

Information about the Kentucky State University Cooperative Extension Program



Nutritional & Medicinal Properties of African Eggplants: A Hidden Gem in Traditional Diets

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Introduction & Background

- Eggplant (*Solanum* spp.), also known as Aubergine, is a member of the nightshade family (*Solanaceae*), which includes tomatoes, peppers, and potatoes.
- It is native to Asia and cultivated since prehistoric times, eggplant is among the top five vegetable crops consumed in Asia and the Mediterranean where China leads global production with 28.4 million tons (57% of global output) (Diouf et al., 2017).

What Makes African Eggplant Unique?

Unlike the familiar elongated, purple varieties of common eggplant (*Solanum melongena*), the African eggplant, also known as *Solanum aethiopicum*, differs in:

- **Color:** Varies from orange, white, yellow to deep red.
- **Shape:** Typically, round or oval, with both smooth and ridged varieties.
- **Taste:** Bitter taste makes it especially suited for use in traditional stews and soups.
- **Culinary Use:** Consumed in a variety of ways, often in stews or raw in salads.



Taher et al, 2017

Agronomic Insights

- African eggplant is a perennial crop with reduced yields after the first season, that is commonly grown by small-scale farmers, in East and West Africa.
- Even though manure is commonly used to maintain soil fertility, nitrogen and potassium are critical to enhance crop vitality (Diouf et al, 2017).

Growth & Harvest

- **Leaf Varieties (Shum Group):** First harvest in 2 months; up to 5 harvests per season.
- **Fruit Varieties:**
 - Flowering begins ~1.5 months post-transplanting.
 - First harvest ~1 month after fruit set.
 - Early varieties (Kumba group): Ready in 85 days.
 - Other varieties: 110–120 days.
- **Harvest Frequency:** Every 5–6 days to balance quality and labor costs.

Yield & Post-Harvest

Fruit weight: 25–110 grams.

Yield range: 8.9 t/ha to over 60 t/ha (with improved cultivars).

Shelf life: 3–7 days → leads to significant post-harvest losses.



Why is African Eggplant Unknown in Western Countries?

➤ Limited Global Commercialization

Grown mostly for local consumption in Africa and parts of Asia, African eggplant is rarely exported—making it hard to find in global markets (Horna et al, 2007).

➤ Lack of Global Awareness & Promotion

Unlike quinoa or chia, African eggplant hasn't been promoted as a “superfood.” Without media exposure and nutrition-based scientific facts, it's often overlooked by international consumers (Chadha et al, 2007).

Potential Research Innovation

- Given the significance of African eggplant in traditional African diets, there is growing potential for innovative research aimed at expanding its cultivation and consumption beyond its native regions.
- One promising direction is exploring the crop's adaptability to controlled environment agriculture (CEA) systems like greenhouse or high tunnels that mimic tropical conditions—particularly during the summer months in U.S regions like Kentucky.
- This approach not only supports local food diversity but also positions African eggplant as a climate-resilient crop with both nutritional and cultural value in emerging agricultural systems.

Sources

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Nutritional & Health Benefits

- High fiber content aids digestion.
- Low in calories, supporting weight management.
- Contains potassium and antioxidants, promoting heart health.
- Helps regulate blood sugar—beneficial for diabetics.

Table 1. (Choi & Choi, 2024)

Proximate nutritional information of *S. aethiopicum*.

Contents	Fruits [13]	Leaves [16]
Moisture	89.27 ± 0.12	84.43 ± 3.09
Crude protein	2.24 ± 0.03	6.92 ± 1.04
Fat	0.52 ± 0.04	0.79 ± 0.16
Crude fiber	2.96 ± 0.08	1.82 ± 0.37
Ash	0.87 ± 0.03	1.79 ± 0.16
Carbohydrate	4.14 ± 0.11	4.26 ± 0.80

- **Vitamin A:** Good for vision and immunity
- **Vitamin C:** Boosts immune system and skin health.
- **Vitamin B1 (Thiamine):** Supports nerve function.
- **Vitamin B2 (Riboflavin):** Essential for energy metabolism
- **Vitamin B3 (Niacin):** Helps in digestion and skin health.
- African eggplant is rich in mineral from the fruit to the leave. Rich in (Calcium Ca, Magnesium Mg, Iron Fe, Potassium K, Sodium Na, Zinc Zn, and Phosphorus) (Taher et al, 2017:George et al, 2022)

Table 2. (Choi & Choi, 2024)

Mineral composition of *S. aethiopicum* [19].

Contents	Fruits	Leaves
Calcium (Ca)	126 ± 7	1048 ± 56
Magnesium (Mg)	187 ± 14	666 ± 10
Iron (Fe)	21 ± 1	12 ± 2
Potassium (K)	3582 ± 20	3064 ± 81
Sodium (Na)	87 ± 10	77 ± 16
Zinc (Zn)	2 ± 1	20 ± 3
Phosphorus (P)	29 ± 5	327 ± 91

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Results are means ± SDs (mg/100 g).



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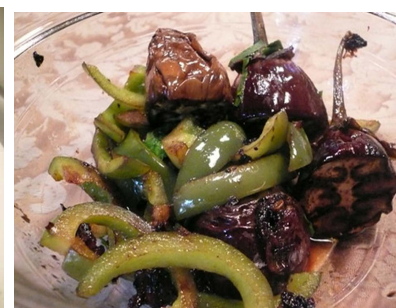


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