

# Register of Australian Herbage Plant Cultivars

## 10. *Macroptilium*

### a. *Macroptilium atropurpureum* (DC.) Urban

#### cv. Siratro

Reg. No. B-10a-1

Registered prior to December 1971

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#### Origin

Bred by E.M. Hutton, CSIRO, Brisbane, from two lines of the species (C.P.I. 16877 and C.P.I. 16879), collected in Mexico by the Plant Exploration and Introduction Division of the U.S.D.A (4). There was no great morphological difference between populations of the two parent lines. Both were perennial with deeply penetrating roots. C.P.I. 16877 was much more stoloniferous than C.P.I. 16879, usually more prostrate, and its leaflets often smaller. C.P.I. 16879 on the other hand was higher yielding and freer seeding (4).

The breeding method was to select superior recombinants in the F2 population and then to subject F3 and F4 families to a system of heavy intermittent grazing with cattle in plots carrying competitive Rhodes grass (*Chloris gayana* Kunth.). Three families, selected under this system, were combined in equal proportions to form cv. Siratro (4). Seed was released in 1960 for commercial increase and further evaluation by the Queensland Department of Primary Industries and the New South Wales Department of Agriculture (1).

#### Morphological description (4, 5)

A perennial with deeply penetrating and swollen main roots and trailing pubescent stems which may root anywhere along, their length. Leaves pinnately trifoliate, dark green, and slightly hairy on upper and silvery and very hairy on lower surface. Lateral leaflets ovate, obtuse, about 4.4 × 3.8 cm, and often unsymmetrically lobed on proximal margin; terminal leaflet, ovate, obtuse, but narrower and slightly longer than laterals, often obscurely irregular but not lobed. Stipules 4-5 mm long and hairy. Inflorescence a raceme; peduncle 10-30 cm long, with 6-12, often paired, flowers crowded at its apex; pedicels about 1 mm long. Flower; calyx campanulate-tubular, hairy, tube 8-9 mm long and 3 mm wide, two broad upper teeth 2 mm long, 3 lower narrower teeth 3 mm long; corolla with conspicuous wings 15-17 mm, deep purple with reddish tinge near base; standard smaller than wings, obovate deltoid at base, reflexed, membranous, green with a purple tint; keel pink, forms a complete spiral. The pod is linear, acuminate, about 8 cm long and contains 12-13 seeds. Seeds from light brown to black, flattened ovoid in shape (4 mm × 2.5 mm × 2 mm), approximately 75 000/kg. Chromosomes 2n = 22.

#### Agronomic characters

Best suited to summer-rainfall areas of 635-1780 mm with a low frost incidence. Makes most vigorous growth in summer and early autumn, growing best at temperatures above 21.1°C (4). The foliage is sensitive to frost. Flowering and seed setting occur mainly in autumn but also in spring. The seedpods shatter readily. Its high natural seed yields, active regeneration from seed, and high level of drought resistance make it a most persistent legume (3-7).

Siratro establishment easily (3, 7) and makes fast initial growth (7), grows well on a range of soils, and nodulates freely with indigenous strains of *Rhizobium* and with commercial cowpea inoculant (3). It is effective in fixing nitrogen (7) and combines well with most grasses except under high-rainfall conditions and strong competition (4). It is persistent under grazing and gives high yields of palatable protein-rich herbage. The old crowns tend to die out after 3-4 years and are generally replaced in the pasture by seedlings and also by young crowns from rooted stolons under extended moist conditions (4). Seed remains viable in soil 5 years or more.

Siratro is tolerant to bean virus 2 and has field resistance to legume little leaf (4), and a high degree of resistance to root knot nematodes (5). It is resistant to bean fly after it has passed the seedling stage (4) and is seldom attacked severely by the *Amnemus* weevil (2, 7). Under some conditions in north Queensland, as at Mareeba, its roots can be severely damaged by *Leptopius* weevils.

More susceptible to leaf and stem damage from *Rhizoctonia solani* than other tropical legumes under extended conditions of high humidity.

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