proliferation And Rooting Of *Erica Multiflora*

**Author (s):** Giovanni Iapichino, Giuseppe Barraco, Marcello Airò

# No of the manuscript: JPOP651

Deadline for the receiving of your review: 30 days after the receiving of the manuscript

**Please consider main points A and B. Please DO NOT CONTINUE TO REVIEW the manuscript if:**

**- the answer to point A.1 is NO**

**- the answer to point A.2 is YES**

**- the answer to point B is LOW.**

**A. Relevance of the paper.**

***1. Is the subject of the manuscript within scope of the journal?***

**x** Yes

**□** No

***2. Previous publication of the material***

**x** No

**□** Yes. What and where………………………………………………………………...

…………………………………………………………………………………………..

### B. Scientific and practical importance of the data

**□** High

**x** Adequate

**□** Low – See comments

### C. Scientific quality

***1. Are the data in this manuscript new?***

**x** Yes

**□** No.

Comments:

Data is new while the methodology used is tried and tested and a common approach when determining suitable culture conditions for new species.

***2. Is the manuscript clearly written and well-organized?***

**x** Yes

**□** No. Comments:…………………………………………………………………………

***3. Are the Abstract and the Key words adequate?***

**x** Yes

**□** No. Suggestions:…………………………………………………………………………

***4. Does the Introduction state the aim of the research and present knowledge?***

**x** Yes

**□** No. Comments:

Clear and concise description of the reasons for using a tissue culture system to propagate this species, and its use for both ornamental and restoration purposes. However, the science presented is not novel. 2iP is well known as the preferred cytokinin for use with ericaceous species, with zeatin displaying a similar physiological effect.

***5. Materials, methods and study design***

**x** Adequate

**□** Improvement needed. Suggestions:………………………………………………

**□** Inadequate. Comments:

Methodology is adequate with the experimental approach clearly explained with a good levels of replication. However, no reason is given for why one concentration of NAA was used in the test; why this one? Also, a range of non-2iP concentrations could also have been used to determine a response curve, although from a practical point of view, the use of an equimolar concentration of these other cytokinins was adequate to indicate their relative effectiveness.

***6. Results and Discussion***

**x** Properly drawn with regard to methods and data

**□** Should be adjusted – Suggestions: ………………………………………………….

…………………………………………………………………………………………..

**□** Insufficiently supported – Comments: ……………………………………………..

………………………………………………………………………………………….

The results are generally well described, although the use of material from both 2009 and 2010 are mentioned in the Methodology, and no reference is made to different results later. It is unclear whether one or both sets of data were used in the analysis.

***7. Are the tables and figures titles and legends presented well and necessary?***

**□** Yes

**x** Improvement needed. Suggestions:

In figure 1, more information is required regards the rooting treatment (B); what concentration of IBA was used? Also, how old was (D) following removal from the test tube? Considering the data presented, the other titles are fine.

**□** No. Comments:…………………………………………………………………………

***8. Data and statistical treatment***

**x** Adequate

**□** Improvement needed. Comments:……………………………………………………

**□** Inadequate. Comments:………………………………………………………………

***9. Have all relevant literature been cited***

**x** Yes

**□** No. Suggestions:…………………………………………………………………….

**E. Recommendations (after corrections)**

□ The paper should be published as it is now, or with minor editorial changes

x The paper could be published after minor revision, and need not be re-reviewed

□ The paper could be accepted after major revision according to the comments

□ Rejected

As a short communication. See comments below.

#### If adjustments or revision is recommended

□ The writer is allowed to contact me (sign both copies of this checklist)

x I want to be anonymous (sign only one copy of this checklist)

□ I am not willing to review this paper again (revision)

Please add further comments.

This is a clearly targeted and concise study that provides good practical methodology for producing this species of *Erica* for habit restoration and possible use as an ornamental suited to a Mediterranean environment. My only concern is that the scientific content is light. The methodology used is commonly applied to new species. Presuming (correctly) that 2iP is the most suitable for an ericaceous species, a suitable concentration to sue has been determined, and compared with other cytokinins at equimolar concentrations. Removing the shoot apex removes apical dominance and facilitates axillary bud break under the influence of 2iP, but more would have been learnt about the effect of this or other cytokinins, and this species, if a comparison had been made with shoots with intact apices. This may make this study as it stands, more appropriate for publication as a short communication rather than a full paper. No mention is made in the Results of the two collections of shoot material made in 2009 and 2010, and consideration of these may provide an opportunity to develop the study further and look at, for example; changes with responsiveness in consecutive years, further confirmation of the technical approach etc..

General comments:

* The auxin used for rooting is indole-3-butyric acid
* Use the term ‘completely randomised block design’
* No need to repeat the description of the media and vessel for multiplication and rooting
* Is there a measurement for the level of relative humidity during the acclimatization process?
* Iapichino and Airò 2009 are not listed in the References