Research Paper

THE ASIAN JOURNAL OF HORTICULTURE
Vol. **6** | Issue 2 | December, 2011 | 468-470

Article history:
Received : 17.08.2011
Revised : 04.11.2011
Accepted : 15.11.2011

Performance of mango under high density planting

■A. JAYA JASMINE

Author for correspondence:
A. JAYA JASMINE
Horticultural Research Station (T.N.A.U.), Pechiparai, KANYAKUMARI (T.N.) INDIA
Email : jayajasmine2004@yahoo.co.in

Abstract : In an effort to evolve a high density planting system suitable for Tamil Nadu condition, an experiment was conducted at Agricultural College and Research Institute, Killikulam during 1996 to 2010 using the variety Kalepad, as it is one of the leading and popular cultivar of Tamil Nadu. The treatments included square system, hedge row system, double hedge row system, paired planting and cluster planting with a population of 100, 167, 222, 133 and 177 plants per 900 square meters, respectively. The experimental design used was randomized block design with five replicates. The results revealed that the number of fruits and yield were significantly higher (1112.24 and 2402 kg/ha kg/tree, respectively) in double hedge row. The fruit characteristics such as fruit weight (206 g), fruit length (11.84 cm), fruit circumference (20.64 cm) and pulp content (156.64 g) were more in double hedge row system of planting however, there was no significant difference between the treatments for TSS of fruits. Hence the double hedge row system of planting with a spacing of 10 m between double hedges, 5m within double hedge and 5m between plants in double hedge is the best planting system for obtaining maximum number of fruits and the highest yield / unit area, especially for the variety "Kalepad'.

Key words : Mango, High density planting system

How to cite this article : Jasmine, A. Jaya (2011). Performance of mango under high density planting, *Asian J. Hort.*, **6** (2) : 468-470.

Mango is one of the most important fruits in India accounting for 37.60% of area (1.3 million hectares) and for 22.21% of total fruit production (14.0 million metric tonnes) in the country. India's share in the world production of mango is 54.2% (APEDA, 2009). In Tamil Nadu it is generally grown under rain-fed condition in a total area of 125104 ha with a production of 5.4 lakh tonnes. Of late, additional area under mango is coming up in Tamil Nadu under the National Horticultural Mission and new hybrids and varieties are gaining popularity. There is also an increasing demand for fresh and processed mango products which augments improved technologies to get high yields. But, majority of mango orchards in Tamil Nadu is rainfed with conventional spacing of 10x10 m. The square system of planting is the most popular in mango and the planting distance varies with the vigour of the cultivar and the location, ranging between 10 and 12 m. However, the yield obtained from these planting systems are generally low. Medium density plantation and high density plantation in mango can help shorten the gestation period of the crop, while also improving its yield and hence, adoption of high density planting for new planting with use of drip irrigation and fertigation would aid in maximizing the yield. Further there is a good scope for establishing dwarf mango varieties in hedge rows for optimal light utilization and easy cultural operations. The terminal-shoots, inflorescences and fruits on such trees will be within easy reach of farm workers and the fruits can be specifically targeted for fungicide or pesticide application. Hence, experiments were conducted in an effort to evolve a high density planting system with high yield for Tamil Nadu condition.

RESEARCH METHODS

The trial was carried out over fourteen years at Agricultural College and Research Institute, Killikulam, Thoothukudi district, Tamil Nadu during 1996 to 2010 in an area of 11 acres under rainfed condition. The variety Kalepad was used as it is a leading and popular cultivar of Tamil Nadu which is also known for dwarf habit and superior quality fruits. This zone is characterized by a mean maximum temperature of 35^0C, a mean minimum