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Performance of mango (*Mangifera indica* L.) cv. KESAR in relation to physical and organoleptic qualities under different plant spacing and sunlight direction

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Abstract : Broad spacing (10 x 10 m), medium (10 x 5 m) and Small (5 x 5m) in East, South, West and North directions influenced the growth as well as qualitative characters in mango cv. KESAR. The bigger length of fruit was found in north direction and in closer spacing of 5 x 5m while higher breadth was found in 10 x 5m spacing. Higher fruit weight was gained in S₃ spacing. The fruits obtained from east and south location of tree in 10 x 5m spacing trees found to be better in quality parameters.

Key words : Plant spacing, Direction, Length, Breadth, Organoleptic

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In India, mango is a national fruit and pride of our fruit industry from which we can get more foreign exchange, which help us to stand our national economy (Goswami *et al.*, 1999). Besides it is considered as one of the most exotic, delicious, nutritious and popular fruit. Its taste, flavour and aroma are very fascinating built in terms of qualities and now gradually gaining the global popularization during last two decades.

Available information suggest that the concept of high density planting in mango took practical shape after development of dwarf and regular bearer mango hybrid *viz.*, Amrapali at IARI, New Delhi (Majumdar *et al.*, 1983). In other parts of India the concept of high density in Amrapali and Dashehari was found superior (Majumdar and Sharma, 1988 and Sant *et al.*, 1997).

The environmental factors influence under different densities of planting on yield and quality production whereas the producers view is to achieve domestic and export market with good price. So keeping this in mind, the maximum utilization of land, light and canopy with quality produce, the rare experiment on effect of different

spacings in different directions on fruit physical quality of mango cv. KESAR was carried out.

RESEARCH METHODS

An investigation was carried out at Regional Horticultural Research Station, ASPEE college of Horticulture and Forestry, Navsari Agricultural University, Navsari during the year 2003-2004. The experiment was carried out in Randomized Block Design with factorial concept in three spacing treatments and four directions with seven replications. The main treatment was allowed according to spacing which was at 5 x 5m (S₁), 10 x 5m (S₂), and 10 x 10m (S₃). The sub-treatments were four directions per tree *viz.*, East (D₁), South (D₂), West (D₃) and North (D₄).

The fruit quality observations were taken after the harvesting of well matured fruits. The length and breadth of each fruit were measured in centimeter (cm) with the help of digital varner calipers. With the help of digital balance, the fresh weight as well as the skin weight, stone