



Proximate and Phytochemical Composition of *Moringa Oleifera*

Leaves

Oluwakeyede O.M* & Odeyemi B.A

Department of Science Laboratory Technology, The Federal Polytechnic, Ilaro, Nigeria

*Corresponding author: oluwafisayomi.babatola@federalpolyilaro.edu.ng

Introduction

Moringa oleifera, commonly known as the drumstick tree, is a highly nutritious plant widely recognised for its medicinal and nutritional benefits. Numerous studies have investigated its proximate and phytochemical composition, highlighting its potential as a functional food and therapeutic agent. The medicinal value of *Moringa oleifera* is due to the presence of bioactive components called phytochemicals. Several studies have identified various bioactive compounds in *Moringa oleifera* leaves, including flavonoids, alkaloids, tannins, saponins, and phenolic acids (Verma, Vijayakumar, Mathela, & Rao, 2010). These compounds contribute to its antioxidant, anti-inflammatory, and antimicrobial properties. Saini et al. (2016) reported that flavonoids such as quercetin and kaempferol are abundant in *Moringa* leaves, playing a crucial role in scavenging free radicals and reducing oxidative stress. The proximate and phytochemical analyses of *Moringa oleifera* leaves confirm their high nutritional and medicinal value. Their rich protein, mineral, and fiber content makes them an excellent dietary supplement, while their diverse phytochemicals contribute to their therapeutic effects. This study confirms its nutritional composition by exploring its proximate and phytochemical composition.

Materials and methods

Sample collection and preparation; extraction of *Moringa oleifera* leaf; phytochemical screening and proximate analysis.

Results and discussion

Phytochemical Screening

Proximate analysis of aqueous and methanol *Moringa oleifera* leaf extracts

Proximate Constituents	A (%)		B (%)	
Moisture	8.0 ± 0.47		7.46 ± 0.40	
Lipids	10.89 ± 0.30		5.03 ± 0.07	
Phytochemical Constituents	A	B	A(mg/g)	B(mg/g)
Saponin	+	+	7.32	6.79
Tannins	+	+	6.31	4.83
Phenols	+	+	11.02	10.64
Flavonoids	+	+	4.19	4.98
C.Glycosides	+	+	4.50	5.09
Alkaloids	+	+	5.13	7.41
Anthraquinone	-	-	-	-
Steroids	+	+	5.11	6.19
Terpenoids	-	-	-	-
Ash	7.28 ± 0.18		7.03 ± 0.29	
Fibre	5.33 ± 0.62		6.17 ± 0.07	
Protein	25.97 ± 0.26		24.20 ± 0.37	
Carbohydrate	42.90 ± 0.87		49.40 ± 0.89	

A =Aqueous extract, B= Methanol extract

Conclusions

Considering the obtained results, it confirms that *M. oleifera* leaves generally possess a high dietary composition. *M. oleifera* leaves are simple to acquired and beneficial for both dietary and health purposes.

Keywords: *Moringa oleifera*, phytochemicals, proximate