



Effect of bio regulators and different levels of N and K on the finger size and yield and banana cv. GRAND NAINÉ (AAA)

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ABSTRACT

A field trial was conducted at Banana Research Station, Jalgaon (Mahatma Phule Krishi Vidyapeeth) during 2005-06 to 2007 -08 to study the influence of different bioregulators and different levels of N and K on finger size improvement and yield of tissue culture banana cv. GRAND NAINÉ. The experiment was laid out in a split plot design with four main plot treatments consisted of four different levels of N and K; while sub plot treatments were with eight different bioregulator sprays. The observations on growth attributes and yield parameters were recorded. Economics of the treatments were also worked out. Main plot treatments had significant influence on the vegetative characters. The similar results were also obtained for days to flowering and days to harvesting. Bioregulators had no influence on the vegetative characters. However, duration parameters were significantly influenced by bioregulators. Early flowering was observed in bunch spray treatment with 0.5% KH_2PO_4 and least days for flowering was observed in dehanding treatment (retaining only 6 hands per bunch). Bunch characters and yield were significant by both the main plot as well as sub plot treatments. However, interactions were non significant for all the characters studied. Application of 200 g N and 200 g K per plant was found to be superior as it recorded vigorous growth, maximum yield (67.95 t/ha) and bunch weight (15.29 kg). Almost similar trend was observed for bunch characters. Among the sub plot treatments, maximum yield (69.28 t/ha) and bunch weight (15.59 kg) was observed in the spray treatment with 4 ppm CPPU which was at par with the spray treatment with 0.5 % KH_2PO_4 which recorded 68.94 t/ha yield and 15.51 kg bunch weight. Maximum length of finger (21.64 cm) and finger girth (12.15 cm) was observed in dehanding treatment. Maximum number of hands per bunch (8.37 hands/ bunch) and maximum number of fingers (123.69 fingers/bunch) was registered in bunch spray treatment with 10 ppm 2-4D and it was at par with the spray treatment with 0.5 % KH_2PO_4 which recorded 8.32 hands/ bunch and 123.29 fingers/bunch. Considering the benefit cost ratio, application of 200: 40: 200 g NPK per plant and bunch spray treatment with 0.5 % KH_2PO_4 found to be superior for improving bunch characters and yield of banana cv. GRAND NAINÉ (AAA).

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Yield is the function of bunch weight and number of bunches per hectare (Aphsara and Sathiamoorthy, 2003) which is ultimately determined by the finger size. Better agronomic practices alongwith the use of growth regulators can increase finger size and weight of bunch in banana. Malik (1999) suggested that growth and development of crop plants can be modified by manipulating hormone levels in different organs and at various growth stages in crop life cycle. Therefore, the present investigation was under taken to study the effects of different bio- regulators and nutrient management on

the finger size, bunch weight and ultimately the yield.

MATERIALS AND METHODS

An experiment was conducted at Banana Research Station, Jalgaon (Mahatma Phule Krishi Vidyapeeth) during 2005-06 to 2007 -08 to study the influence of different bioregulators and different levels of N and K on finger size and bunch characters of tissue culture banana cv. Grand Naine. The experiment was conducted in a split plot design with four main plot treatments and eight sub plot treatments with three replications.. The main plot