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Turmeric Flower-A Neglected Part With Wide Range Of Medicinal Applications

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Abstract:

Turmeric (*Curcuma longa* L.) has been a part of Indian tradition, culture and cuisine for more than 2500 years. The oldest reference to turmeric was first referenced in the Atharvaveda. The name “Turmeric” is derived from the Latin word ‘terra merita’, which means meritorious earth. It is also known as the ‘yellow root’, ‘golden spice’, ‘Indian saffron’, and has been used for at least 6000 years in traditional medicine and religious practices. Not only the majestic roots of the turmeric plant, flowers also offer a number of anti-inflammatory and antioxidant benefits, due to their ‘curcumin’ content. The flowers are known to support digestion process of the gut and also contribute to the cell health by contributing in fighting the pre-mature ageing and inflammatory processes. The flowers are very famous in the traditional medicines in Southeast Asian regions like Malaysia and Indonesia. The flowers are preferred by the traditional healers to prescribe for the intake during the pregnancy period, during and after the child birth to fight against the inflammation and infection. The flowers are edible and are consumed as raw in salad or incorporated in cuisines after cooking.

Keywords: Turmeric, Flower, Atharvaveda, Pregnancy, Medicinal, Yellow root, Golden spice, Indian saffron

Introduction:

Turmeric (*Curcuma longa* L.) has been a part of Indian tradition, culture and cuisine for more than 2500 years. The oldest reference to turmeric was in the Atharvaveda (Gopinath and Karthikeyan, 2017). The name is derived from the Latin word “terra merita”, which means meritorious earth. It is also known as the “yellow root,” “golden spice,” “Indian saffron”, and has been used for at least 6000 years in traditional medicine and religious practice. It has 55 synonyms in Sanskrit based on its religious or medicinal properties (Ravindran, Babu and Sivaraman, 2017). The species is popularly known as “Yellow root” and has been one of the important spices which have been researched for their traditional, medicinal, pharmaceutical, bioactive components. Their effective and adverse effect has also been studied and communicated for both social and scientific awareness. The most researched part of this species is ‘the root’ while the other parts like leaf and flower were still used following the traditional and cultural practices. These parts are less researched and thus the scientific information regarding their chemicals constitutes,

medicinal bioactive substances and their mode of action are very scanty which results in very limited awareness generation. This manuscript is an effort to overview the medicinal significance of the most underrated part i.e. the flower of the Haldi plant.

Methodology and Source of Data:

Source of Data:

Secondary Data: Review of Literature

- a. Books
- b. Journals
- c. Internets
- d. Other resources

Result and Discussion:

Turmeric plant is native to the tropical and subtropical regions of Asia since ages. The available literature confirms that the plant has been first discovered in India, Bangladesh and Sri Lanka and from there itself has been introduced to the South East Asian regions, China and Japan. The rhizomes were exported to various regions, like Java, Sumatra, Indonesia, etc. where it is planted has become popularized for its medicinal benefits. Later during the medieval period the species was traded to the Europe, for its medicinal importance and bioactive components.

At present turmeric flower is the secondary crop cultivated widely in the Southeast Asia. The plants and its flower are also very popular in Hawaii, other regions of the United States, Central America, the Caribbean, Oceania, and Australia. The flower is commonly used in almost every household medicinal need or practices. Seasonally the flower holds a good place in the local markets.

The species is widely distributed in Bangladesh, Belize, Borneo, Cambodia, China South-Central and Southeast, Costa Rica, Cuba, Dominican Republic, East Himalaya, Haiti, Hawaii, Malaya, Myanmar, New Guinea, Philippines, Puerto Rico, Queensland, Samoa, Sri Lanka, Taiwan, Thailand, Tibet, Tonga, Trinidad & Tobago, Vietnam, and the Windward Islands (Gopinath and Karthikeyan, 2017).

It is an edible herbaceous perennial houseplant. The plant is erect and grows well in the good drainage, moist and high in organic content soil. The leaves are dark green on the upper surface while pale green on the undersides. The leaves are large, pleated, lanceolate to elliptical in shape, and measure up to 40 inches in length. They resemble Canna leaves. The fruits are brown/copper in color. The seed are not viable, and are brown in color, small, and ovoid in shape.

Turmeric plant belongs to the family of the Zingiberaceae. The most popular species is *Curcuma longa* which is cosmopolitan in nature. The Haldi flower is regarded as a rare phenomenon in bloom which strictly depends on the cultivation practices, ecological needs and environmental factors for its blooming process. The flowers are borne at the center of the plant base of the leaf on stem. The inflorescence comprises of many fleshy bracts arranged in the upright, manner, cylindrical to conical in the formation. Each bract is bright to pale green in color, which are pointed in appearance. The inflorescence is usually 10-12 centimeter in length. In between the bracts there are small funnel-shaped blooms which are of varying colors like white, yellow, pink, purple depending on the species and varieties. The bracts are smooth, thick and succulent in nature, the petals are velvety, delicate and tender with a crisp tendency. The flower and the bract (green in color) are edible and release very strong and fresh soothing fragrances. The flowers and bracts have a mild, delicate, and vegetal flavor with a subtle piquant-like spice reminiscent of the turmeric rhizome (Ravindran et al., 2007).

The plant flowers throughout the year in the tropical climates, reported highest in month between July to August. The flowers grow between fleshy, layered bracts that form in the center of the plant and are low to the ground, often camouflaged or hidden between the elongated leaves. The turmeric species apart from the roots are also cultivated for the flower (Table 1 and 2). The flowers are highly delicate and have a very short life thus consumed on the same day of the harvest. The flowers are highly valued and incorporated in the fresh salad and cooked in culinary preparation. The flower shows high inconsistency in the flowering pattern and regularity, thus is rare in availability.

The flower has not been studied for its pharmaceutical and nutritional properties, but it is assumed to be a good source of fiber and vitamin 'C' which has capacity to strengthen the immunity of the body. The flower has high percentage of curcumin- a compound containing antioxidant-like and anti-inflammatory properties. In South East Asian countries it is used as naturopathy and is consumed at the time of child birth to heal the stress of nine month of the challenging pregnancy journey.

Table 1. Haldi flower at a glance:

Sl. No.	Description
1. Flower Description:	Extremely beautiful, bright in appearance. The flower is yellowish-white and grows on a spike-like stalk measuring 4-6 inches long. They bloom from July to August. The flowers are sterile.
2. Flower Color:	Gold/Yellow/White
3. Flower Inflorescence:	Spike
4. Flower Value to Gardener:	Showy and of several medicinal and culinary uses
5. Flower Bloom Time:	Summer
6. Flower Size:	3-6 inches

Source: <https://www.thespruce.com/turmeric-plant-profile-4779812>

Curcumin is also known to provide antioxidant benefits, which helps to protect the body from cell damage. The flower and its extract show antimicrobial activity which helps the body against cell damage. The flowers are assumed to support and promote digestive power and thus influence the gut health.

The flowers are either consumed raw constituting one of part of salads, dips in tea or sometimes in fresh garnish. They are also cooked and mixed with many dishes like soups and fried items. They are a staple in Malaysian and Indonesian dishes like ulam, a type of salad.

The antioxidants and anti-inflammatory compounds in the flower help the cell to fight against the premature ageing. All the parts of the plant are edible including the roots, leaves and flower. The plant can be grown in large as well as household level. A guided protocol and certain precautions can results in good harvest of the cultivation.

Table 2. Guideline for the cultivation (at small scale level) of Haldi plant

Sl. No.	Parameter	Specification
1	Selection of Proper time and site	A proper 10 month of warm weather is essential for its growth. The soil should be well drained, loamy with full/partial sun exposure during the morning times.
2	Spacing, Depth and Support	Large rhizomes with many buds are selected and cut into 1- to 3-inch pieces so that each piece has at least two to three buds. The pieces are sown two inches deep with the buds pointing up. Each piece is sown three to four feet apart.
3	Cultivation Care (Light; Soil; Water and Fertilizer)	Long duration of partial/sunlight exposure is recommended. Application of manure and compost is advised. Depending of the phenology, application of water is recommended, like early stages requires less water and high during mid of the summer application of water is beneficial. The soils are kept moist but not soggy. Application of common fertilizer is recommended during the growing phase is advisable.
4	Harvest	During the early winters when the foliage starts yellowing, the rhizomes are dug out carefully leaving behind a part of the rhizome as a seed for next year of growth. The flower when get blooms can be harvested and used for various purposes.
5	Control from pests and diseases	Less moisture in the soil often encourage the spider mites to appear. Application of water by spraying is recommended to get rid of them. High moisture often attract slugs and snail on the young leaves, proper monitoring and application of water in an interval to keep the soil moist not soggy is practiced. Application of much water leads to Soft rot, Dry rot, Fusarium rot, and Rhizome rot, which are controlled by Fungicides.

Source: https://agritech.tnau.ac.in/horticulture/horti_spice%20crops_turmeric.html

The medicinal importance of Haldi is known to all, but the fragmented information on the medicinal significance of Haldi flower limits its wide spread acceptance as well as utilization. Research at both laboratory and agricultural level may mitigate the misinformation of this valuable plant in India. Each household should also get motivated atleast for a small scale cultivation of this plant to cater the house hold need and better adoption for cultivation at present and generation to come.

References:

1. Gopinath and Karthikeyan, 2017. Turmeric: A condiment, cosmetic and cure. Indian Journal of Dermatology, Venereology and Leprology. Volume 84 (Issue 1) pp 16-21.
2. Ravindran P, Nirmal Babu K, Sivaraman K. Turmeric. Boca Raton, FL: CRC Press; 2007.
3. https://specialtyproduce.com/produce/Turmeric_Flowers_15984.php
4. <https://www.kew.org/plants/turmeric>
5. https://agritech.tnau.ac.in/horticulture/horti_spice%20crops_turmeric.html