

Review Form 1.7

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_109283
Title of the Manuscript:	Assessment of nutrient status in the cassava growing tracts of Southern Laterites (Agro Ecological Unit 8), Kerala, India
Type of the Article	Original Research Article

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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>Compulsory REVISION comments</p> <p>1. Is the manuscript important for scientific community? (Please write few sentences on this manuscript)</p> <p>2. Is the title of the article suitable? (If not please suggest an alternative title)</p> <p>3. Is the abstract of the article comprehensive?</p> <p>4. Are subsections and structure of the manuscript appropriate?</p> <p>5. Do you think the manuscript is scientifically correct?</p>	<p>There are several studies on cassava nutrient status in India, but none specifically address the Southern Laterites (Agro-Ecological Unit 8) in Kerala. However, the following information can be gathered from the search results: Cassava is a heavy feeder crop that can cause serious depletion of soil nutrient stocks. Cassava takes up substantial amounts of nutrients, mainly potassium, followed by nitrogen and phosphorus. Without adequate potassium supply, cassava does not respond to nitrogen fertilizers or only responds poorly to nitrogen at very low potassium application rates. Cassava requires large amounts of nitrogen, phosphorus, and potassium to attain a fresh root yield from 18 to 45 mt ha⁻¹. Over the past three decades, extensive research has been done on cassava agronomy in India, mainly by the Central Tuber Crops Research Institute (CTCRI), located at Thiruvananthapuram, Kerala. Research on cassava's nutritional requirements, agro-techniques, cropping systems, and a long-term fertilizer trial have been conducted during the past three decades. Evaluation of the nutrient status of the soil used for growing cassava and the nutrient qualities in southern states of India has been conducted. Based on this information, it is recommended to conduct a soil analysis to determine the nutrient status of the soil in the Southern Laterites (Agro-Ecological Unit 8) in Kerala. This will help determine the appropriate fertilizer application rates for cassava cultivation. Additionally, it is recommended to consult with the Central Tuber Crops Research Institute (CTCRI) for guidance on cassava agronomy and soil-based nutrient management practices.</p> <p>Evaluation of nutritional quality in Southern Laterites' cassava growing regions (Agro-Ecological Unit 8), Kerala, India Nutrient status assessment in Southern Laterites' cassava growing tracts (Agro-Ecological Unit 8), Kerala, India Analyzing the nutritional condition in Southern Laterites' cassava farming regions (Agro-Ecological Unit 8), Kerala, India</p> <p>The abstract needs to be revised and rewritten.</p> <p>They should be set according to the guidelines of journal authors.</p> <p>No specific information is available on the common nutrient deficiencies in cassava-growing tracts of Southern Laterites (Agro-Ecological Unit 8) in Kerala, India. However, cassava is a heavy feeder crop that requires large amounts of nitrogen, phosphorus, and potassium to attain a fresh root yield from 18 to 45 mt ha⁻¹. Potassium is the most important nutrient for cassava, and its deficiency can lead to stunted growth with drying and shedding of lower leaves. Nitrogen and phosphorus deficiencies can also limit cassava yield, but they are less common than potassium deficiency. Phosphorus deficiency is most common in Latin American cassava-producing areas, while nitrogen and potassium deficiencies are most limiting in other regions. Therefore, it is recommended to conduct a soil analysis to determine the nutrient status of the soil in the Southern Laterites (Agro-Ecological Unit 8) in Kerala, India, and to consult with the Central Tuber Crops Research Institute (CTCRI) for guidance on cassava agronomy and soil-based nutrient management practices. Farmers in Southern Laterites (Agro-Ecological Unit 8) in Kerala, India, can identify nutrient deficiencies in their cassava crops by observing the visual symptoms of the plants. Each nutrient deficiency has its visual symptoms, and farmers can use these symptoms to diagnose the nutrient</p>	

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<p>6. Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p> <p><u>(Apart from above mentioned 6 points, reviewers are free to provide additional suggestions/comments)</u></p>	<p>deficiencies. The following are some of the visual symptoms of nutrient deficiencies in cassava plants: Phosphorus deficiency symptoms: irregular leaf tips, older leaves turn dark green or reddish-purple, thin stems, narrow leaves, and fewer lobes. Nitrogen deficiency symptoms: yellowing of older leaves (bottom plant), light green color in the rest of the plant, and stunted plant growth. Potassium deficiency symptoms: older leaves turn yellow and die, leaf margins become scorched, and stunted plant growth. It is important to note that visual symptoms alone may not be enough to diagnose nutrient deficiencies accurately, and it is recommended to conduct a soil analysis to determine the nutrient status of the soil. Farmers can also consult the Central Tuber Crops Research Institute (CTCRI) for guidance on cassava agronomy and soil-based nutrient management practices.</p> <p>Based on the search results, the following are some best practices for soil fertility management in cassava growing in Southern Laterites (Agro-Ecological Unit 8) in Kerala, India:</p> <p>Conduct a soil analysis to determine the nutrient status of the soil and the appropriate fertilizer application rates for cassava cultivation in the area. Apply organic manure and NPK fertilizers to improve soil fertility status and nutrient supply capacity at different growth stages of cassava fields. Use soil test-based nutrient management plans to increase fertilizer use and improve soil productivity. Use a pit followed by a mound as the best method for planting cassava stakes, using a spacing of 90x90 cm. Use appropriate planting time and spacing based on the Agro-ecological conditions. Use crop rotation to prevent soil nutrient depletion. Apply potassium fertilizer to prevent potassium deficiency, which is the most important nutrient for cassava. Apply nitrogen and phosphorus fertilizers to prevent their deficiencies, less common than potassium deficiency. It is also recommended to consult with the Central Tuber Crops Research Institute (CTCRI) for guidance on cassava agronomy and soil-based nutrient management practices.</p> <p>The recommended soil tests for identifying soil fertility issues in cassava growing tracts of Southern Laterites (Agro-Ecological Unit 8) in Kerala, India are: Soil test: Conduct a soil analysis to determine the nutrient status of the soil and the appropriate fertilizer application rates for cassava cultivation in the area. Plant tissue analysis: Use plant tissue analysis as a diagnostic tool for fertilizer recommendations for cassava. Soil fertility evaluation: Conduct a soil fertility evaluation to determine the soil's initial/preliminary soil analysis. Soil-based nutrient management plan: A soil-based nutrient management plan increases fertilizer use and improves soil productivity. It is recommended to consult with the Central Tuber Crops Research Institute (CTCRI) for guidance on cassava agronomy and soil-based nutrient management practices.</p> <p>References should be adjusted according to the authors' guide.</p>	
<p>Minor REVISION comments</p> <p>1. Is language/English quality of the article suitable for scholarly communications?</p>	<p>It needs severe revision and correction.</p>	
<p>Optional/General comments</p>	<p>It needs correction and revision in terms of statistics and English grammar.</p>	

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PART 2:

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

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