Annals of Arid Zone 31(3) 223—224 1992

Rooting of Cuttings with Auxin in Pomegranate cv. Jalore Seedless

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Pomegranate (*Punica granatum*) is an important drought tolerant and high yielding fruit tree of arid and semi-arid regions of India. Its propagation by seed is cheap and easy but plants raised through seeds specially of local types like Alandi and Dholka produce inferior quality of fruits, and general degeneration occurs (Cheema *et al.* 1954). Commercial method of propagation through air layering in varieties like 'Ganesh' 'Basin seedless' and Kabul is expensive, cumbersome and adversely affects the growth of the mother plants (Purohit 1981). In the widely used method of raising pomegranate by hard wood cuttings, success is low. To enhance the success of rooting in cv. Jalore seedless, stem cuttings of 23 cm long were dipped in Indole Butyric Acid solutions of 0, 1000, 1500, 2000 and 2500 ppm by quick dip method in the month of March. The studies were conducted in a Randomised Block Design with 6 replications of 20 cuttings each. The data on the rooting of cuttings, growth of rooted cuttings and number and length of roots were recorded in the month of June.

The number of cuttings rooted, height of the plants, and dry weight of root and shoot, number and length of roots were significantly enhanced at 1000 ppm IBA (Table 1). Response of stem cuttings in terms of these parameters to above 1000 ppm IBA was either comparable to or less than that in 1000 ppm. Percentage of cuttings rooted at 1000 ppm was 56.0 whereas in control only 20% of the cuttings were rooted. Randhawa and Nito (1980) reported higher percentage of rooting, increase in length of roots and average number of roots per cutting in *Malus sp.* with increasing concentration of IBA. In present study also number of roots and length significantly increased with all IBA concentrations over control, but not linearly. Increase in plant height, number of branches and fresh weight in IBA treated cuttings could be due to absorption of more nutrients and water (Sandhu & Singh 1986). It is suggested that IBA at 1000 ppm can appreciably be employed for enhanced rooting of the cuttings and better growth in pomegranate.

Acknowledgement

Authors are grateful to the Director, Central Arid Zone Research Institute, Jodhpur for providing facilities. Thanks are due to Dr HC Dass for initiating the project.

Table 1 *Effect of IBA on rooting, root and shoot growth parameters in pomegranate*

Treatments IBA (ppm)	Percentage cuttings rooted	Height of plant (cm)	No. of branches	Dry weight(g)		No. of roots	Length of longest root (cm)
				Root	Top		
Control	20.0	31.0	1.5	1.6	24.6	11.2	9.4
1000	56.0	58.6	2.2	5.3	59.8	17.8	17.8
1500	45.0	58.2	2.2	3.4	43.6	18.0	14.2
2000	35.0	58.6	2.2	7.8	49.2	18.0	14.4
2500	39.0	60.0	2.3	4.8	41.5	18.0	17.2
SEm±	5.12	4.2	0.29	1.26	7.47	1.5	2.2
CD at 5%	15.12	12.5	–	3.35	21.77	4.46	6.6

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(Received February 1992 Accepted May 1992)