

Register of Australian Herbage Plant Cultivars

B. Legumes

9. Annual Medics

a. *Medicago rugosa* Desr. (gama medic)

cv. Paraponto

Reg. No. B-9c-2

Registered August 1978

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Origin

Derived from S.A. 2220, which was received by the South Australian Department of Agriculture in 1966 from the Waite Agricultural Research Institute, this material was part of the original collection made by Mr D.E. Symon south of Stazione di Metaponto, south-eastern Italy, in 1956.

Submitted by the South Australia Department of Agriculture and Fisheries and recommended for registration by the South Australian Herbage Plant Liaison Committee. Breeders' seed will be maintained by the South Australian Department of Agriculture and Fisheries. Registered, August 1978.

Morphological description (4)

An erect, sparsely branched self-pollinating annual herb that becomes lax with growth. The leaflets are prominently purple flecked, obovate, 2-2.5 cm long, 1-1.25 cm wide, terminating in a small tooth; glabrous on the upper surface, densely covered with small glandular hairs on the lower surface; upper third of the leaflets being deeply serrate. Leaf area rating 16-18 at the fifth to eighth node (4). Stipule prominent and toothed. Peduncle shorter than the subtending petiole, usually supporting four florets. Flowers are small and bright yellow. Pods are flat, disc shaped 8-10 mm in diameter with prominent radiating veins, spineless with 3.5-4 anti-clockwise whorls, usually two-seeded. Seed dark yellow, curved to almost hooked, one/coil in the inner coils, approximately 80 000/kg.

Agronomic characters (1, 2, 3)

Cv. Paraponto is well adapted to a Mediterranean-type environment. Its native distribution extends throughout the Mediterranean Basin (3). Being *c.* 2 weeks earlier flowering than cv. Paragosa, its climatic adaptation extends beyond that cultivar to at least the 300 mm mean annual rainfall and 4.5 month growing season.

Rated over 7 years at the Parafield Plant Introduction Centre, Paraponto has *c.* 20% better seedlings vigour than Paragosa (2). Because of this and its high regenerating capacity, it is capable of greater early winter herbage production than cv. Paragosa.

M. rugosa is the only species to consistently show variability in seedcoat permeability between genotypes (1).

Cv. Paraponto maintains seedcoat impermeability longer into autumn than does Paragosa. In the event of summer thunderstorms as much as 20% of Paragosa seed may germinate by mid February and die before further rain is received.

Over an 8-year period at Parafield, S.A., Paraponto exhibited 25% less permeable seed than Paragosa in early March, but only 3% less in mid April (2). This safeguards survival and ensures regeneration.

Although Paraponto establishes relatively easily and exhibits better seedling vigour and early winter production than Paragosa, its erect habit makes it more susceptible to grazing mismanagement. Early maturity enhances seed production resulting in higher protein availability for grazing animals over the summer-autumn period.

Paraponto is relatively large seeded for its species (*c.* 12.5 mg/seed). Being completely spineless, the pod is relished by sheep and is susceptible to overgrazing.

Paraponto is well adapted to soils of heavy texture, particularly to friable red-brown, grey and black clay loams of the cereal-growing areas of South Australia.

Paraponto has been compared with Paragosa and Jemalong (*M. truncatula*) in the glasshouse at Northfield, S.A., for reaction to the spotted alfalfa aphid *Therioaphis trifolii* (Monell) *f. maculata* and to the blue green aphid *Acyrtosiphon kondoi* (Shinji). Paraponto is marginally more tolerant to spotted alfalfa aphid than Paragosa as a seedling (up to the fourth leaf stage) but both become susceptible with maturity. Jemalong is less tolerant as a seedling, but tolerance increases with maturity. Cvv. Paraponto and Paragosa are very tolerant to blue green aphid, whilst cv. Jemalong is susceptible at both stages of growth.

References

1. Crawford, E.J. (1976). The search for permeable seed in species of the genus *Medicago* L. *Aust. Seed. Sci. Newsl.* No. 2, 1976.
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3. Heyn, C.C. (1963). The annual species of *Medicago*. *Scripta Hierosolimitana*. **12**, 1-149. (Hebrew University; Jerusalem.)
4. Williams, R.F., Evans, L.T., and Ludwig, L.J. (1964). Estimation of leaf area for clover and lucerne. *Aust. J. Agric. Res.* **15**, 231-3.