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Research Paper

Influence of micronutrient spray on flowering, yield, quality and nutrient content in leaf of mango cv. KESAR

D.S. NEHETE, **B.V. PADHIAR**, N.I. SHAH, P.P. BHALERAO, B.N. KOLAMBE AND R.R. BHALERAO

See end of the article for authors' affiliations

Correspondence to:
B.V. PADHIAR
Department of Fruit Science, ASPEE College of Horticulture and Forestry, Navsari Agricultural University, NAVSARI (GUJARAT) INDIA

ABSTRACT

An experiment was conducted at Agriculture Experimental Station, Paria (Gujarat) on influence of micronutrient spray on flowering, yield, quality and nutrient content in leaf of mango cv. KESAR and found that the lower level of $ZnSO_4$, $FeSO_4$ and borax in combination had influenced flowering in terms of minimum days taken to 50% flowering and increased length of panicle compared to other treatments and control. The treatment $ZnSO_4$ 1% + $FeSO_4$ 1% + borax 0.5% significantly increased the number of fruits per tree, average fruit weight and yield per tree. It also produced favourable effect on fruit quality in terms of TSS, total sugars, reducing sugar and ascorbic acid. There was no significant effect on the acidity (%) and non reducing sugar (%) due to any of the micronutrient either alone or in combinations. In case of nutrient status in mango leaves, Zn content was found to be higher in $ZnSO_4$ 2% + $FeSO_4$ 2% treatment, while iron and boron content were the maximum in $ZnSO_4$ 2% + $FeSO_4$ 2% + Borax 1% in the leaves of mango cv. KESAR.

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Mango (*Mangifera indica* L.) belongs to the family Anacardiaceae and originating in South East Asia. Mango is one of the major fruit crop of Asia and has developed its own importance all over the world. Being a useful and delicious fruit, it is the part of culture and religion since the time immemorial.

Besides taste and good qualities, it is called "The King of Fruits". India is the major producer in the world with an area of 2.205 Million hectares and the annual production of 137.92 lakh tones (Anonymous, 2008). In Gujarat, total area under mango cultivation is about 1,09,607 ha and production is about 9,30,133 MT, while in South Gujarat, the total area and production of mango are 53,330 ha and 4,85,154 MT, respectively (Anonymous, 2008).

In Western India, several mango varieties *viz.*, Alphonso, Kesar, Rajapuri, Pairi, Mankurad, Fernandin, Jamadar, Dadmiyo, etc. are commercially grown and accepted by the consumers. However, of which Kesar has been found with good yield potential, almost regular bearer, mid-season variety, having good consumers' acceptance, attractive shape, size with saffron coloured pulp and very good keeping quality. Fluctaction has been reported in Keasr (Anonymous, 1993). The reasons assigned for low productivity are genetical, environmental, cultural and hormonal factors, the researchers have worked for crop regulation through different cultural practices including application of chemical fertilizers. Macronutrients as well as micronutrients are the key elements in plants found equally important for the growth and development. Micronutrients play a vital role in various enzymatic activities and synthesis of assimilates and hormones. Their acute deficiencies some time posses the problem of incurable nature (Kumar, 2002). To overcome the nutritional problems in mango, the experiment was carried out with respect to find out the suitable micronutrient on flowering yield, quality and leaf nutrient content in mango cv KESAR.

MATERIALS AND METHODS

The present experiment entitled influence of micronutrient spray on flowering, yield, quality and nutrient content in leaf of mango cv. KESAR was carried out at the Agriculture Experimental Station, Navsari Agricultural University, Paria, Taluka–Pardi, District–Valsad (Gujrat) during 2007–2008. The experiment was laid out in a Randomized Block Design with twelve treatment combinations involving two levels of micronutrients