

Register of Australian Herbage Plant Cultivars

B. Legumes

2. Desmodium

Desmodium intortum (Mill.) Urb. (desmodium) cv. Greenleaf

Reg. No. B-2b-1

Registered prior to December 1971

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Origin

This variety was released by the Queensland Pasture Plant Liaison Committee in 1963 under the name Beerwah and consisted of a mixture of three CSIRO introductions, viz. C.P.I.17916, 18009, and 23189. C.P.I.17916 was introduced from the Ministry of Agriculture, El Salvador, in 1953; C.P.I.18009 was obtained in 1953 from the University of Hawaii which had introduced it as No. 4331 from Guatemala in 1949; and C.P.I.23189 was obtained in 1957 from Dr. Farinas of the Department of Animal Husbandry, Philippines, who did not know its origin. The three lines which had become mixed were claimed to be morphologically indistinguishable and agronomically alike. In 1964 the Queensland Pasture Plant Liaison Committee altered the name of this cultivar to Greenleaf. It was tested in south-eastern Queensland by the CSIRO (4) and the Queensland Department of Primary Industries (7,12) and in north-eastern New South Wales by the New South Wales Department of Agriculture.

Later studies (9) have shown that significant differences in agronomic characters occur between the three lines constituting this cultivar and that a genetic shift towards one of them (C.P.I.18009) had occurred in the population by 1970.

Morphological description

Greenleaf differs from *Desmodium uncinatum* cv. Silverleaf in being finer and less hairy. The long pubescent stems which branch freely are often reddish brown, thinner (diameter 1.5-4.0 mm), have slightly shorter internodes (3.0-11.0 cm), and root more freely at the nodes than *D. uncinatum* Silverleaf; the root thickness is also less (6-8 mm). Because of the shorter internodes the plant is leafier. The leaves are without the silvering along the midrib and, at times, have a characteristic reddish brown to purple flecking on the upper surface; petiole length is 2-5 cm. The leaflets are shorter and more rounded (2.0-7.0 cm × 1.5-5.5 cm) than in Silverleaf and have a length-width ratio of approximately 1.4 to 1. The terminal raceme is more compact and the flower colour deep lilac to deep pink. The lomentum is narrow, bears 8-12 seeds and recurves to the main rachis. Seeds are smaller, approx. 595,400 per kg.

Agronomic characters (4,5,7,12)

Cv. Greenleaf is summer-growing and frost-susceptible and adapted to much the same climatic range as Silverleaf but seems to be tolerant of a slightly wider range of soils; it is more suitable for light and sandy soils. It is also more tolerant of waterlogged conditions, less susceptible to high insolation, and, whilst it is not very drought-resistant, it wilts less readily than Silverleaf. Abundant leaf fall and runner decay result in a deep duff layer under the plants. It requires the same specific *Desmodium* inoculant as Silverleaf.

It has a sensitive short-day control of flowering which is restricted to mid May-early June. The later flowering allows it to provide carryover feed later in autumn than Silverleaf but also makes it a less reliable seed producer in areas where early frosts may occur during flowering. It also commences growth in spring some weeks later than Silverleaf.

Like cv. Silverleaf desmodium it is intolerant of salt and intermediate in response to Mn and A1 excess (1). Critical value for P is 0.22% (2) and for K, 0.72% (3). Also like cv. Silverleaf, Greenleaf is capable of contributing substantial amounts of N to systems in which it thrives (5).

It combines well with a wide range of grasses but is a little slower to establish than Silverleaf and needs more protection against early grazing. It withstands grazing well (possibly a little better than Silverleaf) but is also slow to recover from severe over-grazing. *In vitro* digestibility ranges from 52.5 to 56.6% in reasonably young regrowth, being at least 10 units less at all stages and in all parts than Siratro (11). It produces a well-defined acetic acid-type fermentation (6). Earlier reports (8) that it is highly resistant to legume little leaf have been questioned. However, it is less susceptible than cv. Silverleaf (10).

References

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