Review Form 1.7

Journal Name:	**International Journal of Environment and Climate Change**
Manuscript Number:	**Ms_IJECC_96569**
Title of the Manuscript:	**Development of Grooved Belt Type Fertilizer Metering Mechanism for Spot Fertilizer Applicator**
Type of the Article	**Original Research Article**

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty'**, provided the manuscript is scientifically robust and technically sound.
To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(https://www.journalijecc.com/index.php/IJECC/editorial-policy)

Review Form 1.7

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)*
Compulsory REVISION comments **1. Is the manuscript important for scientific community?** (Please write few sentences on this manuscript) **2. Is the title of the article suitable?** (If not please suggest an alternative title) **3. Is the abstract of the article comprehensive?** **4. Are subsections and structure of the manuscript appropriate?** **5. Do you think the manuscript is scientifically correct?** **6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.** **(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)**	1. This manuscript discuss the Development of Grooved Belt Type Fertilizer Metering Mechanism for Spot Fertilizer Applicator is essential for the scientific community because as it presents the development and testing of a new type of fertilizer metering mechanism that could potentially improve the accuracy and efficiency of spot fertilizer application. This type of application is crucial for the agriculture industry as it ensures that crops receive the correct amount of fertilizer in specific areas, leading to better crop growth and yield. The new mechanism described in the manuscript could provide a more effective solution for this problem, making it of interest and relevance to researchers, engineers and agricultural professionals in the field. 2. The title is suitable as it accurately reflects the content of the article. It clearly describes the focus of the research, which is the development of a new type of fertilizer metering mechanism for spot fertilizer application. The use of specific technical terms such as "Grooved Belt Type" and "Fertilizer Metering Mechanism" also indicates that the article will provide detailed information on the technical aspects of the development process. The title is concise and informative, making it a suitable title for the article. Overall, The article's title is appropriate and appropriately describes the manuscript's substance. 3. The abstract of the article is comprehensive in that it outlines the problem the authors are trying to address (the risks associated with excess fertilizer application and the drawbacks of current techniques) and the solution they propose (the development of a new grooved belt type fertilizer metering mechanism for spot fertilizer applicator). It also mentions the steps taken to develop the mechanism, including the determination of physical and mechanical properties of the fertilizer and the torque requirements of the metering mechanism. Finally, it states that the new automatic plant detection-based applicator has the potential to save fertilizer and reduce labor requirements. We can conclude that the abstract provides a clear overview of the main objectives, methodology, and results of the research, making it a comprehensive summary of the article. 4. The manuscript's subsections and structure are suitable and clearly spell out the authors' research and conclusions. 5. Enough data support the authors' conclusions, and the paper follows scientific best practices. 6. The references given are complete and up to date. 7. The conclusion of the article provides a clear summary of the research findings and their implications. The authors have successfully determined the physical and mechanical properties of the fertilizer, which was then used to design a precise metering mechanism for spot fertilizer application. The mechanism is high-capacity, capable of delivering up to 1000 g of fertilizer per plant, and is equipped with a 100 kg fertilizer box to support the granule flow. The mechanism requires a maximum torque of 4.5 N.m, which can be provided by an 8.5 N.m DC motor with precise angular control. The article suggests that the developed grooved belt type metering mechanism can be integrated into an electronic sensing-based spot fertilizer applicator, which has the potential to solve the problem of excess fertilizer application and reduce the associated environmental hazards. Overall, the conclusion provides a clear and concise summary of the research, highlighting its significance and potential impact in the field of agriculture and fertilizer application.	1. Agreed 2. Agreed 3. Agreed 4. Agreed 5. Agreed 6. Agreed 7. Agreed
Minor REVISION comments **1. Is language/English quality of the article suitable for scholarly communications?**	The language and quality of English in the article are suitable for academic purposes. It uses correct grammar, punctuation, and spelling and is written in a concise and understandable manner. Additionally, the article supports its claims with relevant citations and references to reinforce its content.	Agreed and Incorporated
Optional/General comments	- Kindly check the formula number #3 is currently missing - It will be great if the writer could add some suggestion for future research	Agreed and Incorporated

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)*	NO