

New herbage plant cultivars

B. Legumes

15. Centro

(c) *Centrosema brasilianum* (L.) Benth. (centro) cv. Ooloo

Reg. No. B.-15c-1. Registered on June 20, 1997.
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Origin

Centrosema brasilianum has a wide natural distribution in the tropics of South America, from latitude 16° S in Brazil to 10° N in Venezuela, Colombia and Panama. It is found in a range of environments from arid (370 mm annual rainfall; 10 months dry season) to humid (2920 mm annual rainfall; no dry season; Schultze-Kraft *et al.* 1990). Ooloo was derived from the accession CPI 55696 which was collected by R. Burt of CSIRO in April 1971 at Petrolina Airport in Brazil (9° S; 370 m above sea level; annual rainfall 383 mm) from regularly cut, grassed areas around the runways. Evaluation was carried out by the Northern Territory Department of Primary Industry and Fisheries. Ooloo was recommended for registration by the Northern Territory Herbage Plant Liaison Committee.

Morphological description

The following description of *Centrosema brasilianum* by A. G. Cameron is based on a collection of accessions grown at Darwin, Northern Territory. Plants perennial, ascendant and twining with adventitious rooting. Leaves trifoliate, leaflets ovate to broad-lanceolate or lanceolate, 3.3–6.6 cm long, 1.5–3.6 cm wide, length:width ratio 1.3–4.1. Petioles glabrous or pubescent. Peduncles 1–5 in leaf axils, 12–26 mm long.

Flowers solitary on pedicels 6–12 mm long with ovate bract at base, enveloping pedicel. Flowers subtended by two bracteoles, 13–17 mm long, 7–10 mm wide. Standard unevenly circular and flat or cupped, 26–48 mm long, 22–47 mm wide, longer than wings and keel. Flower colour purple, violet, violet-blue or white. Pods linear, dehiscent, 7.7–14.7 cm long, beak 6–31 mm long, containing 12–19 seeds. Seeds mostly cylindrical, some flattened or reniform, 26000–86000 per kg. Seed colour variable: uniform fawn, brown or grey; or uniform with dark grey or black stripes; or mottled brown and light/dark grey; or mottled with brown, dark grey or black stripes.

Ooloo fits the general description of *Centrosema brasilianum*. Leaflets ovate 3.6–4.3 cm long, 2.0–2.9 cm wide, leaflet length:width ratio averaging 1.5. Petioles pubescent. Flowers purple, standard flat, 34–42 mm long, 38–44 mm wide. Pods 10–15 cm long, with beak 20–26 mm long, containing 14–16 seeds. Seeds cylindrical, uniform grey-brown (fawn), 39 000 per kg.

Agronomic characters

Ooloo is a short-lived perennial with a variable number of plants (30–100%) surviving from one growing season to the next. Few plants survive a second growing season. It was one of a limited number of *C. brasilianum* accessions that survived for 11 years under uncontrolled, heavy grazing, limited fertiliser applications and occasional burning at Mount Bunday Station in the Northern Territory (Cameron 1991). Similar persistence was recorded at Coastal Plains Research Station, Opium Creek Station and Ruby Downs, Northern Territory (A.G. Cameron, unpublished data). These sites represent a range of neutral to slightly acid upland soils, including Berrimah red earth, yellow earths, lithosols, Blain sandy red earth and Tippera clay loam.

Ooloo is not specific in its *Rhizobium* requirements, having grown well without inoculation at

a number of sites in the Northern Territory. Dry matter yields of 3–4 t/ha have been recorded under raingrown conditions (A.G. Cameron, unpublished data). It does not produce a tall sward and tends to climb up companion plants. Herbage quality in March–April was 1.6–2.7 %N and 0.08–0.23 %P, which is similar to other legumes grown in the Northern Territory (Cameron 1992). During periods of wet weather, Ooloo can be affected by a leaf blight (*Rhizoctonia* sp.), but the areas involved are usually small.

In the Northern Territory, flowering usually commences in mid-March and continues until mid-June. Seed yields equivalent to 1000 kg/ha have been harvested on trial plots (A.G. Cameron, unpublished data). Seed retention varies from year to year but Ooloo can retain up to 60% of the seeds in the pods well into the dry season (September).

Ooloo is readily grazed by cattle. When continuously grazed by steers in a mixed sward with *Kazungula setaria* (*Setaria sphacelata*) at a stocking rate of 1beast/1.3 ha over three years (1993–94 to 1995–96) in the Northern Territory, weight gains were 165, 157 and 179 kg/head/year. Liveweight gains were similar to those obtained from *Macroptilium gracile* cv. Maldonado, another palatable legume in an adjacent paddock. While the legume content of the paddock has been only 4–7% of the dry

matter, the good animal production was a result of the nitrogen contribution in the establishment year of 1991–1992.

A pasture grown at Katherine, Northern Territory, sown to a mixture of *C. brasilianum* accessions and grazed at 3.3 steers/ha during the dry season for 7 years (with rest periods in some years to allow the legume to recover from heavy selective grazing), gave liveweight gains similar to those obtained from *C. pascuorum* pastures (Clements 1990).

C. brasilianum has not escaped from the original paddocks at any of the sites where it has been sown and a literature search revealed no references to *C. brasilianum* being a weed in any situation.

References

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- CLEMENTS, R.J. (1990) *Centrosema* species for semi-arid and sub-tropical regions. In: Schultze-Kraft, R. and Clements, R.J. (eds) *Centrosema Biology, Agronomy and Utilisation*. pp. 77–97. (CIAT: Cali, Colombia).
- SCHULTZE-KRAFT, R., WILLIAMS, R.J. and CORADIN, L. (1990) Biogeography of *Centrosema*. In: Schultze-Kraft, R. and Clements, R.J. (eds) *Centrosema Biology, Agronomy and Utilisation*. pp. 29–76. (CIAT: Cali, Colombia).