

OLDMAN SALTBUSH FOR AUSTRALIAN GRAZING SYSTEMS

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**Adaptation:** Old Man Saltbush (*Atriplex nummularia*) is a native shrub adapted to areas receiving 200 to 500mm rainfall per year. The plant has the ability to produce forage under moisture stress conditions. Its drought resistant mechanisms include an extensive root system (up to 5m deep) and leaf characteristics to absorb moisture from the air and restrict transpiration losses. The plant has a wide soil adaptation, is especially tolerant of saline conditions, but grows poorly on acidic soils with high aluminium levels.

**Forage Quality:** The authors collected samples from natural stands (Hay) and a plantation (Narromine) in south and central N.S.W. The results of laboratory tests are presented in Table 1. These and similar results reported elsewhere (Grice and Muir, 1988) indicate that the forage quality is above maintenance levels. However the forage has a high salt content which may reduce intake and/or increase stock water requirements.

Table 1: Forage quality of Old Man Saltbush from southern N.S.W.

Plant Material	Source	Crude Protein (%)	Acid Development Fibre (%)	Digestibility % <sup>(2)</sup>
Young plant (1)	Natural	12.8	24.0	69.0
Mature plant (1)	Natural	8.7	37.6	56.4
Leaf	Plantation	18.2	22.2	73.2

(1) branches to 15mm thickness; (2) calculated from protein and fibre.

**Establishment and Management:** High salt levels in structures enclosing the seed reduce germination so that establishment from direct seeding is frequently poor (3-5% of seed sown). More reliable establishment is achieved from cuttings (Grice and Muir, 1988) or seedlings sown with a tree transplanter (A Sipple - Narromine Transplants - Pers. Comm.). Areas for forage production should be deep ripped prior to transplanting seedlings at densities of 2000-4000 plants/ha. Grazing commences 12 months after transplanting and normal management would be 2-4 months grazing followed by 8-10 months spell each year.

**Conclusions:** Oldman saltbush has a range of management options including: (1) forage as a drought reserve or to alleviate annual feed shortages; (2) Windbreaks providing shelter and forage for stock; (3) Erosion control and revegetation of scalded or saline areas. In N.S.W., the areas which appear to be most appropriate for its adoption are the Murray Valley, and the western slopes and plains, but further trials are needed to define the limits to its adaptation, management inputs required and production potential.

Grice, A.C. and Muir, S.J. (1988). Biology and Management of Saltbush and Other Chenopods. N.S.W. Dept of Agriculture and Fisheries Report.