

Register of Australian Herbage Plant Cultivars

B. Legumes

12. Stylo

b. *Stylosanthes humilis* H.B.K. (Townsville stylo)

cv. Lawson

Reg. No. B-12b-1

Registered November 1968

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

Origin

Natural occurrence at Galbraith station on the western side of Cape York Peninsula. Seed of Lawson was derived from a single plant of the Galbraith collection grown in a spaced plant experiment at the CSIRO Pasture Research Station near Townsville in 1964. Comparative sward trials with other naturally occurring lines were subsequently conducted by CSIRO and the Queensland Department of Primary Industries at other sites in north Queensland. Mr D. Cameron selected it for its mid-season flowering habit and its good production compared with prostrate types.

Submitted for registration by the CSIRO Division of Tropical Pastures, Pastoral Research Laboratory, Townsville. Breeders' seed held by the CSIRO Division of Tropical Pastures, Brisbane. Recommended for registration by the Queensland Herbage Plant Liaison Committee. Registered November, 1968.

Morphological description (4, 6, 7)

A herbaceous annual of erect habit with short white hairs along one side of the stem and a few small bristles below the nodes. Leaves trifoliate; leaflets lanceolate, acute, both surface glabrous, with 4-6 pairs of veins. A few bristles on the petioles and the rachis 3-5 mm long. Stipules bidentate, adnate to base of petiole with bristles on both sheath and teeth. Inflorescence consists of several short, ovoid, crowded spikes with 5-15 flowers in each spike. The spikes are hirsute and there is no axis rudiment; there is one inner and one outer bracteole to each flower which has a bright yellow corolla. The pod is a hairy lomentum with two articulations; the upper articulation is fertile but the lower is often sterile. The beak on the upper articulation is 1.5-3 times the length of the upper articulation and strongly uncinately to coiled. The total length of the upper articulation (including the beak) is 7-10 mm. The seeds are yellow-brown with approximately 275 000-300 000 (unhulled) or 400 000-500 000 (hulled)/kg. The chromosome number is $2n = 20$ (1).

When grown as spaced plants the main stem is usually erect and the lateral branches are prostrate. After the commencement of flowering the main stem often tends to become prostrate so that mature plants of cv. Lawson are often difficult to distinguish from prostrate lines. In swards the growth habit is strongly erect but the sward may become prostrate with very heavy grazing pressure.

Agronomic characters (4)

Lawson is a mid-season maturity type which is adapted to tropical and sub-tropical areas with an annual rainfall of 890-1130 mm, and a long dry season. It gemminates freely following early summer rains and grows rapidly during the vegetative and early reproductive growth stages. First flowers appear about mid March and, if moisture is adequate, flowering extends over a period of 8-10 weeks and seed ripens over a similar time interval. Flowers are self-fertile. A high proportion of hard seed is produced and this hard seed softens gradually over the dry winter months (2). The Northern Territory reported that the seed does not soften during the dry season when stored in bags, and the cultivar is more difficult to establish than commercial Townsville stylo; its seed yields are also less (5).

Commercial lines of Townsville stylo nodulate readily with commercial cowpea inoculant and with indigenous *Rhizobium* strains (8). Lawson appears to have the same rhizobial requirement. In

pure swards Lawson is more productive than prostrate types of similar flowering time and it appears to compete better with sown grasses.

Lawson is very similar in its morphology to cv. Gordon but can be distinguished from the latter because it flowers 4-6 weeks earlier than cv. Gordon. This difference in flowering time is maintained with different sowing dates (December to February) and over a wide latitudinal range (Brisbane to Townsville) (3).

References

1. Cameron, D.F. (1967). Chromosome number and morphology of some introduced *Stylosanthes* species. *Aust. J. Agric. Res.* **18**, 375-9.
2. Cameron, D.F. (1967). Hardseededness and seed dormancy of Townsville lucerne (*Stylosanthes humilis*) selections. *Aust. J. Exp. Agric. Anim. Husb.* **7**, 237-40.
3. Cameron, D.F. (1967). Flowering in Townsville lucerne (*Stylosanthes humilis*). 2. The effect of latitude and time of sowing on the flowering time of single plants. *Aust. J. Exp. Agric. Anim. Husb.* **7**, 495-500.
4. Cameron, D.F. (1968). Personal communication. CSIRO Div. Trop. Pastures, Townsville.
5. Harrison, P.G. (1971). Personal communication. Anim. Ind. Agric. Branch, N.T. Admin., Darwin.
6. 't Mannelje, L. (1966). Taxonomic studies within the genus *Stylosanthes* Sw. (Fabaceae). Ph.D. Thesis, Univ. of Qld.
7. Mohlenbrock, R.H. (1957). A revision of the genus *Stylosanthes*. *Ann. Mo. Bot. Gdn.* **44**, 299-355.
8. Norris, D.O. (1968). Personal communication. CSIRO. Div. Trop. Pastures, Brisbane.