



TURKEY BERRY:

**A RESILIENT CROP FOR NUTRITION,
CUISINE AND HEALTH BENEFITS**

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INTRODUCTION

Turkey berry, scientifically known as *Solanum torvum*, is a bushy, upright, and spiny perennial plant that produces small, rounded fruits, which belong to the Solanaceae family. It is often found growing as a weed along the roadsides, in pastures, on disturbed sites, in agricultural fields, and in wastelands. Originating in tropical America, turkey berry has spread across Africa, Asia, and the Pacific Islands. Turkey berry, is also known by various common names such as wild eggplant, prickly nightshade, shoo-shoo bush, susumber, devil's fig, and pea eggplant. In India, it is known by several vernacular names, reflecting the country's linguistic diversity. In Hindi, it is called "Bhankatiya" or "Bhurat", "Marang" in Marathi, "Sundakkayi" in Kannada, "Anachunda, Chunda and Parachunda" in Malayalam, "Sundaikai" in Tamil, while in Telugu, it is referred to as "kottuvastu". The small, green, clustered fruits of turkey berry, resemble miniature eggplants, possess a distinctive aroma and are rich in phenolic compounds, which contribute significantly to their dietary and medicinal properties. These edible fruits are used as vegetable and hold a prominent place as a key ingredient in various traditional cuisines.



MORPHOLOGICAL DESCRIPTION

The plant grows to a height of 2-4 meters, with spreading branches and features twigs and branches covered with fine hairs and scattered prickles. Leaves are broad, ovate and pubescent on both sides, giving them a slightly rough texture. Prickles are scattered along the midrib and petiole of the leaves. The flowers are small, perfect (bisexual), star-shaped, with a whitish corolla and green sepals. They have stamens with short filaments and yellow anthers and are borne in clusters. These develop into small, round, green fruits, botanically called berries, that grow in bunches. As they mature, the fruits turn yellow or slightly orange. Thin fleshed berries contain numerous brown-coloured, flat and discoid seeds.

Nutritional Value

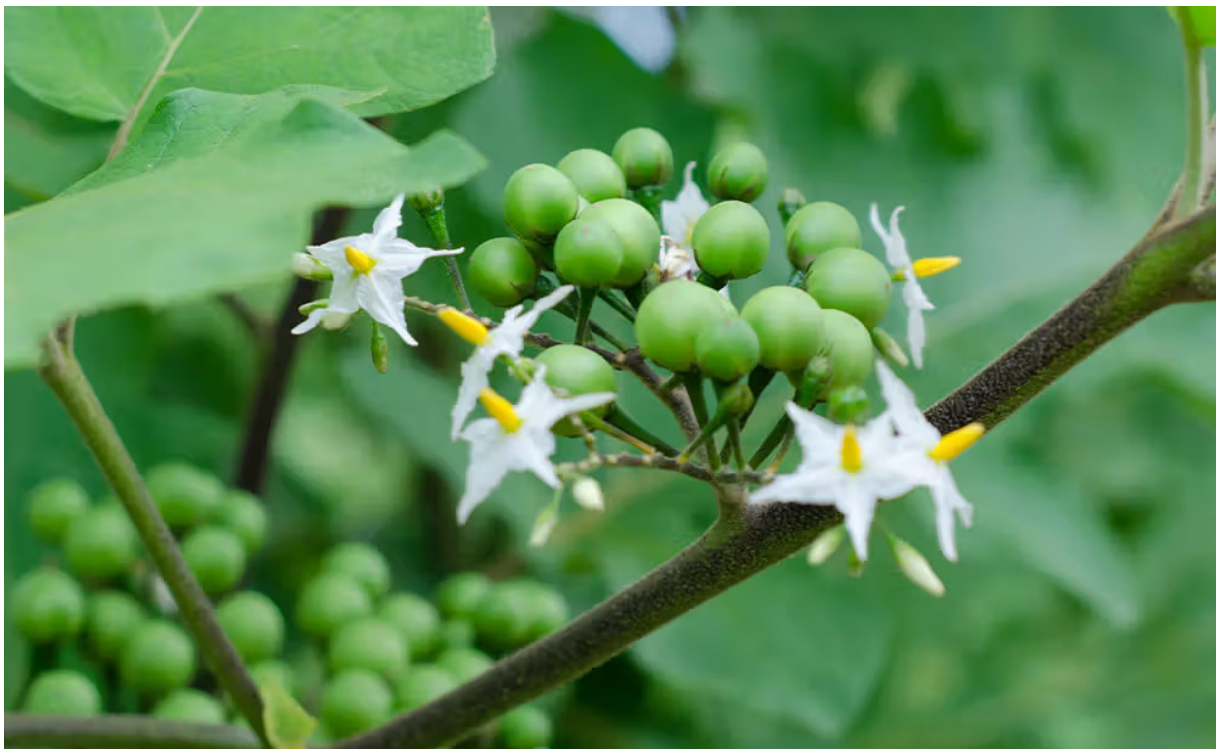
Nutritional Composition of Turkey Berry (per 100 grams)

Nutrient	Amount
Water	86.23 %
Carbohydrate	7.03 g
Protein	2.32 g
Fat	0.27 g
Fiber	3.9 g
Vitamin A	70 mcg
Vitamin C	2.68 mg
Iron	7.6 mg
Manganese	1.9 mg
Calcium	22 mg
Zinc	2 mg



MEDICINAL VALUE

Turkey berry is valued for its health benefits. It contains compounds like flavonoids, alkaloids, phenolic acids, and saponins, which provide antioxidant, antiviral, antimicrobial, antihypertensive, and cardiovascular protective effects. The berries and leaves are rich in iron, which helps to prevent iron deficiency 'anaemia' and are traditionally used to boost haemoglobin levels, especially in pregnant women and children. Bioactive polyphenols present in berries lowers blood sugar levels in people at risk of diabetes. These polyphenols also protect cells from damage, reduce oxidative stress, and support a healthy metabolism. The fruits, flowers, and stems also promote digestion (carminative) and aid in expelling worms (anthelmintic). In African countries, the fruits are used to make a decoction to treat coughs in children, while other parts of the plant are used to relieve sore throats and stomach aches.



CONSUMPTION UTILITY

Young, tender turkey berry fruits are widely used as a vegetable in various cuisines, particularly in Southeast Asia and southern India. In Thailand, they are commonly featured in Thai curries, while in Tamil Nadu, India, they are a key ingredient in the dish "Vatha Kuzhambu." The berries are often dried, fried, or sauteed in oil, and served as a side dish with rice or used as a topping for other dishes. Dried and ground berries are used as a spice or flavouring agent and can be added to herbal teas. Turkey berries are also used to make pickles, which are served as a condiment.

ETHNOBOTANICAL SIGNIFICANCE

Turkey berry has a long history of use in traditional practices across various cultures. It is often valued for its resilience and is symbolically associated with strength and endurance in many communities. In folk medicine, turkey berry has been used to treat ailments such as digestive problems, respiratory conditions, and skin infections. It is considered a symbol of health and vitality in some African cultures, where it is incorporated into rituals and cultural practices. The enduring presence of turkey berry in traditional medicine highlights its importance in local healing systems.



ENVIRONMENTAL AND AGRICULTURAL BENEFITS

Turkey berry is effective in improving resistance to soil-borne diseases such as Fusarium wilt and Verticillium wilt, which affect crops like eggplant. The use of turkey berry as a rootstock enhances the overall vigour of the grafted plant and provides better tolerance to these diseases, improving crop yield and longevity. The plant's deep root system also helps with soil stabilization and erosion control, particularly in areas prone to degradation. In organic farming, turkey berry serves as a companion plant, attracting beneficial insects that help control pests naturally. The leaves of the plant are sometimes used as fodder for livestock during the dry season or in areas with limited feed or pasture resources, and the plant can be utilized as green manure to improve soil fertility. These diverse agricultural uses make turkey berry an important resource for sustainable farming practices.

CHALLENGES AND FUTURE PROSPECTS

Turkey berry faces challenges such as limited market awareness, and post-harvest losses due to its perishable nature. Moreover, there is a lack of extensive research on its agronomic potential and genetic improvement. However, the future prospects for this crop are promising, particularly in organic farming systems, given its low-maintenance cultivation. Its role as a rootstock for grafting other solanaceae crops could be further explored to improve productivity and disease resistance. There is also growing potential for turkey berry in the nutraceutical and functional food markets, as well as in the development of value-added products like pickles, sauces, and powders, which can increase market demand and reduce post-harvest losses.

CONCLUSION

Turkey berry is a hardy plant offering a wide range of potential benefits. Its nutritional richness, particularly in iron and antioxidants, makes it valuable for health, especially in combating anemia. The plant's role in traditional diets and its medicinal properties highlight its importance in local cultures. Supporting soil health and its role as a green manure, make it a useful companion plant in farming systems. Despite challenges like perishability and limited research, turkey berry holds considerable promise for both food and medicinal applications, offering sustainable solutions for future farming and food industries.

