

REVIEWER'S REPORT

Manuscript No.: IJAR- 58801

Title: Unveiling Antioxidant Activity of Native Fruits and Vegetables: An Experimental Approach.,

Recommendation:

Accept after minor revision

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

Reviewer's ID: Bilquees Hamza

Detailed Reviewer's Report

General Overview

This manuscript evaluates the in-vitro antioxidant capacities and total phenolic content (TPC) of ten native plant extracts. While the topic fits within the journal's scope, the draft in its present state suffers from severe analytical errors, data inconsistencies, incomplete assay methodologies, and structural formatting defects that prevent publication in its current form.

Major Concerns and Methodological Errors

1. Data Inconsistency Between Text and Tables

- **DPPH Assay:** Line 18 states *Ziziphus jujuba* inhibition is 79.75%, while Table 1 lists it at 79.75% with an OD of 0.130. However, Line 333 attributes 75.70% to *Pithecellobium dulce* and Line 338 cites *Solanum torvum* at 69.63%.
- **Hydrogen Peroxide Scavenging:** Line 19 states *Musa paradisiaca* flower reached 65.06%, but Table 3 lists its OD as 0.123 and inhibition as 65.06%. In contrast, Line 392 lists *Z. jujuba* at 49.43%, whereas the text narrative across lines 402–408 conflates Superoxide/Hydroxyl results with general radical quenching.

2. Methodological Incompleteness and Standard Inconsistencies

- **Lack of Concentration Gradients & IC_{50} Values:** Section lines 278–281 mention testing concentrations from $100\ \mu\text{g}$ to $500\ \mu\text{g}$, yet Tables 1–6 only report a single fixed concentration ($200\ \mu\text{l}$ or $200\ \mu\text{g/mL}$). Validated antioxidant profiling requires multi-point concentration curves to compute IC_{50} values rather than single-point percentage inhibition.

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- **Standard Curve Omissions:** TPC is expressed as $\mu\text{g GAE/mL}$, but no regression equation or R^2 value for the gallic acid standard calibration curve is provided. Similarly, standard reference values (e.g., ascorbic acid control values) are absent from Tables 1–5.

3. Textual Misidentifications

- Lines 402–417 label the heading as "Superoxide Scavenging Assay," yet the narrative repeatedly discusses "hydroxyl radical scavenging activity" and "hydroxyl radicals." This is a critical technical error: the protocol described in lines 302–304 (NADH/NBT/PMS) generates superoxide anion radicals, not hydroxyl radicals.

Minor Revisions and Formatting Corrections

- **Typographical and Nomenclature Errors:** Correct botanical names throughout (e.g., *Syzygium cumini* missing a space in lines 10, 118, 558; *Ziziphus mauritiana* vs. *Zizipus jujupa* in lines 269 and 558).
- **Figure Legends and Artifacts:** Figures 1–6 are severely distorted, poorly formatted, and overlaying text blocks (lines 472–557). Remove watermark artifacts ("UNDER PEER REVIEW IN IJAR") and re-render clear, high-resolution vector charts.
- **Reference List Cleanup:** Multiple reference entries are duplicated (e.g., Naik et al., 2003 on lines 804–807 and 808–810; Prior et al., 2005 on lines 849–855) or cited in text without proper alignment.

Recommendation

Revision Required. The authors must re-calculate their optical density data, clarify fixed-volume versus concentration gradient testing, correct the superoxide/hydroxyl terminology, provide standard calibration parameters, and overhaul the figures and tables before re-submission.