



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 [Ⓟ] (early seeder in first year)	Southedge Seeds, Illing Pastures, Rural Agents, Heritage Seeds, (Pasture seed companies can source seed).
Unica [Ⓟ]	Southedge Seeds, Illing Pastures, Rural Agents, Heritage Seeds, (Pasture seed companies can source seed).

[Ⓟ] 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.

Edye, L. A., Hall, T. J., Clem, R. L., Graham, T. W.G., Messer, W. B., and Rebgetz, R. H. (1998): Sward evaluation of eleven *Stylosanthes seabrana* accessions and cv. *Seca* in five sub-tropical environments. *Tropical Grasslands* 32: 243-251.

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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