## Review Form 3

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| Journal Name: | **Asian Journal of Agricultural and Horticultural Research** |
| Manuscript Number: | **Ms_AJAHR_129568** |
| Title of the Manuscript: | **Effect of Spatial Arrangement on Grain and Fruit Yield of component crops in Maize/Okra Intercrop in Kilifi County, Kenya** |
| Type of the Article | **Original Research Article** |

**PART 1: 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)* |
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| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript holds significant importance for the scientific community as it explores the impact of spatial arrangements on maize and okra yields in Kilifi County, Kenya, where agriculture faces challenges of poor soils and unpredictable rainfall. The study provides practical recommendations for intercropping maize and okra in specific patterns, offering insights into maximizing land use and addressing food security. By analysing yield parameters comprehensively, it contributes to sustainable agricultural practices and highlights the potential of intercropping systems to improve dietary diversity and economic opportunities for small-scale farmers. Such findings can serve as a basis for similar agricultural interventions in comparable regions. | |
| **Is the title of the article suitable? (If not please suggest an alternative title)** | **"Impact of Spatial Arrangement on Maize and Okra Yields in Intercropping Systems in Kilifi County, Kenya"** | |
| **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.** | Maize production in Kilifi County, Kenya, has declined due to poor soils, unpredictable rainfall, and small land sizes. Meanwhile, okra, a high-value crop, is gaining popularity due to its nutritional, medicinal, and economic benefits. Intercropping maize and okra can maximize land productivity, yet optimal spatial arrangements for this intercrop are unclear. This study, conducted at the Industrial Crops Research Institute (ICRI) farm, Kenya Agricultural and Livestock Research Organization (KALRO) - Mtwapa, aimed to evaluate the effect of spatial arrangements on the grain and fruit yields of maize and okra. Field experiments were conducted over two seasons: short rains (October 2020 - January 2021) and long rains (April - July 2021). Treatments included sole maize, sole okra, maize/okra intercrop in a 1:2 ratio, and maize/okra intercrop in a 2:2 ratio, replicated three times in a randomized complete block design.<br><br>The results indicated that spatial arrangement significantly ($P \leq 0.05$) influenced okra yield parameters, including fruit weight, fruit length, and number of fruits per plant, with sole cropping and the 2:2 intercrop showing better performance. In contrast, maize yield parameters, such as cob length, cob weight, and grain yield, were unaffected by spatial arrangement. The study recommends maize and okra intercropping in 1:2 and 2:2 ratios to enhance land utilization while providing staple food and a nutrient-rich vegetable. These findings offer practical solutions for smallholder farmers to optimize productivity under the challenging conditions of Kilifi County.<br><br>**Keywords**: Maize, Okra, Spatial Arrangement, Intercropping, Yield Optimization, Smallholder Farming Systems | |
| **Is the manuscript scientifically, correct? Please write here.** | Yes | |
| **Are the references sufficient and recent? If you have suggestions for additional references, please mention them in the review form.** | **However, there might be a few areas for enhancement:**<br><br>1. **Add More Recent Data:** While FAOSTAT (2023) is cited, it could be supplemented with other | |

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| | recent reports or reviews on maize and okra intercropping, particularly from journals published after 2022.<br>2. **Expand Geographic Context:** While the focus is on Kilifi, Kenya, comparisons with intercropping practices in similar agro ecological zones globally (e.g., other African countries or Asia) could provide broader insights.<br>3. **Broaden the Methodological Base:** Adding more experimental studies focusing on spatial arrangements or specific yield parameters might strengthen the methodological references. | |
| **Is the language/English quality of the article suitable for scholarly communications?** | Yes | |
| **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:** | **Prayagbhai Golakiya** |
| **Department, University & Country** | **India** |