



A collaboration between AWI, GRDC, MLA, RIRDC and Dairy Australia

## Small leaf bluebush

### Scientific name(s)

*Mareana brevifolia*

### Strengths

- Recruits new seedlings well
- Moderate-high salinity tolerance

### Limitations

- High levels of oxalates
- Low waterlogging tolerance

### Plant description

**Plant:** Small perennial shrub which grows to about 1m in height. It is erect in habit.

**Stems:** Woody, sparse branches.

**Leaves:** Small 2-5mm red or green succulent leaves.

**Fruit:** Fruits are borne in the leaf axils and contain papery wings that are readily shed from the plant, dark brown when ripe.

### Pasture type and use

Has been used primarily in revegetating saline land in lower rainfall regions. It is best used in conjunction with stubble or other feed sources. It is commonly seen naturally growing on areas not under cultivation and will colonise bare ground.

### Where it grows

#### Rainfall

It is well suited to lower rainfall regions (250-450mm).

#### Soils

Small leaved bluebush grows on a wide variety of soil types. It is moderately tolerant to salinity but has poor waterlogging tolerance.

#### Temperature

Small leaved bluebush is able to tolerate dry, hot conditions. It is also quite tolerant to frost.

### Establishment

#### Companion species

Grasses: Winter annuals will provide useful feed with minimal competitive effects. Stubbles have been used by farmers in the past in conjunction with small leaved bluebush.

Legumes: Winter growing annuals such as medics and clovers will provide the bulk of winter feed.

Shrubs: Sometimes a mixture of different shrub species has been sown in the past. There is currently research being done on the value of planting a range of species together in the hope

of alleviating the nutritional limitations of species and increasing animal intake and performance.

### **Sowing/planting rates as single species**

Best results with direct seeding have been obtained using a niche seeder. It is recommended to test the viability of the seed that is to be used. Small leaved bluebush seed loses its viability very rapidly under moderate-high humidity. If possible only use fresh seed. It has been recommended to place enough viable seeds to allow for 50 seeds per placement. Establishment of small leaved bluebush can also occur using established seedlings. These can be planted either by hand or with mechanical tree planters. Contract planters can plant seedlings and numerous organisations have planters which can be hired to landholders. Many different layouts and densities can be used depending on the situation, but generally shrubs have been planted as dense stands or in alleys or belts. Machinery access, establishment costs, salinity status and understorey companion species are all factors to consider in designing a shrub system layout.

Note: Establishment of shrub species is a critical step in obtaining productive stands. A number of factors are vital in ensuring establishment success. It is recommended to obtain further information on establishing shrubs from the sources listed at the end of this factsheet.

### **Sowing/planting rates in mixtures**

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### **Sowing time**

Small leaved bluebush is best sown soon after the break of season.

### **Inoculation**

Not applicable

### **Fertiliser**

Soil tests should be conducted to determine the baseline nutrient status before application to gauge whether a fertiliser response is likely.

## **Management**

### **Maintenance fertiliser**

There is little information available on the benefits of regular fertilisation. However, it is likely that fertilisation would be beneficial especially to the companion pasture species.

### **Grazing/cutting**

Small leaved bluebush tolerates heavy grazing and re-grows well. Short, heavy grazing with long periods (6 months) of recovery are probably the best management methods for small leaved bluebush.

### **Seed production**

Small leaved bluebush can produce large quantities of seed and new seedlings are common. Regeneration of stands can be achieved by allowing plants to produce seed and protecting seedlings from grazing.

### **Ability to spread**

Volunteer seedlings of small leaved bluebush are regularly seen and spread from existing plantations is commonly observed. It is a regular coloniser of bare and disturbed ground. It is possible to allow the spread of small leaved bluebush into adjacent areas and thus increase the area to this species with low establishment costs.

### **Weed potential**

Small leaved bluebush has become a cropping weed in some areas of the northern agricultural region of Western Australia. It colonises disturbed soils rapidly and can reach high densities.

### **Major pests**

Small leaved bluebush is known to host numerous insects, both pest and beneficial. However, serious insect damage is rarely seen.

## **Major diseases**

There are no known major diseases that affect small leaved bluebush.

## **Herbicide susceptibility**

Currently, there are no herbicides registered for use in small leaved bluebush. Trial work has shown that some broadleaf herbicides such as atrazine, dicamba and diuron can cause severe damage to small leaved bluebush.

## **Animal production**

### **Feeding value**

Small leaved bluebush has quite high crude protein levels but is not a complete feed source. Many farmers have used small leaved bluebush successfully in conjunction with stubble.

### **Palatability**

Small leaved bluebush is not overly palatable and animals will graze most other species first. However, once animals are familiar with the plant they will graze it more readily.

### **Production potential**

It is suitable as a maintenance feed, particularly to assist in carrying animals over periods of feed shortage. It should not be used to fatten animals or by stock with a high nutrient demand. Supplementing with grain or good quality hay is necessary to achieve increased animal production.

### **Livestock disorders/toxicity**

Small leaved bluebush contains high levels of oxalates which limits intake and at toxic levels can cause kidney problems. Hungry sheep should not be introduced to small leaved bluebush if it is the only feed source available.

## **Cultivars**

There are no cultivars of small leaved bluebush at present.

## **Further information**

'Saltland Pastures in Australia: a practical guide' by Ed Barrett-Lennard, Department of Agriculture Western Australia

'Saltland pastures for South Australia' by Craig Liddicoat and Jock McFarlane, Rural Solutions, SA.

## **Acknowledgements**

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## **Author and date**

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December 2008