

Register of Australian Herbage Plant Cultivars

B. Legumes

12. Stylo

c. *Stylosanthes hamata* (L.) Taub (Caribbean stylo)

cv. Verano

Reg. No. B-12c-1

Registered may 1975

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Origin

This cultivar was developed from an accession (CPI 38842) collected in 1965 by Mr W.T. Atkinson of the New South Wales Department of Agriculture in North-western Venezuela at the Maracaibo airport (Lat. 10.44°N.; long. 71.37°W., elevation 10 m., mean annual rainfall 563 mm extending from May to November) (1).

During 1967-68, it was included among 154 *Stylosanthes* accessions which were evaluated as spaced plants at three sites, viz. Lansdown, South Johnstone and Samford (2, 4, 9). In 1969 it was included in two regional sward experiments for evaluation at 11 different tropical and subtropical sites (3, 7) and in 1970 it was further evaluated at nine additional sites in the dry tropics (8). The experimental sites ranged across northern Australia from Kununurra (Western Australia) to Cape York Peninsula and south to Grafton in northern New South Wales. The regional sward experiments were conducted in collaboration with officers of 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.

S. hamata CPI 38842 was among the most outstanding at each site in the dry tropics of northern Australia. It is now being collaboratively tested in grazing experiments at four dry-tropical sites in Queensland.

Submitted by Davies Laboratory, Division of Tropical Agronomy, CSIRO, Townsville, which will maintain breeders' and recommended for registration by the Queensland Herbage Plant Liaison Committee, it was released in August 1973. Registered, May 1975.

Morphological description

S. hamata is a vigorous pasture legume which varies in its ability to perennial (7). Three very distinct forms have been introduced into Australia up till 1969, two are herbaceous and semi-erect to prostrate in growth habit and the third is a coarse stemmed woody shrub; the three forms have been described previously (6).

Verano, so named for its ability to tolerate dry conditions, is a herbaceous, non-determinate plant with a semi-erect habit and a branching pattern which is often dichotomous. The stems have short white hairs down one side. Leaves trifoliate, leaflets lanceolate, acute, glabrous with 4-6 pairs of veins and a length-breadth ratio of 4.5-5.3 rachis 4-6 mm long and the bidentate stipules adnate to the base of the petiole with hairs on the sheath and teeth. The inflorescence is an oblong spike (20 mm or less) with 8-14 flowers on a long stem; outer bracts have hairs on the edges and there is an outer bracteole and two inner bracteoles and an axis rudiment subtending each flower. The loment consists of two articulations which are usually both fertile, the lower pilose the upper glabrous. The beak is slightly coiled, equal to or shorter than the upper articulation (total length of upper pod + beak 6-7 mm) with a few hairs on the under side adjoining the upper articulation. The seeds are medium to dark brown in colour, 2-2.5 mm long, unsymmetrically reniform, radical ends fairly prominent. The chromosome number is $2n = 40$. Seed number/kg is 271 600 with pods and 450 000 without pods.

Agronomic Characters

As a space plant at Lansdown, Verano flowered 65-75 days after planting, which approximates the flowering time of early to mid-season types of Townsville stylo. However, unlike Townsville

stylo, vegetative growth and flowering can continue throughout the rest of the season. In swards seedlings flowered 9-10 weeks after germination while perennating plants did so within 6 weeks of the season's start; flowering may occur at any time of the year with irrigation. At lower latitudes at Darwin and Heathlands the main flowering period approximates that of mid-season to late mid-season Townsville stylo. Verano did not perennate well as a spaced plant but does so strongly in sward conditions, particularly under heavy grazing. It establishes readily from seed, nodulates freely with the standard wide-spectrum cowpea strain *Rhizobium* CB756 (5) and will form a vigorous well-balanced sward with *Urochloa mosambicensis* in a wide range of soils and environments (7, 8). It is suited to regions with short variable summer growing seasons and an annual precipitation of 500-1270 mm. It is highly palatable, with high digestibility and high nutritional value (M.J. Playne, unpublished data). In sward experiments it has consistently out-yielded the three Townsville stylo cultivars Paterson, Gordon and Lawson.

Cattle grazing Verano had weight gains over a longer period into the dry season than those on Townsville stylo pastures. There was a ready response to early storm rains at the start of the season. (1).

One of the main advantages Verano has over Townsville stylo is its superior competitive ability with native grasses. This is particularly important in the Northern Territory where Townsville stylo pastures deteriorate after invasion and domination by native annual grasses.

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