

Establishing forage shrubs on salt-affected soils

Many farms in the Mallee contain saline areas that do not support pasture growth. Forage shrubs can play an important role in remediating these areas by using more water, slowing wind speeds, or providing ground cover during dry months.

Types of shrub

- Old Man Saltbush is a hardy forage shrub that is resilient to many environmental stressors. It occurs naturally on heavier soils but will grow on a range of soil types. It tolerates salinity but does not tolerate extended waterlogging.
- Eyres Green and Anameka Saltbush cultivars are more recent varieties that have been selected for desirable traits (Eyres Green for biomass, Anameka for nutritive value).
- River Saltbush is better suited to saline soils where periodic inundation occurs. However, it is particularly susceptible to set-stocking.
- On very sandy areas, Rhagodia is an alternative shrub option.

Planting design

Block plantings of old man saltbush are often used in areas where pasture does not grow. In this design, shrubs are planted at small intervals (3 m - 5 m), usually with an equivalent distance between rows. Ideal shrub density for block planting in this situation is between 600–1100 plants/ha. Planting too densely is likely to result in reduced shrub productivity due to competition between shrubs after only a few years. Mustering stock in dense shrub stands can also be a problem.



Salt patches like these can be remediated with plantings of saltbush above and through the scalded area.

Examples of shrub spacing in a moderate density block configuration

Spacing between rows	Spacing between shrubs within each row	Shrub density
4m	4m	625 plants/ha
4m	3m	833 plants/ha
3m	3m	1111 plants/ha

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This 8 ha Old Man saltbush planting has successfully remediated a mallee seep near Murrayville.



Over time, and with greater water-use by shrubs, scald patches can disappear, with vegetation returning to the space between shrub rows.

Seedling planting checklist

- ✓ Select paddock the year before planting.
- ✓ If possible control undesirable species while promoting any pasture seedbank that may exist.
- ✓ Choose the desired planting layout and calculate the number of shrubs needed.
- ✓ Order shrubs with the supplier by November the year before planting.
- ✓ By March the year of planting, deep rip the rows to be planted.
- ✓ Before the break of season organise a contract planter or the use of a planting machine.
- ✓ Carry out scalping or mounding along the shrub rows after the break to minimise the erosion risk.
- ✓ Use a non-selective herbicide along the rows after weed germination.
- ✓ Ensure seedlings are strong with a well-developed root system.
- ✓ Soak seedlings immediately before planting.
- ✓ Plant seedlings into moist soil achieving good contact between roots and soil

Establishment

Careful paddock preparation is most important when establishing forage shrubs – the benefits of thorough planning and preparation are significant and long lasting. The most common method for establishing forage shrubs is by planting seedlings (see checklist). The various steps include weed control the previous spring and in autumn the year of planting, ordering shrubs by November the year before, deep ripping two months before planting, and scalping or mounding the rows before planting.

Direct seeding is more cost effective than planting established seedlings, but is less reliable (spring and summer rains are needed), and not suitable for all shrub species. Direct seeding of Old Man Saltbush has been successful on some farms. Assessing the viability of seed with a germination test before seeding is essential. Producers planting diverse shrubs will almost always use tubestock.

Following the establishment year, shrubs should not be grazed for at least 12 to 18 months. First grazing should be short and sharp, and carefully monitored to ensure plants are not being pulled up by livestock.

See also separate factsheet "Grazing management to get the best out of forage shrubs".



This project is supported by the Mallee Catchment Management Authority, through funding from the Australian Government's Future Drought Fund.