**Effect of GA₁₃ and BA on growth and flowering of Dendrobium cv. SONIA-17**

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Abstract: The experiment was conducted on Dendrobium species in greenhouse, Department of Floriculture and Landscaping, ASPEE College of Horticulture and Forestry, Navsari Agriculture University, Navsari in the State of Gujarat to study the effect of growth regulators viz., GA (5,10 and 15 mg/ l) and benzyl adenine (5, 10 and 15 mg / l). Effect of various plant growth regulators viz., GA (5, 10 and 15 mg / l) and benzyl adenine (5, 10 and 15 mg / l) on Dendrobium orchid were studied in greenhouse pot trial. It was observed that GA at 15 mg/L produced significantly maximum number of shoot, shoot length and number of flowers per plant. BA at 15mg/l was found beneficial for number of leaves per plant in both first and second month after.

Key words: GA₃, Gibberelic acid, BA- benzyl adenine, Dendrobium

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Orchids are valued for their long spikes which display a variety of colours and long lasting flowers. They occupy a prime position amongst cut flowers. Genus Cymbidium is now amongst the top 10 cut flowers of the world market. Whereas, Dendrobium, the most widely cultivated tropical orchid is also marching ahead to find a better place in the export market. Perfection in the form and in the quality of plants as well as to increase the flower production is the grower’s main objectives in the cut flower cultivation, today. Various chemicals are now-a-days being increasingly tried for improvement of growth and flowering of orchids plants. Exogenously applied growth substances increasing in the levels of endogenous hormones, thus modifying the growth and development of plants. Hence, the present investigation was undertaken to study the response of Dendrobium species to the application of growth regulators (GA₃ and BA).

**RESEARCH METHODS**

The experiment was conducted on Dendrobium species in greenhouse, Department of Floriculture and Landscaping, ASPEE College of Horticulture and Forestry, Navsari Agriculture University, Navsari during 2009 to study the effect of growth regulators viz., GA (5,10 and 15 mg / l) and benzyl adenine (5, 10 and 15 mg / l). Well developed plants were planted in plastic pots having media with husk of coconut, bricks pieces, FYM, gravel and charcoal. Growth regulators were sprayed and observations were taken after one and two months of spray on vegetative and flowering parameters. The experiment was laid out in Completely Randomized Design replicated thrice; each having six plants was taken with control.

**RESEARCH FINDINGS AND DISCUSSION**

The data presented in Table 1 revealed significantly maximum number of shoot after onemonth of spray in the treatment GA, 15 mg/ l (4.77), which was at par with GA, 10 mg / l (4.66) followed by BA 15 mg/l and BA 10 mg/l (4.33 and 4.15 number of shoot), respectively. While lowest number of shoots were observed in BA 5 mg/l and control (3.85 and 3.55), respectively. The significantly maximum number of shoot after two months of spray was observed in the treatment GA, 15 mg/l (5.49), which was at par with GA, 10 mg/l (4.94) followed by BA 15 mg/l, BA 10 mg/l and GA, 5 mg/l (4.66, 4.38 and 4.27), respectively, while lowest number of shoot were observed in BA 5 mg/l and control (3.85 and 3.55), respectively. GA₃ promotes vegetative growth by inducing active cell division...