PROPAGATION OF ORNAMENTAL PLANTS
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CHECKLIST FOR REVIEWERS

Title of the manuscript: SEQUENTIAL STUDY OF THE GENETIC STABILITY OF CALLUS AND REGENERATED SHOOTS IN CHRYSANTHEMUM

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No of the manuscript: MS JPOP802

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

Please consider main point A and B. Please DO NOT CONTINUE TO REVIEW the manuscript if:
- the answer to point A.1 is YES
- the answer to point B is LOW.

A. Relevance of the paper.

1. ***Previous publication of the material***
x No
□ Yes. What and where……...

B. Scientific and practical importance of the data

□ High
□ Adequate
x Low

C. Scientific quality

1. Are the data in this manuscript new?
x Yes
□ No.
Comments:.……

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

x Yes

□ No. Comments:.…….....

3. Are the Abstract and the Key words adequate?

xYes

□ No. Suggestions: .....

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

□ Yes

x No. Comments: . see comments below.....

5. Materials, methods, and study design

□ Adequate

□ Improvement needed. Suggestions:……

x Inadequate. Comments: see comments below.....!

6. Results and Discussion

□ Properly drawn with regard to methods and data

x Should be adjusted – Suggestions: see comments below…….

□ Insufficiently supported – Comments: .....

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

□ Yes

□ Improvement needed.

Suggestions:……

□ No. Comments: .....

8. Data and statistical treatment

□ Adequate

□ Improvement needed. Comments: see comments below

……

x Inadequate. Comments: no repliciation of in vitro experiments

9. Have all relevant literature been cited

□ Yes

□ No. Suggestions: .....

D. Recommendations (after corrections)

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

□ 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

x Rejected

E. If adjustments or revision is recommended

□ The writer is allowed to contact me

x I want to be anonymous

□ I am not willing to review this paper again

□ I agree to review the manuscript again after the revision

Please add further comments.

Following examination of the manuscript, I would like to inform you with great regret that I have not found enough arguments to accept this manuscript in this form.
The introduction should mention that micropropagation is not really used for mass production of chrysanthemum. They are propagated by cuttings. In vitro techniques are applied for genebank storage, mutation induction and genetic manipulation.

From the in callus induction treatments no firm conclusions can be drawn. The treatments seem arbitrarily chosen and the callus development is scored too roughly in 3 categories. The experiment is not repeated at all.

The use of 2,4-D is a guarantee to yield somaclonal variation, especially chromosome doubling or rearrangements. So it is not a surprise that with a limited number of RAPD markers this could be revealed. This should be confirmed with ploidy measurements. RAPD is not a good tool to detect point mutations, thus, no conclusion can be drawn concerning the genetic stability of the regenerated shoots.

The manuscript should be rewritten, with the emphasis on the RAPD analysis, showing severe genetic changes. Ploidy measurements should be used to add information on chromosome doubling or aneuploidy. The work should demonstrate that callus culture with 2,4-D induces somaclonal variation. And that shoot regeneration is a kind of selection. Only the least affected cells are able to finish the delicate regeneration program.