

Register of Australian Herbage Plant Cultivars

B. Legumes

9. Annual Medics

a. *Medicago truncatula* Gaertn. var. *truncatula* (barrel medic)

cv. Parabinga

Reg. No. B-9a-11

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Origin

Originated from seed designated CPI 98135, collected by E.J. Crawford and B.C. Bull of the South Australian Department of Agriculture in conjunction with the International Centre for Agriculture Research in the Dry Areas (ICARDA). It occurred on a whitish-brown alkaline clay loam near Fuheus, about 25 km west-north-west of Amman in Jordan (1). The mean annual rainfall of the region is 350 mm and altitude 900m.

Submitted for registration by the South Australian Department of Agriculture and recommended by the South Australian Herbage Plant Liaison Committee. Breeders' seed is being maintained by the Department of Agriculture. Registered January 1986.

Morphological description (2, 4)

Parabinga is morphologically typical of the species *M. truncatula* (4). Its habit is similar to Cyprus barrel medic and slightly more erect than Harbinger strand medic (*M. littoralis*). Leaflets have a pale green blotch edged in brown encompassing the upper midrib region of the leaf surface, surrounded by numerous small white and purple flecks, the latter more prominent on the abaxial surface of the leaflets. Parabinga has clockwise pod coiling and a narrower pod coil range than that of cv. Cyprus viz. 4.75-5.25 cf. 3.5-5.25. It is larger podded (about 30%) and larger seeded (about 20%) than cv. Cyprus. It has about 250 000 compared with about 300 000 seeds/kg in cv. Cyprus. Pod spininess is rated as 12 units compared with 10 units in the less spiny cv. Cyprus (2). It has about seven seeds per pod compared with six in cv. Cyprus (2).

In view of its morphological similarity with other barrel medic cultivars, Parabinga will be certified on a pedigree basis.

Agronomic characters (2, 3, 5, 6, 7, 8)

Parabinga is 2-3 days earlier flowering than Cyprus barrel medic or Harbinger strand medic at Parafield, S.A. It flowers in about 97 days after an early May germination in the Parafield environment (2). At Condobolin, N.S.W., Parabinga flowers about one week after Cyprus and two days after Harbinger. Parabinga, Cyprus and Harbinger have similar initial levels and rates of breakdown of hard-seededness, such that in South Australia about 10% of seed is permeable by mid April of the year following its production (2). Parabinga has considerably better seedling vigour than Cyprus and better early winter vigour than Cyprus or Harbinger.

In South Australia, Parabinga is very tolerant to blue-green aphid (*Acyrtosiphon kondoi* Shinji) and tolerant to spotted alfalfa aphid (*Therioaphis trifolii* (Monell) f. *maculata*). It is, however, susceptible to pea aphid (*Acyrtosiphon pisum* (Harris)) (5). In Western Australia in 1984, high populations of cowpea aphid (*Aphis craccivora* Koch) early in the season resulted in minimal plant damage and hence little impact on subsequent seed production in all lines under test. However, high spring populations of blue-green aphid (in association with some cowpea aphid) adversely affected seed production of susceptible lines, the main effects being attributed to blue-green aphid. Under these conditions Parabinga was rated only slightly more tolerant to blue-green aphid than Harbinger and Cyprus (3).

Parabinga was tested extensively in low rainfall areas on Eyre Peninsula, S.A., and throughout central western and southern N.S.W. in one or more years between 1980 and 1984. It was also tested elsewhere in the S.A. wheat belt, and in Victoria and W.A. Under blue-green aphid attack, Parabinga produced more herbage and seed than Cyprus and Harbinger. In the absence of aphids, Parabinga performed as well as, and often better than, Cyprus and Harbinger on a range of alkaline soil types in

regions with a 5-6 months growing season. However, Parabinga was less productive than Paraggio and Sephi barrel medics in those areas of northern New South Wales with heavy-textured soils and over 500 mm mean annual rainfall. In South Australia, Parabinga has demonstrated its adaptation to poorly structured red-brown earths and loamy red-brown earths of pH 7.0 and to deep yellowish sands (pH 8.2-8.8) over clay (pH9.7) in regions with as little as 300 mm mean annual rainfall. Parabinga is expected to extend the area of barrel medic cultivation beyond that suitable for the existing aphid tolerant cultivars, Paraggio and Sephi, and also to make a useful contribution to the legume content of pastures in areas with deep calcareous sands in which the aphid susceptible cultivar Harbinger strand medic currently is the best adapted annual legume.

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