Review Form 3

Journal Name:	**Asian Journal of Soil Science and Plant Nutrition**
Manuscript Number:	**Ms_AJSSPN_123926**
Title of the Manuscript:	**Growth, development, yield attributes and yield of French bean (Phaseolus vulgaris L.) as influenced by doses and methods of nitrogen application**
Type of the Article	

General guidelines for the 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 guidelines for the Peer Review process, reviewers are requested to visit this link:

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Important Policies Regarding Peer Review

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PART 1: Review Comments

Compulsory REVISION 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. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript provides valuable insights into optimizing nitrogen application for French bean cultivation, which is crucial for improving agricultural productivity. The study's comprehensive approach, examining both different doses and application methods of nitrogen, offers practical guidance for farmers and agricultural researchers. I appreciate the thorough methodology and clear presentation of results, which allow for potential replication and further investigation. The findings, particularly the superiority of split nitrogen application over basal application alone, contribute significantly to our understanding of nutrient management in legume crops.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	This title is generally suitable as it accurately reflects the content and focus of the study. It clearly indicates: 1. The crop being studied (French bean) 2. The main variables being examined (growth, development, yield attributes, and yield) 3. The experimental factors (doses and methods of nitrogen application)	
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 is generally comprehensive and covers the key aspects of the study. However, there are a few areas where it could be improved: Strengths: 1. It clearly states the purpose of the experiment. 2. It outlines the experimental design and treatments. 3. It presents key findings on plant height, number of branches, and grain yield. Suggestions for improvement: 1. Add the location of the study: Include where the experiment was conducted, as this can be important for context. 2. Clarify the experimental design: While the factorial design is mentioned, it would be helpful to explicitly state it was a 4x2 factorial design (4 nitrogen levels x 2 application methods). 3. Include more yield attributes: The abstract mentions grain yield, but other important yield attributes like number of pods per plant and seeds per pod are missing. 4. Add statistical significance: Mention whether the differences observed were statistically significant. 5. Include a brief statement on protein content: Since this was measured and is important for French beans, a brief mention of how nitrogen affected protein content would be valuable.	
Are subsections and structure of the manuscript appropriate?	The manuscript's structure and subsections are generally appropriate and follow a standard scientific format. However, there are a few areas where improvements could be made: Strengths: 1. The main sections (Introduction, Materials and Methods, Results and Discussion, Conclusion) are present and in the correct order. 2. The Introduction provides good background and context for the study.	

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	3. The Materials and Methods section is detailed and well-organized. Suggestions for improvement: 1. Separate Results and Discussion: Currently, these are combined. It's often clearer to present results separately, then discuss their implications. This allows readers to see the data clearly before interpretation. 2. Add a separate "Abstract" heading: While the abstract is present, it's not clearly labeled as a distinct section. 3. Consider adding a "Keywords" section: This is often helpful for indexing and searching purposes. 4. Include a "Statistical Analysis" subsection in Materials and Methods: This would clarify how the data was analyzed. 5. Add subheadings in the Results and Discussion section: For example, "Plant Growth Parameters", "Yield Attributes", "Grain Yield", etc. This would improve readability and organization. 6. Expand the Conclusion section: This could be more comprehensive, summarizing key findings and their implications. 7. Add a "Recommendations" or "Future Research" subsection: This could suggest practical applications of the findings or areas for further study. 8. Consider adding an "Acknowledgments" section: If appropriate, to recognize any funding or assistance received. 9. Ensure "References" is clearly labeled as a section.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript demonstrates strong scientific rigor and technical soundness in several key aspects: 1. The experimental design is well-conceived, using a factorial randomized complete block design with four replications, which allows for robust statistical analysis and minimizes experimental bias. 2. The study addresses a clear and relevant research question about optimizing nitrogen application in French beans, with a methodology that directly tests different doses and application methods. 3. The measurements and data collection are comprehensive, covering multiple growth stages and a wide range of parameters including plant height, number of branches, yield attributes, and even protein content, providing a thorough assessment of the treatments' effects. 4. The results are presented with appropriate statistical analysis, including standard error and critical difference values, which adds to the reliability of the findings. 5. The discussion of results is grounded in scientific literature, with multiple references to support interpretations and comparisons with previous studies, demonstrating a solid theoretical foundation.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **:**	The references in the manuscript are generally sufficient and cover relevant aspects of the study. However, there are some areas for improvement: Strengths: 1. The reference list includes a good mix of older foundational studies and more recent research. 2. Citations cover various aspects of the study, including nitrogen's role in plant growth, French bean cultivation, and fertilizer application methods. Areas for improvement: 1. Recency: While there are some recent references (up to 2022), a significant portion are from before 2015. Including more recent studies would strengthen the manuscript's relevance.	

	2. Scope: More references on the latest trends in sustainable nitrogen management and precision agriculture could enhance the study's context. Suggestions for additional references: 1. Bender, R.R., Haegele, J.W., & Below, F.E. (2015). Nutrient uptake, partitioning, and remobilization in modern soybean varieties. Agronomy Journal, 107(2), 563-573. • This could provide insights into nutrient dynamics in legumes. 2. Xia, L., Lam, S.K., Chen, D., Wang, J., Tang, Q., & Yan, X. (2017). Can knowledge-based N management produce more staple grain with lower greenhouse gas emission and reactive nitrogen pollution? A meta-analysis. Global Change Biology, 23(5), 1917-1925. • This meta-analysis could offer broader context on nitrogen management. 3. Maathuis, F.J. (2009). Physiological functions of mineral macronutrients. Current Opinion in Plant Biology, 12(3), 250-258. • This could provide more detailed information on nitrogen's role in plant physiology. 4. Fageria, N.K., & Baligar, V.C. (2005). Enhancing nitrogen use efficiency in crop plants. Advances in Agronomy, 88, 97-185. • While not recent, this comprehensive review is still relevant and could strengthen the background. 5. Ciampitti, I.A., & Vyn, T.J. (2012). Physiological perspectives of changes over time in maize yield dependency on nitrogen uptake and associated nitrogen efficiencies: A review. Field Crops Research, 133, 48-67. • This review, though focused on maize, provides valuable insights on nitrogen use efficiency applicable to other crops.	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	The language and English quality of the article is generally suitable for scholarly communication, but there is room for improvement. Here's a detailed assessment: Strengths: 1. The overall structure follows scientific writing conventions. 2. Technical terms are used appropriately throughout the manuscript. 3. The content is generally understandable and conveys the scientific information. Areas for improvement: 1. Grammar and Syntax: • There are occasional grammatical errors, such as subject-verb agreement issues and incorrect tense usage. • Some sentences are overly long and complex, which can hinder clarity. 2. Consistency: • There are inconsistencies in formatting, particularly in the use of abbreviations and units. • Punctuation use, especially commas, is inconsistent. 3. Clarity: • Some sentences could be more concise and direct. • There are instances where the meaning is ambiguous due to sentence structure. 4. Scientific Writing Style: • The passive voice is overused in some sections, which is common in scientific writing but can be reduced for better readability. • Some paragraphs could benefit from better topic sentences and transitions. 5. Proofreading: • There are minor typographical errors that a thorough proofreading would catch. Recommendations: 1. The manuscript would benefit from a thorough editing process, focusing on grammar, sentence structure, and consistency. 2. Consider having a native English speaker or a professional scientific editor review the manuscript. 3. Pay attention to verb tenses, ensuring they are used consistently and appropriately throughout the paper. 4. Simplify complex sentences to improve clarity and readability. 5. Standardize the formatting of units, abbreviations, and technical terms.	
Optional/General comments		

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PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with the 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?	Based on the content provided, there do not appear to be any significant ethical issues in this manuscript. Here's an analysis of potential ethical considerations: 1. Research Ethics: • The study appears to be an agricultural field experiment, which typically does not involve human or animal subjects that would require ethical review. • There's no indication of harmful environmental impacts from the nitrogen application, which is a standard agricultural practice. 2. Data Collection and Reporting: • The methods of data collection seem transparent and well-documented. • There's no evidence of data manipulation or falsification. 3. Authorship and Acknowledgments: • While not explicitly mentioned in the provided content, there are no apparent issues with authorship or failure to acknowledge contributors. 4. Plagiarism: • The content appears to be original research. There are no obvious signs of plagiarism, though a full comparison with other literature would be needed to confirm this definitively. 5. Conflict of Interest: • There's no indication of any conflicts of interest, though it's worth noting that this information is often provided separately and may not be included in the main text. 6. Funding Disclosure: • Information about funding sources is not mentioned in the provided content. This should be included in the final manuscript to ensure transparency. 7. Environmental Considerations: • While the study involves applying nitrogen fertilizers, which can have environmental impacts, this is standard agricultural practice and the study aims to optimize usage, which could potentially reduce environmental harm. 8. Informed Consent: • Not applicable for this type of agricultural research. 9. Biosafety: • There are no apparent biosafety concerns in this crop-based field study.	

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Are there competing interest issues in this manuscript?	Based on the content provided in the manuscript, there are no explicit indications of competing interest issues. However, it's important to note that competing interests are not always evident from the main text of a scientific paper and are typically declared separately. Here's a detailed analysis: 1. No Explicit Declarations: • The manuscript does not contain any statements about competing interests or conflicts of interest. This is not unusual, as such declarations are often made in a separate section or during the submission process. 2. Research Focus: • The study appears to be a straightforward agricultural experiment focused on nitrogen application in French beans. There's no obvious bias towards a particular product or company that might suggest a competing interest. 3. Funding: • Information about funding sources is not provided in the given content. Funding can sometimes be a source of competing interests, so this information should be disclosed in the final manuscript. 4. Author Affiliations: • The manuscript mentions the School of Natural Resource Management, College of Post Graduate Studies in Agricultural Sciences, CAU, Umiam, Meghalaya as the research location. This suggests an academic affiliation, which typically has fewer competing interest concerns compared to industry-funded research. 5. Methodology and Results: • The experimental design, methodology, and reporting of results appear to be objective and do not show obvious bias that might indicate a competing interest. 6. Product Mentions: • While specific fertilizer products are mentioned (urea, single super phosphate, muriate of potash), these are standard agricultural inputs and there's no indication of promotion of a particular brand or company.	
If plagiarism is suspected, please provide related proofs or web links.	The content appears to be original research. There are no obvious signs of plagiarism, though a full comparison with other literature would be needed to confirm this definitively. Based on the comprehensive review of the manuscript, I would give it an overall mark of 7.5 out of 10. This score falls into the "Major Revision" category (>7-8). Justification for this score: 1. Scientific Merit (8/10): The study is well-designed with a clear research question, appropriate methodology, and comprehensive data collection. The results are relevant and contribute to the field of agricultural science. 2. Presentation and Structure (7/10): The manuscript follows a logical structure, but there are areas where clarity and organization could be improved, particularly in the Results and Discussion sections. 3. Language and Writing Quality (6.5/10): While generally understandable, the manuscript requires significant improvement in grammar, syntax, and overall clarity of expression. 4. Literature Review and References (7.5/10): The reference list is adequate but could be updated with more recent sources to strengthen the study's context. 5. Data Analysis and Interpretation (8/10): The statistical analysis appears sound, and the interpretation of results is generally well-supported. 6. Relevance and Impact (8/10): The study addresses an important aspect of crop	

	management with potential practical applications. Ethical Considerations (9/10): No significant ethical issues were identified, though a clear statement on competing interests should be added	

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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