

RESEARCH ARTICLE :

Effect of NAA and IBA on stem cuttings of rose

■ C. KRISHNAMOORTHY, B. SUBHA SHREE AND B. SUVETHA

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SUMMARY : A shade net experiment was conducted in Vanavarayar Institute of Agriculture, Pollachi, Tamil Nadu during 2016 – 2017 with an objective of determine the rose cuttings response to Auxins *i.e.* Indole butyric acid (IBA) and Naphthalene Acetic Acid (NAA) at 0, 500, 1000, 1500 and 2000 ppm concentrations in growing media. Both had a significant effect on all sprouting and growth parameters. Maximum bud sprouting (78.8 %), days to sprout (6), number of leaves / plant (10), chlorophyll index (39.3 mg/g) in rose cuttings were recorded at 1500 ppm of IBA (T₃). The optimum level of IBA was found in the range of 1000 and 1500 ppm, while no such effect was evident of NAA. Of these, IBA was superior to NAA for its strong synergistic effect on all growth parameters.

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KEY WORDS :

Rose, Cuttings, IBA, NAA, Growth parameters

BACKGROUND AND OBJECTIVES

Rose, the queen of flowers, is favoured for its beauty and many other uses like production of petals, making rose oil (*Attar*), rose water, rose wine, rose marmalade (*Gulkand*), rose jam, rose crystallized petals, rose honey, extraction of perfumes, extraction of vitamin C from hips, for medicinal uses and for sale as cut flowers (Khan *et al.*, 2004). In agriculture the production of plant species through sexual as well as vegetative means is of prime importance to continuity of generation.

Most of the plant species perpetuate through sexual method of propagation, which is easy and plays a vital role in the development of new species that are best suited to the changing environment. Each individual resulting from sexual reproduction

usually has a unique combination of genes. There are scores of plant species that are not only hard to be propagated sexually but also show complexities and produce undesirable characters if propagated through sexual means (Lidwien *et al.*, 2006 and Uma and Gowda, 2007). Vegetative propagation therefore, is the most vital and sole method to reproduce these plant species still having desirable characters (Sun and Chen, 1998). These plant species are propagated true to type from somatic cells through cutting, budding, grafting, layering etc. Among these the use of stem cuttings is the most easy and common method for growing roses (Anderson and Woods, 1999 and Costa and Challa, 2008).

The establishment and growth rate of cutting depends upon many factors like season of cutting, age and portion of the branch, growth media, moisture and nutrient status.

Author for correspondence :

C. KRISHNAMOORTHY
Department of Horticulture,
Vanavarayar Institute of Agriculture, POLLACHI (T.N.) INDIA
Email: plantdoctorkrishna@gmail.com

See end of the article for authors' affiliations