



Research Article

Effect of mulching and chemicals for improving yield and quality of mango cv. KESHAR

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ABSTRACT : In the present investigation mulching was done with black polythene in the first week of October, 2009. Spraying of chemicals like CaCl_2 (2, 4 and 6 %), $\text{Ca}(\text{NO}_3)_2$ (4 %), K_2SO_4 (1 %) and borax (1 %) was carried out one month prior to harvesting *i.e.* in 1st week of April, 2010. The maximum average number of fruits per tree (576) were recorded in T_1 (mulching). The treatment T_5 (mulching + $\text{Ca}(\text{NO}_3)_2$, 4 %) recorded maximum average length of fruit (10.50 cm), average weight of fruit (275 g), yield per tree (150.62 kg) and yield per ha. (15.06 tonnes). The maximum average diameter of fruit (7.30 cm) was recorded in T_3 (mulching + CaCl_2 , 4 %). The significant differences with respect to TSS, acidity, total sugars and reducing sugars were recorded. However, statistically non-significant differences with respect to non-reducing sugars were recorded. The maximum TSS (20.97 0Brix), total sugars (16.77 %), reducing sugars (4.29 %) and non-reducing sugars (12.48) and the minimum acidity (0.20 %) were recorded in T_5 (mulching + $\text{Ca}(\text{NO}_3)_2$, 4 %). The minimum TSS (17.42 0Brix), total sugars (15.17 %), reducing sugars (3.47 %) and non-reducing sugars (11.70 %) and the maximum acidity (0.35 %) were recorded in T_8 *i.e.* control. Mulching and pre-harvest spray of Ca salts, $\text{Ca}(\text{NO}_3)_2$ (4%) was beneficial in improving yield and yield contributing parameters.

KEY WORDS : Mulching, Calcium salts, Pre-harvest spray, Yield

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INTRODUCTION

Mango (*Mangifera indica* L.) the king of fruits, is one of the oldest tropical fruits. Mango is considered as the choicest fruit in India because of its excellent flavour, appealing fragrance, beautiful skin colour and delicious taste. The total area under mango is 2.29 million ha. with the total production of 15.88 million metric tonnes. Average productivity of mango in India is 6.6 tones per ha (Annonymous, 2011).

In Maharashtra, the area under mango cultivation is 4,77,000 ha. with production of 3,31,000 MT. Average

productivity of mango is 0.7 tonnes per ha. (Annonymous, 2011). Keshar, the queen of mangoes, is under cultivation on a large area in Maharashtra. This variety has export potential.

Mulches are used for water conservation (increase soil moisture content), erosion control, improve soil structure and reduce the evaporation. Mulching is reported to minimize spongy tissue in mango (Katrodia and Sheth, 1989). Chemicals like CaCl_2 , $\text{Ca}(\text{NO}_3)_2$, K_2SO_4 and borax play an important role in physico-chemical and biochemical processes in fruits. Potassium is important for cell growth due to its role in cell expansion and development of thick epidermal cell walls (Salisbury and Ross, 1992). Boron improves translocation of sugar and synthesis of cell wall material (Shek, 1958). Considering the importance of mulching and chemicals like Ca, K and B as pre-harvest treatment, experiment was conducted to study the effect of mulching and chemicals for improving yield and quality of mango cv. KESHAR.

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