



CURCUMIN-RICH LAKADONG TURMERIC: BOTANICAL CHARACTERISTICS, HEALTH BENEFITS AND FARMER EMPOWERMENT

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Introduction

Turmeric (*Curcuma longa* L.), popularly known as the "golden spice," originated from Southeast Asia belongs to the family Zingiberaceae. The name *Curcuma* is derived from the Arabic term "al-kurkum," means saffron, to produce yellow dyes. Marco Polo referred turmeric as the "saffron of India." In India, turmeric accounts for approximately 6 per cent of the total area under spices and condiments. It is a perennial herbaceous plant grows to a height of about 60–90 cm, though under favorable conditions it may reach up to 1 meter. This herb has palmate leaves arranged alternately in two rows. The flowers are yellow-orange in color and are borne in the axils of waxy bracts, which are pale green with a purple tinge. The rhizomes are yellow to orange in color with rough segmentation. Older rhizomes are scaly and brown, while younger rhizomes are pale yellow to brown.

Medicinal properties

Turmeric contains bioactive compound called "curcumin", which is fat soluble to support gut health and immunity. Curcumin possesses powerful natural anti-inflammatory property that helps to manage arthritis and other inflammatory diseases. It acts as a potent antioxidant, helping to neutralize free radicals and reducing oxidative stress linked to aging and chronic diseases. Curcumin significantly supports brain health by enhancing memory, influences serotonin and

dopamine levels to stabilize mood swings and manages depression and Alzheimer's disease. It promotes cardiovascular stability by reducing inflammation and oxidation. Several studies reports that curcumin can help to inhibit the growth and spread of cancer cells, though it remains as supplemental aid rather than primary medicine.

Lakadong Turmeric

Lakadong, a small village lies at 25°11' N latitude and 92°17' E longitude in the foothills of the Jaintia Hills district of Meghalaya, Northeast India. Lakadong village is historically significant for cultivating a unique and high-quality turmeric variety that eventually became known by the village's name. Lakadong turmeric is a premium landrace of *Curcuma longa* L., belonging to the family Zingiberaceae, is globally recognized for its exceptionally high curcumin content (above 7-9%), which is double than the common turmeric varieties (2–4%). This high curcumin level gives a deep golden color and potent therapeutic properties, driving high demand across the pharmaceutical, cosmetic, nutraceutical and food industries shown in Fig 1.

This particular variety has been cultivated by local farmers for over a century and holds significant cultural importance in Pnar tradition. It possesses significant potential to enhance the livelihoods of small and marginal farmers in Meghalaya and has received national recognition including Geographical Indication (GI) status.

While turmeric is cultivated extensively throughout the state, the Jaintia Hills remains the predominant region, accounting for over fifty percent of the state's total turmeric production. Lakadong turmeric cultivation is predominantly practiced in Sumer, Lakadong, Shangpung, Looksi, Nongtyngkoh, Khonshnong, Umdeinlin, Umchalait, and Saphai. The predominant varieties cultivated in these regions include Lakadong, Lashien, Ladaw, Lakachain, and Yangau.

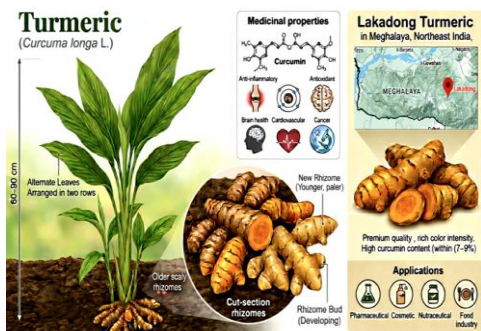


Fig 1. Lakadong turmeric properties

Success Story

Mrs. Trinity Saioo, widely celebrated as the "Turmeric Trinity," hails from Mulieh village in West Jaintia Hills, Meghalaya, and a pioneer in promoting Lakadong turmeric through organic farming. Beginning as a small farmer and village school teacher, she shifted focus from the Lakachin variety to the superior Lakadong variety in 2003 with support from the Spices Board of India to encourage farmers to triple their income. She has successfully trained and mobilized over 900 farmers, especially women by engaging them in grading, processing and value addition. As the Assistant General Secretary of the Life Spice Federation, she oversees a network of approximately 100 Self-Help Groups (SHGs), fostering a collective bargaining power that was previously non-existent. As a member of the Spices Board since 2013, she has expanded marketing networks across Indian with a vision to take Lakadong turmeric to international markets. With the support of Mission Lakadong, she

worked toward increasing production to 50,000 MT. For her selfless efforts in uplifting farmers' livelihoods, she was awarded with Excellence in Horticulture (2018) and received the prestigious Padma Shri (2020) from the Government of India.



Mrs. Trinity Saioo receiving Padma Shri (2020) from the Former President of India. (Photo credit: India Today, Nov 10, 2021)

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