

### PROPAGATION OF BOUGAINVILLEA BY STEM CUTTINGS

*Bougainvilleas* are generally propagated by means of cuttings or air-layerings, but they often fail to produce roots and the percentage of success is low even during the cultivated seasons. Investigations<sup>1-6</sup> have revealed varying degrees of success with the treatment of growth substances. The present investigation is an attempt to test the efficacy of different growth substances on the induction of rooting in a difficult-to-root variety of *Bougainvillea*.

Hard wood cuttings, 20-25 cm. long with uniform diameter, taken from the variety 'Mary Palmer' were treated with 100, 10 and 1 ppm aqueous solutions of indoleacetic acid (IAA), indolebutyric acid (IBA), naphthaleneacetic acid (NAA), 2,4-dichlorophenoxyacetic acid (2,4-D), maleic hydrazide (MH), gibberellic acid (GA<sub>3</sub>), Seradix B<sub>3</sub> (a commercial formulation of May & Baker Ltd.) and control (distilled water) for 24 hours. The basal treated ends of the cuttings were thoroughly washed with distilled water and sown in unwashed sand as rooting media in glazed pots. The cuttings were planted during the winter months of the year (November to January).

The results are presented in Table I. A close analysis of the data shows that rooting was favourably improved by all the concentrations of IAA, IBA and NAA over the untreated controls. Seradix B<sub>3</sub> was found to be most effective, as the percentage of rooting, number and length of roots were much greater. 2,4-D and MH in lower concentrations were responsive, whereas treatment with GA<sub>3</sub> had no effect or inhibited the production of roots. From the present investigation it thus appears that treatment with growth substances like IAA, IBA, NAA and Seradix B<sub>3</sub> may be utilized beneficially for the vegetative propagation of *Bougainvillea* during the adverse climatic conditions for rooting.

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TABLE I  
Effect of growth substances on the rooting behaviour of *Bougainvillea* stem cuttings

Growth substances	Concentrations (ppm.)	No. of cuttings treated	No. of cuttings rooted	Percent. of rooting	Mean No. of roots per cutting	Mean length of roots (cm.)
IAA	100	20	16	80	30.66	15.17
					± 2.78	± 1.62
	10	20	8	40	21.20	10.84
					± 2.12	± 1.40
	1	20	8	40	24.65	10.92
					± 2.24	± 1.41
IBA	100	20	20	100	56.88	13.16
					± 2.68	± 1.36
	10	20	20	100	48.95	14.22
					± 2.24	± 1.42
	1	20	16	80	49.20	12.07
					± 2.26	± 1.28
NAA	100	20	20	100	40.68	12.62
					± 2.14	± 1.36
	10	20	12	60	36.72	8.75
					± 2.06	± 1.06
	1	20	9	45	20.22	8.87
					± 1.01	± 1.11
2, 4-D	100	20	0	0	..	..
	10	20	4	20	4.40	2.72
					± 0.48	± 0.24
	1	20	8	40	7.98	4.45
					± 0.51	± 0.29
MH	100	20	0	0	..	..
	10	20	0	0	..	..
	1	20	6	30	6.94	3.13
					± 0.55	± 0.46
GA <sub>3</sub>	100	20	0	0	..	..
	10	20	0	0	..	..
	1	20	3	15	1.48	0.92
					± 0.28	± 0.28
Seradix B <sub>3</sub>	Talc (Dip method)	20	20	100	60.20	16.44
					± 4.28	± 1.56
Control	..	20	5	25	6.24	3.22
					± 0.68	± 0.27

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