## Review Form 1.7

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| Journal Name: | **Journal of Advances in Biology & Biotechnology** |
| Manuscript Number: | **Ms_JABB_119787** |
| Title of the Manuscript: | **Ameliorative Impact of Silicon on Growth of Underground Corms and Cormels in Gladiolus (Gladiolus grandiflorus Hort.)** |
| Type of the Article | **Short communication** |

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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)* |
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| **Compulsory** REVISION comments<br><br>**1. Is the manuscript important for scientific community?**<br>(Please write few sentences on this manuscript) | **1.** The manuscript titled "Ameliorative Impact of Silicon on Growth of Underground Corms and Cormels in Gladiolus (Gladiolus grandiflorus Hort.)" presents valuable insights into the optimization of silicon application for enhancing the production of corms and cormels in gladiolus. The study's findings on the effectiveness of both basal and foliar applications of silicon dioxide at various dosages provide crucial data for horticulturists and agronomists aiming to improve ornamental plant yields and quality. This research fills a significant knowledge gap regarding silicon's role in gladiolus cultivation, offering practical recommendations for farmers and contributing to the broader understanding of plant nutrition and soil management in floriculture. The detailed experimental design and statistical analysis further underscore the manuscript's importance, making it a useful reference for future studies and practical applications in the field. | |
| **2. Is the title of the article suitable?**<br>(If not please suggest an alternative title) | **2.** Based on the content of the article provided, the title "Ameliorative Impact of Silicon on Growth of Underground Corms and Cormels in Gladiolus (Gladiolus grandiflorus Hort.)" seems suitable. The title accurately reflects the focus of the study, which explores how different doses and methods of silicon application affect the growth and production of underground corms and cormels in Gladiolus grandiflorus. It effectively summarizes the key aspects of the research, including the experimental design, findings, and conclusions related to silicon's impact on gladiolus growth. | |
| **3. Is the abstract of the article comprehensive?** | **3.** Yes, the abstract of the article on the impact of silicon application on the growth of underground corms and cormels in Gladiolus (Gladiolus grandiflorus Hort.) is comprehensive. It effectively summarizes the objectives, methods, and key findings of the study. It outlines the experimental setup, including the design, location, and duration of the study. Additionally, it highlights the main results regarding the effect of different doses and methods of silicon application on corm and cormel production. The abstract concludes with practical recommendations based on the findings. | |
| **4. Are subsections and structure of the manuscript appropriate?** | **4.** The manuscript on silicon's impact on Gladiolus corm and cormel growth is structured effectively, starting with a clear Abstract and Introduction, detailed Methods, and organized Results and Discussion sections. It concludes with practical recommendations, adhering to standard scientific format for agricultural research. | |
| **5. Do you think the manuscript is scientifically correct?** | **5.** Based on the article provided, the manuscript appears scientifically sound in its methodology and findings. The study employed a split plot randomized block design with adequate replication, which is suitable for agricultural experiments like this. The use of different doses and methods of silicon application was well-described, and statistical analyses were appropriately applied to assess the impact on corm and cormel production. The results showed clear trends with increasing silicon doses enhancing various growth parameters of gladiolus corms and cormels. The conclusions drawn from the study align with the observed data, suggesting that silicon application, particularly at 100 kgha-1 as basal and 3% foliar spray, effectively improves the production and quality of | |

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| **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.**<br><br>**(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)** | gladiolus corms. Therefore, based on the information provided, the manuscript appears to be scientifically correct in its approach, methodology, results, and conclusions.<br><br>6. The references cited in the article provide solid support for silicon's influence on gladiolus growth and development, spanning studies from 2014 to 2019 that explore various aspects of silicon's role in plant physiology and crop production. To further enrich the article, incorporating recent studies such as Swaroop et al.'s (2023) investigation into the effects of silicon and nutrients on gladiolus under normal soil conditions would be beneficial.<br><br>*Reference:* Swaroop, K., Sindhu, K., Singh, K. P., Sharma, V. K., Bhatia, R., & Kumar, A. (2023). Effect of Silicon and Nutrients on Growth, Flowering and Corm Traits of Gladiolus under Normal Soil Conditions. *International Journal of Plant & Soil Science, 35*(21), 638-644. *https://doi.org/10.9734/ijpss/2023/v35i214022*<br><br>The additional comments are intended to enhance the manuscript by seeking clarification on several key points:<br><br>**MATERIAL AND METHODS:**<br><br>• The article describes a split plot randomized block design with 20 treatment combinations involving silicon application. Could the authors elaborate more on how randomization and blocking were applied specifically to ensure robustness in experimental design?<br>• The methods state that corms were treated with 0.2% Bavistine solution before planting. Was this treatment solely for disease prevention, or did it potentially influence the silicon uptake or subsequent growth outcomes?<br><br>**RESULT AND DISCUSSION:**<br><br>*Corm and Cormel Traits:*<br><br>• The study reports significant enhancements in corm and cormel production with increasing silicon doses, both as basal application and foliar spray. Could the authors discuss potential mechanisms by which silicon affects corm and cormel development in gladiolus?<br>• The interaction effects of silicon dose and application method (basal vs. foliar) are highlighted. Were there any unexpected findings or challenges encountered during the experimental phase that influenced these results?<br><br>*Physiological Effect:*<br><br>• The study mentions physiological parameters such as moisture content and partitioning coefficient being influenced by silicon application. Could the authors elaborate on the biological significance of these findings in relation to gladiolus growth and development?<br><br>*Analysis for Available Nutrients in Soil:*<br><br>• The article reports non-significant differences in most soil nutrients except potassium with basal silicon application. How might these findings contribute to the broader understanding of soil fertility management in gladiolus cultivation, particularly concerning micronutrients? | |

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| **Minor** REVISION comments<br><br>**7. Is language/English quality of the article suitable for scholarly communications?** | 7. The article is suitable for scholarly communication but can benefit from minor improvements. Ensuring grammatical accuracy, such as correct verb forms and articles, will enhance clarity. Simplifying complex sentences and rephrasing awkward phrases will improve readability. | |
| **Optional/General** comments | | |

**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)* |
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| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* | |

**Reviewer Details:**

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| Name: | **El Hafi Tarik** |
| Department, University & Country | **Sultan Moulay Slimane University, Morocco** |