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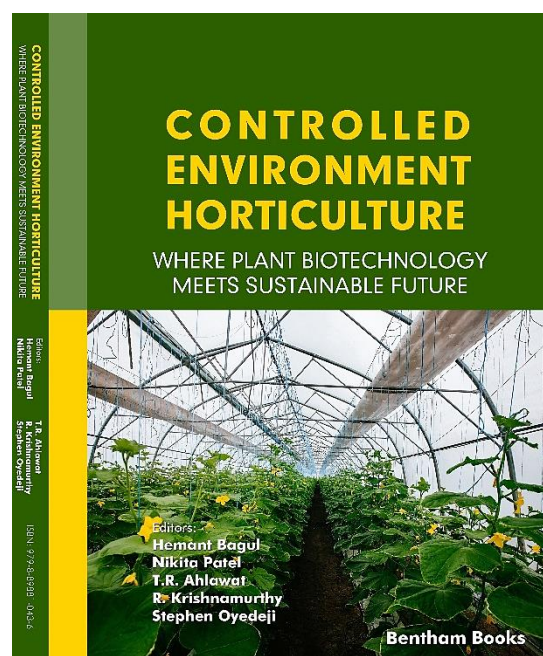
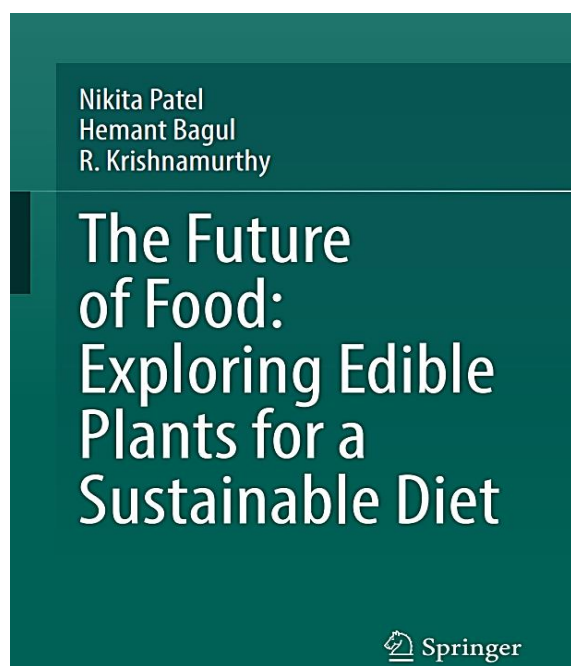
Uka Tarsadia University

Research Achievements from Institute as on February 2026

- **Total Number of Research Papers: 15**
- **Total Number of Book Chapters: 50**
- **Total Number of Books: 3**
- **Total Number of Review Articles: 6**
- **Total Number of Magazine Articles: 12**
- **Total Number of Patents: 2**

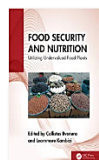
Selected Publication Highlights

Books



Book Chapters

Home > Environment & Agriculture > Agriculture & Environmental Sciences > Agriculture and Food > Food Security and Nutrition
Moringa Oleifera Plant Accessions for Nutritional and Food Security



Chapter

The Potential of Underutilized and Undervalued Moringa Oleifera Plant Accessions for Nutritional and Food Security

By Nikita Patel, Stephen Oyediji, David Adedayo Animasaun, Kehinde Stephen Olorunmaje, Ramar Krishnamurthy

Book [Food Security and Nutrition](#)

Edition 1st Edition
First Published 2024
Imprint CRC Press
Pages 12



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Home > Environment & Agriculture > Botany > Plant Biotechnology > Exploration of the Medicinal Potential of Kitchen Ing



Chapter

Spices That Heal

From Kitchen to Medicine

By Nikita Patel, Stephen Oyediji, Ramar Krishnamurthy

Book [Exploration of the Medicinal Potential of Kitchen Ingredients](#)

Edition 1st Edition
First Published 2025
Imprint CRC Press
Pages 11

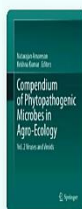


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[Compendium of Phytopathogenic
Microbes in Agro-Ecology](#)

Ankit Chaudhary, Arni Naik & Snaa Mistry

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Home > Bioprospecting of Tropical Medicinal Plants > Chapter

Moringa oleifera Accessions: Perspectives and Application as Nutraceuticals and Phytomedicines

Chapter First Online: 31 August 2023
pp 463–479 [Cite this chapter](#)



[Bioprospecting of Tropical Medicinal
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Nikita Patel & Ramar Krishnamurthy

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Controlled Environment Horticulture: Where Plant Biotechnology Meets Sustainable Future

Back Book Details

Protected Cultivation of Horticultural Crops: Medicinal and Aromatic Plants (MAPs)

Author(s): Nikita Patel, Hemant Bagul, Piyank Bhoje and Ramar Krishnamurthy

Pp: 178-185 (8)

DOI: 10.2174/9789838810429125010017

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ISBN: 978-81-972354-3-6

CHAPTER: 5

EXPLORING ORGANIC HORTICULTURE: PRINCIPLES AND PRACTICES

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⁴Ph. D. Scholar, Department - Plantation, Spices Medicinal and Aromatic plants, Uttar Banga Krishi Viswavidyalaya

⁵Ph. D. Research Scholar, C.G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Bardoli, Gujarat, India-394350

ABSTRACT



Organic Horticulture

Research Papers

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2024, VOL. 11, NO. 1, 719-742
<https://doi.org/10.1080/2314808X.2024.2434995>



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Daniellia oliveri as a type 2 diabetes remedy: evidence from *in-silico* evaluation

Sherif Babatunde Adeyemi^a, Ahmed Abiodun Saliu^b, Bhrguresh Pravinchandra Joshi^c and Ramar Krishnamurthy^c

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ABSTRACT

The prevalence of diabetes mellitus is increasing, and well-known conventional medications are associated with harmful effects. Therefore, this study aimed to identify the compounds present in the young leaves of *Daniellia oliveri* and assess their antidiabetic potential using an *in-silico* model. The best column chromatographic fraction obtained from ethyl acetate fraction was analyzed using HPLC-MS to identify the prominent compounds. The identified compounds were subjected to ADMET prediction using online servers to confirm their druggability. In addition, the compounds were screened for activity against type 2 diabetes using molecular docking. Eight compounds with prominent peaks were identified, viz: gallic acid, 2,6-dihydroxybenzoic acid, salicylic acid, caffeic acid, phenylacetaldehyde, 2,5-dimethylphenol, 3-(4-Hydroxyphenyl) propionic acid, and 16-hydroxyhexadecanoic acid. Most of the identified compounds were phenolics and had little toxic effects. The molecular docking results revealed the potentials of the identified compounds in inhibiting the therapeutic targets viz: 11B-

ARTICLE HISTORY

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KEYWORDS

Diabetes mellitus; *D. oliveri*;
molecular docking; gallic
acid

Evaluation of bacteriological quality of buffalo milk produced in rural areas of South Gujarat, India

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India is a major contributor to the global dairy industry. Hence, the evaluation of buffalo milk quality is a matter of paramount importance. Multistage cluster sampling methods were implemented in collecting buffalo milk samples from rural areas of South Gujarat. Buffalo milk was collected from villages in Navsari, Surat, Valsad, Bardoli, Vyara and Vapi. The collection of the milk was done in sterilised bottles. A total of 51 samples were collected from the villages at various times of day. Serial dilution was done, and the pour plate method was used to plate the bacteria on nutrient agar. Enteric bacterial isolates were characterised using molecular tools involving DNA extraction, 16S rRNA gene amplification (PCR), gel electrophoresis, and sequencing. MEGA 7 software that uses 16S rRNA genes to produce phylogenetic trees was also applied. The isolated and identified bacteria were *Providencia vermicola*, *Proteus chloris*, *Enterobacter cloacae* strain 1, *Enterobacter cloacae* strain 2, and *Atlantibacter hermanni*. Most of these enteric bacteria isolated are opportunistic pathogens. It is recommended that the practice of consuming raw milk should be discouraged through education. Active sanitation in buffalo farms is also recommended.

Keywords: Enteric bacteria; raw milk quality; milk bacteria; local communities



ACTA SCIENTIFIC AGRICULTURE (ISSN: 2581-365X)

Volume 8 Issue 9 September 2024

Research Article

Impact of Foliar Application of liquid bioenhancers on Growth and Phytoconstituents of Chilli (*Capsicum annuum* L.)

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Hemant Bagul, et al.

Abstract

An experiment was conducted at farmer field in 2023-24 to study the impact of foliar application of liquid bioenhancers on Chilli (*Capsicum annuum* L.). The experiment was laid out in a Completely Randomized Design comprising of nine treatments namely viz., T1- Novel liquid nutrient fertilizer 1 %, T2- Novel liquid nutrient fertilizer 3 %, T3- Panchagavya 2 %, T4- Panchagavya 3 %, T5- Vermiwash 5 %, T6- Amritpani 2 %, T7- Bijamrut 2 %, T8- Jeevamrut 1 % and T9- control (water spray). Chilli plants were sprayed at 45 days after sowing and each treatment was repeated thrice and all parameters were taken 90 days after transplanting. Experimental results indicated that the foliar application of Novel liquid nutrient fertilizer 3 % recorded the maximum growth attributes viz., plant height, number of leaves, number of branches, fresh weight and dry weight of plant, fresh weight and dry weight of fruit, number of fruits per plant. Whereas, phytoconstituents viz., Chlorophyll a and b, carotenoid, phenols, tannin, flavonoids and ascorbic acid were recorded significantly maximum with Novel liquid nutrient fertilizer 1 %.

Keywords: Chilli; Organic Sprays; Novel Liquid Nutrient Fertilizer; Growth and Yield Attributes; Phytoconstituents

Open Access | <https://doi.org/10.22271/tpi.2023.v12.i12aa.24863>

The impact of meteorological variables on the development of blackgram anthracnose caused by *Colletotrichum lindemuthianum*

Jan 1, 2023 • The Pharma Innovation

Authors: Nikunj Sohaliya, Akbari Lf, Bhaliya Cm, Alpesh Bhimani

Affiliations: Uka Tarsadia University, Junagadh Agricultural University

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The purpose of the experiment was to study the correlation between weather conditions and the blackgram anthracnose disease, which is highly damaging in major blackgram cultivating region. Generally,

Review Paper and Magazine Articles



MEDICON AGRICULTURE & ENVIRONMENTAL SCIENCES
Volume 7 Issue 2 August 2024
Article Type: Review Article
ISSN: 2972-2691

Can Sonpali be a Blessing for Farmers?

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Received: June 24, 2024; Published: July 23, 2024

DOI: 10.55162/MCAES.07.192

Abstract

In the last two or three years, farmers have faced extremely challenging circumstances, particularly in the mango industry. This is because of climate change, specifically storms or cyclones, which have severely damaged mango crops during the pea-sized fruiting and flowering stages in Gujarat. As a result, farmers have lost a significant amount of mango yield and their financial worth. Mango cultivation entails several challenges, as evidenced by the fact that nearly every variation exists. Mango production is eventually losing money for farmers owing to factors such as alternate bearer, limited shelf life, major or minor diseases, and lack of resistance to climate change. For over two or three years, the sonpali variety of mango has gained widespread popularity among consumers because of its outstanding flavour, resistance to disease, pests, and disorders, and ability to withstand harsh weather conditions.



ACTA SCIENTIFIC NUTRITIONAL HEALTH (ISSN:2582-1423)

Volume 8 Issue 8 August 2024

Mini Review

The Nutritional and Functional Property of Unconventional Food Plant:
Nasturtium (*Tropaeolum majus* L.)

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Abstract

Tropaeolum majus L., or garden nasturtium, is a member of the Tropaeolaceae family. Imported to Europe in the sixteenth century, it originated in South America. It's a plant with several therapeutic uses. Medicinal plants, like garden nasturtium, have bioactive chemicals and trace elements that the body may readily absorb. Microelements including potassium, phosphorus, calcium, and magnesium, as well as macro elements like zinc, copper, and iron, are abundant in the flowers and other sections of the nasturtium plant. The chemicals extracted from the flowers, leaves and essential oil exhibit antibacterial, antifungal, hypotensive, expectorant and anticancer activity. Hence, the present review is focussed on nutritional and functional potential of Nasturtium.



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Conyza bonariensis: A Weed or Functional Food Plant?

Hemant Bagul and Nikita Patel

Abstract

Nutritious demands and emerging consumption patterns have prompted the development of novel food products with fresh ingredients. Thus, a variety of vegetable species known as unusual food plants (UFPs) are being researched in the literature and are showing promise as sources of foods with improved nutritional value. Moreover, certain vegetable tissues that are thrown out during post-harvest and/or commercial pre-processing procedures may qualify as UFPs suitable for ingestion by humans. Therefore, the current paper is focused on the importance of *Conyza bonariensis* a weed plant with functional food property.



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The Science of Sweetness: What Makes Fruits Delicious?

Hemant Bagul, Nikita Patel and Alpesh Rathwa

Introduction

Fruits are not just a source of essential nutrients; they are also a major component of our diets, providing flavors that are both enjoyable and complex. The sweetness of fruits is a key factor in their appeal, influencing consumer preferences and market trends. Sweetness, primarily attributed to the presence of sugars such as glucose, fructose, and sucrose, is a multifaceted trait shaped by various factors, including genetics, environmental conditions and postharvest handling practices (Kader, 2002; Seymour *et al.*, 2013).

The genetic basis for sweetness in fruits is a topic of significant interest in agricultural research. Advances in molecular biology and genetic engineering have enabled scientists to identify and manipulate the genes responsible for sugar accumulation in fruits. For instance, Karp *et al.* (2019) discuss how genetic variations can be harnessed to breed fruit varieties with enhanced sweetness and

also play a critical role in determining the sweetness of fruits. Soil composition, water availability, and climatic conditions significantly influence the biochemical processes that lead to sugar accumulation (Chen *et al.*, 2016; Zhang *et al.*, 2020). For example, fruits grown in nutrient-rich soils and under optimal sunlight conditions tend to exhibit higher sugar concentrations, as these conditions promote effective photosynthesis and nutrient uptake (Morandi *et al.*, 2018). Understanding these environmental influences is essential for growers aiming to produce high-quality, sweet fruits that meet market demands. Consumer preferences for sweetness in fruits have evolved, with a growing emphasis on natural sweetness and flavor complexity. Research by Jaeger *et al.* (2016) indicates that consumers are increasingly seeking fruits that not only satisfy their sweet cravings but also provide a balanced flavor profile that includes acidity and aroma. This shift in consumer behavior has prompted growers and

Patents

Title of Patent: Automated System for Rapid Identification of Bacteria and Antibiotic Resistance

Patent No: 448994-001

Date: 03/06/2025

Patent granted to: Dr. Nikita Patel and Prof. Dr. R. Krishnamurthy

Patent Granted by: The Patent Office, Govt. of India

Address: Kishorbhaj Institute of Agriculture Sciences and Research Centre, Uka Tarsadia University

Title of Patent: Device for Analysis of Volatile Organic Compounds

Patent No: 476919-001

Date: 29/01/2026

Patent granted to: Dr. Nikita Patel

Patent Granted by: The Patent Office, Govt. of India

Address: Kishorbhaj Institute of Agriculture Sciences and Research Centre, Uka Tarsadia University