

# A Short Review on Kokum: Food, Medicinal, Psychological and Industrial Applications

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**Abstract:** *The tropical fruit kokum (Garcinia indica), which is native to India's Western Ghats, has drawn a lot of interest due to its numerous uses in industry, medicine, and cooking. Many researches have been conducted on the medicinal potential of kokum; current investigations have concentrated on its hepatoprotective, anti-inflammatory, antioxidant, and anti-obesity properties. Kokum is utilized in the production of environmentally friendly packaging materials and nutritious foods. This review aims to emphasize kokum's potential as a valuable health food by summarizing recent research findings on its nutritional value, therapeutic qualities, and industrial usage.*

**Keywords:** Industrial Uses, Market Trends, Nutrients and Medicinal Value, Psychological Benefits

## 1. Introduction

*Garcinia indica*, also referred to as kokum, is a plant family in the Clusiaceae family. It is mostly found in India's Western Ghats and has long been valued for both its culinary and therapeutic qualities. The fruit's unique flavor and vivid reddish-purple hue are attributed to the anthocyanins that it contains. Kokum has garnered attention lately due to its possible health benefits and industrial uses.

### 1.1 Nutrient Ingredient

Kokum is abundant in a variety of bioactive substances, such as flavonoids, anthocyanins, polyphenols, and hydroxycitric acid (HCA). A good dose of fiber, vitamins, and minerals are also found in fruits. Recent research has brought attention to the following crucial dietary elements:

- **Acid Hydroxycitric (HCA):** Well-known for its function in fat metabolism and weight control is hydroxycitric acid (HCA).
- **Anthocyanin:** Strong antioxidants called anthocyanins are responsible for the fruit's anti-inflammatory and heart-protective qualities.
- **Flavonoids and polyphenols:** They are potent antioxidants that can help ward against chronic illnesses.

### 1.2 Medicinal Properties

Many researches have been conducted on the medicinal potential of kokum; current investigations have concentrated on its hepatoprotective, anti-inflammatory, antioxidant, and anti-obesity properties.

- **Antioxidant activity:** Studies on kokum extract have revealed a strong ability to scavenge free radicals, protecting cells from oxidative stress.

- **Anti-inflammatory:** Studies have shown that kokum helps lessen inflammation by preventing cytokines that promote inflammation.
- **Potential to Prevent Obesity:** Research has shown that kokum's HCA can reduce hunger and inhibit the build-up of fat, which is why it's a common component in dietary supplements.
- **Effects on the Liver:** Research indicates that kokum can shield the liver against oxidative stress and toxicity-related harm.

### 1.3 Industrial Applications

Because of its special qualities, kokum can be used in many different industrial applications, such as:

- **Food industry:** Kokum is utilized in beverages, confections, and culinary items as a natural acidulant, colouring, and flavouring agent.
- **Pharmaceuticals:** Nutraceuticals and functional foods are made from the bioactive ingredients of kokum.
- **Cosmetics:** Due to its hydrating and emollient qualities, kokum butter, which is derived from the seeds, is a common component in skin care products.

### 1.4 Recent Regulations and Future Instructions

The potential of kokum in novel uses, like the creation of wholesome foods and eco-friendly packaging materials, has been investigated in recent studies.

- **Clinical studies:** research on humans to verify kokum's health advantages.
- **Enhances the bioavailability** of the bioactive chemicals in kokum to augment its efficaciousness.
- **Sustainable practices:** To meet the rising demand for kokum, sustainable planting and processing techniques are encouraged.

Volume 13 Issue 8, August 2024

Fully Refereed | Open Access | Double Blind Peer Reviewed Journal

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## 2. Market Trends

### 2.1 Growing Consumer Interest in Functional and Natural Foods

- **Health and Wellness Movement:** As consumers become more conscious of the advantages natural goods provide for their health, kokum demand has surged. Because of its high concentration of antioxidants, anti-inflammatory chemicals, and hydroxycitric acid (HCA), it is a popular ingredient in functional meals and drinks.
- **Functional foods and drinks:** Due to kokum's potential advantages for detoxification, weight control, and digestive health, it is being used more and more in health drinks, herbal teas, and functional meals.

### 2.2 Growth of the Food and Beverage Industry

- **Uses in Cooking:** Kokum is frequently used in traditional Indian cooking, particularly in coastal areas. Its distinct tart flavour is well-liked in chutneys, curries, and beverages like kokum sherbet.
- **Product innovations:** There is a growing market for creative kokum-based goods, including snacks, drinks, and flavoured waters. Diversification like this draws in a larger customer base.

### 2.3 Growing Usage in Medication and Food

- **Nutrients:** Kokum is used in dietary supplements for weight loss, cholesterol control, and metabolic enhancement because of its bioactive components, particularly HCA.
- **Pharmaceutical:** Studies on the health benefits of kokum, such as its hepatoprotective, anti-inflammatory, and antioxidant qualities, promote the ingredient's use in a range of formulations gaining traction in the cosmetics sector.
- **Natural cosmetics:** The cosmetics industry is seeing a rise in demand for kokum butter, which is derived from the seeds. Because of its emollient and moisturizing qualities, it is included in skin care products.
- **Sustainable ingredients:** Kokum's natural and renewable sources make it more appealing to consumers as they go toward sustainable and ecologically friendly products.

### 2.4 Export market potential

**Export opportunities:** India, a major producer of kokum, has significant export potential. Standardization of quality and processing methods can improve its marketability abroad.

#### Marketing Issues:

- **Supply Chain:** Seasonal production and uneven supply can cause problems. Ensuring consistent availability through better agricultural practices and storage methods is critical.
- **Quality Control:** Building and maintaining consumer trust requires maintaining high quality and preventing counterfeiting.

### Government and Institutional Support

- **Research and Development:** To enhance growing techniques, increase yields, and investigate novel applications, the Indian government and university institutions fund kokum research.
- **Grants and Subsidies:** Farmers can cultivate kokum, increasing supply and production, with the assistance of government financial incentives, grants, and subsidies.

### Ethical and Sustainable Production

- **Organic Farming:** Kokum's organic farming is expanding to cater to a market niche that values health and avoids items using pesticides.
- **Fair trade practices:** By guaranteeing fair trade and assisting small farmers, kokum production can become more socially sustainable and appealing to consumers who value ethics.

## 3. Psychological Benefits of Using Kokum

**Neuroprotection:** Antioxidants can assist in reducing oxidative stress, a factor linked to neurodegenerative diseases and cognitive decline. By safeguarding neurons, kokum may aid in preserving cognitive function and mental clarity.

#### Anti-inflammatory Effects

Chronic inflammation is connected to various mental health disorders, such as depression and anxiety.

**Mood Regulation:** Kokum's potential to decrease inflammation may help alleviate symptoms of depression and anxiety, leading to enhanced mental health. Research indicates that reducing inflammation can positively impact mood and cognitive function.

#### Gut - Brain Axis

The gut-brain axis serves as a two-way communication system between the gut and the brain, playing a critical role in mental health.

**Digestive Health:** Kokum is recognized for its digestive advantages, promoting a healthy gut environment. A healthy gut microbiome can influence the production of neurotransmitters like serotonin, which are essential for mood regulation.

#### Stress Reduction

**Adaptogenic Properties:** Kokum may function as an adaptogen, aiding the body in adapting to stress and maintaining homeostasis. Adaptogens are known to help reduce mental and physical fatigue, enhancing overall well-being.

**Weight Management:** Kokum is frequently utilized as a natural aid for weight management due to its appetite-suppressing properties.

**Mental Health Benefits of Weight Management:** Effective weight management can enhance self-esteem and reduce anxiety and depression. By assisting in weight control, kokum indirectly supports mental health.

#### 4. Conclusion

Kokum is a fruit that can be used in many different ways for industrial, medical, and nutritional purposes. The increasing amount of study highlights its potential as a useful resource in a variety of businesses and as a functional food ingredient. Sustained investigation and advancement are required to completely realize the advantages of kokum and encourage its sustainable application.

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