



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

## Caatinga stylo

### Scientific name(s)

*Stylosanthes seabrana*

### Strengths

- Perennial (2-4 years) good seeder
- Grows on heavy clay and loam soils
- Drought tolerant
- Grows in tropics and sub-tropics
- High quality grazing value, suitable for hay
- Tolerates heavy grazing in a mixed pasture
- Anthracnose resistant.

### Limitations

- Frost sensitive, drops leaves
- Rhizobium requirements uncertain and difficult to maintain alive with high soil temperatures with surface sowing
- No growth and loses leaf in winter
- Seasonal flooded areas.

### Plant description

**Plant:** Erect, branching, green bushy, 40-70 cm tall (varies with soil and rainfall); (intermediate between *S. scabra* and *S. hamata*)

**Stems:** Fine palatable stems, woody base, cv. Unica has greenish stems and cv. Primar has reddish stems when mature

**Leaves:** Tri-foliolate, lanceolate, smooth, some bristles on lower midrib, veins prominent and whitish on underside

**Flowers:** Yellow, small, 'pea' type (cv. Primar flowers earlier than cv. Unica, especially in the first year)

**Pods:** 2-segmented, upper seed only has small beak 2-3mm, 4-5mm long, lower seed 2-3mm

**Seeds:** 1.5mm long, light brown-cream colour, 450,000 podded seed/kg and 690,000 dehulled seeds/kg.

### Pasture type and use

Mixed grass/legume grazing pasture or summer ley pasture on clay cropping soils, requires grazing management to maintain a mixed pasture, suitable for making high quality hay.

### Where it grows

#### Rainfall

500-1000 mm.

#### Soils

Drained medium to heavy textured soils, clay loams to cracking heavy clays, neutral to alkaline soils, responds to higher fertility.

#### Temperature

Prefers tropical temperatures, survives light frosts (-80 C) although drops leaves and tops may be killed.

## **Establishment**

### **Companion species**

Sown alone or mixed grass pasture - Bambatsi panic, buffel grass, Sabi grass, native bluegrass; Legumes - *Desmanthus* spp.

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

2-4 kg/ha, germinable seed, treatment (scarification) for hard seed may be required, shallow or surface planting recommended.

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

0.5-3 kg/ha (hard seed treatment) varies with companion species.

### **Sowing time**

October to March, depending on rainfall and heatwave conditions. An early sowing time allows a longer establishment season before winter.

### **Inoculation**

Specific Caatinga stylo rhizobium (CB3481 current recommendation).

### **Fertiliser**

Responds to phosphorus (10-20 kg/ha); zinc, sulphur and molybdenum may be required on heavy clays.

## **Management**

### **Maintenance fertiliser**

Superphosphate (10-20 kg P /ha) depending on soil fertility.

### **Grazing/cutting**

Tolerates heavy grazing when established, early summer grazing favours the stylo while green grass is selected; stylo is selected with late summer grazing; can be cut making good quality hay.

### **Seed production**

Prolific seeder, responds to irrigation and fertiliser, >500kg/ha potential seed production.

### **Ability to spread**

Early summer grazing promotes spread by reducing grass competition.

### **Weed potential**

Early summer grazing promotes spread by reducing grass competition.

### **Major pests**

No insect problems under grazing.

### **Major diseases**

No disease problems under grazing, seed crops in humid environments may have anthracnose and botrytis problems.

### **Herbicide susceptibility**

Seedlings have some susceptibility to 2,4-D products, while established plants have a small degree of tolerance, suspected susceptibility to trifluralin.

## **Animal production**

### **Feeding value**

High quality; 23% CP, 0.22% P and 22% ADF in the leaf, 11% CP, 0.17% P, and 38% ADF in the stem of terminal shoots.

### Palatability

Highly palatable as maturing and dry, lower palatability when young and green.

### Production potential

3 t dry matter/ha, liveweight gain of 0.6 kg/hd/day for 10 months of the year in a mixed grass pasture, 100 kg beef/ha/year.

### Livestock disorders/toxicity

None known.

## Cultivars

Cultivar	Seed source/Information
Primar <sup>Ⓓ</sup> (early seeder in first year)	Southedge Seeds, Illing Pastures, Rural Agents, Heritage Seeds, (Pasture seed companies can source seed).
Unica <sup>Ⓓ</sup>	Southedge Seeds, Illing Pastures, Rural Agents, Heritage Seeds, (Pasture seed companies can source seed).

<sup>Ⓓ</sup> Denotes that this variety is protected by Plant Breeder's Rights Australia

## Further information

Edye, L.A. and Maass, Brigitte L. (1997) Recent advances in studies of anthracnose of *Stylosanthes*. I. The biogeography of *Stylosanthes hamata*, *S. scabra* and "*Stylosanthes seabrana*". *Tropical Grasslands*, 31, 417-423.

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Maass, B.L. and 't Mannetje, L. (2002) *Stylosanthes seabrana* (Leguminosae: Papilionoideae), a new species from Bahia, Brazil. *Novon*, 12, 497-500.

Hall, T.J. and Glatzle, A (2004) Cattle production from *Stylosanthes* pastures. In Chakraborty, S. (ed.) High yielding anthracnose-resistant *Stylosanthes* for agricultural systems. ACIAR Monograph No. 111.

Pengelly, B.C., Clem, R.L. and Whitbread, A.M. (2004) The role of *Stylosanthes* spp. in mixed crop-livestock systems in Africa and Australia. In Chakraborty, S. (ed.) High yielding anthracnose-resistant *Stylosanthes* for agricultural systems. ACIAR Monograph No. 111.

## Acknowledgements

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## Author and date

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