



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

# Burgundy bean

## Scientific name(s)

*Macroptilium bracteatum*

## Strengths

- extremely palatable
- suitable on a wide range of soil textures with easy establishment on clay soils
- addresses soil fertility decline in cropping soils
- non-bloating
- regenerates well from seed each year
- greater tolerance of cool temperatures means it can establish and commence growth earlier in spring than other subtropical, tropical legumes

## Limitations

- high palatability restricts use to ley pastures and short term phase pastures and requires appropriate grazing management
- has a specific rhizobium requirement
- susceptible to insect and virus damage

## Plant description

**Plant:** erect or trailing, summer growing, perennial legume.

**Stems:** hairy, mostly fairly fine (1 - 2 mm diameter).

**Leaves:** comprise 3 leaflets; hairy on upper and lower surfaces.

**Flowers:** purple-red and are borne on stems about 15cm long with a ring of small leaf-like structures at the base.

**Pods:** 4 - 9 cm long, straight and cylindrical; with 9 to 17 seeds per pod.

**Seeds:** seeds mottled, brown, black and tan; 170,000 seeds/kg.

## Pasture type and use

Used mainly as a short-term legume within cropping systems where the focus is on producing high quality forage and/or addressing fertility decline. It is well suited to the heavy soils of the cropping regions of southern Queensland and northern New South Wales.

## Where it grows

### Rainfall

Best suited to regions with 600 - 1200 mm annual rainfall with a predominantly summer rainfall distribution.

### Soils

Wide range of soil types acceptable but best adapted to moderately heavy to heavy textured cropping soils.

### Temperature

Will germinate and grow in temperatures lower than many other subtropical and tropical legumes. Tops killed by frost.

## Establishment

### Companion species

Grasses: buffel grass, green, Gatton and Bambatsi panics, Bisset creeping bluegrass, and Floren bluegrass.

Legumes: Milgarra butterfly pea and Primar and Unica caatinga stylo. When sown with these legumes, burgundy bean is usually less persistent.

### Sowing/planting rates as single species

3 - 5 kg/ha, 5 - 8 kg/ha for coated seed.

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

1-3 kg/ha, 2-5kg/ha for coated seed.

### **Sowing time**

Can be sown in spring or summer depending on moisture availability.

### **Inoculation**

Requires a specific inoculum, strain CB1717.

### **Fertiliser**

Application of 10 - 20 kg/ha P (e.g. 100 - 200 kg/ha superphosphate) at sowing improves performance on old cropping soils. Molybdenum and sulphur may also be necessary in some situations.

## **Management**

### **Maintenance fertiliser**

Mostly used on cropping soils and additional fertilizer not usually applied in short term pasture phases.

### **Grazing/cutting**

Best rotationally grazed; under continuous grazing, stock concentrate on the palatable burgundy bean ultimately killing plants.

### **Seed production**

Seed maturity is not uniform and the seed pods shatter easily. Seed production of up to 1 t/ha is attainable.

### **Ability to spread**

Can spread within the paddock due to seed pod burst at maturity. High palatability however results in little spread outside of the sown area.

### **Weed potential**

Potential is low for weediness due to high palatability at all stages of maturity and rapid breakdown of hard seed.

### **Major pests**

No major pests, although seedlings can be affected by bean fly, and seed production by flower-eating caterpillars and green vegetable bugs.

### **Major diseases**

No major disease problems. Bean mosaic virus symptoms can appear but has little effect on productivity.

### **Herbicide susceptibility**

Spinnaker® (Imazethapyr) can be used as pre-sowing/pre-emergent, post-sowing/pre-emergent or post-emergent herbicide (first or second full leaf). Glyphosate can be used post-sowing/pre-emergent to control weeds at planting, and has also been used at low application rates on mature plants to control emerging weeds.

## **Animal production**

### **Feeding value**

Produces high quality feed, with crude protein levels around 20%, compared with those of lucerne of 22% and butterfly pea of 24.5%.

### **Palatability**

Extremely palatable and selectively grazed.

### **Production potential**

Burgundy bean can produce 5 - 8 t/ha of dry matter each year, with a first year production advantage over butterfly pea, caatinga stylo and lucerne.

### **Livestock disorders/toxicity**

None recorded. Burgundy bean does not cause bloat.

### **Cultivars**

Two cultivars, usually sold in a mixture.

<b>Cultivar</b>	<b>Seed source/Information</b>
Cadarga	Guide to Australian Pasture Legumes Heritage Seeds
Juanita	Guide to Australian Pasture Legumes

### **Further information**

Tropical Forages database (SoFT) - Burgandy Bean  
Better Pastures for the Tropics and Subtropics

### **Author and date**

Stuart Brown & Bruce Pengelly (CSIRO Sustainable Ecosystems)

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