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Performance of fruits of nine mango cultivars under South Gujarat conditions in relation to physical characters

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Abstract : The experiment entitled performance of fruits of nine mango cultivars under south Gujarat conditions in relation to physical characters was conducted at the Department of Fruit Science, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari (Gujarat). In this experiment six cultivars of mango viz., Alphonso, Dashehari, Kesar, Neelum, Rajapuri and Totapuri as well as three hybrids viz., Amrapalli, Mallika and Neelphonso were tested for their physical and chemical characteristics. The experiment was laid out in completely randomized design (CRD) with nine treatments and three repetitions. In the physical parameters, the fruits of cv. TOTAPURI recorded the maximum fruit length (cm) at marble and premature stages while, Mallika noted the maximum fruit length (cm) at mature and ripe stages. The maximum fruit diameter (cm) and fruit weight (g) was recorded in Rajapuri at all the stages of growth except Amrapalli at marble stage. The maximum average pulp weight (%) was recorded in Totapuri at marble stage and in Rajapuri at other stages. The minimum seed weight (%) was recorded in Rajapuri at all the stages but, at marble stage it was recorded minimum in Totapuri, Kesar at pre-mature stage, Amrapalli at mature stage and Mallika at ripe stage. The pulp:stone ratio was found higher in Totapuri at marble stage and in Rajapuri at pre-mature, mature and ripe stages.

Key words : Mango varieties, Physical characters, Stages of growth and development, Storage

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Mango (*Mangifera indica* L.) the King of fruits, belongs to the family Anacardiaceae. It is commercially cultivated over more than 111 countries around the world. India occupies the second position in the world with a production of 12,749.8 million tonnes of fruit grown on 2,309 Mt of area (Anonymous, 2009 a). The total area under cultivation of Gujarat is 115.7 hectares with 299.8 Mt productions. The climatic condition of south Gujarat is highly favourable for mango quality production. In terms of area, south Gujarat ranks first (50,602 ha) with the production of 4,70,069 Mt (Anonymous, 2009 b).

In the past, quality traits with regard to physico-chemical parameters were studied only at ripe stage. However, the characteristics of physical properties were not studied so far for the different varieties at marble, per-mature, mature and ripe stages of growth. To understand the physical changes in mango fruits at different stages of growth and development, the

investigation entitled performance of fruits of nine mango cultivars under south Gujarat conditions in relation to physical characters was conducted with nine varieties of mango viz., Alphonso, Kesar, Dashehari, Rajapuri, Totapuri, Neelum, Neelphonso, Amrapalli and Mallika.

RESEARCH METHODS

The experiment was carried out at the Laboratory of Fruit Science, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, Navsari. Mango fruits each of nine varieties were collected from the orchard of Instructional farm of the college, at different four stages of growth and development i.e., marble, pre-mature, mature and ripe stage during the year of 2009. The experiment was laid out in a completely randomized design (CRD) with three repetitions. Fruits of total nine varieties including of six cultivars viz., Alphonso,