



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

## Button medic

### Scientific name(s)

*Medicago orbicularis*

### Strengths

- Early flowering and seeding and well adapted to marginal climatic conditions
- High seed production
- High levels of hard seed and a slow breakdown pattern ensure large seed reserves
- Good nutritive value with high protein, palatable

### Limitations

- Productive in good seasons but not as productive as barrel and strand medics in average seasons
- Regeneration not as reliable as other medics
- Aphid susceptible
- Seedling regeneration from the resilient seed reserve could pose a problem in crop rotations though readily removed by herbicide

### Plant description

**Plant:** Prostrate with trailing runners

**Stems:** Trailing up to 50 cm long

**Leaves:** Trifoliolate; leaflets oval; leaflets 9-18 mm long, 6-14 mm wide, toothed almost to base, upper surface glabrous; lower surface glabrous or hairy.

**Flowers:** Inflorescences 1-5 mostly yellow, sometimes with mauve markings

**Pods:** Pod light straw coloured, spineless, flattened with papery edges, 3.5-7 mm long, 13-17 mm diam., coils 3-7, seeds 10-26

**Seeds:** Triangular to square in shape, flattened, yellowish brown

### Pasture type and use

A self regenerating winter growing annual ley legume in dryland cereal growing regions in the Upper Eyre Peninsula and Mallee of southern Australia and in pastoral systems in subtropical Australia.

Used in marginal cropping and grazing environments owing to the resilience of the hard seed reserve.

### Where it grows

#### Rainfall

Requires an annual rainfall of 200-650 mm/ann in southern Australia and 300-650 mm/ann in the subtropics.

#### Soils

Adapted to a wide range of alkaline soils, from sands and loams (southern Australia) to loams and heavy textured soils (subtropics).

#### Temperature

Winter growing, can withstand frosts.

## **Establishment**

### **Companion species**

In the subtropics it may be sown with any of the adapted tropical and temperate grasses, other adapted medics (particularly early flowering barrel and spineless burr medics) and *Desmanthus* and *Caatinga stylo*; in southern Australia, it may be sown with early flowering cultivars of hybrid disc medic, strand medic, spineless burr medic and barrel medic.

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

2-3 kg/ha of scarified seed.

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

Sow at a rate depending on the proportion in the mix.

### **Sowing time**

Early autumn to early winter.

### **Inoculation**

Group AM

### **Fertiliser**

Where soils are low in nutrients, particularly P and/or S, it would be beneficial to apply 10-15 kg P and 10 kg S/ha annually, and Cu, Zn Mo if they are deficient. Soil tests will determine the need and appropriate rates.

## **Management**

### **Maintenance fertiliser**

Ongoing applications of P and S as required. Soil tests will determine the need and appropriate rates.

### **Grazing/cutting**

In the establishment year, delay grazing until plants are well established. Graze leniently until flowering then remove stock to maximise seed set.

Makes more production when rotationally grazed. Does not respond well to crash grazing.

### **Seed production**

100-500 kg seed/ha, with 1200 kg/ha measured experimentally.

### **Ability to spread**

Rate of spread slow but, because of its high hard seed levels, could be spread through livestock

### **Weed potential**

Low weed potential owing to slow hard seed breakdown pattern. It is palatable and readily eaten. In ley systems, it could be a weed of cereal and grain legume crops

### **Major pests**

Susceptible to redlegged earth mite, blue-green aphid, spotted alfalfa aphid and Cow-Pea Aphid

### **Major diseases**

It is susceptible to powdery mildew

### **Herbicide susceptibility**

Susceptible to residual herbicides from a cropping phase, particularly sulfonylurea on alkaline, sandy soils

## Animal production

### Feeding value

High levels of crude protein (17-22%), energy (8-10 MJ/kg ME) and digestibility (55-75% DMD) in leafy growth.

### Palatability

Readily eaten by livestock. Anecdotal evidence is that pods are not readily sought by livestock.

### Production potential

Button medic has a lower dry matter production potential than the barrel medics, but has produced 7 t/ha DM in a good season in the subtropics.

### Livestock disorders/toxicity

Bloat can be issue with cattle.  
Inoculate to prevent pulpy kidney

## Cultivars

Group	Cultivar	Seed source/Information
Very early flowering, Temperate self regenerating annual	Bindaroo	See not available yet.

## Further information

Forages of Texas - North Central Species (Button medic)  
Oklahoma Forages (Button medic)

## Acknowledgements

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## Author and date

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