

Register of Australian Herbage Plant Cultivars

B. Legumes

4. Glycine

a. *Neonotonia wightii* (Wight & Arn.) Lackey

cv. Malawi

Reg. No. B-4a-4

Registered January 1976

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Origin

Introduced as CPI 28279 in 1960, this cultivar originated in Malawi, and came to Australia via the Grasslands Research Station, Marandellas, Rhodesia. It was included in a range of glycines in trials by CSIRO and the Queensland Department of Primary Industries in south-east Queensland in the early 1960's. It has been tested on the Atherton Tableland from 1964-75. Submitted for registration by the Queensland Department of Primary Industries and recommended by the Queensland Herbage Plant Liaison Committee. Registered, January 1976.

Morphological description (4, 5)

Malawi is usually less branched than Tinaroo and Cooper and stolons are less well rooted. Leaves generally larger, 50-125 mm long, 40-150 mm wide and darker green than Tinaroo or Cooper, and have a more glabrous appearance than Clarence. Leaf hairs semi-erect, brown on the leaf margins and veins. Brown hairs on the ventral surfaces of partly and newly expanded leaflets more closely appressed than Tinaroo giving the veins a darker, more prominent appearance. Petioles 25-175 mm, semi-erect retrorsely hirsute. Stems prostrate to semi-erect retrorsely hirsute. Pedicels, 3 mm, often with marked purple pigmentation on dorsal and lateral surfaces; Cooper unpigmented, Tinaroo and Clarence less strongly pigmented to unpigmented. Leaflets ovate-acute to ovate acuminate. Pods brown, retrorsely hirsute. Inflorescence axillary many flowered raceme 15-35 cm on peduncle 3-7 cm. Florets, white approximately 8 mm with violet-purple markings on standard. Chromosome number: tetraploid ($2n = 44$) (8). Malawi can be distinguished from Tinaroo by longer racemes, stronger appression of hairs on the stem and young leaflet and darker green leaves; from Cooper by time of flowering and hair colour; and from Clarence by time of flowering and hair colour; and from Clarence by time of flowering and retrorsely hirsute stems and petioles. Retrorsely hirsute pods distinguished it from all three cultivars. There are 50 000-55 000/kg.

Agronomic characters

Establishment and early growth are slower than Clarence and Cooper but similar to Tinaroo. Seasonal growth pattern, time of flowering and seeding are also similar to Tinaroo (4, 5). On soils where Tinaroo thrives, Malawi has not been superior. In the main dairying areas of the Atherton Tableland where soil pH is generally below 6, Malawi has consistently outyielded Tinaroo, Cooper and Clarence cultivars and combines with grasses to form vigorous and persistent pastures under commercial grazing conditions. Initially, production is slightly inferior to *Desmodium intortum* cv. Greenleaf, but it is more persistent. In south-east Queensland it has shown little promise.

Symbiosis with *Rhizobium* strain CB756 compares favourably with Tinaroo, Cooper and Clarence in time to initial nodulation, number of nodules and efficiency of nitrogen fixation (1).

Seed yields of c. 300 kg/ha have been obtained with a header harvester over a number of seasons at Walkamin in North Queensland.

The protein content and *in vitro* digestibility of Malawi compare favourably with other commercial cultivars of *N. wightii* and Greenleaf desmodium.

References

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2. Eyde, L.A. (1967). Yield comparisons of thirty-eight introductions of *Glycine javanica* in swards in three environments. *Aust. J. Exp. Agric. Anim. Husb.* **7**, 342-50.
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