

**Review Form 1.7**

Journal Name:	<b>International Journal of Plant &amp; Soil Science</b>
Manuscript Number:	<b>Ms_IJPSS_110656</b>
Title of the Manuscript:	<b>Modern Phenotyping : A Paradigm of Present Need in Crop Improvement</b>
Type of the Article	<b>Review Article</b>

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**PART 1: Review Comments**

	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)
<p><b>Compulsory</b> REVISION comments</p> <p>1. <b>Is the manuscript important for scientific community?</b> (Please write few sentences on this manuscript)</p> <p>2. <b>Is the title of the article suitable?</b> (If not please suggest an alternative title)</p> <p>3. <b>Is the abstract of the article comprehensive?</b></p> <p>4. <b>Are subsections and structure of the manuscript appropriate?</b></p> <p>5. <b>Do you think the manuscript is scientifically correct?</b></p> <p>6. <b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p> <p><b>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</b></p>	<p>YES</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Please refer to comments in the table two lines below</p>	
<p><b>Minor</b> REVISION comments</p> <p>1. <b>Is language/English quality of the article suitable for scholarly communications?</b></p>	<p>English is more than good enough</p>	
<p><b>Optional/General</b> comments</p>	<p>The manuscript reports on phenotyping strategies and critical challenges in the demanding perspective of population increase, environmental stresses and food production. This is timely topic, the manuscript is well structure, clearly written and documented with relevant sections and tables. Thus the paper may deserve publication in the International Journal of Plant &amp; Soil Science but after considering the five following comments. Please consider the last three comments with specific care, in connection with the review paper status of the submitted manuscript.</p> <p><b>C1 Reference numbers do not appear from 1 to 99 but almost randomly among the text body</b></p> <p><b>C2 Page 6</b> "Non-automatic platforms are economical and are comparative simple to develop in compare to motorized platforms..." Please rewrite this sentence being so far hard to understand</p> <p><b>C3 Section 4.1, Optimizing fertilization</b> This is a critical issue and authors rightly mention on "optimized" fertilizing protocols but it would also be more comprehensive to introduce recent plasma base approaches for agriculture as referred in the two following pioneer and perspective papers: T. Ohta, Chapter 8 - Plasma in Agriculture, Editor(s): N.N. Misra, Oliver Schlüter, P.J. Cullen, Cold Plasma in Food and Agriculture, 2016, Pages 205-221, <a href="https://doi.org/10.1016/B978-0-12-801365-6.00008-1">https://doi.org/10.1016/B978-0-12-801365-6.00008-1</a>.</p> <p>Plasma and aerosols: Challenges, opportunities and perspectives A Stancampiano, et al, Applied Sciences 9 (18), 3861 (2019)</p> <p><b>C4 in door cultures</b></p>	

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	<p>It would be nice that authors shortly comment on the growing and specific situation of in-door plant culture.</p> <p><b>C5 Artificial Intelligence approaches</b>          Authors rightly write: "Phenotyping is not just a recording of data or measurement of traits; proper phenotyping requires appropriate and spatial variability handling and trial management in a resource efficient manner and the development and management of more comprehensive data" and only too shortly introduce ". Recent developments in processing of image such as deep and machine learning of big data have brought the effectiveness in identification of crop and pest simultaneously [31, 60]."</p> <p>AI approaches is and will probably be a key new strategies involved in modern agriculture and agronomy, from plant breeding to food product technologies. I definitively support that authors consider this also in their conclusion and perspectives and try to add a few more references about this topic. Following references are examples of relevant publication that may be introduced:</p> <p>Xin Liu, Xiaojiang Tang, Junwei Guo, Lianfeng Lin, Feng Huang, Eric Robert          Concentration prediction of imidacloprid in water through the combination of Fourier transform infrared spectral data and 1DCNN with multilevel feature fusion          Desalination and Water Treatment, 2022, 274, pp.130-139.          10.5004/dwt.2022.28884</p> <p>A specific fine-grained identification model for plasma-treated rice growth using multiscale shortcut convolutional neural network          W Chen, Y Wang, X Tang, P Yan, X Liu, L Lin, G Shi, E Robert, F Huang          Mathematical Biosciences and Engineering 20 (6), 10223-10243 (2023)          DOI: 10.3934/mbe.2023448</p> <p><b>End of report.</b></p>	
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**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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)
<b>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

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