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Journal Name:	Asian Journal of Agricultural and Horticultural Research
Manuscript Number:	**Ms_AJAHR_130519**
Title of the Manuscript:	**GROWTH OF BLACK ORCHID (COELOGYNE PANDURATA L.) BY TISSUE CULTURE ON FERTILIZER AND NATURAL ORGANIC SUPPLEMENTS MEDIA**
Type of the Article	Original research paper

PART 1: Comments

	Reviewer's comment	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	Indonesia is one of the 17 global megadiverse countries. Located between two continents, Asia and Australia, Indonesia has extremely high levels of biodiversity and endemism. Indonesian orchid estimated up to 5,000 species distributed in various regions. *Coelogyne pandurata* Lindl. (Orchidaceae) was selected for *in vitro* propagation study due to its conservational significance (red-listed status by IUCN) and considering its importance as a medicinal plant. This orchid currently is threatened to extinction both due to human exploitation and biological specificity (e.g., self-incompatibility, mycorrhizal associations with fungi). Antioxidant, antimicrobial efficacy of *Coelogyne pandurata* Lindl. leaves and psudobulbs extracts were reported by some researchers using *in vitro* models. Although the medicinal properties of *C. pandurata* have been previously studied, there is little information providing a valuable tool for obtaining plant material by biotechnological methods, which can be used instead of plants collected in the wild. So, there is an urgent requirement to develop efficient propagation technique to conserve this species.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**GROWTH OF BLACK ORCHID (*COELOGYNE PANDURATA* L.) BY TISSUE CULTURE ON FERTILIZER AND NATURAL ORGANIC SUPPLEMENTS MEDIA** In general, the title of reviewed manuscript fully reflects its content. Nevertheless, the title could be slightly changed or added, which would make it possible to more clearly emphasize the relevance of the obtained results. Proposed options for changing the title. **Propagation of BLACK ORCHID (*COELOGYNE PANDURATA* Lindl.) BY TISSUE CULTURE supplemented with FERTILIZER AND NATURAL ORGANIC ADDITIVES** ***In vitro* propagation of endangered medicinal orchid *COELOGYNE PANDURATA* Lindl. (BLACK ORCHID) …** Establishment of optimum nutrient media for *in vitro* propagation of ***COELOGYNE PANDURATA* Lindl. (BLACK ORCHID)…..** Nevertheless, reviewer's suggestions should be considered only as a desire to help the authors of the manuscript highlight the results of the research, emphasizing their importance, and in no way a limitation.	

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	The abstract of the article is rather comprehensive. Abstract should not exceed 300 words in length, as recommended in the author guidelines. This option is mandatory. In our opinion, the abstract could be more concise. Numerous repetitions of information, which is rather methodological in nature, distracts from the main conclusion, which is formulated quite clearly in one sentence (see below). **The results of the research show that the addition of Ambon banana extract, mung bean sprouts, or sweet corn seeds to foliar fertilizer can improve the culture of black orchids using tissue culture.** It was the primary focus of the paper.	
Is the manuscript scientifically, correct? Please write here.	Experimental Design and Statistical Methods are quite adequate to achieve the set goal. It is well known that the lack of the standardization of species names can result in mismatched observations leading to erroneous scientific conclusions (Bortolus, 2008). Therefore, in the investigation reviewed close attention should be paid to the correct identification of plant species name and the appropriate use of botanical nomenclature. **Note** The manuscript provides several options for citing the author of the species studied. *Coelogyne pandurata* L. *Coelogyne pandurata* Lindley *Coelogyne pandurata* Lindl. The currently accepted plant species name is *Coelogyne pandurata* Lindl. *https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:623981-1*	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Despite the recent progress in the development of orchid biotechnology, the inventory of *Orchidaceae* in the wild, resulting to an excessive growth in the number of scientific publications on these issues, the most recent publication cited by the authors in the manuscript was published in 2014. In addition, to date, there have been few studies on black orchid propagation and acclimatization, useful for discussing the obtained results. Optionally, they could be added to the list of cited literature and used successfully in discussion section. Adi NKAP, Astarini IA, Astiti NPA. 2014. Acclimatization black orchid (Coelogyne pandurata lindl.) propagated *in vitro* on different media. Jurnal Simbiosis. 2014; 2:203-214. Astarini, I.A., Claudia, V., Adi, N.K.A.P., Sudirga, S.K. and Astiti, N.P.A. (2015). IN VITRO PROPAGATION AND ACCLIMATIZATION OF BLACK ORCHID (*COELOGYNE PANDURATE* LINDL.). Acta Hortic. 1078, 155-158. https://doi.org/10.17660/ActaHortic.2015.1078.21 Dwiyani, R., Fitriani, Y., & Mercuriani, I. S. (2022). The Alternative Media Supporting the Protocorm and Plantlet Growth of the Indonesian Black Orchid (*Coelogyne pandurata* Lindl.) Grown In Vitro. Caraka Tani: Journal of Sustainable Agriculture, 37(1), 152-160. http://dx.doi.org/10.20961/carakatani.v37i1.55956. Zakiah Z., Turnip M. (2023). Improving The Growth And Adaptation Of The Black Orchid Plantlet (Coelogyne Pandurata Lindl) In Various Growing Media by Giving Plant Extracts as Biostimulants at The Acclimatization Stage. Jurnal Agronomi tropika, 5(2). https://doi.org/ 10.36378/juatika.v5i2.3113 Moreover, it is necessary to note certain inaccuracies when citing literature**.** In particular, this applies to the total number of orchids given by the authors (e.g., "…30,000 species and approximately 800 different genera", without reference to literary source). Nevertheless, Christenhusz & Byng (2016) counted that the currently known, described and accepted number of orchid plant species include 736 genera and 28,000 species**.** **Christenhusz M., Byng J.W. (2016). The number of known plants species in the world and its annual increase. Phytotaxa 261 (3): 201–217 http://www.mapress.com/j/pt/** Additionally, to the reviewer's mind, the comparison between the level of taxonomic diversity of orchids in South America and Indonesia, given in the manuscript, was not quite correct.	

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	There is currently a register of **4187** species of orchids in Ecuador. (León-Yánez S., Valencia R., Pitman N., Endara L., Ulloa C.U., Navarrete H. Libro Rojo de las Plantas Endémicas del Ecuador. Publicaciones del Herbario QCA, Pontificia Universidad Católica del Ecuador; Quito, Ecuador: 2018). In Brazil, Orchidaceae has about **2,692 species**, 40% of which are endemic (Flora do Brasil, 2020). Indonesia has **5,000** species out of 25,000 species (Banks, 2004).	
Is the language/English quality of the article suitable for scholarly communications?	English quality of the article is rather suitable for scholarly communications. Nevertheless, the manuscript reviewed needs a careful spelling check. "Calculation of the number of roots is done…" (2. **MATERIALS AND METHODS section; 2.5. Parameters)** Reviewer's recommendation: sentence should also be written in the past tense, like the previous sentences, concerning leaves, shoots. The manuscript contains incorrect citation of literary sources (Fay, M.E., 1994; Salisbury F. B, et al and Cleon, W.R, 1992).	
Optional/General comments	**Reviewer's comments on the manuscript**. 1) Certain inaccuracies have been made by the authors of the manuscript regarding the distribution of *C. pandurata* in the wild. For example, "*Coelogyne pandurata* can be found in Brunei, Indonesia (Sumatra and Kalimantan), Malaysia (Peninsular Malaysia, Sabah, and Sarawak), and possibly the Philippines [https://www.inaturalist.org/taxa/348520-Coelogyne-pandurata]. Obviously, in this case, it would be more correct to say that "***Coelogyne pandurata*** is a species of orchid native to Southeast Asia". 2) What does it mean the authors' phrase "…one-year-old black orchid (*Coelogyne pandurata* Lind.) plant explants" **"**In the strict sense, explant refers to any segment or part of plant tissue which is transferred to a nutrient medium". **P. Berjak, N.W. Pammenter, in Encyclopedia of Applied Plant Sciences (Second Edition), 2017.** **The reviewer would be grateful for the definition of the specific type of initial explant, its origin (protocorms originated from the seeds, axillary buds, or leaf segments) used in the study.**	

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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