

## Comparison of three techniques for revegetating salt affected land with halophytes

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Pastures composed of saltbush (*Atriplex* species) can be profitable means of obtaining forage production from saline wasteland (1). Unfortunately, these are difficult to establish using conventional sowing techniques. Some improvement has been achieved using the "Mallen" niche seeder (2). Poor establishment has been variously attributed to salinity, waterlogging, drought, frost, low temperatures, weeds, insect attack, hail, soil slaking and crusting. We consider it likely that glasshouse grown *Atriplex* seedlings will withstand these stresses better than germinating seeds. We have compared the establishment of river saltbush (*A. amnicola*) using (a) seed sown with the niche seeder (NS), (b) seedlings in jiffy pots planted with a tree planter (TP), and (c) bare root seedlings planted with an Otma? planter (BR).

### Methods

Seedlings/seeds were planted/sown at 3 sites (Esperance, Katanning, North Baandee) in randomised blocks with 5 replicates. Replicates consisted of rows of 30 seedlings/seed deposits spaced 3 m apart. Establishment was scored 4-5 months after planting/sowing.

### Results and discussion

On all sites the order of successful establishment was TP>NS>BR (Table 1). TP gave excellent establishment on 2 of the 3 sites. Establishment at Esperance with TP was initially high (>80%) but many plants died following a major summer thunderstorm. Poor establishment with BR may have been due to osmotic shock. Future work with this Method will assess the value of pre--adapting plants to salt before transplanting into the field.

**Table 1. Percentage establishment**

Technique	Esperance	Katanning	N. Baandee
Tree planter (TP)	10	90	97
Niche seeder (NS)	0	18	73
Bare root seedlings (BR)	0	6	34

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2. Malcolm, C.V., and Allen, R.J. (1981). Aust. Rangeland J., 3, 106-109.