

# Register of Australian Herbage Plant Cultivars

## B. Legumes

### 3. Lablab-Macrotyloma

*Macrotyloma uniflorum* (Lam.) Verdc. (syn. *Dolichos uniflorus* Lam. *Dolichos biflorus* auct.) (horse gram) cv. Leichhardt

Reg. No. B-3b-1

Registered September 1967

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#### Origin

Derived from seed introduced (C.P.I.26260) under the name *Dolichos biflorus* L., Kulthi bean, through C.W. Cotterman, Wadley Research Institute and Blood Bank, Texas, in 1959. The seed had been purchased from a commercial source in New York and its original source is unknown (6). Preliminary row testing was done by CSIRO at Samford and the main testing during 1962-65 at the Parada Research Station, Mareeba, by the Queensland Department of Primary Industries (3,7); it performed well in establishment and grazing trials and gave high dry matter and seed yields (8). It was named Leichhardt and released by the Queensland Herbage Plant Liaison Committee in September 1965. Registered in September 1967.

#### Morphological description (5 et al.)

Twining annual herb with cylindrical tomentose stems. In pure stands it forms a dense mat 30-60 cm high; but in association with a grass or cereal may climb on the companion species to a height of 60-90 cm (8). Leaves trifoliate; stipules 7-10 mm long, persistent; petiole 3-7 cm long. Leaflets ovate, rounded at the base, acute or slightly acuminate, occasionally mucronate, commonly 3.5-7.5 cm long, 2-4 cm broad, 1.5-2.5 times as long as broad, membranous, softly tomentose on both surfaces, fimbriolate, paler beneath with 4-6 pairs of lateral nerves weakly distinct. Flowers in short, sessile or subsessile, 2-4-flowered axillary racemes, greenish yellow with a vinous spot on the standard, 10-12 mm long; calyx tomentose, the tube 2-3 mm long, the lobes lanceolate setaceous, 3-8 mm long, the upper two almost completely united, 4.5-6.5 mm long, the lowest somewhat incurved, 5-8 mm long; standard oblong, slightly emarginate at the summit, 9-10.5 mm long, 7-8 mm broad, with two linear appendages about 5 mm long, wings about as long as the keel, 8-9.5 mm long; ovary with dense appressed white hairs, style attenuate, stigma surrounded by a ring of short dense hairs. Pod shortly stipitate, slightly curved, tomentose, 4.5-6 cm long, about 6 mm broad, with a point about 6 mm long. Seeds ovoid, usually 6 or 7 per pod, 6-8 mm long, 4-5 mm broad, pale fawn, sometimes with faint mottles or with small scattered black spots, or with both, hilum central. Approximate number of seeds 33,000 per kg.

Leichhardt is morphologically similar to the earlier introductions, C.P.I.8329, 8342, 8343, 13128, and 14269, all of which, except 13128, were obtained from India (9). At Parada, seed samples gave a mixture of (a) 50.3% pale fawn seeds, (b) 32.8% mottled, (c) 9.1% speckled and mottled, and (d) 7.8% speckled (8).

#### Agronomic characters (7,8, et al.)

Cv. Leichhardt is a short-season, summer-growing plant best suited to subtropical and tropical areas of 635-1140 mm annual rainfall with a high summer dominance. It is reasonably drought-tolerant; and will make good growth on only 380 mm of rain over the growing season. It is adapted to a wide range of sandy and silty soils and also to heavier soils with good internal drainage; it will not tolerate waterlogging. It responds well to phosphatic fertilizer. It nodulates effectively with indigenous "cowpea"-type rhizobia and with commercial cowpea inoculant.

Planted in January, it establishes easily and makes vigorous early growth, commences flowering in mid March, and is mature by late May. The flowers are self-fertile and cleistogamous; although some cross pollination by insects has been assumed in the species overseas (4) no data on the occurrence of cross pollination are available in Australia for Leichhardt. The pods are produced from ground level on

the main axis to the tips of all branches; they do not shatter and only a small proportion (5-10%) of hard seed is formed. Mature stands at the Parada Research Station have yielded up to 6730 kg dry matter per ha, and of this 44% was seed; the protein content of the mature whole plant is c. 18.0% and of the seed 23.5%.

The whole plant is palatable to stock at all stages of growth. It would seem particularly useful as a forage plant (2,3,7) for deferred grazing or for use as a fodder crop for dry season feed (7). It may be effectively spread by animals into native pastures and may under suitable conditions regenerate moderately well.

Leichhardt is relatively free of disease and pests. It is not as susceptible to leaf- and pod-eating caterpillars as Rongai lablab; bean fly (*Agromyza phaseoli*) can cause some loss of seedlings; powdery mildew (*Sphaerotheca fuliginea*) may cause damage as plants approach maturity; and a leaf spot (*Cercospora* sp.) has been reported on the species (1). In areas with more than 1140 mm rainfall (e.g. Atherton Tableland) a leaf spot (*Ascochyta* sp.) can cause severe damage (8).

## References

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