

Vegetative Propagation of *Haloxylon salicornicum* (Moq.) Bunge

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Haloxylon salicornicum is a chenopod browse shrub restricted to extreme arid north west part of district Jaisalmer in northwest India (Shankar & Kumar 1984). Its seeds are reported to germinate within one hour of soaking in water (Sharma & Sen 1989, Thalen 1979) but they retain viability only for one year as tested by tetrazolium test (Thalen 1979). Multiplication of *H. salicornicum* with seeds older than one year is thus not possible. In such a situation, vegetative propagation assumes significance. Experiments were therefore, conducted to evaluate the potential of stem cuttings to root with a view to have its vegetative propagation.

Stem cuttings 6, 8 and 10 cm long, 5 mm in diameter were prepared from twigs cut from *H. salicornicum* plants raised in the botanical garden in CAZRI, Jodhpur. Immediately upon cutting, the basal parts of stems were dipped in water and then into a powder containing 0.1, 0.3 and 1% indole-3-butylic acid (IBA). Each cutting was then lightly tapped to remove excess powder. In control, cuttings were treated with water only. The basal por-

tion of cutting was then inserted into polythene bags containing garden soil and were watered on alternate day. Observations for rooting were recorded at an interval of 15 days for two months.

Six, eight and ten cm long stem cuttings treated with 0.1, 0.3 and 1.0% of IBA did not sprout in first 15 days (Table 1). After 30 days 66.6% of 10 cm long cuttings sprouted in control as well as 0.3 and 1.0% IBA treatment. This percentage increased to 100 after 45 days in control and 0.3% IBA, but remained 66.6% throughout upto 60 days in 1% IBA. In 0.1% IBA treatment the percent sprout was 33.3% in all the cutting length after 45 days and even upto 60 days. This clearly indicated that cuttings of *H. salicornicum* need no hormonal induction for its rooting. Further, even in the control maximum percent rooting was obtained in the cutting of 10 cm length (100%) followed by that in 8 cm length (66.6%) and 6 cm length (33.3%) (Table 1).

Thus it can be concluded that *H. salicornicum* shoot cuttings of the length of around 10 cm are

Table 1 Effect of shoot cutting size and IBA concentration on rooting expressed as percentage of cuttings prouted

IBA%	Shoot cutting Length (cm)	Days after treatment			
		15	30	45	60
Control	6	0	0	33.3	33.3
	8	0	66.6	66.6	66.6
	10	0	66.6	100.0	100.0
0.1	6	0	33.3	33.3	33.3
	8	0	33.3	33.3	33.3
	10	0	0	33.3	33.3
0.3	6	0	0	33.3	33.3
	8	0	0	0	0
	10	0	66.6	100.0	100.0
1.0	6	0	0	0	0
	8	0	0	0	0
	10	0	66.6	66.6	66.6

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capable of sprouting even without hormonal treatment.

Similar studies on other chenopod shrubs such as *Atriplex canescens* (Pursh Nutt.) also reported better rooting of its stem cuttings when dipped in "Rootone F" rooting mixture (McArthur *et al.* 1983). However, the results obtained in the present study i.e. 100% rooting without hormone treatment on 45th day in control contrast sharply with those of McArthur *et al.* (1983). In fact, McArthur *et al.* (1983) report does not mention a treatment of control or without hormone application but mentioned that profuse rooting took place with hormone. The results on stem cutting size are however in agreement with those of McArthur *et al.* (1983).

This plant has been reported to tolerate appreciable amount of salinity caused by sulphate, chloride and bicarbonate (Kaul 1990). Possessing such an adaptation of rooting from stem cutting even without hormone ensures its survival and biological success in an area that is climatically disadvantageous. Hence it can be used for reclamation of saline and sandy wastes through plants raised from its stem cuttings which involves minimum expenditure.

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