



Original Research Article

DOI: 10.26479/2018.0406.50

## CULTIVATION OF EDIBLE AND MEDICINAL PLANTS IN THE RESIDENTIAL PLACE

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**ABSTRACT:** Since time immemorial mankind has used plants to cure diseases. Every plant has unique and peculiar medicinal properties and play an essential role in the development of human culture. Awareness of cultivation and usage of medicinal plants and other parts of the plant body i.e., Leaves, stem, barks, seeds etc. is increasing day by day. Regularly used vegetables, spices and condiments have great medicinal properties. The present study includes *Allium cepa* (Onion), *Capsicum annuum* (Red Pepper), *Curcuma domestica syn. C. longa* (Turmeric), *Lycopersicon esculentum* (Tomato) and *Zingiber officinale Roscoe* (Ginger) botanical description, uses and cultivation.

**KEYWORDS:** cultivation, vegetables, spices, condiments, residential place.

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### 1. INTRODUCTION

#### Onion

Botanical Name: *Allium cepa*; Family: Liliaceae; Vern.Names : Telugu: Nirulli; English: Onion; Hindi: Piyaz .

#### Botanical Description

Onion is a biennial plant, mainly grown as an annual crop. The hollow linear cylindrical leaves have a sheathing leaf base. The food is stored in the bulb during the first growing season [1]. The bulb consists of a short disc - like stem surrounded by a number of concentric layers of fleshy leaf bases.

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Peer review under responsibility of Life Science Informatics Publications

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At the end of the first growing season, a leafless scape is produced by the terminal bud that bears an umbellate inflorescence. The flowers are small and greenish - white, and the fruit is a globular capsule.

**Uses:** Onions are popular vegetables and are also used for flavoring and pickling. Bulbs as well as fresh herbs yield on essential oil [2]. Onions considered stimulant, diuretic and expectorant, used against flatulence and dysentery [3]. Roasted onions are applied as poultice. Rhizomes are used as condiment[4].

### **Red Perphir (Chillies)**

Botanical Name: *Capsicum annuum*; Family: Solanaceae; Ver. Names: English: Chillies; Telugu: Mirapa kaya; Hindi: Lal mirch.

### **Botanical Description**

Capsicum plants are herbaceous or semi - woody annuals or perennials. The leaves are ovate, tempering to a sharp point, entire 15 cm long, dark green on the upper surface and pale on the lower surface. The flowers are small, white and borne singly or in clusters of 2 or 3 in the axils of the leaves. The fruits are of diverse shapes and sizes depending upon the variety. The plants are small, bushy annuals with a short growing season. The flowers are single and axillary. The fruits are many seeded berries varying in length. The fruits are green when unripe and turn red when mature.

**Uses:** As a condiment, it has become indispensable in every Indian home. It is also used medicinally, and in chutnies, frankfurters, sausages and pickles[5]. The pungency is due to the active principle 'capsicin' contained in the skin and the septa of the fruit[6]. The fruits are tapering, much longer than the broad and pungent with thick flesh [7]. The fruits are used in hoarseness, dyspepsia and yellow fever[8]. They are also applied in the snakebite. Fruits carminative, extensively used as a spice[9]. Medicinally, they are used as counter - irritants in lumbago, neuralgia and rheumatism[10]. They are specially useful in atonic dyspepsia.

### **Turmeric**

Botanical Name: *Curcuma domestica* syn. *C. longa*; Family: Zingiberaceae; Vern. Names: English: Turmeric; Telugu: Pasupu; Hindi: Haldi .

### **Botanical Description**

The Plant is a perennial herb. Commercial part is a underground short and thick rhizome. Group of leaves produced by the rhizome have long Petioles. The flowers are borne in a spike inflorescence. The pale yellow flowers remain covered by pink coloured bracts.

**Uses:** Turmeric is used for dyeing wool silk and unmordanted cotton to which it imparts a yellow shade in an acid bath [11]. It is used as colouring matter in pharmacy, confectionary and food industry. It is used as a tonic and blood purifier[12]. Used as a remedy for stomach-ache[13]. Mixed with warm milk it is beneficial in common cold. Juice of fresh rhizomes is used as an anti parasitic for many skin diseases[14]. Externally it is applied to indolent ulcers and a paste made from the

powdered rhizome along with lime forms a remedy for inflamed joints[15]. Turmeric oil have antiseptic properties[16].

### **Tomato**

Botanical Name : *Lycopersicon esculentum*; Family : Solanaceae;

Vern. Names : Telugu: Rama mulaga; English: Tomato; Hindi: Tamatar.

**Botanical Description:** It is an erect or trailing herb with imparipinnate leaves and small yellowish flowers borne in clusters on the main axis and on lateral branches. The habit differs from perennial to annual depending upon environment[17]. Large number of varieties of tomato are grown. The fruit is a fleshy juicy berry. Pericarp and the placentae are eaten.

**Uses:** The plants are largely cultivated for the fruits which are eaten both raw, as well cooked. They are also preserved as chatni (Prickle). The fruits are very rich in vitamin and vitamin B. Fruits consumed in salads or eaten after cooking or forming a part of curries; canned, also used for soups, juice and ketchup[18]. Tomato used for puree, ketchup, sauce and other products should be of smooth skin, free from wrinkles, folds and should have a shallow stem cavity, so that moulds and other organisms may not accumulate in such cavities[19].

### **Ginger**

Botanical Name: *Zingiber officinale*; Family: Zingiberaceae; Vern. Names: English: Ginger; Telugu: Allamu; Hindi: Adrak.

### **Botanical Description**

It is a perennial herb with a large scaly underground rhizome. The rhizomes put forth erect, leafy stems, grows up to a height of about 3 feet. The base of the leaves sheath the stem. The leaves are light green, 15cm to 20cm long, alternate, narrow, lanceolate and with a prominent midrib. The flowers are small yellowish, specked, each with a purple speckled lip and brown on a spike [20]. When the plants are about 9 months old, the green leave turn yellow.

**Uses:** Ginger is used in dyspepsia, and colic. Its rhizomes is used as a stimulant carminative and flavouring agent. The dried ginger is widely used for flavouring foods for extraction of oleoresins and preparations of extracts, and distillation of an essential oil called oil of ginger[21]. Peeled rhizome preserved in honey or processed into crystalline-ginger and delectable[22]. Green ginger is used in culinary preparations, pickle, canned ginger, and ginger cocktails. Oil of ginger is used as a flavouring and perfumery[23].

## **2. MATERIALS AND METHODS**

5 Plastic trays of (50 holes seed tray- Tray size [Length x Width] 540 mm x 280 mm size of each hole [Top dia x Bottom dia x Height] 46 x23 x45mm) for seedling purpose, 10 medium size sand pots, 50 seeds each of Onion, Red Pepper, Tomato, 20 rhizomes of turmeric and Ginger, 2kg vermin-compost, 20 kg of red soil mixed with mulch (Mixture of dried leaves of Neem, Banyan and mango trees). Farmers' Handbook Methods [24], Report of the Working Group on Horticulture, Plantation

### 3. RESULTS AND DISCUSSION

#### Cultivation of Onions

Any type of soil is good for the onion, it must, however, be friable and highly fertile. In general sandy - loam to clay - loam soils are recommended for the cultivation of onion. Sandy soils need more and frequent irrigation and favour early maturity whereas heavy soils give rise to misshapen bulbs which are a problem at digging. For good yields of quality bulbs, the soils which are cool are considered better. The pH should be around 5.8 to 8.0. Onion seeds are generally sown on raised - beds. If seeds are not available healthy onion bulbs directly used for cultivation. After sowing, the seed should be covered with a powdered layer of farmyard manure or compost and mulched with dry straw or any other material to maintain the required temperature as also to preserve the soil moisture. Watering can is used for irrigating the nursery till germination is complete. The crop is usually ready for harvest 8-10 weeks after planting. The mature bulbs are pulled out of the soil (Fig: 1 & 2).



**Fig 1: Onion seeds**



**Fig 2: Onion bulbs**

#### Cultivation of Chillies

Chillies are essentially a tropical and sub - tropical crop. It is propagated by the seeds. Seedlings raised in the seeding tray are planted in the tubs or pots when they are 3 to 4 weeks old. The crop thrives best on deep, fertile, well - drained soils and heavy clayey loams. The plant attains maturity in 3 to 4 months. The fruits are picked with their stalks and stacked to ripen. The ripe fruits are dried in the sun or in mechanical drier (Fig: 3 & 4).



**Fig 3: Seeding of chillies**



**Fig 4: Chilli Plant**

### **Cultivation of Turmeric**

Turmeric is grown in warm and moist places and it thrives best on well - drained loamy or alluvial fertile soils. Turmeric cannot stand water stagnation or alkalinity. It is propagated by fingers of rhizomes with one or two healthy buds, planted on 3cm to 5cm deep on pots or tubes. Yellowing of leaves and their fall in December - January indicate the maturation of the crop. The leaves are long, broad, lanceolate and bright green. The flowers are pale yellow and broad on the dense spikes. The pseudo stems are shorter than leaves. The rhizomes are ready for harvesting about 6 to 7 months after planting (Fig:5).



**Fig 5: Turmeric plant**

### **Cultivation of Tomato**

Tomato is a warm season crop and thrives best in rich loamy a pH between 6 and 7. The crop is raised by seeds, when seedlings are 7.5-10 cm tall, they are transplanted into the pots. The crop needs careful and proper irrigation. Well-rotten farmyard manure is applied to the soil at the time of preparation. Hoeing and weeding are intermittently done for proper aeration and keeping down the weeds. Under normal conditions plants assume a spreading habit. The crop is usually ready for harvest three months after planting (Fig:6).



**Fig 6: Seedlings of Tomato**

### **Cultivation of Ginger**

Ginger plant requires a warm and humid climate, sunshine and more water, and prefers a sandy loam soil. The crop is propagated vegetatively by portions of rhizomes, each with at least one or two viable bud. Since ginger is a soil - exhausting crop, it requires heavy fertilization. Harvesting is done after 8 to 9 months of planting when leaves begin to turn yellow. The rhizomes are pale yellow in

colour with a greenish yellow inside (Fig:7).



**Fig 7: Ginger plant**

#### **4. CONCLUSION**

In modern civilization availability of organic fresh vegetables, fruits are very rare and difficult to obtain. So cultivation of edible medicinal plant is to be undertaken vigorously in the residential or apartment balcony place for own purpose or distribution to the friends or for selling in the residential community. It gives aesthetic value and self satisfaction of each and every person in the life. Based on these methods, we can cultivate any green leafy vegetables domestically.

#### **CONFLICT OF INTEREST**

Authors have no any conflict of interest.

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