

Short Communication

Assessment of chilli varieties in Salem district for higher productivity

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ABSTRACT

Chilli is an important spice which is grown throughout India. Chillies are integral and the most important ingredient in many different cuisines around the world as it adds pungency, taste, flavour and color to the dishes. Chilli is grown in Kolathur block of Salem district in an area of nearly 879 ha. The farmers are mainly growing the local varieties and private hybrids in kolathur block. During the farmers and scientist conference conducted at KVK, Sandhiyur (2013), the growers opted for new varieties (high yield, lengthy fruit, good pungency, and colour retention during storage). An onfarm trial was conducted in pannavadi village of kolathur block. In this study three varieties (Lalima, LCA 625 and Kovilpatti 2) were assessed for yield, pest disease tolerance and quality parameters. LCA 625 gave an average yield of 6.2-6.8 t / ha, fruit length of 9-11 cm, good pungency and good colour retention during storage compared to other two varieties. The colour of dry chilli during storage was orange compared to Lalima with bright attractive red colour. Hence in the market Lalima fetched more price than the other two varieties. Hence, it is suggested for the Researchers that LCA 625 may be refined for marketable colour.

Keywords : on farm trial, pungency, LCA 625, shrinkage, marketable colour

INTRODUCTION

Chillies are native to the tropics of Central and South America and are among the oldest cultivated crops on this continent. Basically chilli is a crop of tropical and subtropical region. India is the world's largest producer, consumer and exporter of chillies in the world (Crop reports, 2015). India produces about 1.298 MMT of Chillies from an area of 0.806 Mha with an average productivity of 1611 Kg/ha (NCPAH, 2017). The important States growing chilli are Andhra Pradesh, Orissa, Maharashtra, West Bengal, Karnataka, Rajasthan and Tamilnadu. It requires annual rainfall of 25-30 inches. Chillies can be grown in a wide range of soils whereas ideal soil pH is 5.5 – 6.8. Chillies grow well in areas where the average temperature is 24 °C for at least 4 to 5 months of the year.

Chillies are used as ingredients to add flavour and colour to most dishes. They are high in vitamin A and C, calcium and iron and can be used as a

medicine to treat asthma, coughs and sore throats. Commercial cultivation of chillies is more successful and one can expect decent profits in chilli farming due to its market values in local areas and international markets (Pandey *et al.*, 2008). Kolathur block of Salem district covers an area of nearly 879 ha for cultivation of chillies. The farmers are mainly concentrating on the local varieties and private hybrids in kolathur block. During the farmers and scientist conference conducted at KVK, Sandhiyur (2013), the growers opted for new varieties with high yield, lengthy fruit, good pungency, and colour retention during storage (Kumar *et al.*, 2006). Based on their request, a field survey was conducted by KVK Scientists during 2013-14.

Primary data was collected on various aspects of chilli cultivation. An on farm trial was conducted at 5 locations in pannavadi village of kolathur block. In this trial three varieties (Lalima, LCA 625 and Kovilpatti 2) were assessed for yield,

and quality parameters. Lalima was the farmers grown local check, Kovilpatti2 (K 2) was used as reference variety and LCA 625 was the variety released by LAM Research Station, Guntur, Andrapradesh Horticultural University (APHU). LCA 625 gives an average yield of 6.2-6.8 t / ha, fruit length of 9-11 cm, good pungency and good colour retention during storage. Hence this variety was chosen for the performance in kolathur block.

Seeds of LCA 625 were purchased from the LAM station, Guntur and distributed to farmers. Farmers were given training on protray nursery raising, improved package of practices and value addition in chilli. In addition to this planofix and arka vegetable booster were also given for foliar spraying to increase the fruit set and quality (Mehraj *et al.*, 2014). Observations on crop duration, day of first flowering, green chilli and red chilli yield,

no. of fruits, fruit length, pungency, total yield, net income and BCR were studied (Singh *et al.*, 2009). Average and standard deviation was calculated and the pooled data of the above parameters at 5 locations are presented as results.

Observations were recorded periodically in all the five fields at pannavadi village and tabulated (**Table 1.**). The results indicated that the maximum fruit set was observed in LCA 625 than the other two varieties, fruit length was observed to be higher (9.78 cm) in Lalima than LCA 625 (8.44 cm). The crop duration was found to be 207days for LCA 625 and 210 days for the other two varieties with high yield of 12.6 t/ha of green chilli in LCA 625 and 12.46t/ha in Lalima, whereas the reference variety yielded only 3.42 t/ha of green chilli (Maurya *et al.*, 2015). Further dry chilli yield of 4.82 t/ha in LCA 625, 4.32 t/ha in Lalima and 1.8t/ha in Kovilpatti 2 (Chakrabarthy *et al.*, 2017) (**Fig. 1 and 2**).

Table 1. Assessment of morphological and fruit characters in chilli varieties

Treatments	Particulars	Crop Duration (Days)	Fruit length	Green chilli (t/ha)	Dry chilli (t/ha)	Duration for drying of fruits (Days)
TO 1	Local Lalima	265 ± 5.0	9.78 ± 0.5	12.6	4.32 ± 0.3	10-11
TO 2	TNAU Kovilpatti 2 TNAU	210 ± 0.0	6.86 ± 0.2	3.42	1.80 ± 0.2	10-11
TO 3	LCA 625	207 ± 4.5	8.44 ± 0.4	12.46	4.82 ± 0.3	8-9

With the net return of Rs. 79,120 and BCR of 3.04 LCA 625 performed well compared to net return of Rs 71,740 and BCR of 2.9 in Lalima and Rs. 32,120 and 1.94 in K 2.

Table 2. Cost economics of the assessed varieties

Technology Assessed	Gross cost	Gross	Net Return (Profit) in Rs. / unit	BC Ratio
Technology option 1 - Lalima	36200± 1461.1	107940± 7541.1	71740± 6821.5	2.981± 0.2
Technology option 2 - K2 Kovilpatti 2 TNAU	34340± 909.9	66460± 2463.3	32120± 1825.4	1.9348± 0.1
Technology option 3 - LCA 625	38740± 1357.5	117860± 6315.6	79120± 5221.3	3.041± 0.1



Fig 1. LCA 625 and Lalima

Chilli varieties that were studied in this experiment showed variations in crop duration, fruit length, green chilli yield, dry chilli yield and duration of drying of fruits (Chowdhury *et al.*, 2015). With the assessment made in 5 locations it was observed that though in most of the parameters LCA 625 excelled other two varieties, the colour of dry chilli during storage was orange compared to Lalima with bright attractive red colour. Hence in the market, Lalima fetched more price than the other two varieties.



Fig 2. Field observation on standing crop of Lalima, while the other two varieties are short duration

However the pungency was more and the shrinkage of skin was less in LCA 625 compared to other varieties (**Table 2**). Hence it is suggested for the Researchers that LCA 625 may be refined for marketable colour.

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