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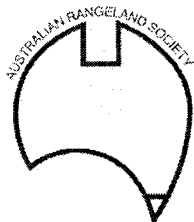
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THE ROLE OF OLD MAN SALTBUSH PLANTATIONS IN RANGELAND MANAGEMENT

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INTRODUCTION

Intensive development of small areas has not had much impact on the arid pastoral zone. However, successful development of techniques to establish large stands of old man saltbush (*Atriplex nummularia*) shrubs has provided significant opportunities for improved rangeland management.

NATURAL DISTRIBUTION OF OLD MAN SALTBUSH

Old man saltbush (Omsb) is very widespread in its natural distribution. However, although once relatively abundant in many locations, it is now only a minor component of the original communities as a result of overgrazing.

RECOGNITION OF POTENTIAL

Seeds of Omsb were imported by South Africans and the plants selected through a research programme which resulted in an improved cultivar ("de Kock") (1).

Paradoxically, it was the visit of an Australian grazier (Ian Hunter) to South Africa which stimulated the current moves to develop commercial plantations of Omsb.

RESEARCH

There was some Australian research into the biology of Omsb prior to the mid 1980s, e.g. (2), but comparatively less into its commercial value. This gap is now being filled and includes research into its role in reclamation of saline areas is increasing.

Investigations into plant establishment by seed or seedling have indicated a much higher reliability for the latter, although the initial cost per plant is higher.

CHARACTERISTICS OF OLD MAN SALTBUSH

The Omsb plant has particular characteristics which provide it with the capability to fulfil a much needed role in rangeland management:-

- (i) high water use efficiency,
- (ii) high nutritional value,
- (iii) halophytic,
- (iv) drought and frost tolerant,
- (v) deep rooting,
- (vi) 50+ years life expectancy,
- (vii) fire-resistant.

POTENTIAL ROLE OF OLD MAN SALTBUSH

Sufficient data is now available to confirm the potential role of Omsb plantations (3):-

- (i) provision of high quality forage which can be made available at any time of the year for sheep, cattle or goats.

- (ii) reclamation of salt-affected areas - converting a problem site into one of high productivity.
- (iii) lowering of unacceptably high water tables.
- (iv) provision of stock shelter.
- (v) reducing the burr load in wool (by natural removal during browsing).

Established Omsb stands have a carrying capacity of 30-40 sheep (or equivalent) per ha for 3-4 months per year. Having several fenced-off paddocks allows for overall improved livestock and rangeland management and profitability through:-

- (i) capability to rest paddocks and thus develop improved grazing management of the whole property,
- (ii) increased forage security for existing stock and /or,
- (ii) increased carrying capacity.

FUTURE DEVELOPMENTS

As the recognition for the value of intensively developing small areas increases and the skills of pastoralists for such operations increase, Omsb plantations will have profound impact on improving livestock and rangeland management.

REFERENCES

1. de Kock, G.C. (1980). Drought resistant fodder shrubs in South Africa. In "Browse in Africa - the current state of knowledge". Ed. H.N. Le Houerou, Inst. Livestock Centre of Africa. Addis Ababa, Ethiopia.
2. Jones, R. (Ed.) (1969). The biology of *Atriplex*. CSIRO Div. Plant Ind., Canberra.
3. Condon, R.W. and Sippel, A. (1990). Old man saltbush for salt-affected soils. Proc. 5th Aust. Soil Conservation Conf. Perth, W.A.