

Register of Australian Herbage Plant Cultivars

B. Legumes

12. Stylo

d. *Stylosanthes scabra* Vog. (shrubby stylo)

cv. Seca

Reg. No. B-12d-1

Registered September 1977

Published in the Journal of the Australian Institute of Agricultural Science 44(1): 63-4. March 1978.

Origin (1, 2, 3, 5, 6, 8, 10)

Developed from CPI. 40292 collected in 1965 by Mr R.J. Williams of the CSIRO Division of Tropical Crops and Pastures near Gravata, Pernambuco in north-eastern Brazil: lat. 8.13°S; long. 35.30°W. elevation 300 m, mean rainfall 800 mm (range 400 to 1200 mm) extending from February to June. During 1967-75 it was tested at 17 sites in northern and eastern Australia by CSIRO in collaboration with the Western Australia Department of Agriculture, Animal Industry and Agriculture Branch of the Department of the Northern Territory, Department of Primary Industries, Queensland, and the New South Wales Department of Agriculture (1, 2, 3, 5, 6, 8, 10). *Stylosanthes. scabra* CPI 40292 was among the most outstanding at each site in the dry tropics and had a much wider tolerance of edaphic and climatic conditions than *S. hamata* cv. Verano and *S. humilis* (6).

Submitted by Davies Laboratory, Division of Tropical Crops and Pastures, CSIRO, Townsville, which will maintain breeders' seed, and recommended for registration by the Queensland Herbage Plant Liaison Committee. It was released in July 1976 and registered in September 1977.

Morphological description (5, 6)

S. scabra is a vigorous shrubby pasture legume that perennates strongly (6) and can grow up to 2 m tall. Four very distinct forms have been introduced into Australia up till 1969 (5) and all are thick-stemmed, woody shrubs varying in height of growth. Other forms of *S. scabra* have been introduced more recently from Bahia, Brazil (R.L. Burt, unpublished data.).

Seca is an erect, sparsely branched woody shrub with red stems often >6mm thick and blue-green leaves. The stems are markedly reflexed with very sparse, slightly viscid, short (<1 mm) bristles confined to a small area just below the node. Stem hairs are short (<1 mm) and densely distributed all over. Leaves trifoliolate, leaflet elliptic to oblong, obtuse, mucronate, densely and shortly hairy above and below, with a few scattered setae, with 4-5 pairs of usually conspicuous veins: terminal leaflet to 21 mm long, 9 mm broad, the lateral ones to 18 mm long and 8 mm broad; petioles to 10 mm long, canaliculate above, scabrous with dense short hairs, the rachis 1 to 3 mm long; sheath and teeth of stipules variable in length, the sheath usually longer than the teeth, short-hispid, 7 to 9 nerved. Spikes short, crowded, oblongoid, several flowered; bracts unifoliolate, the leaflet *c.* 4 mm long, hispid, the sheath 4.5 mm long, densely hispid, *c.* 7 nerved, the teeth 2 mm long and shorter than the sheath; outer bracteole 1, lanceolate, 2-4 mm long, bifid and ciliate at the apex; axis rudiment 2-3 mm long, ciliate; inner bracteoles <2 mm long, ciliate at the apex.

The loment consists of two articulations, which are usually both fertile, the lower evenly pilose, the upper shortly hairy. The beak is thick, hairy, slightly coiled, 1.5 mm long and less than the length of the upper articulation (total length of upper pod + beak is 3.5 mm). The seeds are small (<2 mm long), pales to light brown in colour unsymmetrically reniform, radical ends prominent. The chromosome number is $2n = 40$. Seed number/kg is 408 000 with pods and without pods 800 000.

Agronomic Characters (3, 4, 6, 7, 9)

As a spaced plant at Lansdown, Seca commenced flowering in late May at a day length of 696 min; this is more than 5 weeks later than late cultivars of Townsville stylo and approximates the flowering time of mid-season types of *S. guianensis* (3).

Seca is a very strong perennial under spaced plant and sward conditions, and established plants are highly drought resistant withstanding dry seasons of highly variable duration. It nodulates freely with the standard wide-spectrum cowpea strain *Rhizoiium* CB756 (4). Seca establishes readily from seed but its seedling vigour is low and early root development is slow compared with Verano and Townsville stylo (9). It forms vigorous legume dominant stands with a number of exotic and native grasses including *Brachiaria decumbens*, *Cenchrus ciliaris*, *C. setigerus*, *Urochloa mosambicensis*, *Heteropogon contortus*, *Bothriochloa bladhii* and *B. decipiens* in high and low rainfall environments. Seca is readily grazed by cattle and competes strongly with associate species under both heavy or lenient grazing. With lenient grazing the growing points are selectively eaten and the thicker stems remain. The top growth is tolerant of light frosts and the plant survives heavy frosts,

It is suited to tropical regions with a short and highly variable summer growing season and an annual precipitation of 600 to 1700 mm. Although Verano is adapted to similar environments, Seca is a stronger and more drought resistant perennial and is higher yielding than Verano in regions with low and highly variable annual rainfalls such as in Central Queensland (6, 7).

Cattle grazing a Seca – *B. decumbens* pasture at Heathlands over 3 months during the dry season gained 15 kg/head compared with 6 kg/head on *S. guianensis* cv. Cook – *B. decumbens* at a stocking rate of 3.3 beast ha⁻¹. Although the intake of *S. scabra* is lower than *S. guianensis* in pen-feeding studies with sheep, the apparent digestibility of dry matter and nitrogen was higher than most *S. guianensis* accessions (M.J. Playne, unpublished data).

The main advantage that Seca has over Verano is its superior competitive ability, especially after the first year, with native and sown grasses associated with it superior height, yielding ability and persistence. Seca is more tolerant of light-grazing than Verano and this could be important in the Northern Territory where controlled grazing is not possible. Any excessive growth of Seca could be controlled by burning as perennating plants do not survive hot fires. Both Seca and Verano could complement one another in pastures because Verano established more readily and is more productive in the first year. Seca is resistant to existing strains of anthracnose (*Colletotrichum gloeosporioides* Penz. & Sacc.) (J.A.G. Irwin and D.F. Cameron, unpublished data).

References

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