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Effect of different plant growth regulators on vegetative propagation of *Bougainvillea peruviana* cv. TOUCH GLORY through hard wood cutting

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ABSTRACT

An experiment was conducted on "Effect of different plant growth regulators on vegetative propagation of *Bougainvillea peruviana* cv. TOUCH GLORY through hard wood cutting" and revealed that the various concentrations of IBA, NAA and their combinations, 4000 mg/l IBA proved the best for number of days taken for sprouting, in obtaining higher percentage of rooted cuttings, number of roots/cutting, length of root, number of shoots/cutting, length of shoot and survival per cent of rooted cuttings. IBA 3000 mg/l and IBA-2000 mg/l + NAA-2000 mg/l were also found superior in respect of root and shoot characters as well as survival percentage of rooted cuttings but they came next to IBA 4000 mg/l.

Key words : Cutting, Propagation, PGR, Sprouting

Bougainvillea is a versatile and spectacular ornamental plant. It can be used in the garden both as a shrub and as a climber. The shrub forms an attractive lawn specimen. It is also grown as standard. A hedge of bougainvillea is quite common and colorful. It can also be trained on a tall tree, on the trunk of a dead tree or a trellis, arch, pergola or screen. It is ideally suited for growing in large pots and wooden tubs. Bougainvilleas in full bloom present a riot of colours. The colours of bracts are innumerable ranging from white to yellow, orange, pink, mauve, purple, scarlet, crimson and red. Due to the wide popularity and the new finding of chemical properties, it is necessary to raise thousands of plants. Seed setting in Bougainvillea is extremely low, hence one has to take support of asexual reproduction. The vegetative propagation of bougainvillea is done by cutting, layering and budding. Among the different methods of vegetative propagation, cutting is the most important for bougainvillea. Though most of the bougainvillea varieties can root easily, the Touch Glory variety has observed to be difficult to root from cuttings. Some of distinct advantages of propagation through cuttings are those it develop stronger plants, produce true to type plants being on their own roots are more resistant to adverse conditions because of greater vigour. It is also however, a very cheap and easy method of propagation.

Plant growth regulators are now widely used as an aid to plant propagation, particularly in the induction of rooting in cutting and air layering. The most commonly used plant growth regulators for better rooting of cuttings are IAA, IBA, NAA etc. Among them IBA and NAA is proved to be the best root promoting and widely used growth regulator for successful rooting of cuttings.

MATERIALS AND METHODS

The present research was carried out during July-2007 to September-2007 at College Nursery, N. M. College of Agriculture, Navsari Agricultural University, Navsari. The experiment was conducted in the net house with Completely Randomized Design having three replications. Thirteen treatments comprised of four levels of each IBA (1000, 2000, 3000 and 4000 mg/l), NAA (1000, 2000, 3000 and 4000 mg/l) and their possible combinations (IBA and NAA @ 500, 1000, 1500 and 2000 mg/l) along with control. In each treatment twenty cuttings were treated. The planting medium was comprised of soil, sand and well rotted farmyard manure in 2: 1: 1 ratio. Thus, the method employed for treating cuttings was quick-dip method. The cuttings were then immediately planted in earthen pots which were filled with planting media. The pots were watered immediately after planting.

RESULTS AND DISCUSSION

The results obtained from the present investigation are summarized below :

Number of days taken for sprouting:

The data summarized in Table 1 clearly indicated that all the concentrations of IBA *viz.*, 2000, 3000 and 4000 mg/l were found to significant effect on sprouting. Among different concentrations of IBA, 4000 mg/l was