

Caribbean Stylo

(Stylosanthes hamata)

A. G. Cameron, Principal Pastures and Extension Agronomist, Darwin

DESCRIPTION

The two cultivars released in Australia are Verano and Amiga, which to the naked eye, are identical in appearance. The main difference between the two is that Amiga produces more perennial plants and more seed than Verano.

Amiga and Verano are annual or a short-lived perennial herbaceous legumes. In the Northern Territory (NT), they behave either as a self-regenerating annual or a biennial plant. Up to 40 percent of plants survive from one wet season to the next. They are a multi-branched, semi-erect plant that grows to a height of 75 cm.

The stems have short white hairs down one side. The leaves are trifoliate; the leaflets are lanceolate in shape, generally 19 to 37 mm long and 3 to 6 mm wide.



Figure 1. Close up Verano flowers, stems and leaves

The inflorescence consists of a compact head containing eight to 14 small yellow flowers. Flowering commences in February and continues until soil moisture is exhausted. Pods consist of two single-seeded segments, which readily separate. The upper segment, including a slightly curled beak (hook) is 6 to 8 mm long. The lower segment is not hooked. The seeds are small, 2 to 5 mm long, kidney-shaped and medium-brown to dark-brown in colour. There are about 270 000 seeds in 1 kg of pods; without the pods, about 450 000 seeds weigh 1 kg.

The species Caribbean stylo (*S. hamata*) is similar in appearance to the species Townsville stylo (*S. humilis*). The most obvious differences are that Townsville stylo has long bristles (hairs) on its stems and its pods are longer (9 to 11 mm) with a longer beak.

CLIMATE AND SOILS

Caribbean stylo is a native of the Caribbean Islands and Tropical Central and South America.

Verano and Amiga are suitable in the Top End of the NT in areas that receive 600 mm or more, average annual rainfall. Amiga is expected to perform in an identical way to Verano north of Katherine. However, south of Katherine, Amiga should perform better than Verano due to its higher perennial plant numbers and higher seed yield.

While both Verano and Amiga are drought-tolerant and can survive long dry seasons, if they are not grazed, they tend to drop their leaves towards the end of the wet season, which is from April to June, when only bare green stems are left standing.

The fallen leaves are susceptible to mould due to dew and out-of-season showers.

Caribbean stylo is well-adapted to a wide range of soil types in the Top End and has grown well on most, except on the heavier clay soils. Verano has grown well on waterlogged, but not flooded soils.

Verano will generally not survive a fire unless there is still moisture in the ground from the wet season. The pasture however, usually regenerates well from seed in the wet season following burning.

Establishment

Verano has been successfully established in drier areas by over-sowing into a burnt area of native pasture. A similar trend is also expected from Amiga.

In the wetter areas of the Top End, establishment has been more successful when seed is sown into a well-prepared seedbed, or into an area that has been disturbed at least once by rough cultivation.

The sowing rate is 2 to 4 kg seed/ha. Caribbean stylo can be inoculated with a special *S. hamata* inoculant to ensure nodulation. However, this has not been necessary in the NT up to now since nodulation occurs naturally in both Verano and Amiga with native soil rhizobia.

MANAGEMENT

Fertiliser Requirements

Although Caribbean stylo can grow and persist on infertile soils, it responds well to phosphorus and sulphur in the Top End, producing high yields.

Generally, superphosphate, or its equivalent, should be sown with the seed at 50 to 150 kg/ha. Maintenance dressings of 25 to 100 kg/ha superphosphate should be applied annually.

Potassium, molybdenum or zinc may be necessary on some soils.

Yield

Dry matter yields up to 10 000 kg/ha and seed yields up to 900 kg/ha have been achieved in the NT.

Where dry matter yields are high (7000 to 10 000 kg/ha), due to high fertiliser use, the quality of standing material is usually reduced because as the pasture lodges during wet weather, the lower leaves rot, leaving a higher proportion of stem material.

Grazing

Caribbean stylo is well accepted by stock where it has received phosphorus. However, where it has not received phosphorus, stock will often avoid it.

Generally, Caribbean stylo should not be grazed in the year of establishment, before it has set seed. This is because the yield in the first year is usually low (2000 to 3000 kg/ha dry matter) and new seed needs time to set to produce a larger mass of pasture.

Heavy grazing is recommended following burning and over-sowing for early establishment to reduce competition from established perennial grasses. This works particularly well with animals which are familiar with *S. hamata* as they will graze it when it is young and green, but animals not familiar to it, will not do so.

If it is not grazed, Caribbean stylo is more likely to behave as an annual plant.

Even after a stand has dropped most of its leaves, it is still well-grazed by stock, including horses, which graze the standing green stems and lick up fallen leaves and seed heads from the ground, as long as they have not become mouldy following dew or rain.

Mixtures

Amiga and Verano can be sown in mixtures with all of the grasses used on upland soils in the Top End of the NT.

Hay

Good quality hay can be made from Caribbean stylo if it is cut early while it is still green and leafy. Later cuts will be of a lower quality because at least some of the leaves will have dropped off.

PESTS AND DISEASES

Both Verano and Amiga are fairly resistant to the fungal disease anthracnose (*Colletotrichum gleosporioides*). In the field, they will show some anthracnose lesions on stems and leaves but it causes no plant deaths.

WARNING

Pasture plants have the potential to become weeds in certain situations. To prevent that, ensure that pasture seeds and/or vegetative materials are not inadvertently transferred to adjacent properties or road sides.

Please visit us at our website:

www.nt.gov.au/d

© Northern Territory Government

ISSN 0157-8243

Serial No. 562

Agdex No. 137/00

Disclaimer: While all care has been taken to ensure that information contained in this document is true and correct at the time of publication, the Northern Territory of Australia gives no warranty or assurance, and makes no representation as to the accuracy of any information or advice contained in this publication, or that it is suitable for your intended use. No serious, business or investment decisions should be made in reliance on this information without obtaining independent and/or professional advice in relation to your particular situation.