

Register of Australian Herbage Plant Cultivars

B. Legumes

12. Stylo

e. Stylosanthes guianensis (Aubl.) Sw. var. *intermedia* (fine-stem stylo)

cv. Oxley

Reg. No. B-12e-1

Registered August 1969

Published in the 2nd ed. of the Register of Australian Herbage Plant Cultivars, 1972.

Origin

This cultivar has been derived from material introduced in 1948 from the Argentine (CPI 11491) and from Paraguay (CPI 11493). The introductions are identical. The introductions were grown and incorporated in experiments at the Brian Pastures Research Station, Gayndah, Qld., by Mr N.H. Shaw of the CSIRO Division of Tropical Pastures, and by officers of the Queensland Department of Primary Industries, and in the Gin Gin District of Queensland by Mr. N.F. Fox of the Queensland Department of Primary Industries. In both areas this legume showed great promise. The breeders' material of the cultivar consists of plants from Brian Pastures selected for uniformity in morphology and flowering by Dr. L. 't Mannetje of the CSIRO Division of Tropical Pastures.

Submitted and recommended for registration by the Queensland Herbage Plant Liaison Committee. Registered August 1969. Breeders' seed maintained by the Department of Primary Industries, Brisbane.

Morphological description (1, 3)

This cultivar belongs to a different variety of the species than cv. Schofield and differs in having finer stems and smaller leaflets, an underground crown, a semi-prostrate habit, and a long-day flowering response.

Agronomic characters (1, 3,-6)

Adapted to light soils in coastal and subcoastal Queensland and northern New South Wales with moderate to low rainfall (860-635 mm). It has a wider range of distribution than cv. Schofield and Townsville stylo (*S. humilis*) because it is less sensitive to low temperatures and has a degree of frost tolerance not commonly found in tropical legumes. It has proved to be persistent and productive in areas where cv. Schofield and Townsville stylo have failed to persist and can be regarded as complementary to these legumes. Like Townsville stylo this legume is suitable for inclusion with native spear grass (*Heteropogon contortus*) pastures but it can also be used in conjunction with completely sown pastures of introduced grasses. Because of its underground crown cv. Oxley is better suited to withstand heavy grazing and burning than cv. Schofield. It is also more drought tolerant.

It requires a day length of more than 12 hours for flowering which therefore occurs in summer, in contrast to cv. Schofield which requires less than 12 hours day length and flowers in autumn. This is a great advantage for cv. Oxley as seed formation is completed before frosts occur. However, mechanical harvesting of seed is difficult as seeds ripen over a prolonged period from December onwards and fruits fall from the plant as they ripen. A high proportion of seed is hard.

In contrast to cv. Schofield and Townsville stylo, cv. Oxley has a highly specialised *Rhizobium* requirement for effective nodulation. Inoculation with the appropriate strain is necessary for successful establishment, whereas cv. Schofield and Townsville stylo can be effectively nodulated without inoculation. Oxley is well suited to infertile sandy soils but has shown responses to superphosphate. Seed should be slightly covered (to 13 mm) for good establishment. This cultivar is not susceptible to 2,4D and 2,4D B weedicides and is only temporarily damaged by 2,4,5T, diquat, paraquat, and dalapon.

References

1. 't Mannetje, L. (1966). CSIRO Aust. Div. Trop. Pastures, Ann. Rep. 1965-66, p. 45.
 2. 't Mannetje, L. (1977). A revision of varieties of *Stylosanthes guianensis* (Aubl.). *Sw. Aust. J. Bot.* **25**, 347-62.
 3. Shaw, N.H. (1969) Personal communication. CSIRO Div. Trop. Pastures., Brisbane.
 4. Stonard, P. (1968). Fine-stem stylo, a legume of promise. *Qd.. Agric. J.* **94**, 478-84.
 5. Stonard, P. (1969). Effect of sowing depth on seedling emergence of three species of *Stylosanthes*. *Qd.. J. Agric. Anim. Sci.* **26**, 55-60.
- Stonard, P., and Bisset, W.J. (1970). Fine-stem stylo: a perennial legume for the improvement of subtropical pastures in Queensland. Proc. 11th Int. Grassld. Congr., Surfers' Paradise, Qld., pp. 153-8.