

## REVIEWER'S REPORT

**Manuscript No.: JNAVS -036**

**Title: SUSTAINABLE AGRICULTURAL PRACTICES FOR ENHANCING SOIL HEALTH AND CROP PRODUCTIVITY: A COMPREHENSIVE REVIEW.**

### Recommendation:

Accept as it is .....

**Accept after minor revision.....**

Accept after major revision .....

Do not accept (*Reasons below*) .....

| Rating         | Excel. | Good | Fair | Poor |
|----------------|--------|------|------|------|
| Originality    |        | ✓    |      |      |
| Techn. Quality | ✓      |      |      |      |
| Clarity        | ✓      |      |      |      |
| Significance   | ✓      |      |      |      |

**Reviewer Id: JPR-183**

### Reviewer's Comment for Publication.

The manuscript provides a comprehensive review of sustainable agricultural practices and their contribution to improving soil health, crop productivity, and environmental sustainability. The topic is highly relevant due to increasing concerns regarding soil degradation, climate change, resource depletion, and the need for resilient agricultural systems. The manuscript effectively discusses important sustainable practices including conservation tillage, crop rotation, organic amendments, integrated nutrient management, and precision agriculture.

#### Strengths:

1. The manuscript addresses a significant and globally important topic related to sustainable food production and environmental conservation.
2. The review is well organized with a logical structure covering concepts, practices, benefits, challenges, and future directions.
3. The discussion of soil health indicators and their importance for sustainable crop production is valuable.
4. The manuscript effectively explains the role of conservation agriculture, organic inputs, nutrient management, and digital technologies in improving agricultural sustainability.
5. The inclusion of climate change adaptation and mitigation aspects strengthens the relevance of the review.

#### Minor Revisions Suggested:

1. Include more recent research studies (2021–2025) to provide updated evidence on sustainable agricultural practices and their impacts.
2. Add quantitative data or case studies demonstrating improvements in soil quality, yield enhancement, carbon sequestration, and resource-use efficiency.
3. Include a comparative table summarizing different sustainable practices, their mechanisms, benefits, limitations, and suitable applications.

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4. Expand the discussion on the economic feasibility and adoption challenges faced by smallholder farmers.
5. Provide more details on the integration of digital agriculture, artificial intelligence, and precision farming technologies with sustainable agricultural systems.
6. Strengthen the section on climate resilience by discussing specific examples of sustainable practices under drought, heat stress, and extreme weather conditions.
7. Improve reference formatting and ensure consistency in citation style throughout the manuscript.

**Overall Assessment:**

The manuscript presents a valuable and informative review of sustainable agricultural practices and their role in enhancing soil health, crop productivity, and environmental sustainability. The content is relevant, clearly written, and provides a useful overview for researchers and agricultural professionals. Addressing the suggested revisions, particularly the inclusion of recent literature and quantitative evidence, will improve the scientific depth and overall quality of the manuscript.

Recommendation: Accept after Minor Revision.