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# Effect of plant growth regulators and micronutrients on quality of banana cv. BASRAI

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## ABSTRACT

A field experiment was conducted to find out the effect of plant growth regulators and micronutrients on quality of banana (*Musa* spp.) cv. BASRAI. The maximum weight of mature finger (150.33 g) and ripe finger (143.44 g) was recorded in $GA_3$ 80 ppm which was significantly superior over all other treatments. Minimum per cent loss in weight during ripening (3.84%) was observed in waxol 6% while maximum in control (7.92%). Maximum pulp to peel ratio (2.83) was recorded in treatment, IAA 80 ppm and minimum in control (2.41). Maximum total sugar (15.90 %) and reducing sugar (12.09%) was observed in $GA_3$ 80 ppm and two sprays of 1% micronutrient mixture, respectively. Highest TSS (20.71%) were recorded in IAA 80 ppm. Highest non reducing sugar (3.92%) and maximum Vit. C (0.96) was recorded in $GA_3$ 80 ppm while maximum pH (5.39) was found in two spray of 1% micronutrient mixture.

**Key words :** TSS, Reducing sugar, pH, Vit.C, Waxol

The edible banana (*Musa* spp.) is believed to have originated in hot tropical regions of South- East Asia (Spiden, 1926 and Suar, 1952). It is dessert fruit for millions, is used in different regions as staple food owing to its rich and easily digestible carbohydrates. It is rich source of vitamins, minerals and has several medicinal properties. It is grown across the country in tropical and subtropical regions. In Maharashtra total area under banana is 72.20 thousand ha and production is 4.45 million tones. The productivity of banana is 60.00 tonnes $ha^{-1}$ being highest in the country (Anonymous, 2001 b).

In India, people prefer fresh fruits instead of canned products. Banana is also one of the fruits, people prefer fresh, the economics of banana depends on the cost of transportation and storage. However, low shelf life and bad transportability are two major problems in case of banana. It is generally harvested when green between 70 to 100 per cent maturity and ripened before consumption (Paul Thomson *et al*., 1968). Pre harvest and post harvest handling of banana fruits is an important aspect of banana trade. Early and even maturity of bunches are the immediate needs of the banana growers of the region. In view of the above an investigation was conducted to find out the effect of plant growth substances and micronutrients on quality of banana cv. BASRAI.

## MATERIALS AND METHODS

A field experiment was conducted at College of Horticulture, Marathwada Agricultural University, Parbhani during 2002-2003. The experiment was laid out in Randomized Block Design with 8 treatments, *viz*., $T_1$- Control, $T_2$- $GA_3$40ppm, $T_3$ $GA_3$80 ppm, $T_4$-IAA 40ppm, $T_5$- IAA 80 ppm, $T_6$-micronutrients mixture 1 % one spray, $T_7$- micronutrients mixture 1 % two spray and $T_8$- waxol 6 %.

All recommended cultural practices were followed after planting. The stock solutions of IAA and $GA_3$ were prepared by dissolving l g of respective growth regulator in 50 ml alcohol and distilled water was added to make volume to one liter. The required concentration of micronutrients mixture was prepared by directly mixing required quantity of micronutrient mixture in water and those spray solutions were used for spraying immediately after preparation. Spray was given just before flowering by using a hand sprayer. Precautions were taken to avoid the drizzling of the sprays on the other treatments. After harvesting the banana, bunches were completely dipped in 6 % waxol solution for 30 to 40 seconds. The ripened fruits were peeled with hands and pulp was chopped, blended to homogeneous mixture in a morter and pistle and this mixture was used for chemical analysis. Observations were recorded and statistically analysed as per the methods given by Panse and Sukhatme (1967).

## RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

### Effect on physical characters :

It is evident from the data shown in Table 1 that there was significant effect of plant growth regulators