

## Register of Australian Herbage Plant Cultivars

### B. Legumes

#### 12. *Stylosanthes*

##### (c) *Stylosanthes hamata* (L.) Taub. (Caribbean stylo) cv. Amiga

Reg. No. B-12c-2

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#### Origin

This cultivar was developed from an accession (CPI 55822) collected in 1971 in north-western Venezuela 12 km north-west of Maracaibo on the road to San Rafael (10°48'N, 71°40'W; elevation 30 m; mean annual rainfall 460 mm extending from May to November; Anon. 1971) by R. L. Burt of CSIRO Tropical Agriculture, Davies Laboratory.

Amiga was initially selected in 1983 for seed yield, dry matter yield and resistance to anthracnose disease in spaced-plant experiments at Townsville, Queensland. During 1983–89 it was included among 44 *Stylosanthes hamata* accessions, which were grown in association with volunteer species (mainly native grasses), for 3–5 years in small swards in 20 dry tropical environments, 18 of which were considered marginal for the cultivar Verano, either because of low rainfall (8 sites), cool temperatures (5 sites) or soil type (5 sites). The experimental sites ranged from Rockhampton in north-eastern Queensland to Borroloola, Northern Territory, Derby in northern Western Australia and Timur in Indonesia. The objective was to find accessions superior to cv. Verano for use in marginal environments.

In spite of low rainfall, the accessions established and survived in 15 of the 20 environments. The accessions were adapted to a wide range of soil types including solodics, and red and yellow earths but were not persistent on grey cracking clays or shallow solodics with impeded drainage.

Amiga was significantly better than Verano in perenniality in 2 out of 3 years and dry matter yield in 2 out of 4 years when averaged over all environments, and maintained higher seedling densities than Verano. Amiga has shown better production than Verano in drier and cooler, tropical environments (Edye *et al.* 1991).

The regional sward experiments were conducted in collaboration with officers of the Department of Primary

Industries, Queensland, Western Australia Department of Agriculture, Livestock Development Project, Timur (Indonesia), and CSIRO Division of Tropical Animal Production, all of whom are listed as co-authors in Edye *et al.* (1991).

Amiga was recommended for registration by the Queensland Herbage Plant Liaison Committee. It was submitted by Davies Laboratory, CSIRO Tropical Agriculture, Townsville, where breeders seed will be maintained. Amiga was released in August 1988 (Eyles 1989) and is protected by Plant Breeders Rights (Anon. 1990).

#### Morphological description

Amiga is a short-lived, semi-erect, herbaceous perennial. It is similar to Verano in the following characters: a fine line of indumentum on 1 side of each stem internode, leaves elongate and glabrous, the presence of an axis rudiment, a loment often with 2 fertile articles, the absence of bristles on the stem, a long bristle on the tip of each stipule and floral bract, and dark coloured seeds.

Amiga differs from Verano in having the following combination of characters: leaflets and unifoliate floral bracts are acuminate, a greater percentage of double-articled loment, outer floral bracts broad with acuminate apex (apex acute in Verano). The 2 cultivars also have different electrophoretic phenotypes for the enzyme acid phosphatase (Vithanage and Chakraborty 1992). Amiga is homozygous (FF) for the fast-migrating band whereas Verano has a null phenotype (no band present).

Amiga is a natural allotetraploid ( $2n = 40$ ) between the diploid species *S. hamata* and *S. humilis* (Stace and Cameron 1984, 1987).

#### Agronomic characters

Amiga is suited to semi-arid to subhumid tropical regions with short and variable growing seasons with annual rainfall of 500–2000 mm. It is better adapted to higher latitudes (20 to 23°S), higher altitudes (>300 m) and drier (500–760 mm annual rainfall) environments than cv. Verano.

Amiga outyielded Verano in the more favourable environments and this advantage extended to both drier and cooler tropical areas of Central Queensland. It is poorly adapted to subtropical environments.

In 2 trials comparing Amiga and Verano, Amiga yielded 40 to 50% more seed in favourable environments. Individual plants of Amiga live longer and stands regenerate from seed better than those of Verano.

Amiga and Verano are similar in flowering time, nodulation response, palatability, digestibility and nutritive value.

**References**

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