

# *Comprehensive Guide to Turmeric Cultivation: Varieties, Planting and Harvesting*

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## **ABSTRACT**

Agronomic practices, such as variety selection, planting materials, seed rates, land preparation, and harvesting techniques, highly influence the cultivation of turmeric (*Curcuma longa*). Variety selection is important as it depends on the local climatic and soil conditions. In the higher altitudes of Andhra Pradesh, varieties like PTS-55, BSR-1, and PTS-11 are performing well. Alleppey finger, Sangali, Rajapore, Nizamabad Bulb, Duggirala, Kasturi, Armour, Chaya are grown in Andhra Pradesh. Mother rhizomes are recommended over finger rhizomes due to their higher reserves, yielding better crop growth and development. The ideal sowing rate is between 1000 and 1500 kg/ha depending on region and plant conditions. Some rhizome treatments with fungicides and growth promoters like mancozeb, KH<sub>2</sub>PO<sub>4</sub>, and GA<sub>3</sub> have been found to yield better results. Land preparation is generally done with several ploughings, though ridge and furrow planting are mostly ideal for cultural practices. The planting time coincides with the starting of southwest monsoon, usually between the months of April and August. Late sowing reduces the risk of leaf blotch and ensures better yield. Spacing is also a factor: it varies depending on soil and cultivar and closer spacing gives better results without a compromise in quality. Harvesting is normally performed 7-9 months from planting, depending on the cultivar, and can be done manually

or mechanically where mechanical harvesting offers efficiency and minimizing damage. In general, these Agronomic Practice ensure there is improved yield and quality of turmeric crops in most regions.

## INTRODUCTION

**T**urmeric (*Curcuma longa L.*) is one of the most widely cultivated spice since from times of immemorial its uses dates back to 4000 years to Vedic culture in India where it is used as condiments in culinary.

Crop occupies major share of area in Andhra Pradesh, followed by Orissa, Tamil Nadu, West Bengal & Maharashtra.

India is the largest producer of Turmeric. In India, A.P., leads in Area and production.

Turmeric ranks 4th as foreign exchange earner among the spices after Pepper, Cardamom and Ginger.

Turmeric is also known as the “golden spice” as well as the “spice of life”.

### Selection of suitable variety: -

The Selection of a variety largely depends on the climatic conditions of the region, as well as the soil and genetic makeup of the variety. The Performance of crops varies from region to region. Varieties with the tallest height and highest number of leaves and tillers yield more than short ones.

- Three selections, PTS-55, BSR-1 and PTS-11, perform well and are suitable for cultivation in higher altitudes of the Vishakhapatnam district of Andhra Pradesh (Naidu & Murthy,2013).
- Alleppey finger variety of Kerala, Maharashtra Sangali, Rajapore, Nizamabad Bulb and Duggirala varieties are cultivated in Andhra Pradesh. Duggirala of Andhra Pradesh has long, stout, smooth and hard

fingers. Other important varieties in Andhra Pradesh are Kasturi, Armoor, and Chaya (Varma& Gopi, 2020).

### Planting Material: -

Whole / Split mother rhizome and finger rhizomes.

Mother rhizomes give good crop growth and development and yield more than finger rhizomes (Aiyadurai, 1966; Rashid *et al.*, 1996) because mother rhizomes have more reserves than fingers. More yield is obtained by using whole mother rhizome, followed by 1<sup>o</sup> rhizomes having 5-6 internodes and half-cut mother rhizomes (Yothasiri *et al.*, 1997), and fresh and dry yields were maximum by using mother rhizomes (Padmadevi *et al.*,2012). Zaman *et al.*, 2004 described yields from half-cut mother rhizomes, but they are accurately similar to whole mother rhizomes. Menezes *et al.*,2005 described that mother rhizomes give 30% higher outcomes than finger rhizomes.

### Seed Rate: -

- 1000 to 1200kg/ha (Agnihotri 1949)
- 1000 kg/ha finger rhizomes for Andhra Pradesh (Rao *et al.*, 1975)
- Rao (1978) suggested 1500kg/ha@ spacing 30×20cm for AP.

### Seed Treatment: -

- Rhizomes are treated with0.3% mancozeb (3g/litre of water) for 30 minutes and then dried under shade before planting (Jayashree *et al* 2015).

- Rhizomes treated with 0.5% of  $\text{KH}_2\text{PO}_4$  & GA3 @ 200ppm &  $\text{KNO}_3$  @0.25% gave maximum yield (Hore *et al* 2014)

### Land Preparation: -

At the beginning of summer showers or after irrigation, land preparation starts in April/May. Two ploughings are done in the Mydukur region, and 16 ploughings in the Cuddapah region. The number of ploughings varies from region to region- The average number is 6 to 8 (Mudaliar, 1960). Soil is brought to fine tilth, and FYM is added at the time of ploughing helpful in uniform mixing. The Ridge and furrow system of planting is used because the preparation of land is easy and for cultural practices (Anandaraj *et al.*, 2008). Shylaja *et al.* (2016) reported that transplanting is more advantageous than conventional planting.

### Season of Planting: -

Planting should coincide with the onset of southwest monsoon in most of the parts of India.

- Turmeric can be grown under rainfed and irrigated conditions.
- Under rainfed conditions and the availability of irrigation water, planting can be done between April to August.
- Om *et al.* (1978) reported superior yield when planted during May 1-10
- Anjaneyulu and Krishnamurthy (1979) described that planting at the end of April gave superior yield in AP.
- Leaf blotch can be minimized by late sowing of planting than regular season; high yield reduction can be seen (Randhawa *et al.*, 1984)

**Spacing:** -Determined by Soil type, Fertility, Season, Cultivar, Irrigation and Rainfall.

- 45×45cm spacing reduces the intensity of leaf blotch without any change in yield (Prasadji *et al* 2004).
- Optimum spacing for flatbed is 25×25cm, for ridge and furrow is 45 to 60×25cm (Aiyadurai 1966).
- Closer spacing of 30×15cm showed higher yields than wider spacing and didn't influence quality (Curcumin and Dry recovery) (Pandey & Mishra, 2009)
- Commonly used spacing in Indian regions is 45-60cm×15-20cm in heavy soil; for lighter soils, spacing is about 30×15cm

### Harvesting: -

Drying off of the plants, including the base of the stem, is the sign for harvesting of rhizomes. Crop duration of turmeric is 7-9 months.

Harvesting of rhizomes depends on the type of variety: 7-8 months for early varieties, 8-9 months for medium varieties, and more than 9 months for late varieties.

Harvesting can be done in 2 ways

1. Manual harvesting

2. Mechanical harvesting.

- Harvesting of rhizomes is done by digging with a hoe/plough, with an average harvesting efficiency of 90.5%, and damage was 7% in manual harvesting.
- Mechanical harvesting is done by using a power tiller and tractor (Viswanathan, 2008) to improve harvesting efficiency and save 6-8% of yield to farmers from damage. (Annamalai and Udayakumar 2007). Crop harvested between 8-9 months after planting gives better yield (Govind, 1987; Umarani *et al.*, 1982).

## CONCLUSION: -

The success of turmeric cultivation would depend on the selection of the right variety, in which PTS-55, BSR-1, and PTS-11 varieties are well suitable for high altitude regions, and Alleppey finger, Sangali, Rajapore, Nizamabad Bulb, Duggirala, Kasturi, Armoor, Chaya are grown in Andhra Pradesh. Whole mother rhizomes should be used for better yield. Healthy growth depends on proper seed treatment and land preparation. Planting should correspond to the monsoon period, and spacing is a function of soil and environment. Timely harvesting, either through manual or mechanical means, ensures that the yield is optimally realized and that is not damaged. All this will result in higher yields, improved quality, and better profits for framers in turmeric production.

## REFERENCES:

- Alam, K., Hore, J.K., Chattopadhyay, N. and Roy, S.S. 2006. Effect of rhizome treatment on growth and yield of ginger. *The Hort. J.*, 19: 295-97.
- Naidu M M and Murthy G N. 2013. Performance of different turmeric selections for high altitude areas of Andhra Pradesh, India. *Agricultural Science Digest* 33(3): 183–7.
- Padmadevi, K., JeevaJothi, L., Ponnuswami, V., Durgavathi, V. and Rijwana Parveen, I. 2012. Effect of different grades of rhizomes on growth and yield of turmeric (*Curcuma longa* L.). *The Asian Journal of Horticulture*. 7(2):465-67.
- Prasadji, J.K., Murthy, K.V.M.K., Rama Pandu, S. and Muralidharan, K. 2004. Management of *Taphrina maculans* incited leaf blotch of turmeric. *J. Mycol. Pl. Pathol.* 34: 446-449.
- Shylaja M R, Prasath D and Suresh J. 2016. Production of quality planting material in vegetatively propagated annual spice crops – ginger and turmeric. (In) *Advances in Planting Material Production Technology in Spices. Proceedings – National Seminar on Planting Material Production in Spices, Directorate of Arecanut and Spices Development, Kozhikode, Kerala*, pp 25–34.
- Yothasiri, A., Somwong, T., Tubngon, S., Kasirawat, T. and Amnuay, Y.1997. Effect of types and sizes of seed rhizomes on growth and yield of turmeric (*Curcuma longa* L.). *Kasetsart J. Natur. Sci.*, 31(1): 10-19.
- Varma, K. & Gopi, S. (2020): Production, economics, and marketing of turmeric, pp. 307-323. In: *The Chemistry and Bioactive Components of Turmeric*. Pub. by: Royal Society of Chemistry.